



College of Nursing



University of Telafer

Assessing First Dose of Covid-19 Vaccines Side Effect Among Vaccinated People in Telafer City

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿وَإِنْ يَمْسَسْكَ اللَّهُ بِضُرٍّ فَلَا كَاشِفَ لَهُ إِلَّا هُوَ

وَإِنْ يَمْسَسْكَ بِخَيْرٍ فَهُوَ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ

(١٧) وَهُوَ الْقَاهِرُ فَوْقَ عِبَادِهِ وَهُوَ الْحَكِيمُ

الْخَبِيرُ ﴿١٨﴾

صدق الله العظيم

سورة الانعام الآية (١٨-١٧)

أهداء

الح من تجرّع كأس المصاعب لیسقني قطرة من الحب.
الح من حصدت الاشواك عن دربي لتمهّد لي طريق العلم.
الح من كانا شمعةً تضيء لي الدنيا من حولي
((ابي وأمي))

الح من هم شفاءً للروح.
الح من كانوا نعم السند والملجأ الآمن في الشدائد.
الح من تمرّ السنين والايام ولا يبدلهم الزمان.
((أصدقائي))

أهدي لهم جميعاً بحبي هذا...

شكر وتقدير

أول مشكور هو الله عز وجل الذي انعم علينا بنعمه الكثيرة ووفقنا لاتمام هذا المشروع.

جزيل الشكر والعرفان لوالدينا على كل مجهوداتهم منذ الولادة إلى هذه اللحظات.

يسرنا أن نوجه شكرنا إلى رئاسة جامعة تلغفر المتمثلة بالأستاذ الدكتور (عبدالعزیز أحمد عزیز) والشكر موصول إلى عمادة كلية التمريض المتمثلة بالدكتور (احسان حسن زينل) وإلى من بدل الغالي والنفيس من أجل تعليمنا و ساهم معنا في إعداد هذا البحث الاستاذ الفاضل الدكتور (محمد قاسم بكتاش) وكل الشكر والتقدير والعرفان لمن أرشدنا بالنصح والتصحيح و ساهم معنا في اختيار العنوان والموضوع وإعداد هذا البحث الاستاذ الفاضل (علي اسماعيل سليمان). كما لا ننسى ان نتقدم بأرقى آيات الشكر إلى لجنة المناقشة الموقرة لدعمهم لنا وتصحيحهم لمسار هذا المشروع العلمي.

طلاب البحث

Abstract

Massive vaccination campaigns have been undertaken globally to combat the spread of the Coronavirus Disease 2019 (COVID-19). While most COVID-19 vaccines have shown excellent efficacy and safety profiles in clinical studies, real-world monitoring of vaccine safety is still important.

A descriptive cross-sectional study performed to identify side effect of Covid-19 among vaccinated people in Telafer City, the sample of study was 100 client who get first dose of Covid-19. (57) males and(43) female in Telafer primary Care Centers for the period from 12/12/2020 to 1/5/2021, A special questionnaire tool was constructed by the researchers to collect data after it has been presented and judged by a group of experts, the questionnaire consists of two portions: Part (I): Demographic Characteristics of the Nurses (gender, age, education level, place, etc.). And Part (II): Questionnaire Sheet Related to identify side effect of Covid-19 among vaccinated people in Telafer City.

The study showed that the greatest proportion of the age group among (20-29) by.32.0% and there is a relationship between age and some Covid-19 side effect, the study recommends applying educational health programs in all hospitals to encourage people to get vaccines and conducting additional studies to prove the safety Covid-19 vaccines.

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List of Vocabularies

No.	List of Vocabularies	
1.	Covid-19 virus	فايروس كورونا المستجد
2.	Pandemic	جائحة
3.	Vaccine	لقاح/ مصل
4.	Side effect	تأثير جانبي
5.	Fever	حمى
6.	Loss of smell	فقدان حاسة الشم
7.	Difficulty of breathing	صعوبة التنفس

CHAPTER ONE

INTRODUCTION

1.1 Introduction

SARS-CoV-2, causing COVID-19 has spread fast worldwide, resulting in various levels of illness. On March 2020, it was announced that SARS-CoV-2 is a worldwide pandemic, and it is with us to this day (Lai et al., 2020).

Although numerous therapeutic medications have been presented to resist COVID-19, they remain supportive and require more randomized control studies to determine their efficacy and potency (Trivedi et al., 2020).

Vaccines are one of the best interventions developed for eradicating COVID-19, saving millions of lives annually. Moreover, the best option remains an effective, safe vaccine without severe adverse reactions. The lack of effective and approved COVID-19 treatment has triggered a vaccine development race, with 259 COVID-19 vaccine projects underway from November 2020 (Forni and Mantovani, 2021).

The rapid creation of vaccinations has increased the risk of vaccine safety issues (Haidere et al., 2021; Petousis-Harris, 2021).

Several candidate COVID-19 vaccines were developed from diverse platforms. One of these was sinopharm COVID-19 vaccine which was made by the Chinese state-owned pharmaceutical business Sinopharm in China and adopted by the United Arab Emirates (UAE) (Zhang et al., 2021).

Sinopharm COVID-19 vaccine is an inactivated vaccine that introduces a dead copy of SARS-CoV-2 into the body by a two-dose schedule, with 14 or 21 days between the 2 doses. By inserting the vaccine dose intramuscularly, the dead antigens from the virus are employed to make antibodies that prepare the immune system for future attacks by the virus. (Xia et al., 2021).

The traditional inactivated whole virus vaccines do not lead to clinical disease. In this technology, the inactivated viruses maintain their ability to replicate in vivo with mild or no symptoms (Forni and Mantovani, 2021).

1.2 Importance of the study

Healthcare professionals and public health authorities have a central role in discussing vaccination against COVID-19 with their patients. Vaccines play a critical role in preventing deaths, hospitalization caused by infectious diseases. The global impact of the COVID-19 pandemic has resulted in an unprecedented level of public interest in vaccines. This includes a focus on the development of vaccines and their regulatory review and safety monitoring. Reports of adverse events (side effects) have led some people to express concerns about getting vaccinated, delay getting vaccinated or even be strongly opposed to vaccination. There are also differences in individual confidence in national safety monitoring systems. Clear and consistent communication is therefore essential to support people in making the choice to be vaccinated.

1.3 Aim of the Study

Assessing first dose of covid-19 vaccinations side effect among vaccinated people in Telafer city

1.4 Objectives of the Study

- 1- To Describe the demographical characteristics of the participant citizens in the study.
- 2- To identify the prevalence of first dose of covid-19 vaccinations side effect among vaccinated people in Telafer city.
- 3- To identify the relationship between covid-19 vaccinations side effect with some variables like (Age, gender, etc.).

1.5 Definition of Basic Terms

Covid-19

A. Theoretical Definition:

An infectious disease caused by the SARS-CoV-2 virus. (WHO, 2019)

Vaccine:

A. Theoretical Definition:

a substance used to stimulate the production of antibodies and provide immunity against one or several diseases, prepared from the causative agent of a disease, its products, or a synthetic substitute, treated to act as an antigen without inducing the disease. (Oxford Advanced Learners Dictionary, 2010).

B. Operational Definition:

a vaccine intended to provide acquired immunity against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes coronavirus disease 2019 (COVID-19).

Side effect:

A. Theoretical definition:

A secondary, typically undesirable effect of a drug or medical treatment.

B. Operational definition:

Is A secondary, typically undesirable effect of Covid-19 vaccine.

People:

A. Theoretical definition:

Human beings in general or considered collectively (Oxford Advanced Learners Dictionary, 2010).

B. Operational definition:

Any person who vaccinated in Telafer city.

CHAPTER TWO

**REVIEW OF THE
LITERATURE**

Review of Literatures

2.1. Overview

2.1.1 Definition

A novel coronavirus (CoV) is a new strain of coronavirus (WHO, 2021).

The disease caused by the novel coronavirus first identified in Wuhan, China, has been named coronavirus disease 2019 (COVID-19) – ‘CO’ stands for corona, ‘VI’ for virus, and ‘D’ for disease. Formerly, this disease was referred to as ‘2019 novel coronavirus’ or ‘2019-nCoV’ (Habas et al., 2020).

2.1.2 Cause of Covid-19

Infection with severe acute respiratory syndrome coronavirus 2, or SARS-CoV-2, causes coronavirus disease 2019 (Lai et al., 2020).

The COVID-19 virus is a new virus linked to the same family of viruses as Severe Acute Respiratory Syndrome (SARS) and some types of common cold (Coronavirus disease (Covid-19), 2020)

2.1.3 Transmission of Covid-19 virus

The virus that causes COVID-19 spreads easily among people (Trivedi et al., 2020).

Data has shown that the COVID-19 virus spreads mainly from person to person among those in close contact (within about 6 feet, or 2 meters) (Haidere et al., 2021).

The virus spreads by respiratory droplets released when someone with the virus coughs, sneezes, breathes, sings or talks these droplets can be inhaled or land in the mouth, nose or eyes of a person nearby (Petousis-Harris, 2021).

2.1.4 Clinical Manifestation of Covid-19

The severity of COVID-19 symptoms can range from very mild to severe (Haidere et al., 2021).

Some people may have only a few symptoms. Some people may have no symptoms at all, but can still spread it (asymptomatic transmission). Some people may experience worsened symptoms, such as worsened shortness of breath and pneumonia, about a week after symptoms start (Xia et al., 2021).

Some people experience COVID-19 symptoms for more than four weeks after they're diagnosed these health issues are sometimes called post-COVID-19 conditions (Zhang et al., 2021).

Children have similar symptoms to adults and generally have mild illness (Forni& Mantovani, 2021).

Signs and symptoms of coronavirus disease 2019 (COVID-19) may appear 2 to 14 days after exposure. Common signs and symptoms can include:

- Fever
- Cough
- Tiredness

Early symptoms of COVID-19 may include a loss of taste or smell.

Other symptoms can include:

- Shortness of breath or difficulty breathing
- Headache and Muscle aches
- Sore throat and Runny nose
- Chest pain
- Nausea & Vomiting
- Diarrhea

(Lai et al., 2020).

Certain medical conditions that may increase the risk of serious illness from COVID-19 include:

- Serious heart diseases, such as heart failure, coronary artery disease or cardiomyopathy
- Chronic obstructive pulmonary disease (COPD)
- Type 1 or type 2 diabetes
- Smoking
- Weakened immune system from solid organ transplants or bone marrow transplants
- Pregnancy

(Coronavirus disease (Covid-19), 2020)

2.1.5 Diagnosis of Covid-19

If develop symptoms of coronavirus disease 2019 (COVID-19) the health care provider will determine whether to conduct tests for the virus that causes COVID-19 based on signs and symptoms, as well as whether the patient have had close contact with someone diagnosed with COVID-19 (WHO, 2021).

To test for the COVID-19 virus, a health care provider takes a sample from the nose (nasopharyngeal swab), throat (throat swab) or saliva then the samples are then sent to a lab for testing (CDC, 2021).

2.1.6 Covid-19 Risk Factors

Risk factors for COVID-19 appear to include:

- Close contact (within 6 feet, or 2 meters) with someone who has COVID-19
- Being coughed or sneezed on by an infected person (Tweepy, 2020).

2.1.7 Covid-19 Complications

Although most people with COVID-19 have mild to moderate symptoms, the disease can cause severe medical complications and lead to death in some people (WHO, 2021).

Older adults or people with existing medical conditions are at greater risk of becoming seriously ill with COVID-19 (Habas et al., 2020).

Complications can include:

- Pneumonia and trouble breathing
- Organ failure in several organs
- Heart problems
- Acute respiratory distress syndrome
- Blood clots
- Acute kidney injury
- Additional viral and bacterial infections (Zhang et al., 2021).

2.1.8 Treatment of Covid-19

The FDA has approved the antiviral drug (remdesivir) to treat hospitalized adults and children who are age 12 and older in the hospital (Sarker, 2020).

The FDA has authorized a drug called (Paxlovid) that blocks the activity of a specific enzyme needed for the virus that causes COVID-19 to replicate and it is authorized to treat mild to moderate COVID-19 in people age 12 and older who are at higher risk of serious illness (Tweepy, 2020).

The FDA also has authorized another drug called (molnupiravir) to treat mild to moderate COVID-19 in adults who are at higher risk of serious illness and who aren't able to take other treatment options (CDC, 2021).

Many patients may have mild illness and can be treated with supportive care which aimed at relieving symptoms and include:

- Pain relievers (ibuprofen or acetaminophen)

- Cough syrup or medication
- Rest
- Fluid intake (Habas et al., 2020).

The health care provider will likely recommend to stay in home isolation for a period of time except to get medical care (Zhu et al., 2019).

2.1.9 Prevention of Covid-19

2.1.9.1 Covid-19 vaccines

The U.S. Food and Drug Administration (FDA) has given emergency use authorization to some COVID-19 vaccines in the United States (Guan et al., 2019).

The FDA has approved the Pfizer-BioNTech COVID-19 vaccine, now called Comirnaty, to prevent COVID-19 in people age 16 and older (Tregoning et al., 2021).

The FDA has approved the Moderna vaccine, now called Spikevax, to prevent COVID-19 in people age 18 and older (CDC, 2021).

Due to the risk of a potentially life-threatening blood-clotting problem, the FDA is restricting use of the Janssen/Johnson & Johnson vaccine to certain people age 18 and older (CDC, 2021).

A vaccine can prevent you from getting the COVID-19 virus or prevent the patient from becoming seriously ill if get the COVID-19 virus (Euro-surveillance Editorial Team, 2021).

In addition, COVID-19 vaccination might offer better protection than getting sick with COVID-19 (Holmes et al., 2021).

A recent study showed that unvaccinated people who already had COVID-19 are more than twice as likely as fully vaccinated people to get re-infected with COVID-19 (De wit et al., 2019).

An additional primary dose of a COVID-19 vaccine is recommended for people who are vaccinated and might not have had a strong enough immune response (Masters, 2016).

In contrast, a booster dose is recommended for people who are vaccinated and whose immune response weakened over time (Fahr et al., 2015).

People who have a moderately or severely weakened immune system should get an additional primary shot and a booster shot (Ashraf et al., 2021).

The FDA has also authorized the monoclonal antibodies tixagevimab and cilgavimab (Evusheld) to prevent COVID-19 in some people with weakened immune systems or a history of severe reactions to a COVID-19 vaccine (WHO, 2021).

2.1.9.2 Covid-19 vaccines side effect

2.1.9.2.1 General Covid-19 vaccines side effect

A COVID-19 vaccine can cause mild side effects after the first or second dose, including:

- Pain, redness or swelling where the shot was given
- Fever
- Fatigue
- Headache
- Muscle pain
- Chills
- Joint pain
- Nausea and vomiting
- Swollen lymph nodes

Most side effects go away in a few days (CDC, 2019)

The person must be monitored for 15 minutes after getting a COVID-19 vaccine to see if he has an allergic reaction (Dai et al., 2021).

Side effects after the second dose might be more intense (Krammer et al., 2020).

Many people have no side effects (WHO, 2021).

Side effects of booster shots appear to be similar to side effects experienced after the two-dose or single-dose primary shots (Weiesinga et al., 2021).

Cases reported, the problem happened more often after the second dose of the COVID-19 vaccine and typically within one week after vaccination (Our World in Data, 2021).

In the U.S., there has been an increase in reported cases of myocarditis and pericarditis after mRNA COVID-19 vaccination, particularly in males ages 12 through 29 (CDC, 2021).

Some people who received the Janssen/Johnson & Johnson COVID-19 vaccine have developed Guillain-Barre syndrome with occurrence chances of this happening are very low. This disorder is most often reported within 42 days after vaccination, mostly in men (Assiri et al., 2021).

Many of the men are ages 50 to 64. Seek immediate medical care if you have weakness or tingling sensations, difficulty walking, difficulty with facial movements, double vision, and difficulty with bladder control (Ministry of Health, 2021).

Serious side effects of the Janssen/Johnson & Johnson COVID-19 vaccine can occur within three weeks of vaccination and require emergency care. Possible symptoms include:

- Shortness of breath
- Persistent stomach pain
- Severe or persistent headaches or blurred vision

- Chest pain
- Leg swelling (WHO, 2021)

2.1.9.2.2 Long-term Covid-19 vaccines side effect

Because COVID-19 vaccines clinical trials only started in the summer of 2020, it's not yet clear if these vaccines will have long-term side effects (Saudi Public Health Authority, 2021).

The CDC has created v-safe, a smartphone-based tool that allows users to report COVID-19 vaccine side effects (CDC, 2020).

2.1.10. Patient education

WHO and CDC recommend following these precautions:

- Get vaccinated. COVID-19 vaccines reduce the risk of getting and spreading COVID-19.
- Avoid close contact (within about 6 feet, or 2 meters) with anyone who is sick or has symptoms.
- Avoid crowds and indoor places that have poor air flow (ventilation).
- Wash hands often with soap and water for at least 20 seconds, or use an alcohol-based hand sanitizer that contains at least 60% alcohol.
- Wear a face mask in indoor public spaces in an area with a high number of people with COVID-19 in the hospital and new COVID-19 cases.
- Cover mouth and nose with elbow or a tissue when cough or sneeze.
- Avoid sharing dishes, glasses, towels, bedding and other household items with anyone.
- Clean and disinfect high-touch surfaces, such as doorknobs, light switches, electronics and counters, regularly.

- Stay home from work, school and public areas and stay home in isolation during sick period, unless going to get medical care. (CDC, 2020 ; WHO, 2020).

2.2. Previous Studies

Marwa et al. (2021) studied Side Effects and Efficacy of COVID-19 Vaccines among the Egyptian Population. This study was performed in Department of Clinical Pharmacy, Teaching Hospital of Faculty of Medicine, Faculty of Medicine, Beni-Suef University, Egypt. An online survey was designed to detect the postvaccine side effects. Healthy subjects who received two doses of (Sinopharm), (AstraZeneca), and (Pfizer BioNTech) vaccines participated in the study. A total of 168 participants participated in the study. The researchers find out that Regarding the side effects after receiving the first dose of the vaccine, the most common ones were pain, redness, or swelling at the site of vaccine injection (52.5%); fatigue and lethargy (45%); headache (15%); joint pain, muscle pain, and runny nose (10%); fever (7.5%); sore throat (6%); dizziness (5%); and cough, allergies, rashes, decreased appetite, and inflammation of the nervous system, including numbness, tingling, and loss of sensation (2.5%). However, 25% of the participants who received the vaccine did not report any side effects.

CHAPTER THREE

METHODOLOGY

Methodology

3.1. Design of the Study

A descriptive cross-sectional study was performed in Primary Care Centers in Telafer City for period 12th of December 2020 to 1st May 2021.

3.2. Setting of the Study

The target population for this study were people who vaccinated in (Al-Sader- Al- Qadesia, and Al- Amal) primary Care Centers in Telafer City.

3.3. Sample of the Study

A sampling frame consisted of (100) persons who take the first dose of Covid-19 vaccines. A Purposive convenience sampling method was selected for present study.

3.4. The Study Tools

To ultimate study goal a questionnaire was used to meet the purpose of data collection of study project that regarding side effect of Covid-19 side effects. The questionnaire consists of two portions:

Part (I): Questionnaire Sheet Related to Demographic Characteristics of the person. (gender, age, region, education level, occupation, if the person had Corona, Covid-19 vaccine type).

Part (II): Questionnaire Sheet Related Covid-19 vaccine side effect. This portion was adopted to assess prevalence of Covid-19 vaccine side effect among vaccinated people. (Appendix A).

3.5. Validity of the Instruments

To determine validation of instrument tool related to research project the questionnaire instrument tool and entire program was introduce to (7) experts in different fields (Appendix B).

3.6 Reliability of the Instruments

The pilot study

To mark the study instrument reliability, a pilot study was performed during a time from 10th December 2022 on (10) persons (they excluded from original sample) to test the questionnaire. The instruments reliability evaluated statistically by Cronbach's Alpha through utilizing SPSS.

Reliability Statistics

Cases	N	%	Cronbach's Alpha
Valid	10	100.0	-0.845
Exclude	0	.0	

Item-Total Statistics

Items	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
صداع	13.733	-.551-	-.242 ^{-a}
تعب	11.600	-.346-	-.474 ^{-a}
الام	10.989	-.277-	-.576 ^{-a}
فقدان	11.156	-.291-	-.578 ^{-a}
قشعريرة	7.378	.289	-1.418 ^{-a}
اسهال	10.222	.000	-.848 ^{-a}
حمى	15.167	-.614-	-.065 ^{-a}
غثيان	8.267	.049	-1.094 ^{-a}
تقي	9.433	.355	-.996 ^{-a}
تضخم	10.222	.000	-.848 ^{-a}
الموضعي	8.100	.003	-1.073 ^{-a}
تورم	6.989	.284	-1.514 ^{-a}
حرارة	10.100	-.116-	-.790 ^{-a}
احمرار	8.678	.068	-1.050 ^{-a}
كدمة	10.500	-.163-	-.769 ^{-a}
طفح	10.456	-.158-	-.759 ^{-a}
حرق	9.822	-.020-	-.873 ^{-a}
انتفاخ	9.122	.035	-.973 ^{-a}

3.7. Collection and analysis of data

The data was collected from the people in Telafer Primary Care Centers by the questionnaire for the period form 25th December 2020 to 20th January 2021. Then data analyzed by using of Statistical Package for Social Science SPSS (version 25).

CHAPTER FOUR

Results
&
Discussion

The Results & Discussion

Table 4.1 Demographical Characteristics of the Study Participants (n=100)

Characteristics	Items	F	%
Age	20-29	32	32.0
	30-39	24	24.0
	40-49	30	30.0
	50-more	14	14.0
Gender	Female	43	43.0
	Male	57	57.0
Educational background	College	52	52.0
	Secondary	36	36.0
	Literacy	12	12.0
Place	Telafer	51	51.0
	Abo- Mariyah	26	26.0
	Sinjar	10	10.0
	Eyadhia	7	7.0
	Rabiaa	6	6.0
He had Covid-19	Yes	33	33.0
	No	67	67.0
Vaccine type	Pfizer	8	8.0
	AstraZeneca	80	80.0
	Sinopharm	4	4.0
	Others	10	10.0

F: Frequency; %: percentage

This table indicates that the most of participants in the study are within the age group of (20-29) years old (32%) followed by those who are in the age group of (20-29) years old (30%). Concerning other demographical characteristics, the table shows that the most of participants are male (57%), and having college certification (52%). Regarding place, the table reveals the most of participants are from Telafer city (51%). Finally, the table show that (67%) of participants did not suffer from Covid-19. and (80%) of them take AstraZeneca vaccine. These results agreed with Balsam et al., 2021 in their study about side effect of Covid-19 vaccines that find out the demographic data of participants: 760 (70.4%) were male, 320 (29.6%) female. The mean age was 28.0 ± 1 year; 440 (40.7%) were single, 600 (55.6%) married, and 3.7% divorced or widowed. On education level, 644 (59.7%) held a

bachelor's degree, 288 (21.1%) a high school degree or below, and 180 (16.6%) a postgraduate degree. The majority (508, 47.1%) were employed, 232 (21.5%) unemployed and 304 (28.2%) were students. Most participants (856, 79.3%) were non-Emirati, 224 (20.7%) were Emirati. Many participants (52.9%) lived in Sharjah, 288 (26.7%) in Dubai and the rest (220, 20.3%) in the other Emirates.

Table 4.2 Health status and chronic conditions of participants (n=100)

Health condition	F	%
Diabetes	10	10.0
Hypertension	4	4.0
Autoimmune disease	0	0.0
Heart diseases	2	2.0
Drug allergy	1	1.0
Asthma	2	2.0
No chronic conditions	81	81.0

Table 4.2 present Health status and chronic conditions of participants which show most of them suffer from no chronic hypertension, autoimmune disease, heart disease, severe allergies, or asthma followed by only (10.0%) of the participants were have diabetes. This result disagrees with Balsam et al., 2021 that find out through study conducted in Clinical Sciences Department, College of Medicine, University of Sharjah, Sharjah, UAE were diabetes 7.8% followed by hypertension 6.3%, while, respectively, 3.7%, 3.7%, 3.3%, 0.7%, 0.7%, 0.4%, 0.4%, 0.4%, and 0.4% suffered chronic respiratory disease, heart disease, obesity, cancer, severe anemia, autoimmune disease, severe allergies, were receiving immunotherapy, and had liver disease.

Table 4.3 Frequency and percentage of COVID-19 vaccine side effect among study Participants (n=100)

Side effects	Side effect starting time									
	No side effect		< 24 hr.		24-48 hr.		48-72 hr.		> 72 hr.	
	F	%	F	%	F	%	F	%	F	%
Headache	46	46.0	37	37.0	5	5.0	12	12.0	0	00
Tiredness	48	48.0	18	18.0	16	16.0	16	16.0	2	2.0
Pain	7	7.0	44	44.0	23	23.0	16	16.0	10	10.0
Anorexia	8	8.0	35	35.0	21	21.0	20	20.0	16	16.0
Chills	34	34.0	28	28.0	13	13.0	19	19.0	6	6.0
Diarrhea	26	26.0	27	27.0	19	19.0	19	19.0	9	9.0
Fever	18	18.0	24	24.0	28	28.0	21	21.0	9	9.0
Nausea	46	46.0	18	18.0	21	21.0	8	8.0	7	7.0
Vomiting	51	51.0	22	22.0	14	14.0	9	9.0	4	4.0
Enlargement	69	69.0	17	17.0	3	3.0	11	11.0		
Local	27	27.0	34	34.0	21	21.0	17	17.0	1	1.0
Swelling	31	31.0	23	23.0	32	32.0	12	12.0	2	2.0
Heat	34	34.0	33	33.0	14	14.0	14	14.0	5	5.0
Redness	53	53.0	27	27.0	11	11.0	8	8.0	1	1.0
Bruise	46	46.0	18	18.0	26	26.0	7	7.0	3	3.0
Rash	57	57.0	23	23.0	8	8.0	12	12.0		
Burning	83	83.0	7	7.0	9	9.0	1	1.0		
Bulge	76	76.0	14	14.0	3	3.0	4	4.0	3	3.0

F: Frequency; %: Percentage

Table 4.3 presents the prevalence of general adverse reactions to the first dose of the COVID-19 vaccine in participants. The table shows that overall 46%, 48% did not have headache or feeling tiredness post vaccination respectively. Common side effects among participants were normal pain at the site of vaccination and anorexia about (44.0%), (35.0%) within 24 hours post vaccination respectively. Concerning of chills (34.0%) of the participants they not suffer from chills, (27.0%) of the participants had diarrhea after 24 hours post vaccination. The same table indicates most of participants (28.0%) suffer from fever within 24-48 hours after post vaccination, (46.0%),(51.0%),(69.0%) reported no nausea, no vomiting, no lymph node enlargement post-vaccination respectively, at the same time (34.0%) of participants were suffer from pain in injection site after 24 hours, and (34.0%) of them have local swelling within 24-48 hours post-vaccination. Finally (34.0%),(53.0%),(46.0%),(57.0%),(83.0%),(76.0%) of the participants reported no local heat, no redness, no bruises, no rashes, no burning, no bulging after getting Covid-19 vaccines respectively. These results were disagreed with Edrous Alamer et al., 2021, in their study that recruited a total of 965 eligible participants. Overall, 571 (60%) of the study participants reported at least one side effect following Pfizer-BioNTech (BNT162b2) mRNA vaccination. The most frequently reported side effects were pain or redness at the site of injection (90%), fatigue (67%), fever (59%), headache (55%), nausea or vomiting (21%), and chest pain and shortness of breath (20%). Joint or bone pain were reported less frequently among our participants (2%). Our data showed that more female participants reported side effects compared to male participants, with 52% and 48%, respectively. Side effects were more common after the second dose compared to the first dose in our study cohort. Conclusions: While 60% of the children (12–18 years old) who received Pfizer-BioNTech (BNT162b2) mRNA vaccine reported side effects.

Table 4.4: Relationships between demographical characteristics and COVID-19 vaccine side effects

Side effect	Age	Gender	Educational level	Vaccine	Place	Covid
Headache	0.050	0.035	.224*	-0.187	-.294**	-0.013
Tiredness	-0.038	-0.158	-0.055	.224*	0.091	-0.053
Pain	0.005	-0.008	-0.166	0.190	.275**	0.033
Anorexia	0.052	-0.026	-0.054	-0.072	0.136	0.075
Chills	0.183	-.330**	0.022	0.016	0.069	-.239*
Diarrhea	0.167	-0.048	0.113	0.050	-0.026	-0.178
Fever	0.065	-0.067	0.090	-0.118	-.218*	0.036
Nausea	0.033	0.034	.271**	-.281**	-.372**	0.066
Vomiting	0.042	0.069	0.151	-0.188	-.264**	0.031
Enlargement	0.090	0.002	-0.126	-.220*	-0.084	-0.119
Local	-0.083	-0.182	0.046	-0.077	-.197*	-0.015
Swelling	.304**	-0.068	0.045	0.003	.267**	-.287**
Heat	.233*	0.150	0.159	0.076	-0.188	-0.060
Redness	.354**	-0.058	0.113	-0.053	-.211*	-0.140
Bruise	.222*	-0.049	.348**	-.261**	-.422**	0.019
Rash	0.097	-.249*	0.182	-.332**	-0.010	-0.067
Burning	0.052	-0.120	0.026	-.256*	-0.144	0.040
Bulge	0.098	-0.019	0.000	0.118	0.180	-.253*

Correlation is significant at the 0.01 level (2-tailed).

Correlation is significant at the 0.05 level (2-tailed).

The table (4.4) shows the statistical correlation of demographic characteristics results and occurrence Covid-19 side effect. There are statistical correlations between age of the participant with the swelling, local heat, redness, and bruises (0.304),(0.233),(0.354),(0.222) respectively. The tables show no significant difference between the gender in other side effects except chills and rash which show significant as (0.330),(0.249). namely normal pain at the vaccination site (P = 0.224), tenderness (P = 0.224), redness (P = 0.211), headache (P = 0.294).

CHAPTER FIVE

**Conclusion
&
Recommendation**

Conclusion

This study concludes the followings

1. The majority of the sample are male gender.
2. High percentage 32.0% of the total sample are at age (20-29).
3. Post-vaccination side effects for the first dose were mild and predictable, and there were no hospitalization cases; this data will help reduce vaccine hesitancy.

Recommendations.

1. Applying educational health programs in all hospitals to encourage people to get vaccines.
2. Conducting additional studies for assessing second dose of Covid-19 vaccines side effect.
2. Conducting additional studies to prove the efficacy Covid-19 vaccines.

REFERENCES

- Ashraf, M.; Kim, Y.; Kumar, S.; Seo, D.; Ashraf, M.; Bae, Y.-S. (2021) COVID-19 vaccines (revisited) and oral-mucosal vector system as a potential vaccine platform. *Vaccines*, 9, 171.
- Assiri, A.; Al-Tawfiq, J.A.; Alkhalifa, M.; Al Duhailan, H.; Al Qahtani, S.; Abu Dawas, R.; El Seoudi, A.A.; Alomran, N.; Abu Omar, O.; Alotaibi, N.;(2021) Launching COVID-19 vaccination in Saudi Arabia: Lessons learned, and the way forward. *Travel Med. Infect. Dis.*, 43, 102119.
- CDC. (2020) <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>
- coronavirus disease 2019 (COVID-19): A review. *JAMA* 324, 782–793.
- COVID-19 Vaccine, Awareness Guide, April, (2021), [https://www.dha.gov.ae/Asset% 20Library/COVID19/Covid19 _ Vaccine _ EN.pdf](https://www.dha.gov.ae/Asset%20Library/COVID19/Covid19_Vaccine_EN.pdf)
- DeWit, E.; Van Doremalen, N.; Falzarano, D.; Munster, V.J. (2016) SARS and MERS: Recent insights into emerging coronaviruses. *Nat.Rev. Genet.*, 14, 523–534.
- Eurosurveillance Editorial Team. (2021) Updated rapid risk assessment from ECDC on the risk related to the spread of new SARS-CoV-2 variants of concern in the EU/EEA—First update. *Eurosurveillance* 26, 2101211.
- Forni G, Mantovani A. (2021), COVID-19 Commission of Accademia Nazionale deiLincei, Rome. COVID-19 vaccines: Where we stand and challenges ahead. *Cell Death Differ*, 626–39.
- Forni G, Mantovani A. (2021), COVID-19 Commission of Accademia Nazionale deiLincei, Rome. COVID-19 vaccines: Where we stand and challenges ahead. *Cell Death Differences* 28:626–39.
- Guan, W.-J.; Ni, Z.-Y.; Hu, Y.; Liang, W.-H.; Ou, C.-Q.; He, J.-X.; Liu, L.; Shan, H.; Lei, C.-L.; Hui, D.S. (2020) Clinical characteristics

- Habas K, Nganwuchu C, Shahzad F, Gopalan R, Haque M, Rahman S, (2020) Resolution of coronavirus disease 2019 (COVID-19). *ERATCK* 2020;18(12):1201–11. doi: 10.1080/14787210.2020.1797487.
- Haidere M, Ratan Z, Nowroz S, Zaman S, Jung Y, Hosseinzadeh H, Cho J. (2021), COVID-19 Vaccine: Critical Questions with Complicated Answers. *Biomol*29 (1):1–10. doi: 10.4062/biomolther.2020.178.
- Holmes, E.C.; Goldstein, S.A.; Rasmussen, A.L.; Robertson, D.L.; Crits-Christoph, A.; Wertheim, J.O.; Anthony, S.J.; Barclay, W.S.; Boni, M.F.; Doherty, P.C. (2021) The origins of SARS-CoV-2: A critical review. *Cell* 184, 4848–4856.
- Krammer, F. (2020) SARS-CoV-2 vaccines in development. *Nature* 586, 516–527.
- Lai C, Shih T, Ko W, Tang H, Hsueh P. (2020), Severe acute respiratory syndrome coron- avirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges, 55(3).
- Masters, P.S. (2016), The molecular biology of coronaviruses. *Adv. Virus Res.*, 66, 193–292.
- Ministry of Health (MOH). MOH Begins Vaccinating 12–18 Age Group with Pfizer Vaccine. 2021. Available online: <https://www.moh.gov.sa/en/Ministry/MediaCenter/News/Pages/News-20214>
- Osama H , Ibrahim M , Jirjees FJ , Mahdi HM.(2020) Barriers affecting compliance of patients with chronic diseases: A preliminary study in United Arab Emirates (UAE) population. *AJPCR*.
- Our World in Data. Coronavirus (COVID-19) Vaccinations. (2021). Available online: <https://ourworldindata.org/covidvaccinations>.
- Oxford Advanced Learners Dictionary. (2010). 8th edition. UK: Oxford University press.pp.103, 108.

- Petousis-Harris H. (2021) Assessing the Safety of COVID-19 Vaccines: A Primer. *Drug Safe* 2021;44(4):507 -507. doi: 10.1007/s40264-020-01023.
- Saudi Public Health Authority. (2021).[https://covid19.cdc.gov.sa/professionals-healthworkers/interimguidelines-](https://covid19.cdc.gov.sa/professionals-healthworkers/interimguidelines)
- Tregoning, J.S.; Flight, K.E.; Higham, S.L.; Wang, Z.; Pierce, B.F. (2021) Progress of the COVID-19 vaccine effort: Viruses, vaccines and
- Trivedi A, Sharma S, Ashtey B. (2020), Investigational treatments for COVID-19. *Pharm. J.* doi: 10.1211/pj.2020.20208051.
- Tweezy O, Sultan A, Ding H, Chris R. (2020) A Review of the Progress and Challenges of Developing a Vaccine for COVID-19. *Front. Immunol* 2020;11. variants versus efficacy, effectiveness and escape. *Nat. Rev. Immunol*, 21, 626–636.
- Wiersinga, W.J.; Rhodes, A.; Cheng, A.C.; Peacock, S.J.; Prescott, H.C. (2020) Pathophysiology, transmission, diagnosis, and treatment of
- World Health Organization (WHO): (2019), Evidence Assessment: Sinopharm/BBIBP COVID- 19 vaccine, for recommendation by the strategic advisory group of experts (sage) on immunization prepared by the sage working group on covid-19 vaccines.
- World Health Organization (WHO): (2021), Evidence Assessment: COVID- 19 vaccine, for recommendation by the strategic advisory group of experts (sage) on immunization prepared by the sage working group on covid-19 vaccines.
- Xia S, Duan K, Zhang Y, Zhao D, Zhang H, Xie Z, Yang X. (2021), Effect of an inactivated vaccine against SARS-CoV-2 on safety and immunogenicity outcomes: Interim analysis of 2 randomized clinical trials. *JAMA*;324(10):951–60. doi: 10.1001/jama.2020.15543.

Zhang Y, Zeng G, Pan H, Li C, Hu Y, Chu K, et al. (2021), Safety, tolerability, and immunogenicity of an inactivated SARS-CoV-2 vaccine in healthy adults aged 18–59 years: a randomized, double-blind, placebo-controlled, phase 1/2 clinical trial. *Lancet Infect Disease* ;21(2):181–92. doi: 10.1016/s1473-3099(20)30843-4.

Zhu, N.; Zhang, D.; Wang, W.; Li, X.; Yang, B.; Song, J.; Zhao, X.; Huang, B.; Shi, W.; Lu, R. (2019) A novel coronavirus from patients with pneumonia in China, 2019. *N. Engl. J. Med.*, 382, 727–733.

APPENDICES

Appendix-A-

((تقييم الاثار الجانبية للجرعة الاولى من لقاح فايروس كورونا-19 بين الملقحين من مدينة تلعفر))

الجزء الأول: المعلومات الديموغرافية

١. الجنس: ذكر انثى
٢. العمر: سنة
٣. السكن: تلعفر سنجار أبو ماريا ربيعة
- عياضيه
٤. المستوى التعليمي:
- امية ثانوية جامعة
٥. هل اصبت بجائحة كورونا: نعم لا
٦. نوع الجرعة: فايزر استازينكا سينوفارم
- اخرى

الجزء الثاني: التاريخ المرضي

- هل لديك اصابات سابقة بالأمراض التالية
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| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
١. داء السكري
٢. ارتفاع ضغط الدم
٣. مرض مناعي
٤. امراض قلبية
٥. حساسية تجاه علاج
٦. الربو

Appendix-A-

التأثيرات الجانبية للقاح

أ- الآثار الجانبية الجهازية

ت	الآثار الجانبية	لا يوجد	أقل من ٢٤ ساعة	من ٢٤-٤٨ ساعة	من ٤٨-٧٢ ساعة	أكثر من ٧٢ ساعة
١.	صداع					
٢.	تعب وخمول عام					
٣.	آلام العظام والعضلات					
٤.	فقدان حاسة التذوق والشم					
٥.	القشعريرة					
٦.	إسهال					
٧.	الحمى					
٨.	الغثيان					
٩.	التقيؤ					
١٠.	تضخم العقد اللمفاوية					

ب- الآثار الجانبية الموضعية

ت	الآثار الجانبية	لا يوجد	أقل من ٢٤ ساعة	من ٢٤-٤٨ ساعة	من ٤٨-٧٢ ساعة	أكثر من ٧٢ ساعة
١.	آلام مكان الحقن					
٢.	تورم في موقع الحقن					
٣.	حرارة في موضع الحقن					
٤.	احمرار في موضع الحقن					
٥.	كدمة في موضع الحقن					

Appendix-A-

ج- تأثيرات تفاعلات الحساسية

ت	الاثار الجانبية	لا يوجد	اقل من ٢٤ ساعة	من ٢٤-٤٨ ساعة	من ٤٨-٧٢ ساعة	اكثر من ٧٢ ساعة
١.	طفح جلدي					
٢.	حرق الجلد					
٣.	تورم وانتفاخ					

Appendix -B-

قائمة بأسماء الخبراء

ت	اسم الخبير	اللقب العلمي	الشهادة	محل العمل
١	د. عبدالعزيز أحمد عزيز	أستاذ	دكتوراه طب فلسفة	رئيس جامعة تلغفر
٢	د. احسان حسن زينل	مدرس	دكتوراه تمريض البالغين	كلية التمريض /جامعة تلغفر
٣	د.سعد حسين مراد	مدرس	دكتوراه تمريض البالغين	كلية التمريض/جامعة الموصل
٤	د.تحسين محسن حسين	مدرس	دكتوراه تمريض البالغين	كلية التمريض /جامعة الموصل
٥	د. محمد قاسم بكتاش	مدرس	دكتوراه صحة مجتمع	كلية التمريض /جامعة تلغفر
٦	د. هناء حسين مخلف	مدرس	دكتوراه تمريض البالغين	كلية التمريض/جامعة الموصل
٧	السيد علي محمد فتحي	مدرس مساعد	ماجستير تمريض البالغين	كلية التمريض / جامعة الموصل

الخلاصة

تم القيام بحملات تطعيم واسعة على مستوى العالم لمكافحتها انتشار مرض فيروس كورونا (كوفيد-١٩) في حين ان معظم اللقاحات أظهرت فعالية ممتازة وملاحح امان في الدراسات السريرية، فان المراقبة الواقعية لسلامة اللقاحات لا تزال مهمة.

تم اجراء دراسة وصفية مقطعية للتعرف على التاثيرات الجانبية لتطعيمات (كوفيد-١٩) حيث شملت الدراسة ١٠٠ شخص ملقح للجرعة الأولى من لقاح (كوفيد-١٩). (٥٧) ذكور و (٤٣) اناث من المراكز الرعاية الأولية في مدينة تلغفر للفترة من ٢٠٢٠/١٢/١٢ الى ٢٠٢١/٥/١ ، تم اعتماد استبانة معلومات نظمها الباحثين لجمع البيانات بعد ان تم عرضها وتحكيمها من قبل مجموعة من الخبراء، وقد تضمنت الاستمارة جزئين: الجزء (الأول) المعلومات الديموغرافية للمرضين (العمر، الجنس، المستوى التعليمي، السكن، الخ..) والجزء (الثاني) وقد تضمن معلومات خاصة بالتاثيرات الجانبية للقاح.

اظهرت الدراسة بان هناك علاقة بين معارف الممرضين واعمارهم حيث كانت اكبر نسبة للفئة العمرية (٢٩-٢٠) وبنسبة ٤٣,١% ، كما كان هناك علاقة بين العمر ومعظم التاثيرات الجانبية ، وتوصي الدراسة بإقامة الدورات توعوية في جميع المستشفيات لتشجيع الناس للتطعيم وكذلك عمل المزيد من الدراسات لاثبات سلامة التطعيمات ضد (كوفيد-١٩) .



جامعة تلعفر



كلية التمريض

تقييم الآثار الجانبية للجرعة الأولى من لقاح فايروس كورونا- ١٩ بين الملقحين من مدينة تلعفر

مشروع تخرج تقدم به

أسماء حسن حسين

هبة عزت عبدالقادر

ريمة محمد عيد يونس

جواهر موفق محمد

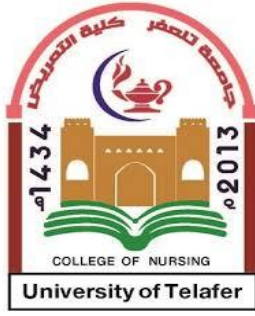
الى مجلس كلية التمريض في جامعة تلعفر

كجزء من متطلبات نيل شهادة البكالوريوس علوم في التمريض

بإشراف

علي إسماعيل سليمان

مدرس مساعد



College of Nursing



University of Telafer

**Assessment Knowledge of Mothers About Breastfeeding
in Sinjar City**

Research submitted by:

Khairi Shamo Tamo

Illaf Mohammed Shehab

Eido Qassim Haji

TO

**Council of Nursing college / University of Telafer is a part of
requirements for obtaining Bachelor's degree in nursing**

Supervised by:

Dr. Ihsan H. Zainal

Lecturer

2022A.D

1443 H.A

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

((وَالْوَالِدَاتُ يُرْضِعْنَ أَوْلَادَهُنَّ حَوْلَيْنَ كَامِلَيْنِ لِمَنْ أَرَادَ أَنْ يُتِمَّ الرَّضَاعَةَ))

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(البقرة - ٢٣٣)

اشهاد

الى صاحب السيرة العطرة والفكر المستير: فلقد كان الفضل الاول في بلوغني في التعليم (والدي الحبيب) اطل الله في عمره .

الى من وضعتني على طريق الحياة, وجعلتني رابط الجاش (امي الغالية) طيب الله ثراها .

الى اخوتي من كان لهم بالغ الاثر في كثير من العقبات والصعاب الى جميع الاساذيتي الكرام في كلية التمريض / جامعة تلعفر

الى جميع الاساذيتي في الابتدائية والاعدادية

الى جميع ممن لم يتوانوا في مديد العون لي

...أشدي لهم جميعاً بعثي هذا

شكر وتقدير

جزيل الشكر والعرفان لوالدينا على كل مجهوداتهم منذ الولادة إلى هذه اللحظات. يسرنا أن نوجه شكرنا إلى رئاسة جامعة تلعفر المتمثلة بالأستاذ الدكتور (عبدالعزیز أحمد عزیز) ونتقدم بالشكر والتقدير إلى استاذنا الفاضل (دكتور احسان حسن زینل) الذي تفضل بإشرافه على هذا البحث ولكل ما قدمه لنا من دعم و توجيه و ارشاد لاتمام هذا العمل على ما هو عليه، الذي كانت خبرته لا تقدر بثمن في صياغة أهم مواضيع البحث ومنهجيته. فقد دفعتنا ملاحظاته الثاقبة إلى صقل التفكير ورفع عملي إلى مستوى أعلى، فله أسمى عبارات الثناء و التقدير. كما نشكر القائمين على الكلية جميعا وعلى رأسهم السيد عميد الكلية المحترم والسيد معاون العميد المحترم ورئيس قسم المحترم، وفقهم الله تعالى لكل خير لما يبذلانه من اهتمام بطلاب الكلية على مختلف المستويات، ثم نشكر أولئك الأفاضل الكرام الذين مدوا لي أيدي المساعدة خلال هذه الفترة لم يكن بإمكانني إكمال هذا البحث بدون دعم أهاليينا و أصدقائنا الذين قدموا لنا مشورات محفزة ودعم بالإضافة إلى إيجاد عوامل وفرص لجعلنا سعداء وواثقين من انفسنا والحمد لله رب العالمين.

Abstract

The World Health Organization recommends continued breastfeeding up to 2 years of age or beyond. Adequate nutrition during infancy and early childhood is essential to ensure the growth, health and development of children to their full potential'. It has been recognized worldwide that breastfeeding is beneficial for both the mother and child, as breast milk is considered the best source of nutrition for an infant.

A descriptive cross-sectional study was carried out and the sample was randomly selected from postnatal mothers in Sinjar city. Data was collected through face-to-face interview using a structured questionnaire.

The participants were 50 women. Exclusive breastfeeding for 6 months was reported by 37 (74 %). most women belonged to the age group of 18 to 39 years. Maximum of them were from Urban 20(40 %). Majority of mothers had adequate knowledge breastfeeding.

The majority of mothers knew about Exclusive breastfeeding (EBF) and had a positive knowledge towards EBF but did not know the recommended duration or that EBF is sufficient for six months.

Keywords:

Knowledge, Mother, World Health Organization, Exclusive breastfeeding.

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Chapter one

INTRODUCTION

1.1. Introduction

Adequate nutrition during infancy and early childhood is essential to ensure the growth, health and development of children to their full potential (Ashimka Motee, 2013).

It has been recognized worldwide that breastfeeding is beneficial for both the mother and child, as breast milk is considered the best source of nutrition for an infant. Economic and social benefits are also provided to the family, the health care system and the employer (Ashimka Motee, 2013).

Breastfeeding has a number of benefits to both mother and baby, which infant formula lacks (Cirolla & Virginia, 2016)

Benefits for the infant include decrease the risk of respiratory tract infections, diarrhea, asthma, food allergies, and type 1 diabetes. Breastfeeding may also improve cognitive development and decrease the risk of obesity in adulthood (WHO, 2011).

Benefits for the mother include less blood loss following delivery, better uterus shrinkage, and decreased postpartum depression. Breastfeeding delays the return of menstruation and fertility, a phenomenon known as locational amenorrhea Long term benefits for the mother include decreased risk of breast cancer, cardiovascular disease, and rheumatoid arthritis (BF, 2015).

World health organization (WHO) recommends mothers worldwide to exclusively breastfed infants the first six months of life to achieve optimal growth, development and health. Thereafter, infants should receive nutritionally adequate and safe complementary foods, while continuing to breastfeed for up to two years or beyond'(WHO/2011).

Newborns should be nursed whenever they show signs of hunger, such as increased alertness or activity, mouthing, or rooting. Crying is a late indicator of hunger. Newborns should be nursed approximately 8 to 12 times every 24 hours until they are satisfied, usually 10 to 15 minutes on each breast. In the

early weeks after birth, no supplements (water, glucose water, formula, and so forth) (William, 2018).

1.2 Rationale of the study

The implication is that some of the mothers had no knowledge as to initiate breast Feeding within one hour after birth as recommended by UNICEF/WHO that the baby be put to the breast 30 minutes after birth; it also implies that some of the mothers lacked knowledge on the need to avoid formula foods for the first six months of a baby's life. In 2002, at the Oslo University Institute for Nutrition Research, Norway, De Paoli and Manongi researched into knowledge of breastfeeding among gravida or gravid women.

This study provides information about the breastfeed mothers' knowledge breastfeeding, in Sinjar city. Furthermore, this study describes knowledge of breastfeeding and assessed potential factors. Surely the study will helpful for mothers as it will increase their knowledge about importance of exclusive breast feeding. And this study will improve infant survival rate after the exclusive breast feeding and strengthen the maternal behavior regarding exclusive breastfeeding.

1.3 Aim of the study

Assess Mother Knowledge in Sinjar City toward breast feeding.

1.4 Objectives of the study

1. To Describe the demographical characteristics of the participant in the study.
2. To assess Mothers' knowledge regarding breastfeeding.

1.5 Definition of Basic Terms

1. Assessment

(Theoretical definition)

Is the systematic basis for making inferences about the learning and development of person analysis and synthesis of that data, and making clinical judgment.

(Operational)

It is the gathering of information about the mother breast feeding,

2. Knowledge:

(Theoretical definition)

Is ability for acquiring, using of skills and information (Badran, 1995).

(Operational definition)

Is information and skills acquired through experience or education.

3. Breast feeding

(Theoretical definition)

Is the ideal food for infant, it is safe, clean, and contain antibody that help the infant protect against infection.

Chapter two

LITERATURE REVIEW

2.1 Definition of breastfeeding:

Breast milk is the natural and original first food for babies, it provides all the energy and nutrients that the infant needs for the first months of life, and it continues to provide up to half or more of a child's nutritional needs during the second half of the first year, and up to one-third during the second year of life, WHO is working with UNICEF and partners to promote the importance of family-friendly policies to enable breastfeeding and help parents nurture and bond with their children in early life (Thomas, 2017).

According to World Health Organization exclusive breastfeeding means that the infant receives only breast milk. No other liquids or solids are given - not even water until six months - with the exception of oral rehydration solution, or drops/syrups of vitamins, minerals or medicines. It protects against common and widespread childhood diseases such as diarrhea and pneumonia, and may also have long term benefits such as lowering mean blood pressure and cholesterol, and reducing the prevalence of obesity and type-2 diabetes (WHO, 2018)

2.2. Anatomy of breast:

Breast anatomy the breast is an endocrine gland placed on the front of the chest, consisting of glandular acini, also called alveoli, coated by cells that have the property of securing milk under the influence of hormones such as prolactin. In the adult woman, the breast is made up of glandular tissue, connective tissue, and adipose tissue that determine the size, shape and texture of the organ.

At the apex of the breast is the mammary areola, a pigmented skin area whose surface is characterized by the presence of modified sebaceous glands that, with their secretion, have the function of making the nipple soft and elastic (Viginia & Cirolla, 2017).

At the surface of the nipple, the tubules from which the secretion product of the gland comes out. The whole of the acorns forms the lobules that, clustering, form the lobes separated from the connective tissue (Viginia & Cirolla, 2017).

The milk produced from the acules of each lobule is harvested in a duct end or lobular excretor which is confluent with those from other lobules of the same lobe, giving rise to gallotomorphic ducts; the latter, below the nipple, dilate to form 5-8 mm wide galactoids, which function as small milk containers, Glandular tissue is more abundant in the super-external portion of the breast (Viginia & Cirolla, 2017).

The axillary, Tran's pectoral and internal mammary Staging intramammary lymph nodes are considered as axillary and supraclavicular lymph nodes such as regional lymph nodes (Viginia & Cirolla, 2017).

2.3 Physiology of breastfeeding:

A woman's breasts start getting ready to make milk when she becomes pregnant. Breast changes are caused by four main hormones. These hormones cause the ducts and glandular tissue (alveoli) to grow and increase in size (Pooja, 2015).

The breasts start to make the first milk, colostrum, in the second trimester. Colostrum is thick and clear to yellow in color. Once your baby and the placenta are delivered, your body starts to make more milk (Pooja, 2015).

Over the next few days, the amount of milk your breasts make will increase and the color will change to appear waterier and whiter (Pooja, 2015).

Under nutrition is estimated to cause 3.1 million child deaths annually or 45 per cent of all child deaths. Breast feeding is a key area to improve child survival and promote healthy growth and development (Pooja, 2015).

The first 2 years of a child's life are particularly important, as optimal nutrition during this period lowers morbidity and mortality, reduces the risk of chronic disease, and fosters better development overall (Pooja, 2015).

Optimal breastfeeding is so critical that it could save about 800 000 under 5 child lives every year. Breastfeeding confers short term and long-term benefits on both child and mother, including helping to protect children against a variety of acute and chronic disorders (Pooja, 2015).

2.4. Benefits of breastfeeding

Infants when exclusively breastfed for the optimal duration of six months are considerably protected against the major childhood diseases conditions. Diarrhea, gastrointestinal tract infection, allergic diseases, diabetes, obesity, childhood leukemia and lymphoma, inflammatory and bowel disease (WHO, 2012).

In particular, the risk of hospitalization for lower respiratory tract infections during the first year of life is reduced by 72% when infants are exclusively breastfed for more than 4 months (American Academy of Pediatrics, 2012).

Duncan et al (2009) also found exclusive breastfeeding to be protective against single and recurrent incidences of otitis media. Infants who were given supplementary foods prior to 4 months had 40% more episodes of otitis media than their counterparts (Duncan et al., 2009)

In a study by Vennemann and colleagues (2009) breastfeeding was found to be protective against sudden infant death syndrome by reducing the

risk by 50% at all ages during infancy; these benefits have been reported to exhibit those responses relationship, that is, health gains increased with increase in duration and exclusivity (Vennemann et al., 2009)

Breast milk promotes sensory and cognitive development, and protects the infant against infectious and chronic diseases and exclusive breastfeeding reduces infant mortality due to common childhood illnesses such as diarrhea or pneumonia, and helps for a quicker recovery during illness (American Academy of Pediatrics, 2012).

Breastfeeding contributes to the health and well-being of mothers; it helps to space children, reduces the risk of ovarian cancer and breast cancer, increases family and national resources, is a secure way of feeding and is safe for the environment (WHO, 2017).

Breastfeeding reduces the mother's risk of fatal postpartum hemorrhage and premenopausal breast and ovarian cancer. Frequent and exclusive breastfeeding contributes to a delay in the return of fertility and helps protect women against anemia (American Academy of Pediatrics, 2012).

2.5. Breastfeeding knowledge

The implication is that some of the mothers had no knowledge as to initiate breast Feeding within one hour after birth as recommended by UNICEF/WHO that the baby be put to the breast 30 minutes after birth; it also implies that some of the mothers lacked knowledge on the need to avoid formula foods for the first six months of a baby's life. In 2002, at the Oslo University Institute for Nutrition Research, Norway, De Paoli and Manongi researched into knowledge of breastfeeding among gravida or gravid women (Edmund, 2020).

In 2001-2002, The World Alliance for Breast Feeding Action assessed the understanding of semi-literate and well-lettered pregnant women on

breastfeeding. The study unveiled that the semi-literate working mothers had no knowledge of exclusive breastfeeding. It further uncovered that out of 351 participants, none could demonstrate manual breast milk expression and the highly educated women among them knew about EBF but lacked knowledge on its management (Edmund, 2020).

Chapter three

METHODOLOGY

Methodology

3.1 Design

A cross sectional descriptive study was conducted in this study to assess the knowledge of mothers regarding exclusive breastfeeding in Sinjar city from 1 of November 2021 to 15 of April 2022.

3.2 Setting of the study

The target population for this study was mothers, in Sinjar city

3.3 Sample Methods

Simple random sampling technique was used to choose (50) mothers to be samples of this study.

3.4 Inclusion and exclusion criteria

1. Inclusion:

All postpartum mothers who have knowledge to Sinjar city, study with exclusive breastfeeding.

2. Exclusion:

Mothers who refuse to answer the questions and who with medical conditions.

3.5 Ethical considerations

The approval was obtained from the general directorate of health & the study was approved from ethical committee in the directorate general of health in Sinjar city. Oral agreement was obtained from postpartum mothers in order to participate in present study.

3.6 The Study Tools

To ultimate study goal a questionnaire was used to meet the purpose of data collection of study project that regarding breast feeding. The questionnaire consists of two portions:

Part (I): Questionnaire Sheet Related to Demographic Characteristics of the person. (gender, age, region, education level, occupation).

Part (II): Questionnaire Sheet Related knowledge of mothers toward breast feeding. (Appendix A).

3.7 Validity of the Instruments

To determine validation of instrument tool related to research project the questionnaire instrument tool and entire program was introduce to (7) experts in different fields (Appendix B).

3.8 Data collection

Statistical analysis for the obtained data was done by the SPSS version 25 (Frequency and percentage).

Chapter four

RESULTS

&

Discussion

Table 1: Demographic Data of the participant

No.	Variables		F	%
1	Mother's age (Years)	≤ 20	7	14
		21 - 25	15	30
		26 - 30	12	24
		31- 35	10	20
		36 - 39	6	12
2	Education level	Illiterate	5	10
		Can read and write	7	14
		Primary school graduated	13	26
		Intermediate school graduated	10	20
		Secondary school graduated	5	10
		Institute graduated	1	1
		College graduated	7	14
		Higher education	1	1
3	Occupation	Employed	10	20
		Housewife	40	80
4	Residency	Rural	10	20
		Urban	20	40
		Suburban	10	20
		Refugee camp	10	20
Total			50	100

This table shows mother's demographic data. Out of 50 (30 %) of BF mothers, maximum mothers belonged to the age group of 21-25 years. educational characteristics reveal that 5 (10 %) of mothers were illiterate. 40 (80 %) of mothers occupation were housewife. This table also shows that the mother's residential area was highest in urban areas with rates of 20 (40 %).

Table (2) Mothers' Knowledge Regarding Breastfeeding

Items	Correct answers		Incorrect answers	
	F	%	F	%
1) Mother should start breastfeeding at first hour after delivery.	34	68	16	32
2) Giving colostrum to the baby is essential.	34	64	16	32
3) Foods or fluids should not be given to the baby under 6 months' child age.	23	46	27	54
4) Mother have to introduce complementary food at 6 months' child age.	26	52	24	48
5) Breastfeeding should be continued up to 2 years.	27	54	23	46
6) Breastfeeding should be given on demand.	23	46	27	54
7) Breastfeeding provides immunity against infection.	15	30	35	70
8) Breastfeeding increases the baby's intelligence	13	26	37	74
9) Breastfeeding strengthen child's bones.	16	32	34	68

Who didn't know, and their rates were 239(50.0%). From the total study participants, based on the degree of knowledge, 211 (63.3%) of mothers were rated as having good knowledge of starting breastfeeding in the first hour after delivery. 34 (68%) mothers considered giving colostrum to baby is correct. This study showed that there's close ratio among mothers who answered giving food or fluid to baby under 6 months is correct and those answered incorrect. And their rates were 23 (46 %), 27(54 %). 26 (52 %) mothers responded introducing complementary food at 6 mothers correct. 27 (54 %) agreed that BF should be continued up to 2 years. 15 (30 %) of mothers are aware of benefit of BF on immunity against infection. 13 (26 %) mothers had a good knowledge about how BF benefits the child's

intelligence. we also see that 16 (32 %) mothers are knowledgeable that BF strengthen child's bones. This fact was supported in our study, where it was found that mothers who had better breastfeeding knowledge scores were more likely to practice exclusive breastfeeding for 6 months. women who lived with their relatives had better breastfeeding knowledge and this could further explain the differences observed. Another factor that was found to be important in predicting exclusive breastfeeding in our study was whether mothers were offered readymade liquid formula in the hospital. The mothers who were offered readymade formula liquid while in hospital were less likely to exclusively breastfeed for 6 months. The latter could explain the difference in exclusive breastfeeding rates at 6 months in our study in the hospital. Interestingly, it was also found in our study that female infants were more likely to be exclusively breastfed for 6 months compared to male infants, which could be explained by the cultural infant feeding practices seen in some areas in the Middle East (Shiel, 2018).

Chapter six

**Conclusions
&
Recommendations**

5.1 Conclusion

1. The majority of the study participants was at a young age (21-25), most of the sample was illiterate and housewife.
2. Overall, the mothers who participated in the study about breastfeeding had good knowledge of more than three quarters.

5.2 Recommendation

1. Applying educational health programs in all hospitals to encourage mothers to breast feeding.
2. Conducting additional studies for assessing mothers towards breast feeding.

REFERENCES

American Academy of Pediatrics. (2012). breastfeeding and infant feeding. library of evidence for nutrition actions

Ashimka, motee, ashmika .ramasawmy, deerajen. Jeewon, rajesh. Gunsam, prity pugo (2013) Anatomy of female breast, department of health sciences.

BF, (2015), exclusive breastfeeding for six months best for babies everywhere – who Exclusive breastfeeding for six months best for babies everywhere. Statement, 15 january 2011.

Cirolla o. and Virginia C. (2016) . An assessment of the breastfeeding practices and infant feeding pattern among mothers in mauritius. Johannes b. Van goudoever.department of health sciences, faculty of science, University of mauritius, réduit, mauritius.

Edmund, A. (2020) School of nursing college of health Sciences university of Tikrit.

Pooja A., (2015). Constraints of exclusive breastfeeding practice among breastfeeding mothers in alimosho general hospital/ Igado. With index number: 2015/2401/ 17424/n.

Thomas w. (2017) Assessment of breast feeding, School of nursing, college of health sciences, university of ghana, legon. Postnatal mothers at legon hospital.

Vennemann K. Ashimka, M motee, P ashmika A .ramasawmy, (2009) Knowldege and practice of breast feeding on mother in Al- Opera teaching Hospital. Germany.

Virginia C. and Cirolla o. (2017) . An assessment of practice in the breastfeeding and infant feeding pattern among mothers. library of evidence for nutrition actions

william c. (2018), Medical definition of breastfeeding practices, Reviewed on 12/21/2018.

World Health Organization, (2018), Duration and exclusivity health organizations "breastfeeding and breast milk: condition information". 19 december 2013. Archived from the original on 27 july 2015. Retrieved 27 july 2015.

World Health Organization. (2017). breastfeeding Benefits. WWW. WHO. org

World Health Organization. (2011). World breastfeeding week 2019. World breastfeeding week is celebrated every year from 1 august to 7.

Appendices

Appendix (A)

Questionnaire

I) – Mother's Demographic Data:

1- Age:

2- Education level:

- Illiterate
- Secondary
- Can read and write
- Institute graduate
- Primary School graduate
- College graduate
- Higher education
- Intermediate School graduate

3- Occupation:

a) Employed b) Housewife

4- Residency:

1- Rural 2- Urban 3- Suburban
4- Refugee camp

5- Religion:

1- Muslim 2- Christian 3- Yazidi

1. Caesarean section with spinal anesthesia
2. Caesarean section with general anesthesia

III) – Mothers’ knowledge regarding breastfeeding

Item	Yes	No	Don't know
1) Mother should start breastfeeding at first hour after delivery.			
2) Giving colostrum to the baby is essential.			
3) Foods or fluids should not be given to the baby under 6 months' child age.			
4) Mother have to introduce complementary food at 6 months' child age.			
5) Breastfeeding should be continued up to 2 years.			
6) Breastfeeding should be given on demand.			
7) Breastfeeding provides immunity against infection.			
8) Breastfeeding increases the baby's intelligence			
9) Breastfeeding strengthen child's bones.			

Appendix (B)

قائمة بأسماء الخبراء

ت	اسم الخبير	اللقب العلمي	الشهادة	محل العمل
١	د. عبدالعزيز أحمد عزيز	أستاذ	دكتوراه طب فلسفة	رئيس جامعة تلعفر
٢	د. احسان حسن زينل	مدرس	دكتوراه تمريض البالغين	كلية التمريض /جامعة تلعفر
٣	د.سعد حسين مراد	مدرس	دكتوراه تمريض البالغين	كلية التمريض/جامعة الموصل
٤	د.تحسين محسن حسين	مدرس	دكتوراه تمريض البالغين	كلية التمريض /جامعة الموصل
٥	د. محمد قاسم بكتاش	مدرس	دكتوراه صحة مجتمع	كلية التمريض /جامعة تلعفر
٦	د. هناء حسين مخلف	مدرس	دكتوراه تمريض البالغين	كلية التمريض/جامعة الموصل
٧	السيد علي محمد فتحي	مدرس مساعد	ماجستير تمريض البالغين	كلية التمريض / جامعة الموصل

الخلاصة

تنصح منظمة الصحة العالمية الى استمرار الرضاعة الطبيعية الى عمر السنتين او اكثر لان التغذية الجيدة في مرحلة الطفولة المبكرة ضرورية لنماء وتطور الأطفال وتقوية مناعتهم تبين الدراسات بان الرضاعة الطبيعية مفيدة جدا للام والطفل على السواء حيث يعد الرضاعة الطبيعية مصدر جيد للتغذية.

أجريت دراسة مقطعية تضمنت (٥٠) عينة تم اختيارهم بطريقة عشوائية من مدينة سنجار من خلال المقابلة الشخصية وذلك باستخدام استبانة معدة لهذا الغرض.

تبين النتائج بان (٧٤%) من العينات كانت أعمارهم بين ١٨-٣٩ سنة وان معظمهم مايقارب (٤٠%) منهم كانت لديهم معلومات جيدة حول أهمية الرضاعة الطبيعية.



وزارة التعليم العالي والبحث العلمي

جامعة تلعفر

كلية التمريض



معارف الامهات حول الرضاعة الطبيعية في سنجار

مشروع تخرج تقدم به

خيرى شمو تمو

ايلاف محمد شهاب

عيدو قاسم حجي

الى مجلس كلية التمريض في جامعة تلعفر كجزء من متطلبات نيل شهادة
البكلوريوس علوم التمريض

باشراف

م.د احسان حسن زينل

مدرس



College of Nursing



University of Telafer

Assessment Nurses Knowledge toward Peritoneal Dialysis

A Graduation project submitted by

Aysar Jamal Jerdo

Fatima Khairi Abdullah

Hiba Salim Khudher

Ikhlass Ali Mohammed

Marwa Ahmed Laftah

Zidan Khalaf Haji

To the Council of the College of Nursing / University of Telafer in Partial
Fulfillment of the Requirement for the Degree of Bachelors of Sciences
in Nursing

Supervised by

Ali Ismael Sulaiman

Assistant Lecturer

1444 A.H

2023 A.D

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

﴿وَإِنْ يَفْسَسْكَ اللّٰهُ بِضُرٍّ فَلَا كَاشِفَ لَهُ إِلَّا

هُوَ ۗ وَإِنْ يَفْسَسْكَ بِخَيْرٍ فَهُوَ عَلَىٰ كُلِّ

شَيْءٍ قَدِيرٌ (١٧) وَهُوَ الْقَاهِرُ فَوْقَ عِبَادِهِ

وَهُوَ الْحَكِيمُ الْخَبِيرُ ﴿١٨﴾

صدق الله العظيم

سورة الانعام الآية (١٧-١٨)

اهداء

لى من تجرّع كأس المصاعب لیسقیني قطرة من الحب.
لى من حصرت الاشواك عن دبی لتتحد لي طريق العلم.
لى من كانا شمعة تضيئ لي الدنيا من حولي

((ابي و أمي))

لى من هم شفاء للروح.

لى من كانوا نعم السند و الملجأ الآمن في الشدائد.
لى من تمر السنين والايام ولا يبد لهم الزمان.

((اصدقائي))

اهدي لهم جميعاً بحبي هذا...

شكر وتقدير

أول مشكور هو الله عز وجل الذي انعم علينا بنعمه الكثيرة ووفقنا
لاتمام هذا المشروع.

جزيل الشكر والعرفان لوالدينا على كل مجهوداتهم منذ الولادة إلى هذه
اللحظات.

يسرنا أن نوجه شكرنا إلى رئاسة جامعة تلعفر المتمثلة بالأستاذ
الدكتور (عبدالعزیز أحمد عزیز) والشكر موصول إلى عمادة كلية
التمريض المتمثلة بالدكتور (احسان حسن زینل) وإلى من بدل الغالي
والنفيس من أجل تعليمنا و ساهم معنا في إعداد هذا البحث الاستاذ
الفاضل الدكتور (محمد قاسم بكتاش) وكل الشكر والتقدير والعرفان
لمن أرشدنا بالنصح والتصحيح و ساهم معنا في اختيار العنوان
والموضوع وإعداد هذا البحث الاستاذ الفاضل (علي اسماعیل
سليمان). كما لا ننسى ان نتقدم بأرقى آيات الشكر إلى لجنة
المناقشة الموقرة لدعمهم لنا وتصحيحهم لمسار هذا المشروع العلمي.

طلاب البحث

Abstract

Renal failure is a life-threatening condition in which there is a buildup of waste and fluid in the body due to severe deterioration of kidney function and medical management of chronic renal failure includes dialysis to remove waste products and extra water from the blood.

A descriptive cross-sectional study was performed in Primary Care Centers in Telafer City for period 1st of December 2022 to 20th April 2023, A sampling frame consisted of (50) nurses. A Purposive convenience sampling method was selected for present study. A special questionnaire tool was constructed by the researchers to collect data after it has been presented and judged by a group of experts. The questionnaire consists of two portions: Part (I): Questionnaire Sheet Related to Demographic Characteristics of the nurse. (gender, age, education level, place, service years). Part (II): Questionnaire Sheet Related peritoneal dialysis)

The study showed shows that 66.7% (34) of the sample as male gender, majority 43.1% (22) of the total sample at age (30-39), majority of the nurse have inadequate knowledge toward peritoneal dialysis, the study recommends applying educational health programs in general Telafer hospital to improve nurse knowledge toward peritoneal dialysis as well as developing educational program curriculum to include knowledge about peritoneal dialysis

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List of Vocabularies

No.	List of Vocabularies	
1.	Peritoneal Dialysis	الغسل الصفاقي
2.	Hyperkalemia	ارتفاع نسبة البوتاسيوم
3.	Peritonitis	التهاب غشاء البريتون
4.	Hemoglobin	خضاب الدم
5.	Belly	البطن
6.	Renal failure	الفشل الكلوي
7.	Acid-base balance	توازن الحامضي-القاعدي

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Renal failure is a life-threatening condition in which there is a buildup of waste and fluid in the body due to severe deterioration of kidney function (Arieff, 2011).

The prevalence of both acute and chronic renal failure is high in the Arab World but data available on the exact prevalence of various renal diseases are very limited (Hockenberry & Wilson, 2017).

The reported prevalence of chronic renal failure is 225 in Egypt per million population and 80 to 120 in the Kingdom of Saudi Arabia and 975 in the United States (Barsoum, 2013).

Renal failure is a condition in which the kidney cannot concentrate urine, conserve electrolytes and excrete waste products which may occur as an acute or chronic condition (Wolfson, 2019).

Some cases of acute renal failure resolve without further complication while dialysis is necessary in other cases (Datta, 2010).

When acute renal failure continues to progress, it becomes chronic renal failure in this cases dialysis and kidney transplantation are treatment modalities used for chronic renal failure (Kraut, 2018).

Medical management of chronic renal failure includes dialysis to remove waste products and extra water from the blood. There are two types of dialysis; hemodialysis and peritoneal dialysis (Hassan, 2019).

Hemodialysis is the most common method used to treat advanced and permanent kidney failure (Perl, 2009).

1.2 Importance of the study

Nursing responsibilities and role in kidney diseases begins with observation of the patient for any manifestations that might indicate dysfunction (Hassan, 2019).

The most significant ongoing assessment for patient with renal conditions are accurate measurements and recording of weight, intake and output and blood pressure which are necessary for patient with known renal dysfunction (Soliman, 2011).

Nurse plays an important role in management of patient before undergoing hemodialysis such as providing emotional support, monitoring weight and vital signs, laboratory reports, intake and output, examining the patient for signs of infection, observe nutritional status or during hemodialysis by promoting patient comfort, maintain good outflow of blood, monitor for complications as infection and bleeding and after hemodialysis by check for any medicine to be given before terminating dialysis, upon removal of fistula needle apply pressure dressing using sterile gauze (Hockenberry & Wilson, 2017).

There is no equivalent information about hemodialysis in Telafer city so in our study, which was conducted in Telafer City, we aimed to evaluate the degree of nurses' knowledge about hemodialysis.

1.3 Aim of the Study

Assessing of nurses' knowledge about hemodialysis in Telafer city

1.4 Objectives of the Study

- 1- To Describe the demographical characteristics of the participant nurses in the study.
- 2- To explored nurses' knowledge toward hemodialysis in general Telafer hospital.
- 3- To identify the relationship between nurses' knowledge with some variables like (Age, gender, etc.).

1.5 Definition of Basic Terms

1. Assessment

A. Theoretical Definition:

Is the systematic basis for making inferences about the learning and development of person analysis and synthesis of that data, and making clinical judgment (Oxford Advanced Learners Dictionary, 2010).

2. Nurse

A. Theoretical Definition:

Is a someone who administer care to the ill people and woks in a hospital or at home (Oxford Advanced Learners Dictionary, 2010).

B. Operational Definition:

Nurses who working at Tal Afar General Hospital.

3. Knowledge

A. Theoretical Definition:

Is ability for acquiring, using of skills and information (Badran, 2000).

B. Operational definition:

Is information and skills acquired through experience or education about hemodialysis (Oxford Advanced Learners Dictionary, 2010).

4. Hemodialysis

Hemodialysis defined as a medical procedure that uses a special machine to filter waste products from the blood and to restore normal constituents to it (Perl, 2009).

CHAPTER TWO

**REVIEW OF THE
LITERATURE**

Review of Literatures

2.1. Overview

2.1.1 Definition

Peritoneal Dialysis defined as medical procedure that use a special machine to filter waste products from the blood and to restore normal constituents to it (Perl, 2009).

Peritoneal Dialysis is the most common method used to treat advanced and permanent kidney failure (Datta, 2010).

2.1.2 Types of peritoneal dialysis

There are two kinds of peritoneal dialysis, Continuous Ambulatory Peritoneal Dialysis (CAPD) and Automated Peritoneal Dialysis (APD) (Soliman S, 2011).

CAPD is “continuous,” machine-free and done while patient go to normal activities such as work or school this is done by hooking up a plastic bag of cleansing fluid to the tube in belly and raising the plastic bag to shoulder level causes gravity to pull the fluid into belly (Shimokura, 2006).

Automated PD (APD) is a type of PD that is performed using a dialysis machine, which helps to deliver and drain the dialysate automatically, with minimal human intervention (Wolfson A, 2019).

2.1.3 Indications

1- Hyperkalemia

Of the several metabolic complications accompanying ARF, hyperkalemia, with its potential of myocardial toxicity is the most life threatening that is uncontrolled by the usual conservative measures is one of the conventional indications for dialysis in the setting of ARF. It can develop rapidly in the face of gastrointestinal bleeding, necrosis of tissue

and acidemia which causes a shift of potassium out of the cells (Said H, 2014).

2- Hypervolemia:

Fluid overload can occur even in the presence of non-oliguric renal failure it is a consequence of mismatched intake/outputs, fluid challenges, mobilization of extravascular fluid, tissue breakdown and obligatory fluid loads with drug administration and nutrition. Peripheral edema may not need treatment, but blood volume expansion resulting in hypertension and congestive heart failure, requires fluid removal for its amelioration (Kraut, 2018).

3- Uremic symptoms

Uremic symptoms develop at lower levels of azotemia, and are less well tolerated in ARF than in chronic renal failure of the myriad manifestations of uremia, the development of central nervous system symptoms, pericarditis and "uremic lung" are absolute indications for starting dialysis (Perl J, 2009).

4- Metabolic acidosis:

Metabolic acidosis results from a failure of excretion of endogenous organic acids along with a diminished capacity to reclaim filtered bicarbonate and to optimally acidify the urine in the absence of hyper catabolic states, the daily fall in serum bicarbonate is less than 2 mEq/l, and can be corrected by oral alkali, albeit with a risk of sodium and water retention. However, once the systemic pH falls below 7.2, clinically significant problems can occur, and dialytic therapy is often needed (Hockenberry M, 2017).

5- Blood-access failure

For the extracorporeal dialytic therapies, a functionally stable vascular access is essential. It may be difficult to obtain and maintain blood access

in some patients with advanced vascular disease and extensive burns, leaving peritoneal dialysis as the only viable alternative (Gamal L, 2005).

2.1.4 Complications

Infections of the abdominal lining (peritonitis) is a common complication of peritoneal dialysis can also develop at the site where the catheter is inserted to carry the cleansing fluid (dialysate) into and out of abdomen. The risk of infection is greater if the person doing the dialysis isn't adequately trained (Gadalla, 2012).

Weight gain occur because the dialysate contains sugar (dextrose) absorbing some of the dialysate might cause to take in hundreds of extra calories daily, leading to weight gain and extra calories can also cause high blood sugar, especially if patient have diabetes (Kraut, 2018).

Hernia caused by holding fluid in abdomen for long periods may strain abdominal muscles (Azer S, 2015).

Inadequate dialysis sometimes peritoneal dialysis can become ineffective after several years (Wolfson A, 2019).

2.1.5 Nursing Management

1. Patient preparation

Pre-dialysis counseling programs help patients to do dialysis, choose the optimal dialysis method, and prepare for life on dialysis clear explanations of peritoneal dialysis (PD) help patients (Merrill, 2011).

The pre-dialysis program is best implemented by experienced staff such as nephrology nurses and multidisciplinary staff including nephrologists, dietitians, physiotherapists, psychologists, social workers or even dialysis patient representatives depending on availability (Owen & Lazarus, 2018).

Performing small group sessions, the inclusion of family individuals in educational interventions, and delivering educational interventions over many days were potentially important elements of modality education (Galler M, 2015).

The educator needs to possess skills in patient communication and to understand the nature of the patient's obstacles to receiving the information (Arrizabalaga, et al., 2010).

Presenting treatment options to the patient is a major undertaking for the educator, and offering decision support is significant goal of successful chronic kidney disease education (Brown S, 2020).

Shared decision-making process between health care professional and an informed patient (Gamal, 2005).

Perioperative management in PD patients requiring surgery should also include optimizing anemia management for a target hemoglobin of 12 – 13 g/dL by using a combination of intravenous iron administration, erythropoietin, blood, and blood products as warranted (Rubin et al., 2016).

In an effort to prevent postoperative infections, prophylactic antibiotics may be administered as suitable to the surgical procedure (Hassan, 2019).

Preoperative assessment performed by a multidisciplinary peritoneal dialysis access team to select the most appropriate catheter type, implantation technique, insertion site, and exit-site location (Datta, 2010)

Shower on the day of procedure with chlorhexidine soap wash of the planned surgical site and hair removal is necessary (Owen W & Lazarus M, 2018).

2. During and after the procedure

Checking the patients' vital signs and talking with them to assess their condition during the procedure (Nolph K & Sorkin, 2010).

Overseeing the dialysis treatment from start to finish (Van, et al., 2010).

Making sure patients are given the correct medications ordered by their doctors (Nolph KD & Sorkin M, 2010).

Evaluating patients' reaction to the dialysis treatment and medications (Gennari J & Rimmer, 2013).

Reviewing the patients' lab work, home medications and activities and letting the doctors know about changes in their patients' conditions helping patient's follow-up with their transplant center (DeB et al., 2003).

2.2. Previous Studies

Abd Alfatah et al., (2013) studied Assessment of Nurses' Knowledge and Practice Related to Nursing Care of patient Undergoing peritoneal dialysis at Assiut City. This study was conducted in Pediatric Nephrology and Dialysis Unit in Assuit Children University Hospital, El-Mabarah Hospital and El-Eyman General Hospital. The study included convenience sample of 50 nurses from different Nephrology Units at Assiut City. The main results of study demonstrated that there is no statistically significant difference between the nurses' knowledge and their practice regarding nursing care of patient undergoing peritoneal dialysis. There is statistical significant difference between the nurses' knowledge scores and their practice with age.

CHAPTER THREE

METHODOLOGY

Methodology

3.1. Design of the Study

A descriptive cross-sectional study was performed in Primary Care Centers in Telafer City for period 1st of December 2022 to 20th April 2023.

3.2. Setting of the Study

The target population for this study were nurses in general Telafer hospital.

3.3. Sample of the Study

A sampling frame consisted of (50) nurses. A Purposive convenience sampling method was selected for present study.

3.4. The Study Tools

To ultimate study goal a questionnaire was used to meet the purpose of data collection of study project that regarding peritoneal dialysis. The questionnaire consists of two portions:

Part (I): Questionnaire Sheet Related to Demographic Characteristics of the nurse. (gender, age, education level, place, service years).

Part (II): Questionnaire Sheet Related peritoneal dialysis (Appendix A).

3.5. Validity of the Instruments

To determine validation of instrument tool related to research project the questionnaire instrument tool and entire program was introduce to (7) experts in different fields (Appendix B).

3.6 Reliability of the Instruments

The pilot study

To mark the study instrument reliability, a pilot study was performed during a time from 10th November 2022 on (10) nurses (they excluded from original sample) to test the questionnaire. The instrument's reliability evaluated statistically by Cronbach's Alpha through utilizing SPSS.

Reliability Statistics

Cases	N	%	Cronbach's Alpha
Valid	10	100.0	-0.822

Item-Total Statistics

Items	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Q1	13.733	-.551-	-.242 ^{-a}
Q2	11.600	-.346-	-.474 ^{-a}
Q3	10.989	-.277-	-.576 ^{-a}
Q4	11.156	-.291-	-.578 ^{-a}
Q5	7.378	.289	-1.418 ^{-a}
Q6	10.222	.000	-.848 ^{-a}
Q7	15.167	-.614-	-.065 ^{-a}
Q8	8.267	.049	-1.094 ^{-a}
Q9	9.433	.355	-.996 ^{-a}
Q10	10.222	.000	-.848 ^{-a}

3.7. Collection and analysis of data

The data was collected from the people in Telafer Primary Care Centers by the questionnaire for the period from 2th January 2022 to 20th January 2022. Then data analyzed by using of Statistical Package for Social Science SPSS (version 25).

CHAPTER FOUR

Results
&
Discussion

Table (1): The Demographic Characteristics of the Nurses Sample in the Study

Demographic Characteristics		Freq	%
Gender	Male	34	66.7
	Female	16	31.4
Age	20-29	16	31.4
	30-39	22	43.1
	40-49	11	21.6
	50-More	1	2.0
Educational Level	Secondary	12	23.5
	Institution	18	35.3
	College	20	39.2
Duty	Morning	27	52.9
	Evening	23	45.1
Service	Less Than 5 Years	9	17.6
	5-10	29	56.9
	11-15	9	17.6
	More Than 15 Years	3	5.9
Place	General Surgical Ward	34	66.7
	Intensive Care Unit	13	25.5
	Surgical Room	3	5.9
Course	Yes	0	0.0
	No	50	98.0

F=frequency, %=percentage.

Table (1) presents the demographic characteristics of the Nurses' sample in the study, the table shows that 66.7% (34) of the sample as male gender, majority 43.1% (22) of the total sample at age (30-39), concerning of level of education 39.2% (20) of the sample have college certification, on the other hand the majority 56.9% (29) of the sample having (5-10) years servant in the hospitals, finally 66.7% (34) of sample working in general surgical ward. Our study agreed with Abd Alfatah et al., (2013) show that more than three quarters of studied nurses (79.2%) of AUH were in the age group from (20-30) years compare to (54.2%) of MOH nurses with mean \pm SD 30.27 ± 5.13 . as well as more than three quarters of studied nurses (79.2%) of MOH had nursing diploma while (75.0 %)

of AUH nurses had nursing diploma. As regard attending training courses it was found that the majority of studied nurses did not attend training course related to dialysis this may be attributed to their hospital focus on courses related to infection control rather than courses related to dialysis.

Table (2): Statistical Differences Result for Nurses' answers regarding Peritoneal Dialysis

Domains	Answers	Freq.	%	Mean	Std. D.
Peritoneal dialysis involves removing waste through the abdominal muscles	Yes	17	34.0	1.64	0.776
	No	33	66.0		
During peritoneal dialysis, cleansing fluid flows through a tube to kidney	Yes	28	56.0	1.42	0.499
	No	22	44.0		
Moving harmful toxins and fluids from the blood towards the peritoneal fluid	Yes	21	42.0	2.04	0.832
	No	29	58.0		
Is done by changing the peritoneal dialysis fluid using a peritoneal dialysis	Yes	9	18.0	1.30	0.463
	No	41	82.0		
advantages of dialysis are that is suitable for patients with weak heart muscle	Yes	7	14.0	1.32	0.653
	No	43	86.0		
kidneys can return to their normal state after peritoneal dialysis	Yes	18	36.0	1.52	0.505
	No	32	64.0		
Infection is the most common symptom of peritoneal dialysis	Yes	28	56.0	1.42	0.499
	No	22	44.0		
A complication of peritoneal dialysis is weight loss	Yes	9	18.0	1.30	0.463
	No	41	82.0		
Comic fluid contains highly concentrated polysaccharides (dextrose).	Yes	17	34.0	1.64	0.776
	No	33	66.0		
After performing peritoneal dialysis, the patient is eat table salt to replace the salts	Yes	21	42.0	2.04	0.832
	No	29	58.0		

Freq= Frequency %= Percentage Mean = Mean Std.D = standard deviation

The table (2) present the statistical differences answers for nurses' knowledge regarding peritoneal dialysis that show the majority of the nurse have inadequate knowledge toward peritoneal dialysis. These agree with Abd Alfatah et al., (2013) who stated that the studied nurses were poor in their total percent score of knowledge. On the other hand, results of the present study were inconsistent with Hassan, 2019 who demonstrated that data collected before the designed nursing protocol implementation (pre-test) showed unsatisfactory level of knowledge about renal failure, hemodialysis and care of patients undergoing peritoneal dialysis.

Table (3): Statistical Correlation of Demographic Characteristics Results and Nurses' Knowledge Level regarding peritoneal dialysis.

Domains	Gender		Age		Educational Level	
	R	Sign	r	Sign	r	Sign
Peritoneal dialysis involves removing waste through the abdominal muscles	0.349	NS	0.970	NS	0.782	NS
During peritoneal dialysis, cleansing fluid flows through a tube to kidney	0.099	NS	0.179	NS	0.628	NS
Moving harmful toxins and fluids from the blood towards the peritoneal fluid	0.035	S	0.020	S	0.316	NS
Is done by changing the peritoneal dialysis fluid using a peritoneal dialysis	0.608	NS	0.777	NS	0.347	NS
advantages of dialysis that is suitable for patients with weak heart muscle	0.166	NS	0.844	NS	0.446	NS
kidneys can return to their normal state after peritoneal dialysis	0.009	S	0.006	S	0.000	S
Infection is the most common symptom of peritoneal dialysis	0.633	NS	0.833	NS	0.509	NS
A complication of peritoneal dialysis is weight loss	0.651	NS	0.683	NS	0.768	NS
Comic fluid contains highly concern - traded polysaccharides (dextrose).	0.001	S	0.000	S	0.000	S
After performing peritoneal dialysis, the patient is eat salt to replace the salts	0.625	NS	0.851	NS	0.477	NS

Correlation is significant at the 0.05 level, NS= Non-significant, S= Significant

The table (3) Presents the statistical correlation of demographic characteristics results and nurses' knowledge level regarding peritoneal dialysis. That non-statistical correlation between the Q1, Q2, Q4, Q5, Q7, Q8, and Q10 with all parts of demographic characteristics, but there are found statistical correlation between of Q6, and Q9 with all parts of demographic characteristics, also there are found statistical correlation between of Q3 with gender and age only of demographic characteristics. This result in agreement with Hassan, 2019 who stated that higher rates of nurses who had satisfactory level existed among the older age of nurses. In contrast Abd Alfatah et al., 2013 stated that the nurses who aged less than 20 years had excellent score of knowledge. The present study showed a statistically significant difference between nurse's knowledge scores with their duration of experience.

CHAPTER FIVE

**Conclusion
&
Recommendation**

Conclusion

This study concludes the followings

1. The majority of the sample are male gender.
2. High percentage 43.1% of the total sample are at age (30-39).
3. The majority of the nurse have inadequate knowledge toward peritoneal dialysis.

Recommendations.

1. Applying educational health programs in general Telafer hospital to improve nurse knowledge toward peritoneal dialysis
2. Conducting additional studies for assessing nurse knowledge toward peritoneal dialysis.
3. Developing educational program curriculum to include knowledge about peritoneal dialysis.

REFERENCES

- Abd Alfatah et al., (2013) studied Assessment of Nurses' Knowledge and Practice Related to Nursing Care of patient Undergoing peritoneal dialysis at Assiut City. Faculty of nursing, Adult Nursing department, Assiut University.
- Arieff AI. (2011). Dialysis disequilibrium syndrome: current concepts on pathogenesis. *Control Nephrol* 1982; 4: 367.
- Arrizabalaga P, Montoliu I, Martinez, Yea A, Andrew L, Lopez Pedret J, Revert L. (2010) Increase in serum potassium caused by beta-2 adrenergic blockade in terminal renal failure: absence of mediation by insulin or aldosterone. *Pro Eur Dial Transplant Assoc* 20: 572-6.
- Azer S, (2015): A study of factors affecting nurses' performance. Thesis, B.Sc. Nursing, Faculty of nursing, Adult Nursing department, Assiut University.
- Badran Advanced Learners Dictionary. (2000). 2th edition. UK: England University press.pp.123.
- Barsoum R, (2013): Nephrology in Egypt: A forecast of the Upcoming Century. Available at: <http://www.health.egnet.net/health/esn/forecast.html>.
- Brown ST, Ahearn DJ, (2020). Nolph KD. Potassium removal with peritoneal dialysis. *Kidney Int* 1973; 4: 67-9.
- Datta P, (2010): Disorders of kidney and urinary tract, *Pediatric Nursing*, chapter 19, 2nd ed. Jaypee Brothers Medical Publishers (p) LTD, Pp 367-372.
- DeB ME, Lins RR, DeBacker WA. (2003). Pulmonary aspects of dialysis patients. In: Maher IF (ed). *Replacement of Renal Function by Dialysis*. Dordrecht: Kluwer Academic Publishers, 1989: 828-39.
- Gadalla M, (2012): A study of assessment of nurses' performance and knowledge at Assiut hospitals. Thesis, B.Sc. Nursing, Faculty of nursing, Pediatric nursing department, Assiut University.

- Galler M, (2015). Reversible acute renal insufficiency and hyperkalemia following indomethacin therapy. *JAMA*: 246: 154-5.
- Gamal LM, (2005): Establishing standards for prevention of nosocomial infection in the recovery rooms and surgical ward at Elminia university hospital. Unpublished doctoral thesis. Faculty of Nursing, Assiut university.
- Gennari FJ, Rimmer JM. (2014). Acid-base disorders in end stage renal disease: Part I. *Semin Dial*; 3: 81-5.
- Hassan GA, (2019): Effect of designed nursing protocol on nurses knowledge and practice regarding hemodialysis patients at Assiut hospitals. Unpublished master Thesis. Faculty of nursing, Adult nursing department, Assiut University.
- Hockenberry MJ, Wilson D and Winkelstein ML, (2017): *Wong's Nursing Care of Infants and Children*, Chapter 30 the child with renal dysfunction, 8Th ed. Elsevier Mosby, Pp 1228-66.
- Kraut JA, (2018): Chronic renal failure. In: *Bope Conn's Current Therapy* Locke S, Merrill JP. Tyler HR. Neurologic complications of acute uremia. *Arch Intern Med* 1961; 519-30.
- Merrill 1P: (2011). Medical progress: the artificial kidney. *N Engl J Med* 1952: 246: 17-27.
- Nolph KD, Sorkin M. (2010) Peritoneal dialysis in acute renal failure. In: Brenner BM, Lazarus MJ (eds). *Acute Renal Failure*. Philadelphia: WB Saunders 689-710.
- Owen WF, Lazarus 1M. (2018) Dialytic management of acute renal failure. In: Lazarus JM and Brenner BM (eds). *Acute Renal Failure*, 3rd edition. New York: Churchill Livingstone, 487-526.
- Oxford Advanced Learners Dictionary. (2010). 8th edition. UK: Oxford University press.pp.10.

- Perl J, (2009): Home hemodialysis, daily hemodialysis and nocturnal hemodialysis: Core curriculum2009. American Journal of Kidney Diseases.
- Rubin J, Nolph KD, Popovich RP, Moncrief J, Prowant B. (2016). Drainage volumes during C APD. ASATO 2: 2.
- Said HA, (2014): Knowledge and Practices of Nurses regarding Hand washing and Use of Gloves in Patient's Wards in Alexandria Hospitals. Unpublished Master Thesis. High Institute of Public Health University of Alexandria.
- Shimokura G ,Weber D J ,Miller W C, Wurlzel H and Alter M J, (2006): Factors associated with personal protection equipment use and hand hygiene among hemodialysis staff. Am.J.Infect.control;34(3) Pp.100-7.
- Soliman SM, (2011): Assessment of nurse's knowledge and attitude toward infection standard precaution in primary health care setting. Bulletin of High Institute of public health; 37(1) Pp.189-296.
- Van Ypersele de Strihou C, Frans A. (2010). The pattern of respiratory compensation in chronic uremic acidosis. Nephron 1970; 7: 37-50.
- Wolfson AB, (2019): Renal Failure. In: Marx JA, Rosen's Emergency Medicine: Concepts and Clinical Practice.7th ed. Philadelphia, Mosby.

APPENDICES

No:

Date:

العدد: ك ت / ١٩٦

التاريخ: ٢٠٢٢ / ١١ / ١

الى / دائرة صحة نينوى / مستشفى تلعفر العام

م / تسهيل مهمة

تحية طبية...

يرجى تسهيل مهمة الطلبة المدرجة اسمانهم ادناه بجمع العينات لمشروع بحث التخرج الموسوم
(تقييم معارف الممرضين حول الغسل الصفاقي(البريتوني) في مدينة تلعفر وبأشراف
(م.م علي اسماعيل سليمان)

ت	اسم الطالب	الدراسة	المرحلة
١	هبة سالم خضر	الصباحية	الرابعة
٢	فاطمة خيري عبدالله	الصباحية	الرابعة
٣	مروة احمد لفته	الصباحية	الرابعة
٤	اخلاص علي مجد	الصباحية	الرابعة
٥	ايسر جمال جردو	الصباحية	الرابعة

الدكتور

محمد قاسم بكتاش

معاون العميد للشؤون الادارية

٢٠٢٢ / ١١ / ١

نسخة منه الى:

التسجيل.

مفتحة الحطب المتطورة

Appendix -A-

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

الجزء الأول: المعلومات الشخصية

العمر.....سنة

الجنس ذكر انثى

التحصيل الدراسي: اعدادية تمريض دبلوم بكالوريوس ماجستير

عدد سنوات الخدمة سنة

نوع الدوام: صباحي مسائي

مكان العمل.....

هل التحقت بدورات خاصة بغسل الكلية

نعم كلا

ت	الأسئلة	صح	خطأ
١	الديليزة الصفاقية يتضمن إزالة الفضلات والاملاح عن طريق عضلات البطن		
٢	أثناء غسيل الكلى الصفاقي، يتدفق سائل التطهير عبر أنبوب (قسطرة) إلى جزء من الكلية		
٣	يعتمد الديليزة الصفاقية في الية عملها تحرك السموم الضارة والسوائل الزائدة عن الحاجة من الدم باتجاه السائل البريتوني نتيجة لاختلاف الضغط الاسموزي بين الدم والسائل		
٤	من أنواع الديليزة الصفاقية(لغسيل البطني الألي) يتم بواسطة تغيير سائل الغسيل البريتوني باستخدام جهاز للغسيل البريتوني أثناء النوم		
٥	من مميزات الديليزة الصفاقية بأنها تلائم مرضى ضعف عضلة القلب أو انخفاض ضغط الدم		
٦	يمكن ان ترجع الكليتين الى حالتها الطبيعية بعد اجراء الديليزة الصفاقية		
٧	تعد العدوى أكثر أعراض الغسيل الكلوي البريتوني شيوعاً. وتحدث نتيجة تلوث القسطرة، أو تلوث المنطقة المحيطة بها.		
٨	من مضاعفات الديليزة الصفاقية حدوث قلة الوزن		
٩	(Dextrose)السائل البزلي يحتوي على مادة السكريات عالية التركيز)		
١٠	ينصح المريض بعد اجراء الديليزة الصفاقية بتناول ملح الطعام لتعويض الاملاح التي فقدها المريض اثناء العملية		

Appendix -B-

قائمة بأسماء الخبراء

ت	اسم الخبير	اللقب العلمي	الشهادة	محل العمل
١	د. عبدالعزيز أحمد عزيز	أستاذ	دكتوراه طب فلسفة	رئيس جامعة تلغفر
٢	د. احسان حسن زينل	مدرس	دكتوراه تمريض البالغين	كلية التمريض /جامعة تلغفر
٣	د.سعد حسين مراد	مدرس	دكتوراه تمريض البالغين	كلية التمريض/جامعة الموصل
٤	د.تحسين محسن حسين	مدرس	دكتوراه تمريض البالغين	كلية التمريض /جامعة الموصل
٥	د. محمد قاسم بكتاش	مدرس	دكتوراه صحة مجتمع	كلية التمريض /جامعة تلغفر
٦	د. هناء حسين مخلف	مدرس	دكتوراه تمريض البالغين	كلية التمريض/جامعة الموصل
٧	السيد علي محمد فتحي	مدرس مساعد	ماجستير تمريض البالغين	كلية التمريض/ جامعة الموصل

الخلاصة

الفشل الكلوي هي حالة تهدد الحياة حيث يوجد تراكم للفضلات والسوائل في الجسم بسبب التدهور الشديد في وظائف الكلى والإدارة الطبية للفشل الكلوي المزمن تشمل غسيل الكلى لإزالة الفضلات والمياه الزائدة من الدم.

تم إجراء دراسة مقطعية وصفية في مراكز الرعاية الأولية في مدينة تلعفر للفترة من ١ ديسمبر ٢٠٢٢ إلى ٢٠ أبريل ٢٠٢٣ ، يتكون إطار أخذ العينات من (٥٠) ممرضاً. تم اختيار طريقة أخذ العينات الملائمة الهادفة للدراسة الحالية. تم إنشاء أداة استبيان خاصة من قبل الباحثين لجمع البيانات بعد عرضها والحكم عليها من قبل مجموعة من الخبراء. يتكون الاستبيان من جزأين: الجزء الأول: ورقة الاستبيان المتعلقة بالخصائص الديموغرافية للممرضة. (الجنس ، العمر ، المستوى التعليمي ، المكان ، سنوات الخدمة). الجزء (الثاني): ورقة الاستبيان المتعلقة بغسيل الكلى البريتوني)

أوضحت الدراسة أن ٦٦,٧% (٣٤) من العينة ذكور ، والغالبية ٤٣,١% (٢٢) من إجمالي العينة في سن (٣٠-٣٩) ، وأغلبية الممرضات ليس لديهم معرفة كافية بغسيل الكلى البريتوني ، وتوصي الدراسة بتطبيق برامج الصحة التعليمية بشكل عام مستشفى تلعفر لتحسين معرفة الممرضات تجاه غسيل الكلى البريتوني وكذلك تطوير منهج البرنامج التعليمي ليشمل المعرفة حول غسيل الكلى البريتوني



جامعة تلعفر



كلية التمريض

تقييم معارف الممرضين حول الغسل الصفاقي

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الى مجلس كلية التمريض في جامعة تلعفر

كجزء من متطلبات نيل شهادة البكالوريوس علوم في التمريض

بإشراف

علي إسماعيل سليمان

مدرس مساعد



College of Nursing

**Ministry of Higher Education
and Scientific Research**



University of Telafer

Assessment of Smokers' Knowledge about COVID-19 in the Mosul city

A graduation project submitted

By

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To

The council of college of Nursing/ University of Telafer as a
partial fulfillment of the requirements to award the degree of
Bachelor of science in nursing

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1443 A.H

2022 A.D

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

((اقرأ باسم ربك الذي خلق (١) خلق

الإنسان من علق (٢) اقرأ وربك الأكرم (٣) الذي

علم بالقلم (٤) علم الإنسان ما لم

يعلم (٥)))

صدق الله العظيم

سورة العلق 1-5

الهدايا

الى من تجرّع كأس المصائب ليستقيني قطرةً من الحبّ.
الى من جمّدت الأشواق من دربي لتمهد لي طريق العلم.
الى من كانا شمعةً تضيئ لي الدنيا من حولي
((ابي و أمي))

الى من هم شفاءً للروح.
الى من كانوا نعم السند والرجاء الآمن في الشدائد.
الى من تمر السنين والايام ولا يبدلهم الزمان.
((أصدقائي))

أهدي لهم جميعاً بحشي هذا...

شكر وتقدير

أول مشكور هو الله عز وجل الذي انعم علينا بنعمه الكثيرة ووفقنا لاتمام هذا المشروع.

جزيل الشكر والعرفان لوالدينا على كل مجهوداتهم منذ الولادة إلى هذه اللحظات.
يسرنا أن نوجه شكرنا إلى رئاسة جامعة تلغفر المتمثلة بالأستاذ الدكتور (عبدالعزیز أحمد عزیز) والشكر موصول إلى عمادة كلية التمريض المتمثلة بالدكتور (احسان حسن زينل) وإلى من بدل الغالي والنفيس من أجل تعليمنا و ساهم معنا في إعداد هذا البحث الاستاذ الفاضل الدكتور (عبدالعزیز أحمد عزیز) وكل الشكر والتقدير والعرفان لمن أرشدنا بالنصح والتصحيح و ساهم معنا في اختيار العنوان والموضوع وإعداد هذا البحث الاستاذ الفاضل (محمد قاسم بكتاش). كما لا ننسى ان نتقدم بأرقى آيات الشكر إلى لجنة المناقشة الموقرة لدعمهم لنا وتصحيحهم لمسار هذا المشروع العلمي.

طلاب البحث

Abstract

A descriptive study was conducted at streets, supermarkets and hospitals in Mosul city, from 14th February 2022 up to the end of 7th April 2022 in order to assess smokers' knowledge about COVID-19.

A purposive sample of (40) smokers was selected at streets, supermarkets and hospitals. A questionnaire was constructed for the purpose of the study by investigators.

Data were collected through the application of questionnaire and interview technique.

A questionnaire format was used for data collection which consisted of (2) parts. The overall number of the items included in the questionnaire was (25) items. The first part included (5) items relative to demographic data of the smokers, the second part was concerned with smoker's knowledge which composed of (20) items.

The questionnaire validity was determined through a panel of experts. The reliability was estimated through a pilot study. The data was analyzed through the application of descriptive and inferential statistics approaches.

The study concluded that (80%) of smokers at (35 or more) years, (30%) Institute level of education, (65%) employee, (85%) of the study sample smoker and (50%) COVID-19 infection.

Concerning the demographic of the study sample most of them have no information about COVID-19 because of low levels of education.

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Chapter One

Introduction

Introduction

1.1 Introduction

SARS-CoV-2, causing COVID-19 has spread fast worldwide, resulting in various levels of illness. On March 2020, it was announced that SARS-CoV-2 is a worldwide pandemic, and it is with us to this day (Lai et al., 2020).

Tobacco use may increase the risk of suffering from serious symptoms due to COVID-19 illness. Early research indicates that, compared to non-smokers, having a history of smoking may substantially increase the chance of adverse health outcomes for COVID-19 patients, including being admitted to intensive care, requiring mechanical ventilation and suffering severe health consequences (Vardavas, 2020)

Smoking is already known to be a risk-factor for many other respiratory infections, including colds, influenza, pneumonia and tuberculosis (Trivedi et al., 2020).

The effects of smoking on the respiratory system makes it more likely that smokers contract these diseases, which could be more severe (Forni and Mantovani, 2021).

Smoking is also associated with increased development of acute respiratory distress syndrome, a key complication for severe cases of COVID-19 (World Health Organization, 2020).

Any kind of tobacco smoking is harmful to bodily systems, including the cardiovascular and respiratory systems. COVID-19 can also harm these systems (Murin and Bilello, 2019).

1.2-Statement of the problem

Assessment of smokers' knowledge about COVID-19 in the Mosul city.

1.3-Importance of the study

The objective of this study is to review the association between smoking and the risk of contracting COVID-19, considering disease severity (Murin and Bilello, 2019)

Smoker patients with different comorbidities are at higher risk of contracting the COVID-19 virus and have a worse prognosis for the virus as well as for their comorbidities (Haidere et al., 2021).

Further investigations of the interaction between smoking and COVID-19 are warranted to accurately assess the risk of contracting COVID-19 among smokers, and the progression to mechanical ventilation or death in patients who suffer from it (Chadia & Sandrella, 2021).

There are also differences in individual confidence in national safety monitoring systems. Clear and consistent communication is therefore essential to support people in making the choice to be vaccinated.

1.4-Objectives of the study:

1. To Describe the demographical characteristics of the participant citizens in the study.
2. To assessment of smokers' knowledge about COVID-19 in the Mosulcity.

1.5-Definition of terms:

Assessment

A. Theoretical definition:

A systematic evaluation of the scientific evidence relating to the effects, risks, and costs of methods used in health care. This applies to all methods used, whether they involve prevention, diagnosis, treatment, or nursing care (Aldo & Linda, 2020)

Smoking

A. Theoretical definition:

Is the inhalation of the smoke of burned tobacco that may occur occasionally or habitually because of a physical addiction to some chemicals, primarily nicotine (Aldo & Linda, 2010).

Coronavirus disease (COVID-19)

A. Theoretical definition:

Is an infectious disease caused by the SARS-CoV-2 virus (WHO, 2019).

Chapter Two

Review of Literature

2.1-Overview

COVID-19 is a coronavirus outbreak that initially appeared in Wuhan, Hubei Province, China, in December 2019, but it has already evolved into a pandemic spreading rapidly worldwide (Holmes, et al., 2021).

As of 18 March 2020, a total number of 194909 cases of COVID-19 have been reported, including 7876 deaths, the majority of which have been reported in China (3242) and Italy (2505) (CDC, 2019).

However, as the pandemic is still unfortunately under progression, there are limited data about the clinical characteristics of the patients as well as to their prognostic factors (Khot & Nadkar, 2020).

Smoking, to date, has been assumed to be possibly associated with adverse disease prognosis, as extensive evidence has highlighted the negative impact of tobacco use on lung health and its causal association with a plethora of respiratory diseases (Tonnesen & Marott, 2019).

Smoking is also detrimental to the immune system and its responsiveness to infections, making smokers more vulnerable to infectious diseases (Zhou, et al., 2020).

Previous studies have shown that smokers are twice more likely than non-smokers to contract influenza and have more severe symptoms, while were also noted to have higher mortality in the previous COVID-19 outbreak (Park et al., 2019).

Given the gap in the evidence, we conducted a systematic review of studies on COVID-19 that included information on patients' smoking status to evaluate the association between smoking and COVID-19 outcomes including the severity of the disease, the need for mechanical ventilation, the need for intensive care unit (ICU) hospitalization and death (Tonnesen & Marott, 2019).

The major morbidity and mortality from COVID-19 is largely due to acute viral pneumonia that evolves to acute respiratory distress syndrome. As patients progress, increasing respiratory support is required, which often necessitates intensive care unit level of care, depending on the facility and patient characteristics. Respiratory support includes oxygenation with low-flow and high-flow systems, noninvasive ventilation, and the use of other adjunctive therapies (e.g., nebulized medications) and rescue therapies (e.g., prone positioning). While some patients improve and respiratory support can be de-escalated, a proportion continue to deteriorate, and a decision needs to be made regarding intubation and mechanical ventilation (Tonnesen & Marott, 2019).

Coronaviruses are important human and animal pathogens. At the end of 2019, a novel coronavirus was identified as the cause of a cluster of pneumonia cases in Wuhan, a city in the Hubei Province of China. It rapidly spread, resulting in a global pandemic. The disease is designated COVID-19, which stands for coronavirus disease 2019. The virus that causes COVID-19 is designated severe acute respiratory syndrome 2 (SARS-CoV-2)(Pieter, 2021).

At the end of 2019, a novel coronavirus rapidly spread throughout the world, resulting in a global pandemic (Tonnesen & Marott, 2019).

The virus was designated severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and the illness it caused coronavirus disease 2019 (COVID-19). The spectrum of COVID-19 in adults ranges from asymptomatic infection to mild respiratory tract symptoms to severe pneumonia with acute respiratory distress syndrome (ARDS) and multi-organ dysfunction (Pieter, 2021).

2.2-Epidemiology

According to the World Health Organization, the emergence of viral diseases represents a serious public health risk (WHO, 2020).

In the past two decades, several epidemics caused by viruses such as the severe acute respiratory syndrome coronavirus (SARS-COVID-19) from 2002 to 2003, and H1N1 influenza in 2009, and the Middle East respiratory syndrome coronavirus (MERS-COVID-19) in 2012 have been described which have had a significant impact on global health. Since being declared a global pandemic by the WHO, SARS-CoV-2, the virus responsible for COVID-19 has spread to 223 countries with more than 281 million cases, and more than 5.4 million deaths reported globally. A recent epidemiological update by WHO, reported that more than 200 countries around the world have reported SARS-Co-V-2 variants of concern of which the newer VOC, Omicron has been reported by 76 countries so far since first being reported in November 2021. The U.S. has experienced the highest number of SARS-CoV-2 infections and COVID-19 (Tonnesen & Marott, 2019).

In fact, COVID-19 was the third leading cause of death in the U.S. in 2020 after heart disease and cancer, with approximately 375,000 deaths reported. The WHO current estimate of the global case fatality rate for COVID-19 is 2.2%. However, the case fatality rate is affected by factors that include age, underlying preexisting conditions, and severity of illness and significantly varies between countries (Marco & Michael, 2022)

2.3-Clinical Manifestations of COVID-19

The median incubation period for COVID-19 is estimated to be 1-5 days, and many patients will develop symptoms within 5-11 days of infection (Habas et al., 2020).

The clinical spectrum of COVID-19 varies from asymptomatic or few symptomatic forms to clinical illness characterized by acute respiratory failure requiring mechanical ventilation, septic shock, and multiple organ failure (Lai et al., 2020).

It is estimated that 17.9% to 33.3% of infected patients will remain asymptomatic many symptomatic patients commonly present with fever, cough, and shortness of breath and less commonly with a sore throat, anosmia, dysgeusia, anorexia, nausea, malaise, myalgias, and diarrhea. (Marco & Michael, 2022)

Patients hospitalized with severe COVID-19 are at risk for developing kidney injury, most commonly manifesting as acute kidney injury (AKI), which is likely multifactorial in the setting of hypervolemia, drug injury, vascular injury, and drug-related injury, and cytotoxicity of the virus itself. AKI is the most frequently encountered extrapulmonary manifestation of COVID-19 and is associated with an increased risk of mortality (Lai et al., 2020).

Myocardial injury manifesting as myocardial ischemia/infarction (MI) and myocarditis are well-recognized cardiac manifestations in patients with COVID-19. Other common cardiac manifestations include ACS, arrhythmias, cardiomyopathy, and cardiogenic shock (Marco & Michael, 2022).

Other laboratory abnormalities include thrombocytopenia, leukopenia, elevated ESR levels, C-reactive protein (CRP) lactate dehydrogenase (LDH), and leukocytosis. Notably, COVID-19 is associated with markedly elevated D-dimer, fibrinogen levels, prolonged prothrombin time (PT), and partial thromboplastin time (aPTT) in patients at risk of developing arterial and venous thrombosis (Petousis-Harris, 2021).

2.4-Diagnostic Testing In COVID-19

Molecular Testing

- The standard diagnostic mode of testing is testing a nasopharyngeal swab for COVID-19 nucleic acid using a real-time PCR assay.
- COVID-19 antigen tests are less sensitive but have a faster turnaround time compared to molecular PCR
- Comprehensive testing for other respiratory viral pathogens should be considered for appropriate patients as well (Lai et al., 2020).

Serology Testing

- Antibody tests play an important role in broad-based surveillance of COVID-19, and many commercial manufactured antibody testing kits are available to evaluate the presence of antibodies against COVID-19 are available.
- Despite the numerous antibody tests designed to date, serologic testing has limitations in specificity and sensitivity, and results from different tests vary. However, an antibody test with a specificity higher than 99% has been developed by the CDC, which can identify past SARS-CoV-2 infection (Trivedi, 2020).

Another Laboratory Assessment

- Complete blood count (CBC), a comprehensive metabolic panel (CMP) that includes testing for renal and liver function, and a coagulation panel should be performed in all hospitalized patients.
- Additional tests such as testing for inflammatory markers such as ESR, C-reactive protein (CRP), ferritin, lactate dehydrogenase, D-dimer, and procalcitonin can be considered in hospitalized patients (Xia et al., 2021).

Imaging Modalities

Considering this viral illness commonly manifests itself as pneumonia, radiological imaging has a fundamental role in the diagnostic process, management, and follow-up. Imaging studies may include chest x-ray, lung ultrasound, or chest computed tomography (CT). There are no guidelines available regarding the timing and choice of pulmonary imaging studies in patients with COVID-19, and the type of imaging should be considered based on clinical evaluation (Zhang et al., 2021).

2.5 Smoking effect on Covid-19

The harms of tobacco use are well-established. Tobacco causes 8 million deaths every year from cardiovascular diseases, lung disorders, cancers, diabetes, and hypertension.¹ Smoking tobacco is also a known risk factor for severe disease and death from many respiratory infections.²⁻⁴ In the COVID-19 pandemic, questions have been asked about clinical outcomes for smokers, and whether they are equally susceptible to infection, and if nicotine has any biological effect on the SAR-CoV-2 virus (the virus that causes COVID-19).⁵⁻⁷ At the time of writing, one clinical trial to test the effects of nicotine has been announced, but no trial registration record was found as of 12 May 2020 (Tweepy, 2020)

This review therefore assesses the available peer-reviewed literature on the association between smoking and COVID-19, including 1) risk of infection by SARS-CoV-2; 2) hospitalization with COVID-19; and 3) severity of COVID-19 outcomes amongst hospitalized patients such as admission into intensive care units (ICU), use of ventilators and death (WHO, 2020).

Thirty-four peer-reviewed studies met the inclusion criteria. All included studies were in English. None examined tobacco use and the risk

of infection or the risk of hospitalization. A total of 26 observational studies and eight meta-analyses were identified. All observational studies reported the prevalence of smoking amongst hospitalized COVID-19 patients. Two meta-analyses reported pooled prevalence of smoking in hospitalized patients using a subset of these studies (between 6 and 13 studies) (Tweepy, 2020).

Eighteen of the 26 observational studies containing data on smoking status by severity of COVID-19 outcomes. Six meta-analyses were identified that examined the association between smoking and severity of COVID-19. Nine of the 18 studies were included in the six meta-analyses of smoking and severity (five to seven studies in each analysis), resulting in 1,604 sets of patient data being reported more than once. All data in the six meta-analyses come from patients in China (WHO, 2020).

There are currently no peer-reviewed studies that have evaluated the risk of SARS-CoV-2 infection among smokers. This research question requires well-designed population-based studies that control for age and relevant underlying risk factors (Tweepy, 2020).

At the time of this review, the available evidence suggests that smoking is associated with increased severity of disease and death in hospitalized COVID-19 patients. Although likely related to severity, there is no evidence to quantify the risk to smokers of hospitalization with COVID-19 or of infection by SARS-CoV-2 was found in the peer-reviewed literature. Population-based studies are needed to address these questions (Guan et al., 2019).

2.6 Nursing interventions:

Monitor vital signs – particularly temperature and respiratory rate, as fever and dyspnea are common symptoms of COVID-19.

Monitor O₂ saturation – normal O₂ saturation as measured with pulse oximeter should be 94 or higher; patients with severe COVID-19 symptoms can develop hypoxia, with values dropping low enough to warrant supplemental oxygen.

Manage fever – use appropriate therapy for hyperthermia, including adjusting room temperature, eliminating excess clothing and covers, using cooling mattresses, applying cold packs to major blood vessels, starting or increasing intravenous (IV) fluids as allowed, administering antipyretic medications as prescribed, and readying oxygen therapy in the event of respiratory problems resulting from the metabolic demands for oxygen during a fever.

Maintain respiratory isolation – isolation rooms should be well-marked with limited access; all who enter the restricted-access room should use personal protective equipment, such as masks and gowns (Osama et al., 2020).

Chapter Three

Methodology

3.1-Design of the study:

This descriptive study used a cross-sectional design to determine the smokers' knowledge about COVID-19 in the Mosul city.

3.2-The setting& time of study:

The study is conducted at streets, supermarkets and hospitals in Mosulcity, from 14th February 2022 up to the end of 7th April 2022 in order assessment of smokers' knowledge about COVID-19.

3.3-Ethical consideration

Ethical approval is obtained from University of Telafer/ College of Nursing in 14th February 2022 up to the end of 7th April 2022.

3.4-The sample of the study:

A purposive sample, which was consisted of (40) smokers. The sample was selected according to the following criteria:

- 1-All the samples from smokers and non-smokers community.
- 2-All education levels.

3.5-Instrument of the study:

A questionnaire was designed and constructed by the researcher. In order to construct the questioner, an extensive review and study of literature and journal articles helped in preparing items for the questioner.

questionnaire consisted of two parts (Appendix A)

Part A: Demographic information sheet:

It was consisted of (5) items which include age, level of education, occupation, are you smokers or not and are you COVID-19 infection or not.

Part B: Questionnaire construction:

Consists of (40) question concerning smokers' knowledge COVID-19

3.6-Validity of the questionnaire:

The content validity of the instrument was established through a panel of experts. The results of review of questionnaire by revealed that all experts knowthat the questionnaire were clear and adequate for measurement of the study variables. Minor changes were performed on few items; such change was made according to the expert's suggestion. (Appendix B)

3.7-Pilot study:

- 1-Determine the validity of the instrument.
- 2-Calculate the reliability of instrument.
- 3-Estimate the time for each interview.

3.8-Method of data collection:

Direct interview with each subject through the constructed questionnaire were done by researcher. Furthermore, data was analyzed through the application of the descriptive statistical data analysis approaches.

This approach was used for determining the following measurements:

- 1-Frequency (F)
- 2-Percentage (%)

3.10-Data analysis

Data is analyzed by using Statistical Package for social Science (SPSS) for windows version 26.

Chapter Four

Results & Discussion

Table (4.1): Distribution of study sample according to their demographic characteristics

Items		Frequency (F)	Percentage %
Age	15-24	4	10%
	25-35	4	10%
	35 or more	32	80%
Level of education	Primary school	2	5%
	Middle school	10	25%
	Secondary school	14	35%
	Institute	12	30%
	Bachelor	2	5%
	Postgraduate	0	0%
Occupation	Earnar	14	35%
	Employee	26	65%
Smoker	Yes	34	85%
	No	6	15%
COVID-19 infection	Yes	20	50%
	No	20	50%

Table (1) shows that most of study sample (80%) at (35 or more) years, (5%) Bachelor level of education, (65%) employee, (85%) of the study sample smoker and(50%) COVID-19 infection.

Discussion of demographic characteristics of the study sample:

Through the data analysis, distribution of demographic variables table (1) sample (80%) at (35 or more) years, (30%) report that most of study Institute level of education, (65%) employee, (85%) of the study sample smoker and (50%) COVID-19 infection. Concerning the demographic of the study sample most of them have not information about complication of COVID-19 because low levels of education.

It's common knowledge that smoking is bad for health. And, when it comes to the COVID-19 pandemic, the side effects of smoking and the behaviors of people who smoke or vape could create a one-two punch. Smoking injures the local defenses in the lungs by increasing mucus production and inflammation. And that's why people who smoke are more likely to have serious respiratory infections and illnesses, such as influenza and pneumonia (Jason, 2020).

These results agreed with Balsam et al., 2021 in their study about side effect of Covid-19 vaccines that find out the demographic data of participants: 760 (70.4%) were male, 320 (29.6%) female. The mean age was 28.0 ± 1 year; 440 (40.7%) were single, 600 (55.6%) married, and 3.7% divorced or widowed. On education level, 644 (59.7%) held a bachelor's degree, 288 (21.1%) a high school degree or below, and 180 (16.6%) a postgraduate degree. The majority (508, 47.1%) were employed, 232 (21.5%) unemployed and 304 (28.2%) were students. Most participants (856, 79.3%) were non-Emirati, 224 (20.7%) were Emirati. Many participants (52.9%) lived in Sharjah, 288 (26.7%) in Dubai and the rest (220, 20.3%) in the other Emirates.

Table (4.2) Assessment of smoker's knowledge about COVID-19 in the of Mosul City.

No	Items	Yes		NO	
		Frequent (F)	Percentage %	Frequent (F)	Percentage %
1	Do you feel the harms of smoking?	24	60%	16	40%
2	Has anyone in your family or around you been affected by smoking?	26	65%	14	35%
3	Is the use of masks and hand gloves useful?	30	75%	10	25%

4	Are there any complications after recovering from Corona virus?	20	50%	20	50%
5	Did you need to seek medical help in case of infection with the Corona virus?	18	45%	22	55%
6	Do you want to stop smoking?	26	65%	14	35%
7	Does smoking increase the serious complications of COVID-19?	20	50%	20	50%
8	Does a smoker with corona show more symptoms than non-smokers?	18	45%	22	55%
9	Is a smoker more susceptible to infection with the Corona virus than non-smokers?	12	30%	28	70%
10	Smoking weakens immunity and increases the chance of infection with the Corona virus?	20	50%	20	50%
11	Are antibiotics effective in preventing or treating COVID-19?	36	90%	4	10%
12	Is the infection transmitted to others if the patient does not show symptoms?	30	75%	10	25%
13	Do you want to stop smoking if you hear about the harms of smoking with Covid 19?	30	75%	10	25%
14	Does smoking reduce the risk of infection with the Corona virus 19?	24	60%	16	40%
15	Do you think home tobacco use, including the hookah, is safe during the COVID-19 pandemic?	8	20%	32	80%
16	Do symptoms of Covid 19 appear on a smoker a week after infection?	22	55%	18	45%
17	There are some shops and public spaces that check the temperature of their patrons before they enter Is this procedure successful?	30	75%	10	25%
18	Does sharing a hookah increase infection with the Corona virus?	34	85%	6	15%
19	Can people who recover from the Corona virus get infected again?	40	100%	0	0
20	Is there a cure for the emerging corona virus?	22	55%	18	45%

Table (2) show there is poor smokers Knowledge about effect of smoking on Covid-19.

These results were disagreed with Edrous Alamer et al., 2021, in their study that recruited a total of 965 eligible participants. Overall, 571 (60%) of the study participants reported good information.

Our data showed that more smokers female participants reported side effects compared to male participants.

There are currently no peer-reviewed studies that have evaluated the risk of SARS-CoV-2 infection among smokers. This research question requires well-designed population-based studies that control for age and relevant underlying risk factors (Tweepy, 2020).

At the time of this review, the available evidence suggests that smoking is associated with increased severity of disease and death in hospitalized COVID-19 patients. Although likely related to severity, there is no evidence to quantify the risk to smokers of hospitalization with COVID-19 or of infection by SARS-CoV-2 was found in the peer-reviewed literature. Population-based studies are needed to address these questions (Guan et al., 2019).

Chapter Five

Conclusion
&
Recommendation

Conclusion

Based on results the study concluded that community information about smoking and complication of COVID-19:

1. That most study sample (80%) at (35 or more) years, (30%) Institute level of education, (65%) employee, (85%) of the study sample smoker and (50%) COVID-19 infection.
2. The study sample have poor information about COVID-19.

Recommendations

The study recommendation that:

1. Educational courses for smokers to increase their information about COVID-19.
2. Conducting more study about the role of smokers in COVID-19 infection.

References

References

- Aldo, L. Linda, L. Aurelio. (2020) Sociocultural dimensions of the association with cardiovascular risk.
- CDC. (2019) <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html> coronavirus disease 2019 (COVID-19): A review. JAMA 324, 782–793.
- Chadia and B. Sandrella .(2021). Smoking and COVID-19: A Scoping Review. Accessed in February 2021 online.
- Guan, W.-J.; Ni, Z.-Y.; Hu, Y.; Liang, W.-H.; Ou, C.-Q.; He, J.-X.; Liu, L.; Shan, H.; Lei, C.-L.; Hui, D.S. (2020) Clinical characteristics
- Habas K, Nganwuchu C, Shahzad F, Gopalan R, Haque M, Rahman S, (2020) Resolution of coronavirus disease 2019 (COVID-19). ERATCK 2020;18(12):1201–11. doi: 10.1080/14787210.2020.1797487.
- Haidere M, Ratan Z, Nowroz S, Zaman S, Jung Y, Hosseinzadeh H, Cho J. (2021), COVID-19 Vaccine: Critical Questions with Complicated Answers. Biomol29 (1):1–10. doi: 10.4062/biomolther.2020.178.
- Holmes, E.C.; Goldstein, S.A.; Rasmussen, A.L.; Robertson, D.L.; Crits-Christoph, A.; Wertheim, J.O.; Anthony, S.J.; Barclay, W.S.; Boni, M.F.; Doherty, P.C. (2021) The origins of SARS-CoV-2: A critical review. Cell 184, 4848–4856.
- Khot WY, Nadkar MY. (2019) Novel Coronavirus Outbreak—A Global Threat. J Assoc Physicians India. 2020; 68(3):67. PMID: 32138488.
- Lai C, Shih T, Ko W, Tang H, Hsueh P. (2020), Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges, 55(3).
- Marco, R. Michael, A. Abdul, C. Scott. Features, Evaluation, and Treatment of Coronavirus (COVID-19). January 5, 2022.

- Murin and K. Bilello, “Respiratory tract infections: Another reason not to smoke,” *Cleveland Clinic Journal of Medicine*, vol. 72, no. 10, 2019.
- Osama H , Ibrahim M , Jirjees FJ , Mahdi HM.(2020) Barriers affecting compliance of patients with chronic diseases: A preliminary study in United Arab Emirates (UAE) population. *AJPCR*.
- Park JE, Jung S, Kim A. MERS transmission and risk factors: a systematic review. *BMC Public Health*. 2018;18(1):574. doi:10.1186/s12889-018-5484-8.
- Petousis-Harris H. (2021) Assessing the Safety of COVID-19 Vaccines: A Primer. *Drug Safe* 2021;44(4):507 -507. doi: 10.1007/s40264-020-01023.
- Pieter, MD, COVID-19: Outpatient evaluation and management of acute illness in adult. December 2021.
- Tonnesen P, Marott JL, Nordestgaard B, Bojesen SE, Lange P. Secular trends in smoking in relation to prevalent and incident smoking-related disease: A prospective population-based study. *Tob Induc Dis*. 2019; 17(October). doi:10.18332/tid/112459.
- Trivedi A, (2020), Investigational treatments for COVID-19. *Pharm. J*. doi: 10.1211/pj.2020.20208051.
- Trivedi A, Sharma S, Ashtey B. (2021
- Tweepy O, (2020) A Review of the Progress and Challenges of Developing a Vaccine for COVID-19. *Front. Immunol* 2020;11. variants versus efficacy, effectiveness and escape. *Nat. Rev. Immunol*, 21, 626–636.
- Vardavas and K. Nikitara, “COVID-19 and smoking: A systematic review of the evidence,” *Tobacco Induced Diseases*, vol. 18, no. 20, 2020.

World Health Organization (WHO): (2019), Global definition of COVID- 19 Investigational treatments for COVID-19. Pharm. J. doi: 10.1211/pj.2020.20208051. available online.

World Health Organization (WHO): (2020), Evidence Assessment: COVID- 19 vaccine, for recommendation by the strategic advisory group of experts (sage) on immunization prepared by the sage working group on covid-19 vaccines.), Investigational treatments for COVID-19. Pharm. J. doi: 10.1211/pj.2020.20208051.

Xia S, Duan K, Zhang Y, Zhao D, Zhang H, Xie Z, Yang X. (2021), Effect of an inactivated vaccine against SARS-CoV-2 on safety and immunogenicity outcomes: Interim analysis of 2 randomized clinical trials. JAMA;324(10):951–60. doi: 10.1001/jama.2020.15543.

Zhang Y, Zeng G, Pan H, Li C, Hu Y, Chu K, et al. (2021), Safety, tolerability, and immunogenicity of an inactivated SARS-CoV-2 vaccine in healthy adults aged 18–59 years: a randomized, double-blind, placebo-controlled, phase 1/2 clinical trial. Lancet Infect Disease ;21(2):181–92. doi: 10.1016/s1473-3099(20)30843-4.

Zhou Z, Chen P, Peng H. Are healthy smokers healthy? Tob Induc Dis. 2016;14(November). doi:10.1186/s12971-016-0101-z.

Appendices

Appendix (1)

(Assessment of knowledge about COVID-19 in the city of Mosul)

We kindly ask you to answer all the questions presented by placing a mark (✓) in front of the appropriate choice for each paragraph.

1. Age: 15-24 years () 5-35 years () 35 years and over ()

2. Level of education: Not write& read () Write& Read ()

Primary school () Middle secondary school ()
Secondary school ()

Institute () Bachelor () Postgraduate
()

3. Occupation: earner () employee ()

4. Are you a smoker? Yes () No ()

5. Have you had covid-19? Yes () No ()

Assessment of smokers knowledge about COVID-19 in the Mosul city

No	Items	Yes	No
1	Do you feel the harms of smoking?		
2	Has anyone in your family or around you been affected by smoking?		
3	Is the use of masks and hand gloves useful?		
4	Are there any complications after recovering from Corona virus?		
5	Did you need to seek medical help in case of infection with the Corona virus?		
6	Do you want to stop smoking?		

7	Does smoking increase the serious complications of COVID-19?		
8	Does a smoker with corona show more symptoms than non-smokers?		
9	Is a smoker more susceptible to infection with the Corona virus than non-smokers?		
10	Smoking weakens immunity and increases the chance of infection with the Corona virus?		
11	Are antibiotics effective in preventing or treating COVID-19?		
12	Is the infection transmitted to others if the patient does not show symptoms?		
13	Do you want to stop smoking if you hear about the harms of smoking with Covid-19?		
14	Does smoking reduce the risk of infection with the Corona virus 19?		
15	Do you think home tobacco use, including the hookah, is safe during the COVID-19 pandemic?		
16	Do symptoms of Covid-19 appear on a smoker a week after infection?		
17	There are some shops and public spaces that check the temperature of their patrons before they enter Is this procedure successful?		
18	Does sharing a hookah increase infection with the Corona virus?		
19	Can people who recover from the Corona virus get infected again?		
20	Is there a cure for the emerging corona virus?		

الخلاصة

أجريت دراسة وصفية في شوارع ومحلات ومستشفيات مدينة الموصل للفترة من ١٤ شباط الى نهاية السابع من نيسان لسنة ٢٠٢٢ لتقييم معارف المدخنين حول مرض كوفيد-١٦.

تم اختيار عينة غرضية تضمنت (٤٠) عينة من المدخنين تم اختيارهم من شوارع ومحلات ومستشفيات مدينة الموصل تم عمل استبانة لهذا الغرض من قبل الباحثين.

تم جمع البيانات من خلال توزيع هذه الاستمارات وذلك عن طريق المقابلة الشخصية للعينات .

تمت المصادقة على هذه الاستمارات من خلال عرضها على الخبراء وتم تطبيقها على مجموعة مصغرة من العينات وقد تم تحليل البيانات من خلال تطبيق البرنامج الاحصائي.

استلخصت الدراسة بان (٨٠%) من العينات كانوا مدخنين وكانت أعمارهم اكثر من ٣٥ سنة حيث تجاوزت نسبتهم (٣٠%) وكان معظمهم من خريجي المعاهد وكان (٦٥%) منهم متعنيين وان (٥٠%) منهم قد تعرضوا الى الإصابة بجائحة كورونا. وفيما يتعلق بمعلوماتهم حول جائحة كورونا كانت معلوماتهم ضعيفة جدا نظرا لكونهم غير متعلمين.



كلية التمريض

وزارة التعليم العالي والبحث العلمي



جامعة تلعفر

تقييم معارف المدخنين حول مرض (كوفيد-٩) في مدينة الموصل

مشروع بحث تقدم به

نوفل صالح زكي
ميس فواز حسن
ميعاد فواز حسن
هند اسود حسن

الى مجلس كلية التمريض في جامعة تلعفر
علوم في التمريض كجزء من متطلبات نيل شهادة البكالوريوس

بإشراف

د. عبدالعزيز أحمد عزيز
أستاذ



College of Nursing



University of Telafer

Assessment Teachers Knowledge about Bronchial Asthma in Primary School in Telafer City

A Graduation project submitted by

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To the Council of the College of Nursing / University of Telafer
in Partial Fulfillment of the Requirement for the Degree of
Bachelors of Sciences in Nursing

Supervised by

Ali Ismael Sulaiman

Assistant Lecturer

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿ وَإِذَا نَسَّخَ اللَّهُ بِشَيْءٍ مِمَّا نَزَّلْنَا مِن قَبْلِكَ آيَاتٍ نُّحَدِّثُكَ أَكْثَرَهَا آيَاتٍ ۗ ﴾

﴿ وَإِذَا نَسَّخَ بِخَيْرٍ فَهُوَ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ (١٧) ﴾

﴿ وَقُلِ الْقَامِرُ فَوْقَ عِبَادِهِ وَقُلِ الْحَكِيمُ (الْخَبِيرُ) (١٨) ﴾

بِسْمِ اللَّهِ الْعَظِيمِ

سورة الانعام الآية (١٧-١٨)

اشهداء

أنا من مجرّع كأس المصاحب ليعقبي فطرّة من الحبّ.

أنا من مصدر اللاتوالآء عن وربي لتهدر با طريق العلم.

أنا من أكانا نعمة نخصي بالرفينا من حوي

((لبي وأمي))

أنا من عم نفاء للروح.

أنا من أكانو نفع السند والملجأ الآمن في السرائر.

أنا من نمر السنين والايام ولا يدرهم الزمان.

((أصدقائي))

أهدي لهم جميعاً بحثي هذا...

شكر وتقدير

أول منكور هو **الله** عز وجل الذي أنعم علينا بنعمه الكثيره ووفنا للأمان
عزرا الم شروع.

يسرنا أن نوجه شكرنا إلى رئاسة جامعة نلعفر المنسلة بالأسناو الدكتور
(عبدالعزیز أحمد عزیز) والفكر موصول إلى حماة كلية التمريض المنسلة
بالدكتور (احمد حسن زینل) وإلى من بدل الغار والنفس من أجل نعلينا
و ساهم معنا في إجراء عزرا البحث الأسناو الفاضل الدكتور (محمد قاسم
بكتاش) وكل الفكر والتقدير والعرفان لمن أرسدنا بالنصح والتصحيح و ساهم
معنا في اختيار العنوان والموضوع وإجراء عزرا البحث الأسناو الفاضل
علي (ساجد سليمان). كما لا ننسى أن نذكر بأرقى أراج الفكر إلى لجنة
المنافسة الموقرة لرحمهم لنا وتصحيحهم لمسار عزرا الم شروع العلمي.

Abstract

The World Health Organization ranks allergic disorders as the sixth most prevalent group of pediatric illnesses, accounting for one-third of all pediatric chronic conditions, asthma is one of the main sources of truancy from school what's more, work and frequently restricts cooperation in physical and social exercises.

A descriptive cross-sectional study was performed in Primary schools in Telafer City for period 12th of December 2022 to 1st April 2023, A sampling frame consisted of (50) teachers. A Purposive convenience sampling method was selected for present study.

A special questionnaire tool was constructed by the researchers to collect data after it has been presented and judged by a group of experts, the questionnaire consists of two portions: Part (I): Questionnaire Sheet Related to Demographic Characteristics of the teachers. (Gender, age, education level, participation in training seminars related to bronchial asthma). Part (II): Questionnaire Sheet Related to teachers' knowledge about bronchial asthma which consist 10 domain The study showed that the greatest proportion of the age group among (30-34) and there is statistical correlation of demographic characteristics results and teachers' knowledge level regarding asthma, the study recommends applying educational health programs in all schools to improve teachers' knowledge about asthma.

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List of Vocabularies

No.	List of Vocabularies	
1.	Asthma	الربو القصبي
2.	Fever	حمى
3.	Loss of smell	فقدان حاسة الشم
4.	Difficulty of breathing	صعوبة التنفس
5.	Side effect	تأثير جانبي
6.	Elementary Schools	مدارس الابتدائية
7.	Knowledges	معارف

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The World Health Organization ranks allergic disorders as the sixth most prevalent group of pediatric illnesses, accounting for one-third of all pediatric chronic conditions (McCarthy, Kelly & Reed, 2010).

In the world there are more than 300 million people with asthma, and asthma causes the death of one person out of every 250 deaths, it is estimated that by 2025 there could be an additional 100 million (National Center for Health Statistics [NCHS], 2017).

Asthma is one of the main sources of truancy from school what's more, work and frequently restricts cooperation in physical and social exercises, including exercise (McCarthy et al.,2000).

In the USA, asthma is assessed to cause around 14 million missing school days each year (Centers for Disease Control and Prevention [CDC], 2016).

Asthma exacerbations are a major cause of disease morbidity, increases in health care costs, and, in some patients, a greater progressive loss of lung function (National Association of School Nurses [NASN],2012).

The frequency of exacerbations can be reduced, but not always fully prevented, with adequate inhaled corticosteroid (ICS) treatment or combination ICS/long-acting β -agonists (Boudreaux, Emond, Clark & Camargo, 2013).

Because asthma exacerbations can break through standard treatment regimens, identifying at-risk patients and having a plan of management can improve disease control and patient well-being (Findley et al., 2013).

1.2 Importance of the study

In addition to health-related issues, allergic diseases have a significant impact on children's daily lives, especially at school, resulting in school absences, decreased participation in extracurricular activities, and diminished ability to focus (Grant, Lyttle & Weiss, 2010).

The quality of life for the kid and her family can be improved by increased involvement in school activities, improved peer integration, and a reduction in exacerbations, urgent care visits, potential hospitalizations, and school absences due to allergic diseases (Smith, Hatcher-Ross, Wertheimer & Kahn, 2015).

There is no equivalent information about missing school days because of asthma in Iraq so in our study, which was conducted in Telafer City, we aimed to evaluate the degree of knowledge about asthma, among elementary school teachers.

1.3 Aim of the Study

Assessing of knowledge about asthma, among elementary school teachers in Telafer city

1.4 Objectives of the Study

- 1- To Describe the demographical characteristics of the participant in the study.
- 2- To explored teachers' knowledge of asthma in elementary in Telafer city.
- 3- To identify the relationship between teacher's knowledge with some variables like (Age, gender, educational level).

1.5 Definition of Basic Terms

1. Assessment

A. Theoretical Definition:

Is the systematic basis for making inferences about the learning and development of person analysis and synthesis of that data, and making clinical judgment (Oxford Advanced Learners Dictionary, 2010).

2. Knowledge

A. Theoretical Definition:

Is ability for acquiring, using of skills and information (Badran, 2000).

B. Operational definition:

Is information and skills acquired through experience or education about Asthma (Oxford Advanced Learners Dictionary, 2010).

3. Asthma

A. Theoretical Definition:

Is a common lung disorder in which inflammation causes the bronchi to swell and narrow the airways, creating breathing difficulties that may range from mild to life-threatening (U.S. Department of Health and Human Services, 2000).

4.Elementary school

A. Theoretical definition:

A school where children are taught for the first six or sometimes eight years of their education (Oxford Advanced Learners Dictionary, 2010).

B. Operational definition:

A school where children are taught for the first six in Telafer city.

5. Teacher

A. Theoretical definition:

Someone whose job is to teach in a school or college (Oxford Advanced Learners Dictionary, 2010).

CHAPTER TWO

**REVIEW OF THE
LITERATURE**

Review of Literatures

2.1. Overview

2.1.1 Definition

Asthma is the most common chronic disease of childhood associated with frequent emergency department and unscheduled physician visits resulting in school absenteeism and academic underperformance (von Maffei et al., 2001)

2.1.2 Cause of Asthma

The exact cause of asthma is unknown. People with asthma have swollen (inflamed) and "sensitive" airways that become narrow and clogged with sticky mucus in response to certain triggers (Stein, 2020).

Genetics, pollution and modern hygiene standards have been suggested as causes, but there's not currently enough evidence to know if any of these do cause asthma (McDaniel, Paxson & Waldfogel, 2016).

2.1.3 Risk Factors

A number of things can increase your chances of getting asthma.

- ❖ Having an allergy-related condition, such as eczema, a food allergy these are known as atopic conditions
- ❖ Having a family history of asthma or atopic conditions
- ❖ Having had bronchiolitis – a common childhood lung infection
- ❖ Exposure to tobacco smoke as a child
- ❖ Being born prematurely (before 37 weeks) or with a low birth weight
 - ❖ Some people may also be at risk of developing asthma through their job (McDaniel et al., 2013)

2.1.4 Clinical Manifestation of Asthma

Most children and adults with asthma have times when their breathing becomes more difficult (NCHS, 2015).

Some people with severe asthma may have breathing problems most of the time (U.S. Department of Health and Human Services, 2013)

The most common symptoms of asthma including wheezing, a tight chest, coughing are worse at night and early in the morning (NASN, 2010).

Asthma can sometimes get worse for a short time – this is known as an asthma attack. It can happen suddenly, or gradually over a few days which lead to drowsiness, confusion, exhaustion or dizziness and fainting (Neuharth-Pritchett & Getch, 2011).

2.1.5 Diagnosis of Asthma

The main tests used to help diagnose asthma are:

1. FeNO test – the client breathes into a machine that measures the level of nitric oxide in the breath.
2. Spirometry – blow into a machine that measures how fast breathe out and how much air can hold in lungs
3. Peak flow test – blow into a handheld device that measures how fast can breathe out, and this may be done several times over a few weeks to see if it changes over time (Indiana Joint Asthma Coalition, 2007).

2.1.6 Asthma Complications

Asthma complications include:

- Signs and symptoms that interfere with sleep, work and other activities and school during asthma flare-ups
- A permanent narrowing of the tubes that carry air to and from lungs (bronchial tubes).
- Emergency room visits and hospitalizations for severe asthma attacks (Keysser, Splett, Ross & Fishman, 2006)

2.1.7 Prevention of Asthma

The client must follow asthma action plan with doctor and health care team, to make detailed plan for taking medications and managing an asthma attack (Rodehorst, 2013).

Getting vaccinated for influenza and pneumonia can prevent flu and pneumonia from triggering asthma flare-ups (Henry, Givson, Vimpani, Francis and Hazell, 2014).

Identify and avoid asthma triggers. A number of outdoor allergens and irritants — ranging from pollen and mold to cold air and air pollution — can trigger asthma attacks so, patient should find out what causes or worsens asthma, and take steps to avoid those triggers (McCarthy et al., 2000).

Identify and treat attacks early. If the patient act quickly, less likely to have a severe attack also won't need as much medication to control symptoms (Sapien, Fullerton, Gleason and Allen, 2004)

2.1.8 Treatment of Asthma

Prevention and long-term control are key to stopping asthma attacks before they start (U.S. Environmental Protection Agency, 2001).

Treatment usually involves learning to recognize Asthma triggers, taking steps to avoid triggers and tracking breathing to make sure medications are keeping symptoms under control (NCHS, 2015).

The right medications depend on a number of things such as age, symptoms, asthma triggers, and works condition (Rodehorst, 2003).

Preventive, long-term control medications reduce the swelling (inflammation) in airways that leads to symptoms (Keysser, Splett, Ross & Fishman, 2006).

Quick-relief inhalers (bronchodilators) quickly open swollen airways that are limiting breathing (Indiana Joint Asthma Coalition, 2007).

Inhaled corticosteroids medications include fluticasone propionate (Flovent HFA, Flovent Diskus, Xhance, etc.) may need to use these medications for several days to weeks before they reach their maximum benefit. Unlike oral corticosteroids, inhaled corticosteroids have a relatively low risk of serious side effects (Cicutto et al. 2006).

Leukotriene modifiers such as (Montelukast, Zyflo) help relieve asthma symptoms because have been linked to psychological reactions, such as agitation, aggression, hallucinations, and depression (Campbell & Mzaidume, 2001).

Combination inhalers such as (fluticasone-salmeterol) contain a long-acting beta agonist along with a corticosteroid (Laukamm-Josten et al., 2000).

Theophylline is a daily pill that helps keep the airways open by relaxing the muscles around the airways but It's not used as often as other asthma medications and requires regular blood tests (Shuguang & Van de Ven, 2003).

Short-acting beta agonists such as Albuterol (Ventolin) quick-relief (rescue) medications are used as needed for rapid, short-term symptom relief during an asthma attack (NASN, 2010).

Anticholinergic agents (Spiriva) act quickly to immediately relax airways, making it easier to breathe. They're mostly used for emphysema and chronic bronchitis, but can be used to treat asthma (Campbell & Mzaidume, 2001).

Oral and intravenous corticosteroids medications (Prednisone) relieve airway inflammation caused by severe asthma but they can cause serious

side effects when used long term, so these drugs are used only on a short-term basis to treat severe asthma symptoms (Laukamm-Josten et al., 2000).

Allergy shots (immunotherapy) over time, allergy shots gradually reduce immune system reaction to specific allergens (; Shuguang & Van de Ven, 2003).

2.2. Previous Studies

Yvette Q et al. (2010) explored the characteristics of teachers and their knowledge of asthma and its management in elementary and middle-school classrooms. The study sample consisted of 153 elementary and middle-school teachers from Georgia. Methods: Participants were asked to complete a survey on asthma knowledge. Data were analyzed to examine differences among elementary and middle-school teachers, teachers' level of educational attainment, teachers' chronic medical condition, and teachers' asthma status. The study confine that Middle-school teachers were more knowledgeable about asthma than elementary teachers. No differences were found among teachers based on their level of educational attainment. Most teachers strongly agreed that asthma could not be cured, but managed. Teachers with chronic illnesses were more knowledgeable than those without a chronic illness and teachers who had asthma were the most knowledgeable about asthma and its management.

CHAPTER THREE

METHODOLOGY

Methodology

3.1. Design of the Study

A descriptive cross-sectional study was performed in Primary Care Centers in Telafer City for period 12th of December 2022 to 1st April 2023.

3.2. Setting of the Study

The target population for this study were Teachers in primary schools in Telafer City.

3.3. Sample of the Study

A sampling frame consisted of (50) teachers. A Purposive convenience sampling method was selected for present study.

3.4. The Study Tools

To ultimate study goal a questionnaire was used to meet the purpose of data collection of study project. The questionnaire consists of two portions: Part (I): Questionnaire Sheet Related to Demographic Characteristics of the Teachers. (Gender, age, education level, marital status, participation in training seminars related to bronchial asthma).

Part (II): Questionnaire Sheet Related to teachers' knowledge about bronchial asthma which consist 10 domains (Appendix A).

3.5. Validity of the Instruments

To determine validation of instrument tool related to research project the questionnaire instrument tool and entire program was introduce to (7) experts in different fields (Appendix B).

3.6 Reliability of the Instruments

The pilot study

To mark the study instrument reliability, a pilot study was performed during a time from 10th December 2022 on (10) teachers (they excluded from original sample) to test the questionnaire. The instruments' reliability evaluated statistically by Cronbach's Alpha through utilizing SPSS.

Reliability Statistics

Cases	N	%	Cronbach's Alpha
Valid	10	100.0	-0.845
Exclude	0	.0	

Item-Total Statistics

Items	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
1	13.733	-.551-	-.242 ^{-a}
2	11.600	-.346-	-.474 ^{-a}
3	10.989	-.277-	-.576 ^{-a}
4	11.156	-.291-	-.578 ^{-a}
5	7.378	.289	-1.418 ^{-a}
6	10.222	.000	-.848 ^{-a}
7	15.167	-.614-	-.065 ^{-a}
8	8.267	.049	-1.094 ^{-a}
9	9.433	.355	-.996 ^{-a}
10	10.222	.000	-.848 ^{-a}
11	8.100	.003	-1.073 ^{-a}
12	6.989	.284	-1.514 ^{-a}
13	10.100	-.116-	-.790 ^{-a}
14	8.678	.068	-1.050 ^{-a}
15	10.500	-.163-	-.769 ^{-a}
16	10.456	-.158-	-.759 ^{-a}
17	9.822	-.020-	-.873 ^{-a}
18	9.122	.035	-.973 ^{-a}
19	10.225	.000	-.848 ^{-a}
20	15.164	-.614-	-.065 ^{-a}

3.7. Collection and analysis of data

The data was collected from the teachers in Telafer primary schools by the questionnaire for the period from 25th December 2020 to 20th January 2021. Then data analyzed by using of Statistical Package for Social Science SPSS (version 25).

CHAPTER FOUR

**Results
&
Discussion**

Table (1): The Demographic Characteristics of the Sample in the Study

Demographic Characteristics		Freq	%
Gender	Male	34	66.7
	Female	16	31.4
Age	25-29	16	31.4
	30-34	22	43.1
	35-39	11	21.6
	40-More	1	2.0
Educational Level	Diploma	32	62.7
	Bachelor	18	35.3
	Master	0	0
Service	Less Than 5 Years	9	17.6
	5-10	29	56.9
	11-15	9	17.6
	More Than 15 Years	3	5.9
Course	Yes	0	0.0
	No	50	98.0

F=frequency, %=percentage.

Table (1) presents the demographic characteristics of the teachers' sample in the study, the table shows that 66.7% (34) of the sample as male gender, majority 43.1% (22) of the total sample at age (30-34), concerning of level of education 62.7% (32) of the sample have diploma certification, on the other hand the majority 56.9% (29) of the sample having (5-10) years servant in the schools, finally 98.0% (50) of sample don't intend to asthma courses. These results agreed with Bouillon et al., (2019) that 58% percent of participants was majority of the total sample at age (30-34), concerning of level of education 68.3% (35) of the sample have diploma certification, and male. This age set which is considered as young adult, so the teachers in this age group can provide education and care efficiently and correctly.

Table (2): Statistical Differences Result for teachers' answers regarding Asthma.

Domains	Answers	Freq.	%	Mean	Std. D.
Definition of Asthma	Yes	17	34.0	1.64	0.776
	No	33	66.0		
Wheezing sound during Asthma	Yes	28	56.0	1.42	0.499
	No	22	44.0		
Intelligence effect with Asthma	Yes	21	42.0	2.04	0.832
	No	29	58.0		
Speed in speech	Yes	9	18.0	1.30	0.463
	No	41	82.0		
Animals effect with Asthma	Yes	7	14.0	1.32	0.653
	No	43	86.0		
Smoking effect to Asthma	Yes	18	36.0	1.52	0.505
	No	32	64.0		
Broncho dilator with Asthma	Yes	28	56.0	1.42	0.499
	No	22	44.0		
Antibiotic drugs with Asthma	Yes	9	18.0	1.30	0.463
	No	41	82.0		
Analgesics with Asthma	Yes	17	34.0	1.64	0.776
	No	33	66.0		
Transportation to Hospital	Yes	21	42.0	2.04	0.832
	No	29	58.0		

Freq= Frequency %= Percentage Mean = Mean Std.D = standard deviation

The table (2) present the statistical differences answers for teachers' knowledge regarding asthma that show the majority of the teachers have inadequate knowledge toward asthma. This is probably because the policy of our schools toward programs preparing to upgrade teachers' knowledge related asthma

Table (3): Statistical Correlation of Demographic Characteristics Results and teachers' Knowledge Level regarding Asthma

Domains	Gender		Age		Educational Level	
	r	Sign	r	Sign	r	Sign
Definition of Asthma	0.349	NS	0.970	NS	0.782	NS
Wheezing sound during Asthma	0.099	NS	0.179	NS	0.628	NS
Wheezing sound during Asthma	0.035	S	0.020	S	0.316	NS
Check the sugar level after dressing	0.608	NS	0.777	NS	0.347	NS
Intelligence effect with Asthma	0.166	NS	0.844	NS	0.446	NS
Providing healthy and safely environment	0.009	S	0.006	S	0.000	S
Speed in speech	0.633	NS	0.833	NS	0.509	NS
Using special preparation like honey during dressing	0.651	NS	0.683	NS	0.768	NS
Animals effect with Asthma	0.001	S	0.000	S	0.000	S
Giving the client advices and programs to diabetic foot	0.625	NS	0.851	NS	0.477	NS

Correlation is significant at the 0.05 level, NS= Non-significant, S= Significant

The table (3) Presents the statistical correlation of demographic characteristics results and teachers' knowledge level regarding asthma. That non-statistical correlation between the Q1, Q2, Q4, Q5, Q7, Q8, and Q10 with all parts of demographic characteristics, but there are found statistical correlation between of Q6, and Q9 with all parts of demographic characteristics, also there are found statistical correlation between of Q3 with gender and age only of demographic characteristics.

CHAPTER FIVE

**Conclusion
&
Recommendation**

Conclusion

This study concludes the followings

1. The majority of the sample are male gender.
2. High percentage 43.1% of the total sample are at age (30-34).
3. The majority of the study participants lacked in knowledge about asthma

Recommendations.

Based upon the findings and conclusions of the study, the researcher recommends that:

1. Applying educational health programs in all schools to improve teachers' knowledge about asthma.
2. Conducting additional studies for assessing teachers' knowledge about asthma.

REFERENCES

- Badran Advanced Learners Dictionary. (2000). 2th edition. UK: England University press.pp.100, 108.
- Bouillon, A. Findley, S., Lawler, K., Bindra, M., Maggio, L., Penachio (2019) Knowledge on asthma, food allergies, and anaphylaxis: Assessment of elementary school teachers,parents/caregivers of asthmatic children, and university students in Uruguaiana, in the state of Rio.
- Boudreaux, E. D., Emond, S. D., Clark, S., & Camargo, C. A. Jr. (2013). Race/ethnicity and asthma among children presenting to the emergency department: Differences in disease severity and management. *Pediatrics*, 111(5), 615–621.
- Campbell, C., & Mzaidume, Z. (2001). Grassroots participation, peer education, and HIV prevention by sex workers in South Africa. *American Journal of Public Health*, 91(12), 1978–1986.
- Centers for Disease Control and Prevention [CDC]. (2016). You can control your asthma. Retrieved January 24, 2008, from http://www.cdc.gov/asthma/pdfs/asthma_brochure.pdf
- Cicutto, L., Conti, E., Evans, H., Lewis, R., Murphy, S., Rautiainen, K. C., et al. (2006). Creating asthma- friendly schools: A public health approach. *Journal of School Health*, 76(6), 255–258.
- Findley, S., Lawler, K., Bindra, M., Maggio, L., Penachio, M. M., & Maylahn, C. (2013). Elevated asthma and indoor environmental exposures among Puerto Rican children of East Harlem. *Journal of Asthma*, 40(5), 557–559.
- Grant, E. N., Lyttle, C. S., & Weiss, K. B. (2010). The relation of socioeconomic factors and racial/ethnic differences in US asthma mortality. *American Journal of Public Health*, 90(12), 1923–1925.
- Henry, R. L., Givson, P. G., Vimpani, G. V., Francis, J. L., & Hazell, J. (2014). Randomized controlled trial of a teacher-led asthma education program. *Pediatric Pulmonology*, 38(6), 434–442.

- Indiana Joint Asthma Coalition. (2007). School personnel knowledge, behaviors, and policies related to asthma. Indianapolis, IN: Author.
- Keysser, J., Splett, P. L., Ross, S., & Fishman, E. (2006). Statewide asthma training for Minnesota School Personnel. *Journal of School Health*, 76(6), 264–268.
- Laukamm-Josten, U., Mwizarubi, B. K., Outwater, A., Mwaijonga, C. L., Valadez, J. J., Nyamwaya, D., et al. (2000). Preventing HIV infection through peer education and condom promotion among truck drivers and their sexual partners in Tanzania, 1990–1993. *AIDS Care*, 12(1), 27–40.
- McCarthy, A., & Reed, D. (2010). Medication administration practices of school nurses. *Journal of School Health*, 70(9), 371– 376.
- McCarthy, A., Maoer, A., Tanzy, M., Leedo, D. (2000). Preventing HIV infection practices of school nurses. *Journal of School Health*, 73(10), 31–36.
- McDaniel, M., Paxson, C., & Waldfogel, J. (2016). Creating asthma- friendly schools in the United States: Evidence from the National Health Interview Survey, 1997–2003. *Pediatrics*, 117(5), 868–877.
- McDaniel, M., Tilda, C., & Wemoor, J. (2013). Racial disparities in childhood asthma in the United States: Evidence from the National Health Interview Survey, 1997–2003. *Pediatrics*, 117(5), 868–877.
- National Association of School Nurses [NASN]. (2012). NASN position statement: caseload assignments. Scarborough, ME: Author.
- National Association of School Nurses [NASN]. (2010). NASN Rights of students with asthma: figureload assignments. Nursing activities.
- National Center for Health Statistics [NCHS]. (2015, March, 29). Early release of selected estimates based on data from the January-June 2004 National Health Interview Survey. Retrieved January 24, 2008, from <http://www.cdc.gov/nchs/about/major/nhis/released200412.htm>

- National Center for Health Statistics [NCHS]. (2017, March 13). National Health Interview Survey. Retrieved January 24, 2008, from <http://www.cdc.gov/nchs/about/major/nhis/hisdesc.htm>
- Neuharth-Pritchett, S., & Getch, Y. Q. (2011). Asthma and the school teacher: The status of teacher preparedness and training. *Journal of School Nursing*, 17(6), 323–328.
- Oxford Advanced Learners Dictionary. (2010). 8th edition. UK: Oxford University press.pp.103, 108.
- Rodehorst, T. K. (2013). Rural elementary school teachers' intent to manage children with asthma symptoms. *Pediatric Nursing*, 29(3), 184–194.
- Sapien, R. E., Fullerton-Gleason, L., & Allen, N. (2004). Teaching school teachers to recognize respiratory distress in asthmatic children. *Journal of Asthma*, 41(7), 739–743.
- Shuguang, W., & Van de Ven, P. (2003). Peer HIV/ AIDS education with volunteer trishaw drivers in Yaan, People's Republic of China: Process evaluation. *AIDS Education and Prevention*, 15(4), 334–345.
- Smith, L. A., Hatcher-Ross, J. L., Wertheimer, R., & Kahn, R. S. (2015) Rethinking race/ethnicity, income, and childhood asthma: Racial/ethnic disparities concentrated among the very poor. *Public Health Report*, 120(2), 109–116.
- Stein, L. M. (2020). Health care delivery to farm workers in the Southwest: An innovative nursing clinic. *Journal of the American Academy of Nurse Practitioners*, 5(3), 119–124.
- U.S. Department of Health and Human Services (2013). President's task force on environmental health risks and safety risks to children. *Asthma and the environment: A strategy to protect children*. Washington, DC: Author.

- U.S. Department of Health and Human Services. (2000). Action against asthma: A strategic plan for the Department of Health and Human Services. Washington, DC: Author.
- U.S. Environmental Protection Agency. (2001). Asthma: A strategic Management Human Services. Washington, DC: Author.
- Von Maffei, J., Beckett, W. S., Belanger, K., Triche, E., Zhang, H., Machung, J. S., et al. (2001). Risk factors for asthma prevalence among urban and nonurban African American children. *Journal of Asthma*, 38(7), 555–564.
- Yvette Q, Trice, E., Zhan, H., Machung, L (2010), Teacher capability and school resource scale for asthma management. *Journal of Asthma*, 43(10), 735–738.

APPENDICES

No:

Date:

العدد: ك ت / ١٠٣

التاريخ: ١١ / ١ / ٢٠٢٢



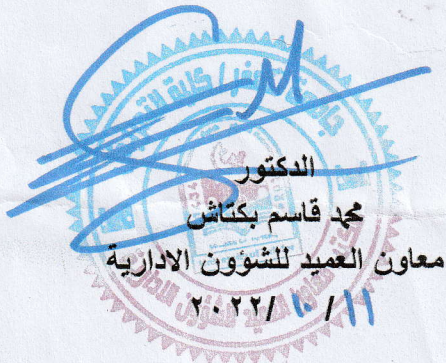
الى / المديرية العامة لتربية نينوى / مديرية تربية تلعفر

م / تسهيل مهمة

تحية طيبة...

يرجى تسهيل مهمة الطلبة المدرجة اسمانهم ادناه بجمع العينات لمشروع بحث التخرج الموسوم
(معارف المعلمين حول مرض الربو القصبي) في مدارس مدينة تلعفر وبإشراف (م. علي اسماعيل سليمان)

ت	اسم الطالب	الدراسة	المرحلة
١	عباس فاضل امين علي	المسائية	الرابعة
٢	احسان علي هادي عباس	المسائية	الرابعة
٣	محمد مصطفى امين	المسائية	الرابعة
٤	امل مصطفى احمد	المسائية	الرابعة
٥	رجاء فاضل الياس	المسائية	الرابعة
٦	الهام قاسم محمد علي	المسائية	الرابعة



ادارة مدارس نينوى
تيسير مهمة تربية تلعفر
اعلاء رتبة اجورها اليهم
١١ / ١ / ٢٠٢٢
نسخة منه الى:
التسجيل مع الأوليات.
ملف الكتب الصادرة.

Appendix -A-

الجزء الأول: المعلومات الشخصي للمعلم

العمر.....سنة

الجنس ذكر انثى

التحصيل الدراسي: دبلوم بكالوريوس ماجستير

عدد سنوات الخدمة: اقل من ٥ ٥-١٠ ١١-١٥ اكثر من ١٥

هل شاركت في حلقات تدريبية عن كيفية التعامل مع حالات الربو القصبي: نعم لا

الجزء الثاني: تقييم معارف المعلمين حول مرض الربو القصبي

ت	الاسئلة	نعم	لا	لا اعلم
١	الربو حالة مزمنة يسبب ضيق في التنفس لايمكن معالجته ولكن يمكن الحد من تفاقمه			
٢	اثناء نوبة الربو يحدث صوت الازيز والم في الصدر لدى التلميذ			
٣	مرض الربو القصبي يؤثر على ذكاء الطالب			
٤	سرعة كلام التلميذ له تأثير في حدوث نوبة الربو			
٥	التعرض الى الحيوانات في درس الاحياء يؤدي الى تفاقم اعراض الربو			
٦	تعرض التلميذ لدخان السكائر في الصف يؤدي الى تفاقم اعراض الربو			
٧	إعطاء المضادات الحيوية يعالج مرض الربو			
٨	إعطاء موسعات القصبات كالبخاخات يزيل من اعراض الربو			
٩	إعطاء المسكنات بكافة اصنافها يؤدي الى تفاقم اعراض الربو			
١٠	في حال تعرض التلميذ الى نوبة الربو يحتاج نقله الى المستشفى			

Appendix -B-

قائمة بأسماء الخبراء

ت	اسم الخبير	اللقب العلمي	الشهادة	محل العمل
١	د. عبدالعزيز أحمد عزيز	أستاذ	دكتوراه طب فلسفة	رئيس جامعة تلغفر
٢	د. احسان حسن زينل	مدرس	دكتوراه تمريض البالغين	كلية التمريض /جامعة تلغفر
٣	د.سعد حسين مراد	مدرس	دكتوراه تمريض البالغين	كلية التمريض/جامعة الموصل
٤	د.تحسين محسن حسين	مدرس	دكتوراه تمريض البالغين	كلية التمريض /جامعة الموصل
٥	د. محمد قاسم بكتاش	مدرس	دكتوراه صحة مجتمع	كلية التمريض /جامعة تلغفر
٦	د. هناء حسين مخلف	مدرس	دكتوراه تمريض البالغين	كلية التمريض/جامعة الموصل
٧	السيد علي محمد فتحي	مدرس مساعد	ماجستير تمريض البالغين	كلية التمريض/ جامعة الموصل

الخلاصة

تصنف منظمة الصحة العالمية اضطرابات الحساسية على أنها سادس مجموعة من أمراض الأطفال انتشارًا ، وهي تمثل ثلث جميع الحالات المزممة لدى الأطفال ، والربو هو أحد المصادر الرئيسية للتغيب عن المدرسة ، والأكثر من ذلك ، أنه يعمل ويقيد التعاون بشكل متكرر في المجال البدني و تمارين اجتماعية.

تم إجراء دراسة مقطعية وصفية في مدارس الابتدائية في مدينة تلعفر للفترة من ١٢ ديسمبر ٢٠٢٢ إلى ١ أبريل ٢٠٢٣ ، تكونت عينة الدراسة من (٥٠) معلمًا. تم اختيار طريقة أخذ العينات الملائمة الهادفة للدراسة الحالية.

تم إنشاء أداة استبيان خاصة من قبل الباحثين لجمع البيانات بعد عرضها والتحكيم عليها من قبل مجموعة من الخبراء ، ويتكون الاستبيان من جزأين: الجزء الأول: ورقة الاستبيان المتعلقة بالخصائص الديموغرافية للمعلمين. (الجنس ، العمر ، المستوى التعليمي ، المشاركة في الندوات التدريبية المتعلقة بالربو القصبي). الجزء (الثاني): استمارة استبيان خاصة بمعرفة المعلمين بالربو القصبي والتي تتكون من ١٠ فقرات.

أظهرت الدراسة أن النسبة الأكبر من الفئة العمرية بين (٣٠ - ٣٤) وهناك ارتباط إحصائي بنتائج الخصائص الديموغرافية ومستوى معرفة المعلمين. فيما يتعلق بالربو ، توصي الدراسة بتطبيق برامج صحية تثقيفية في جميع المدارس لتحسين معرفة المعلمين بالربو



جامعة تلعفر



كلية التمريض

تقييم معارف المعلمين حول الربو القصبي في المدارس الابتدائية في مدينة تلعفر

مشروع تخرج تقدم به

عباس فاضل أمين

أمل مصطفى أحمد

احسان علي هادي

الهام قاسم محمد

رجاء فاضل الياس

محمد مصطفى أمين

الى مجلس كلية التمريض في جامعة تلعفر

كجزء من متطلبات نيل شهادة البكالوريوس علوم في التمريض

بإشراف

علي إسماعيل سليمان

مدرس مساعد



College of Nursing



University of Telafer

Assessment Telafer University Students Knowledge about Vitamin D Deficiency

A Graduation project submitted by

Ayad Jameel Mohammed

Marwa Abdulaziz Noaman

Hamed Abdel Rahim Abdulaziz

Nimat Taha Muhammad

Hussein Ahmed Hussein

Yousra Khalil Hasan

Zaid Hamza Thanoun

To the Council of the College of Nursing / University of Telafer
in Partial Fulfillment of the Requirement for the Degree of
Bachelors of Sciences in Nursing

Supervised by

Ali Ismael Sulaiman

Assistant Lecturer

1444 A.H

2023 A.D

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿يَرْفَعُ اللَّهُ الَّذِينَ آمَنُوا مِنْكُمْ وَالَّذِينَ﴾

﴿أُوتُوا الْعِلْمَ دَرَجَاتٍ وَاللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ﴾

صدق الله العظيم

سورة المجادلة الآية (١١)

أهداء

لقد اجتهدت كثيراً وعانيت من أجل هذه اللحظة، ومررت بالعديد من العقبات ومع ذلك حاولت أن أخطاه بثبات وبفضل من الله ومنه
فإلى صاحب السيرة العطرة الذي كان له الفضل الأول في بلوغي التعليم (والدي
الحبيب) وإلى من وضعتني على طريق الحياة، وراعتني حتى صرت كبيراً (والدي
العزيزة) وإلى أختي من كان لهم بالغ الأثر في كثير من العقاب والصعاب
إلى أصدقائي وزملائي الذين أشهد لهم بأنهم نعم الرفقاء في جميع الأمور
وإلى كلية التمريض جامعة تلغفر بكافة كوادره التدريسية اللذين كانوا يداً للعون
وقدموا لنا الكثير خلال مسيرتنا العلمية

أهدي لهم جميعاً بحشي هذا...

شكر وتقدير

أول مشكور هو الله عز وجل الذي انعم علينا بنعمه الكثيرة ووفقنا لاتمام هذا المشروع.

جزيل الشكر والعرفان لوالدينا على كل مجهوداتهم منذ الولادة إلى هذه اللحظات.

يسرنا أن نوجه شكرنا إلى رئاسة جامعة تلغفر المتمثلة بالأستاذ الدكتور (عبدالعزیز أحمد عزیز) والشكر موصول إلى عمادة كلية التمريض المتمثلة بالدكتور (احسان حسن زینل) وإلى من بدل الغالي والنفيس من أجل تعليمنا و ساهم معنا في إعداد هذا البحث الاستاذ الفاضل الدكتور (محمد قاسم بكتاش) وكل الشكر والتقدير والعرفان لمن أرشدنا بالنصح والتصحيح و ساهم معنا في اختيار العنوان والموضوع وإعداد هذا البحث الاستاذ الفاضل (علي اسماعيل سليمان). كما لا ننسى ان نتقدم بأرقى آيات الشكر إلى لجنة المناقشة الموقرة لدعمهم لنا وتصحيحهم لمسار هذا المشروع العلمي.

طلاب البحث

Abstract

There is no doubt that human nutrition plays a crucial role in determining general health. Scientific studies indicate that most deaths in the world caused directly or indirectly by malnutrition. Vitamin D is one of the has a great impact on the health of the body because it is involved in building and forming bone, in addition to many important bodily functions

A descriptive cross-sectional study was performed in in Telafer City to measure the knowledge of Telafer University students about vitamin D deficiency, the sample of study was consisting of (200) students selected from Tal Afar University distributed as (100) students from the College of Nursing and (100) students from the College of Basic Education for the period from 1st February, 2023 to May 1, 2023.

A special questionnaire tool was constructed by the researchers to collect data which consists of two portions: Part (I): Demographic Characteristics of the students and Part (II): Questionnaire Sheet includes information related to assessing students' knowledge of vitamin D deficiency.

The study showed that the High percentage 78.5% of the total sample are at age (< 25) and majority of the study participants lacked in knowledge about vitamin D. The study recommends conducting additional studies for knowledge about vitamin D deficiency as well as developing educational program curriculum to include knowledge about vitamin D.

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Chapter One

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List of Vocabularies

No.	List of Vocabularies	
1.	Vitamins	فيتامينات
2.	Elements	عناصر
3.	Deficiency	العوز / النقص
4.	Osteoporosis	هشاشة العظام
5.	Rickets	كساح
6.	Parathyroid hormone	هرمون الغدة جار الدرقية
7.	Ultraviolet radiation	الأشعة فوق البنفسجية

CHAPTER ONE

INTRODUCTION

1.1 Introduction

There is no doubt that human nutrition plays a crucial role in determining general health (Alsuwadia et al., 2013).

Scientific studies indicate that most deaths in the world, whether from chronic or communicable diseases, are caused directly or indirectly by malnutrition (Fletcher et al., 2022).

Despite the importance of all nutrients for the body, some of these dietary elements possess a high importance over others because it's essential for many life processes (Bouillon et al., 2019).

Vitamin D is one of the micronutrients that has a great impact on the health of the body because it is involved in building and forming bone, in addition to many important bodily functions (Malabanan Veronikis, & Holick, 2000).

According to literature, the prevalence of vitamin D deficiency in Europe, USA and Middle East has been reported to range from 20 to 90% (Rosen et al., 2012)

Vitamin D deficiency (hypovitaminosis) is a condition in which the level of vitamin D is less than normal and this condition usually occurs in people who are not exposed to sunlight sufficiently, not eating foods that contain this nutrient adequately, result of the body's failure to absorb it, and genetic disorders (Cashman et al., 2016)

Vitamin D deficiency can lead to health risks, both physically and psychologically (Bikle, 2014)

Studies indicate that the vitamin D deficiency can cause many psychological problems such as anxiety, schizophrenia and depression, as well as physical problems such as hair loss and joint pain (Norman, 2008).

1.2 Importance of the study

Vitamin D deficiency is one of the most common and dangerous nutritional diseases in the world (Christakos et al., 2016).

Youth age is considered one of the dangerous age stages, as this age carries behaviors that affect human health in the long term so, their knowledge about vitamin D plays a key role in preventing the deficiency of this important nutrient this age period is favorable to teach people in adopting healthful behaviors (Bouillon et al., 2019).

They can be motivated and encouraged to practice behaviors that help increase the percentage of vitamin D in their body such as exposure to sunlight as well as eating foods rich in this nutrient (Wacker & Holick, 2013)

The importance of this study lies in the fact that it will fill the knowledge gap about young people's knowledge regarding Vit D deficiency in Telfar city and this new knowledge will help nurses and other health care providers to youth in providing and finding the means to promote youth nutritional health.

1.3 Aim of the Study

Assessment of Telfar University Student's knowledge about Vitamin D deficiency

1.4 Objectives of the Study

- 1- Describe the characteristic of Telfar university students.
- 2- Assess the level of knowledge about vitamin D deficiency among Telfar university students.
- 3- Identify the association between student knowledge about vitamin D and their sociodemographic characteristics

1.5 Definition of Basic Terms

1. Assessment

A. Theoretical Definition:

systematic collection and analysis of information to inform decisions about student learning and instructional effectiveness (Black, 2018)

B. Operational Definition:

Process of gathering evidence of student learning to evaluate the knowledge about Vitamin D deficiency

2. Student

A. Theoretical definition:

A person who is enrolled in a school or educational institution and is studying to acquire knowledge and skills related to a particular field of study (Felder & Brent, 2005).

B. Operational definition:

Any person study at university of Telafer college of nursing and college of education

3. knowledge

A. Theoretical definition:

the understanding, awareness, or familiarity with facts, information, concepts, or skills that is acquired through education, experience, or observation (Oxford Advanced Learners Dictionary, 2010).

B. Operational definition:

a cognitive structure that consists of interconnected concepts, procedures, and representations that are stored in long-term memory and can be retrieved and applied to solve problems or complete tasks

4. Vitamin D deficiency

A. Theoretical definition:

A condition in which the level of vitamin D in the blood is lower than 20 ng/mL or 50 nmol/L (Holick, 2007).

CHAPTER TWO

**REVIEW OF THE
LITERATURE**

Review of Literatures

2.1. Overview

2.1.1 Definition

Vitamin D is a fat-soluble vitamin that plays an important role in calcium homeostasis and bone metabolism and its deficiency occurs when the body doesn't get enough vitamin D from sunlight or diet can cause loss of bone density, osteoporosis, and broken bones. A condition in which the level of vitamin D in the blood is lower than 20 ng/mL or 50 nmol/L (Holick, 2007).

2.1.2 Epidemiology

Vitamin D deficiency is a global public health issue it is expected that one billion people worldwide have vitamin D deficiency, while 50% of the population has vitamin D insufficiency (Cashman et al., 2016).

The prevalence of patients with vitamin D deficiency is highest in the elderly, obese, home residents, and hospitalized patients (Norman, 2008).

In the United States, about 50% to 60% of home residents and hospitalized patients had vitamin D deficiency (Hensrud, & Holick, 2018)

Vitamin D deficiency is considered to be a significant health problem in Iraq, and the reason for this may be the decreased levels of exposure to sunlight due to climatic, and demographic factors (WHO, 2005)

2.1.3 Pathophysiology

Vitamin D deficiency occurs when the body does not have enough vitamin D to perform its necessary functions (Norman, 2008).

Vitamin D is produced in the skin when it is exposed to sunlight. The skin synthesizes a precursor molecule called 7-dehydrocholesterol, which is then converted to vitamin D₃ by the action of ultraviolet radiation (Norman, 2008).

Vitamin D₃ then enters the circulation and is transported to the liver where it is converted to 25-hydroxyvitamin D₃ (25(OH)D₃) by the action of the enzyme 25-hydroxylase. 25D₃ is the major circulating form of vitamin D, and it is used as a biomarker to assess vitamin D status. (Bikle, 2014)

Vitamin D Receptor is a nuclear receptor that binds to 1,25-dihydroxyvitamin D₃ (1,25(OH)₂D₃), the active form of vitamin D, and regulates gene expression. VDR is expressed in many tissues, including bone, muscle, and immune cells (Norman, 2008).

2.1.4 Risk factors

There are several risk factors that can contribute to the development of vitamin D deficiency (Christakos, et al., 2016)

Limited sun exposure is a major risk factor for vitamin D deficiency, as the body produces vitamin D in response to exposure to ultraviolet B radiation (Kline, & Holick, 2000).

People with dark skin require longer exposure to sunlight to produce the same amount of vitamin D as people with lighter skin (Wacker & Holick, 2013)

Older adults may also be more likely to spend time indoors and have limited dietary intake of vitamin D. (Gallagher, 2013)

Obese individuals may require higher doses of vitamin D to achieve adequate levels (Drincic, et al., 2012)

Malabsorption syndromes, such as celiac disease and inflammatory bowel disease, can interfere with the absorption of dietary vitamin D. (Cashman, et al., 2016).

Certain medications, such as anticonvulsants and glucocorticoids, can interfere with vitamin D metabolism and increase the risk of deficiency. (Iannacchero et al., 2015)

2.1.5 Type of Vitamin D deficiency

Vitamin D insufficiency which occurs when the body has an inadequate amount of vitamin D, but it is not severe enough to cause physical symptoms or bone abnormalities. The level of vitamin D status, is between 20 and 30 ng/m (Holick, 2007).

Vitamin D deficiency which is a more severe form of vitamin D insufficiency and can lead to physical symptoms and bone abnormalities in this condition, the blood level of 25D is below 20 ng/mL that can lead to rickets in children and osteomalacia in adults, both of which are conditions that result in weak bones (Vieira, Palmer, & Chaves, 2016)

2.1.6 Sign and symptoms

Vitamin D is important for bone and muscle function so, deficiencies can cause muscle weakness and osteoporosis. (Jin, 2018).

Some research suggests that vitamin D deficiency may be linked to depression and other mood disorders (Jorde, et al., 2018)

Studies have found that low vitamin D levels may contribute to hair loss. (Saini & Mysore, 2021)

Vitamin D deficiency may contribute to poor dental health, including cavities and gum disease (Botelho, 2012)

In children, vitamin D deficiency can lead to delayed growth and development, as well as increased risk of infections and rickets (Lee et al., 2007)

2.1.7 Diagnosis

Diagnosing vitamin D deficiency typically involves measuring the concentration of 25-hydroxyvitamin D in blood(Janssen, 2010)

This is the main circulating form of vitamin D and is considered the best indicator of an individual's vitamin D status (Holick, 2007).

There is some variation in the interpretation of 25D levels but in general, levels of 25D below 20 ng/mL are considered deficient, while levels between 20 and 30 ng/mL are considered insufficient. (Janssen, 2010).

Other laboratory tests, such as calcium, phosphate, parathyroid hormone (PTH), and alkaline phosphatase (ALP) levels, may also be used to evaluate Vitamin D deficiency and related conditions (Dawson, 2008).

X-rays are mainly used to evaluate bone health and to detect bone density changes in conditions such as osteoporosis but x-rays are not used to diagnose vitamin D deficiency itself (Holick, 2007).

2.1.8 Complication

Vitamin D is an essential nutrient that plays a critical role in bone health without adequate vitamin D, bones can become weak and brittle, can increased risk of fractures, rickets (Dahash & Sankararaman, 2020)

Vitamin D deficiency has been associated with an increased risk of chronic diseases such as cardiovascular disease, cancer, and autoimmune diseases (Lee et al., 2007).

Low vitamin D levels during pregnancy have been linked to an increased risk of gestational diabetes (Zhang et al., 2008).

2.1.9 Treatment

Vitamin D supplements, including cholecalciferol (vitamin D3) and ergocalciferol (vitamin D2), can be used to increase vitamin D levels in individuals with deficiency (Holick, 2007)

Exposure to sunlight, specifically ultraviolet B (UVB) radiation, is a natural source of vitamin D synthesis in the skin but exposure time varies depending on a person's skin type, time of day, and location. (Dahash & Sankararaman, 2020).

Certain foods, such as fatty fish and fortified dairy products, contain vitamin D and can be incorporated into the diet to increase vitamin D levels. (Alsuwadia, 2013).

2.1.10 Prevention

Spending time outdoors, especially during the middle of the day when the sun is at its peak, can help body produce vitamin D (Cashman et al., 2016)

Certain foods are naturally high in vitamin D, such as fatty fish (salmon, mackerel, tuna), egg yolks, and mushrooms. Vitamin D is also added to some foods, such as milk, orange juice (Holick, 2007)

Some people may be at higher risk of vitamin D deficiency, such as people with darker skin, older adults, so, routine screening for vitamin D deficiency can help identify those who may need supplementation or other interventions (Palacios & Gonzalez, 2014)

2.1.11 Nursing intervention

Nursing interventions related to vitamin D deficiency may be of two aspects either nursing interventions to prevent vitamin D deficiency, such as education and periodic examinations, or nursing interventions after infection to reduce the exacerbation of the disease, work on its treatment, and restore vitamin D levels to normal (Cashman et al., 2016).

Nurses can encourage patients to include more foods rich in vitamin D in their diet, such as fatty fish, egg yolks, and fortified milk or juice. (Zhang et al., 2008)

Nurses can educate patients about the importance of safe sun exposure to increase vitamin D levels, including the optimal time of day and duration of sun exposure (Alsuwadia, 2013).

Nurses can collaborate with other healthcare professionals, such as dietitians, to develop and implement a comprehensive plan for preventing and treating vitamin D deficiency (Bikle, 2014).

2.2. Previous Studies

Hassan et al., (2016) studied Vitamin D deficiency knowledge and practices among the adult population in Sharjah, United Arab Emirates. A cross-sectional study was conducted among adults in Sharjah, UAE. Participants were selected from public places using convenience sampling method. A total of 503 adults were included in the study. They had a mean age of 30 years (± 5.47) with a relatively homogenous gender distribution (51 % females). The mean knowledge score on vitamin D deficiency was 16.7 out of 43 (39 %). Less than half of the respondents (43 %) knew that sunlight is the main source of vitamin D. The mean score for participants' practice was 2.34 out of 6 (39 %); 77 % of them reported that they tried to avoid sun exposure, and 97 % had not tested vitamin D levels in their blood before. The majority of the adults demonstrated significant lack of knowledge and poor practices towards vitamin D and its deficiency. Therefore, attempts to increase the awareness about this issue are required through establishing educational campaigns targeting the general public in Sharjah, UAE.

CHAPTER THREE

METHODOLOGY

Methodology

3.1. Design of the Study

A descriptive cross-sectional study was performed in in Telafer City to measure the knowledge of Telafer University students about vitamin D deficiency

3.2 Ethical consideration

Official and ethical approvals were obtained from Telafer University / College of Nursing on January 14, 2023 and from Telafer University / College of Basic Education on January 26, 2023

3.3. Setting and Time

The target population for this study were student from Telafer University, Iraq, Ninawa, Telafer, during the period from 1st February, 2023 to May 1, 2023.

3.4. Sample of the Study

A sampling frame consisted of (200) students selected from Tal Afar University distributed as follows (100) students from the College of Nursing were randomly selected from all levels (100) students from the College of Basic Education were randomly selected from all educational levels. A Purposive convenience sampling method was selected for present study.

3.5. The Study Tools

To ultimate study goal a questionnaire was used to meet the purpose of data collection of study project. The questionnaire consists of two portions:

Part (I): includes the social and demographic characteristics of students such as (age, gender, stage, college, race, study).

Part (II): includes information related to assessing students' knowledge of vitamin D deficiency, and it consists of five sections, each section contains several questions, as follows

Section 1 (Are the following factors considered among the causes leading to vitamin D deficiency)

1. Lifestyle (spending a lot of time indoors)
2. Reducing fat in eating
3. air pollution
4. Use sunblock
5. Obesity

Section 2 (Do you consider the following groups in need of vitamin D supplementation)

1. children
2. Teens and young adults
3. the elderly
4. Pregnant and breastfeeding mother
5. Obese people (obese)

Section 3 (Are the following symptoms considered signs of vitamin D deficiency)

1. Weight loss
2. depression
3. hair loss
4. Bone and joint pain
5. muscle weakness

Section 4 (Can the following foods and sources provide vitamin D)

1. milk (dairy products)
2. fatty fish
3. Mushrooms that grow in the dark

4. eggs
5. Exposure to sunlight
6. Wear black clothes

Section 5 (Are the following statements about Vitamin D true)

1. Vitamin D toxicity is a rare complication of vitamin D supplements
2. Vitamin D poisoning only affects people who have a genetic sensitivity to this vitamin
3. Vitamin D toxicity is a common complication of vitamin D supplements

Each question has three marks: Yes = 1, No = 0, I don't know = 0 (Appendix A).

3.6. Validity of the Instruments

To determine validation of instrument tool related to research project the questionnaire instrument tool and entire program was introduce to (7) experts in different fields (Appendix B).

3.7. Reliability of the Instruments

The pilot study

To mark the study instrument reliability, a pilot study was performed during a time from 10th December 2022 on (10) persons (they excluded from original sample) to test the questionnaire. The instrument's reliability evaluated statistically by Cronbach's Alpha through utilizing SPSS.

Reliability Statistics

Cases	N	%	Cronbach's Alpha
Valid	10	100.0	-0.845
Exclude	0	.0	

3.8. Collection and analysis of data

The data was collected from the people in Telafer Primary Care Centers by the questionnaire for the period form 1st February 2023 to 10th February 2023. Then data analyzed by using of Statistical Package for Social Science SPSS (version 25).

CHAPTER FOUR

**Results
&
Discussion**

Table 4.1 Demographical Characteristics of the Study Participants (n=200)

Characteristics	Items	F	%
Age	< 25	157	78.5
	> 25	43	21.5
	Mean (SD)	22.82 (2.31)	
Gender	Male	97	48.5
	Female	103	51.5
Ethnic	Arabic	59	29.5
	Turkman	125	62.5
	Yezidi	14	7.0
	Kurdish	2	1.0
College	Nursing	100	50.0
	Basic Education	100	50.0
Stage	First	25	12.5
	Second	59	29.5
	Third	58	29.0
	Fourth	58	29.0
Type of Study	Morning	125	62.5
	Evening	75	37.5

F: Frequency; %: percentage

This table indicates that the mean age of participants is (22.82 ±2.31) years old. It's clear that the majority of participants (78.5%) are in the age group of (18-25) years old. Concerning other demographical characteristics, the table shows that the most of participants are female (51.5%), Turkman (62.5%), and continuing their university study in the morning shift (62.5%). These results agreed with Bouillon et al., (2019) that 58% percent of participants was female and 42% as male. The sample was almost homogeneous in terms of age and education with majority being 16–25 years old (88%).

**Table 4.2 Vitamin D Deficiency Knowledge According to the Participants
College**

Domain	College	Level of Knowledge						χ^2	P
		Low		Moderate		High			
		F	%	F	%	F	%		
Causes	Nur	34	34.0	52	52.0	14	14.0	19.501	.000
	Edu	64	64.0	32	32.0	4	4.0		
Risky Group	Nur	10	10.0	46	46.0	44	44.0	2.269	.322
	Edu	14	14.0	36	36.0	50	50.0		
Symptom	Nur	19	19.0	52	52.0	29	29.0	42.321	.000
	Edu	64	64.0	26	26.0	10	10.0		
Source	Nur	6	6.0	36	36.0	58	58.0	1.696	.428
	Edu	11	11.0	36	36.0	53	53.0		
Complication	Nur	31	31.0	47	47.0	22	22.0	35.601	.000
	Edu	73	73.0	20	20.0	7	7.0		
Total	Nur	12	12.0	61	61.0	27	27.0	50.371	.000
	Edu	60	60.0	30	30.0	10	10.0		

F: Frequency, %: percentage, Nur: Nursing College (n=100), Edu: Basic Education College(n=100), χ^2 : Chi-square, *p*: P-Value

Level of knowledge cut-off points:

cut-off points	causes, risky groups, and symptom	Source	Complication	Total
1. low	(0-1)	(0-1)	(0)	(0-7)
2. moderate	(2-3)	(2-3)	(1)	(8-15)
3. high	(4-5)	(4-6)	(2-3)	(16-24)

This table shows the level of knowledge about Vitamin D Deficiency among Telafer university students. Regarding nursing college, the table indicates that the level of knowledge is low in the study domain of causes, risky group, symptom, source and

complication among (34%, 10%, 19%, 6%,31%) of student respectively. Total knowledge is low among (12%) of nursing students.

Concerning Basic education students, the table reveals that the level of knowledge is low in the study domain of causes, risky group, symptom, source and complication among (64%, 14%, 64%, 11%,73%) of student respectively. Total knowledge is low among (60%) of Basic education students.

Finally, the table indicates that there are high statistically significant differences in students' knowledge regarding Vitamin D deficiency between Nursing College and Basic Education college in each of causes, symptoms, complication and total knowledge level ($p<0.000$).

Despite university students have access to the internet and health information, knowledge about vitamin D was quite poor. Poor knowledge could be due to conflicting information available about vitamin D and lack of clear localised messages about sun exposure. Similar limitations to the knowledge of vitamin D have been reported in studies across Bangladesh, the Middle East, Iran, Lebanon and also among immigrants from South Asian countries living across Europe. Similar to our study, most studies have found their participants not able to identify sources of vitamin D in food and sunlight as critical enabler in vitamin D production.

However, our results are in contrast to those reported in the UK where the participants did demonstrate good level of knowledge about vitamin D [30]. This perhaps is indicative of the increased public awareness and food fortification practices in the developed world. Multi-prong strategies are required to appraise public knowledge and awareness about vitamin D. People should receive information, in local languages, that reflects the actual state of knowledge regarding vitamin D and its association with health, along with clear information on vitamin D sources.

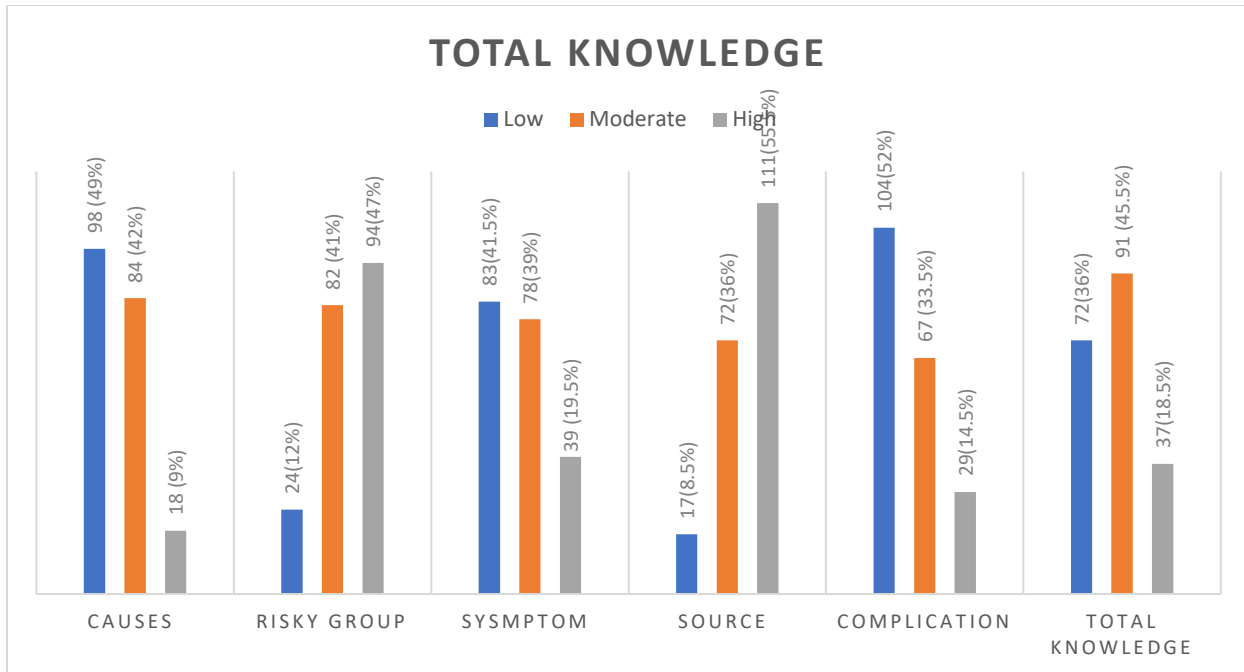


Figure 4.1 Vitamin D Deficiency Knowledge Among Study Participants (n=200)

This Figure illustrate that the level of knowledge is low in the study domain of causes, risky group, symptom, source and complication among (49%, 12%, 41.5%, 8.5%, 52%) of student respectively. Total knowledge is low among (36%) of students.

4.4: Association Between Participants Sociodemographic, and Vitamin D Deficiency Knowledge (n= 200)

Characteristics	Items	Vitamin D Deficiency Knowledge						χ^2	P
		Low		Moderate		High			
		F	%	F	%	F	%		
Age	< 25	18	75.0	101	81.5	38	73.1	1.720	.423
	> 25	6	25.0	23	18.5	14	26.9		
Gender	Male	9	37.5	67	54.0	21	40.4	4.053	.132
	Female	15	62.5	57	46.0	31	59.6		
Ethnic	Arabic	6	25.0	39	31.5	14	26.9	5.344	0.501
	Turkman	16	66.7	72	58.1	37	71.2		
	Yezidi	2	8.3	11	8.9	1	1.9		
	Kurdish	0	00	2	1.6	0	00		
Stage	First	5	6.9	16	17.6	4	10.8	34.664	.000
	Second	29	40.3	23	25.3	7	18.9		
	Third	31	43.1	21	23.1	6	16.2		
	Fourth	7	9.7	31	34.1	20	54.1		
Type of study	Morning	16	66.7	74	59.7	35	67.3	1.112	.573
	Evening	8	33.3	50	40.3	17	32.7		

F= Frequency; %= Percentage; χ^2 = Pearson Chi-Square

This table shows that there are high statistically significant differences between participants knowledge regarding vitamin D deficiency knowledge according to their stage of study ($p=.000$).

CHAPTER FIVE

**Conclusion
&
Recommendation**

Conclusion

This study concludes the followings

1. The majority of the sample are female gender.
2. High percentage 78.5% of the total sample are at age (< 25).
3. The majority of the study participants lacked in knowledge about vitamin D.

Recommendations.

Based upon the findings and conclusions of the study, the researcher recommends that:

1. Conducting additional studies for knowledge about vitamin D deficiency.
2. Developing educational program curriculum to include knowledge about vitamin D.

REFERENCES

- Alsuwadia, J. F., Patel, M., Dimaano, R., Li-Ng, M., Talwar, S. A., Mikhail, M., Yeh, J. K. (2013). Vitamin D intake to attain a desired serum 25-hydroxyvitamin D concentration. *Am J Clin Nutr*, 87(6), 1952-1958.
- Bikle, D. D. (2014). Vitamin D metabolism and function in the skin. *Mol Cell Endocrinol*, 347(1-2), 80-89
- Black J. (2018). Term definitions Current Evidence and Outstanding Questions. *Nutrients*, 12(5).
- Botelho A., (2012). Vitamin D deficiency. In *N Engl J Med* (2007/07/20 ed., Vol. 357, pp. 266-281).
- Bouillon, L. A., Hollis, B. W., Heaney, R., & Metabolism. (2019). Vitamin D2 is much less effective than vitamin D3 in humans. 89(11), 5387-5391.
- Bouillon, N Arshad, S., Zaidi, S. Jasson A. (2019). Vitamin D levels among children, adolescents, adults, and elders in Pakistani population: a cross-sectional study. *BMC Public Health*, 22(1), 2040.
- Cashman, H. A., Dawson-Hughes, B., Willett, W. C., Staehelin, H. B., Bazemore, M. G., Zee, R. Y., & Wong, J. B. J. J. (2016). Effect of vitamin D on falls: a meta-analysis. 291(16), 1999-2006.
- Christakos A. Basu, S., & Shafi, J. Bikle, S. (2016). Topical Repute on Artificial Intelligence-Based Approaches in COVID-19 Distinct Kingpin on Drug 180-210
- Dahash C., & Sankararaman D., (2020). Sunlight and vitamin D for bone health and prevention of autoimmune diseases, cancers, and cardiovascular disease. 80(6), 1678S-1688S.
- Dawson M. (2008). The vitamin D deficiency pandemic: Approaches for diagnosis, treatment and prevention. 18, 153-165.

- Drincic, A. T., Armas, L. A., Van Diest, E. E., & Heaney, R. P. (2012). Volumetric dilution, rather than sequestration best explains the low vitamin D status of obesity. *Obesity (Silver Spring)*, 20(7), 1444-1448.
- Felder A, Brent, S. (2005). Skeletal and Extraskkeletal Actions of Vitamin D: Current Evidence and Outstanding Questions. *Endocr Rev*, 40(4), 1109-1151.
- Fletcher, P., Muthathal, S., Nongkynrih, B., & Gupta, S. K. (2022). Vitamin D deficiency in India. *J Family Med Prim Care*, 7(2), 324-330.
- Gallagher S. (2013). Rickets. Dawson-Hughes, B. (2008). Serum 25-hydroxyvitamin D and functional outcomes in the elderly. *Am J Clin Nutr*, 88(2), 537s-540.
- Hassan Lee, J. H., O'Keefe, J. H., Bell, D., Hensrud, D. D., & Holick, M. F. (2016). Vitamin D deficiency knowledge and practices among the adult population in Sharjah, United Arab Emirates. *J Am Coll Cardiol*, 52(24), 1949-1956.
- Hensrud, A. Holick, S. (2018). Vitamin D deficiency in Europe: pandemic? *Am J Clin Nutr*, 103(4), 1033-1044.
- Holick A. (2007). Cognitive performance: a cross-sectional study on serum vitamin D and its interplay with glucose homeostasis in dutch older adults. *16(7)*, 621-627.
- Iannacchero A., Glerup, H., Mikkelsen, K., Poulsen, L., Hass, E., Overbeck, S., Thomsen, J., Eriksen, E. (2015). Commonly recommended daily intake of vitamin D is not sufficient if sunlight exposure is limited. *247(2)*, 260-268.
- Janssen, H. (2010). Muscle strength and mobility in vitamin D-insufficient female geriatric patients: a randomized controlled trial on vitamin D and calcium supplementation. *Aging Clin Exp Res*, 22(1), 78-84.

- Jin. C. (2018). Vitamin D and aging. *Endocrinol Metab Clin North Am*, 42(2), 319-332.
- Jorde F., Heaney, R. Palmer., E. Holick, M. (2018). Why the IOM recommendations for vitamin D are deficient. *J Bone Miner Res*, 26(3), 455-457.
- Kline, H. Holick N., (2000). Nutritional rickets and vitamin D deficiency: Consequences and strategies for treatment and prevention. 17(4), 351-364.
- Lee A., Holick, M. Fali., Gordon, C. Mamo. D, (2007). Patient Guide to Vitamin D Deficiency. *The Journal of Clinical Endocrinology & Metabolism*, 96(7), 1-2.
- Malabanan Veronikis, & Holick, (2000). Vitamin D and the immune system. *J Investig Med*, 59(6), 881-886.
- Norman, m. (2008). Vitamin D supplementation and total mortality: a meta-analysis of randomized controlled trials. 167(16), 1730-1737.
- Oxford Advanced Learners Dictionary. (2010). 8th edition. UK: Oxford University press.pp.103, 108.
- Palacios S., & Gonzalez, A., (2014). Vitamin D and Calcium Supplements for Preventing Fractures. *Jama*, 319(15), 1630.
- Rosen, J. P., Brandi, M. L., Eastell, R., Silverberg, S. J., Udelsman, R., Marcocci, C., & Potts, J. T., Jr. (2012). Guidelines for the management of asymptomatic primary hyperparathyroidism: summary statement from the Fourth International Workshop. *J Clin Endocrinol Metab*, 99(10), 3561-3569.
- Saini A& Mysore,F (2021). Vitamin D deficiency. *N Engl J Med*, 357(3), 266-281.
- Vieira,S Palmer,D & Chaves,G (2016). Vitamin D deficiency in India: prevalence, causalities and interventions. *Nutrients*, 6(2), 729-775.

- Wacker & Holick, (2013). Vitamin D metabolism, mechanism of action, and clinical applications. *Chem Biol*, 21(3), 319-329.
- Wackerm S., Holick,G. (2013). Vitamin D: Metabolism, Molecular Mechanism of Action, and Pleiotropic Effects. *Physiol Rev*, 96(1), 365-408.
- World Health Organization (2005). Recommended dietary intakes for vitamin D: Where do they come from, what do they achieve and how can we meet them? *J Hum Nutr Diet*, 27(5), 434-442.
- Zhang A., Jorde, R., Sneve, M., Figenschau, Y., Svartberg, J., & Waterloo, K. (2008). Effects of vitamin D supplementation on symptoms of depression in overweight and obese subjects: randomized double blind trial. *J Intern Med*, 264(6), 599-609.

APPENDICES



العدد: ١٣ / ك ت

التاريخ: ٢٠٢٣ / ١ / ٤

الى / جامعة تلعفر / كلية التربية الاساسية

م / تسهيل مهمة

تحية طيبة...

يرجى تسهيل مهمة الطلبة المدرجة اسمانهم ادناه بجمع العينات لمشروع بحث التخرج الموسوم (تقييم معارف طلبة جامعة تلعفر حول نقص فيتامين - د -) لطلبة كليتكم وبإشراف (م.م. سارة ستار جبار) .

ت	اسم الطالب	الدراسة	المرحلة
1	زيد حمزة نون خضر	المسائية	الرابعة
2	نعمت طه محمد	المسائية	الرابعة
3	حسين احمد حسين	المسائية	الرابعة
4	حامد عبد الرحيم عبد العزيز	المسائية	الرابعة
5	مروة عبد العزيز نعمان	المسائية	الرابعة
6	يسرى خليل حسن	المسائية	الرابعة



الدكتور

محمد قاسم بكتاش

معاون العميد للشؤون الادارية

٢٠٢٣ / ٧ / ٤

Appendix A

جامعة تلعفر / كلية التمريض

(استمارة استبانة)

المعلومات والأجابات التي ستدون من قبلكم في استمارة الاستبانة المرفقة ستستخدم لأغراض البحث العلمي وستبقى المعلومات سرية، شاكرين جهودكم وتعاونكم معنا.....مع التقدير

عنوان البحث

تقييم معارف طلبة جامعة تلعفر حول نقص فيتامين د

Assessment Telafer University Students Knowledge about Vitamin D Deficiency

البيانات الاجتماعية الديموغرافية:

العمر:

الجنس: ذكر

أنثى

العرق: عربي

تركمانى

أيزيدي

كردي

الكلية: التمريض

التربية الاساسية

المرحلة: الأولى

الثانية

الثالثة

الرابعة

الدراسة: الصباحية

المسائية

لا اعلم	لا	نعم	هل تعتبر العوامل التالية من الأسباب المؤدية الى نقص فيتامين د
			١. نمط الحياة (قضاء وقت طويل داخل المنزل)
			٢. تقليل الدهون في الاكل
			٣. تلوث الهواء
			٤. استخدام واقي الشمس
			٥. السمنة
لا اعلم	لا	نعم	هل تعتبر الفئات التالية بحاجة الى مكملات فيتامين د
			١. الأطفال
			٢. المراهقين والشباب
			٣. كبار السن
			٤. الام الحامل والمرضعة
			٥. الأشخاص البدناء (السمنة)
لا اعلم	لا	نعم	هل تعتبر الاعراض التالية من علامات الإصابة بنقص فيتامين د
			١. نقصان الوزن
			٢. الكآبة
			٣. تساقط الشعر
			٤. ألم العظام والمفاصل
			٥. الوهن (الضعف) العضلي
لا اعلم	لا	نعم	هل الأطعمة والمصادر التالية بإمكانها ان توفر فيتامين د
			١. الحليب (منتجات الالبان)
			٢. الأسماك الدهنية
			٣. الفطر المزروع في الظلام
			٤. البيض
			٥. التعرض لاشعة الشمس
			٦. ارتداء الملابس السوداء
لا اعلم	لا	نعم	هل العبارات التالية حول فيتامين د صائبة
			١. التسمم بفيتامين د هو من المضاعفات النادرة للمكملات التي تحتوي على فيتامين د
			٢. التسمم بفيتامين د يصيب فقط الأشخاص اللذين لديهم تحسس وراثي تجاه هذا الفيتامين
			٣. التسمم بفيتامين د هو من المضاعفات الشائعة للمكملات التي تحتوي على فيتامين د

Appendix -B-

قائمة بأسماء الخبراء

ت	اسم الخبير	اللقب العلمي	الشهادة	محل العمل
١	د. عبدالعزيز أحمد عزيز	أستاذ	دكتوراه طب فلسفة	رئيس جامعة تلغفر
٢	د. احسان حسن زينل	مدرس	دكتوراه تمريض البالغين	كلية التمريض /جامعة تلغفر
٣	د.سعد حسين مراد	مدرس	دكتوراه تمريض البالغين	كلية التمريض/جامعة الموصل
٤	د.تحسين محسن حسين	مدرس	دكتوراه تمريض البالغين	كلية التمريض /جامعة الموصل
٥	د. محمد قاسم بكتاش	مدرس	دكتوراه صحة مجتمع	كلية التمريض /جامعة تلغفر
٦	د. هناء حسين مخلف	مدرس	دكتوراه تمريض البالغين	كلية التمريض/جامعة الموصل
٧	السيد علي محمد فتحي	مدرس مساعد	ماجستير تمريض البالغين	كلية التمريض/ جامعة الموصل

الخلاصة

لا شك أن التغذية البشرية تلعب دورًا حاسمًا في تحديد الحالة الصحية العامة. تشير الدراسات العلمية إلى أن معظم الوفيات في العالم ناتجة بشكل مباشر أو غير مباشر عن سوء التغذية. يعتبر فيتامين د من العناصر التي لها تأثير كبير على صحة الجسم لأنه يشارك في بناء وتشكيل العظام ، بالإضافة إلى العديد من وظائف الجسم الهامة.

تم إجراء دراسة مقطعية وصفية في مدينة تلغفر لقياس معرفة طلاب جامعة تلغفر حول نقص فيتامين د ، وتكونت عينة الدراسة من (٢٠٠) طالب تم اختيارهم من جامعة تلغفر موزعين على (١٠٠) طالب من كلية التمريض و (١٠٠) طالب من كلية التربية الأساسية للفترة من ١ فبراير ٢٠٢٣ إلى ١ مايو ٢٠٢٣.

تم إنشاء أستمارة استبائية خاصة من قبل الباحثين لجمع البيانات التي تتكون من جزأين: الجزء (الأول): الخصائص الديموغرافية للطلاب والجزء (الثاني): تحتوي على معلومات تتعلق بتقييم معرفة الطلاب بنقص فيتامين د.

أوضحت الدراسة أن النسبة المرتفعة ٧٨,٥٪ من العينة الكلية في عمر (أقل من ٢٥) وأن غالبية المشاركين في الدراسة يفتقرون إلى المعرفة بفيتامين (د). وتوصي الدراسة بإجراء دراسات إضافية للمعرفة حول نقص فيتامين (د) وكذلك تطوير منهاج تعليمي ليشمل المعرفة حول فيتامين د.



جامعة تلعفر



كلية التمريض

تقييم معارف طلبة جامعة تلعفر حول نقص فيتامين د

مشروع تخرج تقدم به

زيد حمزة ذنون

أياد جميل محمد

مروه عبدالعزيز نعمان

حسين أحمد حسين

نعمت طه محمد

حامد عبدالرحيم عبدالعزيز

يسرى خليل حسن

الى مجلس كلية التمريض في جامعة تلعفر

كجزء من متطلبات نيل شهادة البكالوريوس علوم في التمريض

بإشراف

علي إسماعيل سليمان

مدرس مساعد

م 2023

هـ 1444



**Ministry of Higher Education and
Scientific Research
University of Telafer
College of Nursing**



**Assessment the Students' Knowledge
About COVID-19 in University of Telafer / College
of Nursing**

A graduation project submitted by:

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Mohammed Abdul Razzaq

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To

**The council of college of Nursing / University of Telafer as a
partial fulfillment of the requirements to award the degree of
Bachelor of science in nursing.**

Supervised by:

Dr. Ihsan H. Zainel

Lecturer

2022A.D

1443 H.A

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
(وَقُلِ اَعْمَلُوا فَسَيَرَى اللَّهُ عَمَلَكُمْ وَرَسُولُهُ
وَالْمُؤْمِنُونَ وَسَتُرَدُّونَ اِلَى عَالَمِ الْغَيْبِ
وَالشَّهَادَةِ فَيُنَبِّئُكُمْ بِمَا كُنْتُمْ تَعْمَلُونَ)

صدق الله العظيم

(التوبة - ١٠٥)

الشكر و التقدير

نشكر الله العلي القدير الذي أنعم علينا بنعمة العقل و الدين. يسرنا أن نوجه شكرنا الى رئاسة جامعة تلغفر المتمثلة بالأستاذ الدكتور (عبدالعزيز أحمد عزيز)، نتقدم بجزيل الشكر لأولئك المخلصين الذين بذلوا كل جهد في مساعدتنا في مجال البحث العلمي، ونخص بالذكر الدكتور (احسان حسن زينل) الذي كان يتابع بحثنا خطوة بخطوة ، و هو صاحب الفضل في توجيهنا و مساعدتنا في تجميع المادة البحثية فجزاه الله كل الخير .كما نشكر عوائلنا لعنايتهم بنا وحثهم المتواصل لنا حتى بلغنا هذه المرحلة العلمية . فجزى الله الجميع خيراً إنه تعالى سميع مجيب . واخيراً نتقدم بجزيل شكرنا إلى كل من مدوا لنا يد العون والمساعدة في إخراج هذا البحث على أكمل وجه .

الاهداء

لقد عانيت كثيرًا من أجل هذه اللحظة، ومررتُ بالعديد من الصعاب والعراقيل ومع كل هذا فقد كنت أصمم على أن أتجاوز كل هذه العقبات بثبات وثقة في الله تعالى.

فإلى أبي و أمي ، وإلى أخوتي وجميع أصدقائي وكل من ساندني ولن أنسى أساتذتي الذين نصحوني ولم يبخلوا بعلمهم و وقتهم. إليكم هذا البحث الخاص بتخرجي إهداء خاص لكم تعبيرًا عن فائق احترامي وتقديري لكم.

طلاب البحث

Abstract:

Coronavirus remains an important public health issue both nationally and globally, so all healthcare professionals including nurses should have current knowledge to educate their patients about Coronavirus and provide appropriate referral and support mechanisms.

A descriptive design was conducted from 1 January to 23 February 2022. The study sample of (100) students from the Nursing college / Telafer university who were chosen at purposively.

A special questionnaire was designed by the researchers and supervisor to assess the knowledge of students, and it consisted of two parts (Appendix A).

Part 1: Includes the socio-demographics characteristic about students such as (age, gender, stages, infection with COID-19, Nature of living).

Part 2: includes information related to assessing the students' knowledge about covid19, consist of fourteen parts.

The data of present study were analyzed through the application of two statistical approaches. A descriptive statistical approach that includes frequency, percentage.

This study found an overall correct rate of answers represented 85.71% of the answers' questions among university' students indicating that most students in university of Telafer / college of nursing were knowledgeable about COVID-19 disease.

The study revealed that majority of students (37%) were from the age group (21-24) year, and a high percentage of the students (85 %) they were living in urban, also the most of students' knowledge varied between good and middle about the COViD-19. The results show the significance of improving general knowledge among schools and colleges curriculum regarding COVID-19 by health education programs which, in turn, would enhance their attitude and practice regarding COVID-19.

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CHAPTER -1-

INTRODUCTION

1.1- Introduction:

Coronavirus remains an important public health issue both nationally and globally, so all healthcare professionals including nurses should have current knowledge to educate their patients about Coronavirus and provide appropriate referral and support mechanisms (Zhou, P. et al, 2020).

On 30 January 2020, the world health organization (WHO) declared the coronavirus disease 19 (COVID- 19) as a public health emergency of international concern (PHEIC), and declared it as a pandemic on 11 March 2020. The virus can be transmitted among persons via aerosol or fomites (Cucinotta D, Vanelli M, 2020).

The incubation period of SARS-CoV-2 infection is assumed to be in 14 days succeeding exposure, with most patients taking place around four to five days. most common symptoms of COVID-19 are fever, cough, expectoration, fatigue, dyspnea, conjunctivitis, myalgia, as well as pneumonia. The current pandemic, COVID-19, is believed to have emerged from an animal host. The COVID-19 is caused by the SARSCoV-2 virus, whose genome shares 96% similarity with beta coronavirus isolated from a bat in 2013(RaTG13). (Zhou, P. et al, 2020).

Treatment is basically supportive and symptomatic. The first step is to guarantee sufficient isolation to stop spread for other contacted individuals, cases and healthcare workers. Depend on their medical situations, suspected cases should be isolated in a single room or self-isolated at home subsequent to the doctors' advice. Confirmed patients can be cohorted in the same ward. Critical patients should be admitted to ICU immediately (Huang C, Wang Y, Li X, et al, 2020).

The therapy of COVID-19 includes oral and parenterally administered agents, antiviral drugs, immunomodulatory medications, anti-cytokines, monoclonal antibodies and miscellaneous agents. Many of the agents are conventional medications, initially approved for other medical conditions and repurposed to treat COVID-19 (Huang C, Wang Y, Li X, et al, 2020).

1.2- Aim:

To assess the students' knowledge about covid-19 in Telafer University/ College of Nursing.

1.3- Objectives:

1. To assess knowledge of students about covid-19.
2. To determine some socio-demographic characteristics of students (age, gender, stages, infection with COID-19, Nature of living).
3. To identify the relationship between the students' knowledge, and their socio-demographics characteristics.

1.4- Definition of terms:

1.covid-19

(Theoretical definition)

A mild to severe respiratory illness (infectious disease) that is caused by a coronavirus (Severe acute respiratory syndrome coronavirus 2 of the genus Beta coronavirus).

2. Assessment

(Theoretical definition):

Is the systematic basis for making inferences about the learning and development of students.

(Operational):

It is the gathering of information about the covid-19 of the students, analysis and synthesis of that data, and making clinical judgment.

3.knowledge

(Theoretical definition):

The information of understanding and skills that are gained through education or experience.

(Operational):

Determine students' information concerning covid-19.

CHAPTER -2-

LITERATURE REVIEW

LITERATURE REVIEW

2.1- Covid-19 Overview:

On 30 January 2020, the world health organization (WHO) declared the coronavirus disease 19 (COVID-19) as a public health emergency of international concern (PHEIC), and declared it as a pandemic on 11 March 2020 (Cucinotta D, Vanelli M, 2020).

The virus can be transmitted among persons via aerosol or fomites. The most common symptoms of COVID-19 are fever, cough, expectoration, fatigue, dyspnea, conjunctivitis, myalgia, as well as pneumonia. The less observed clinical symptoms are headache, hemoptysis, and diarrhea. The majority of cases (up to 80%) develop mild symptoms or remain asymptomatic, while up to 10–20% of the patients develop severe pneumonia. Approximately 5% of the cases develop ARDS, septic shock, and multiple organs failure (Huang C, Wang Y, Li X, et al, 2020).

2.2- Origins of Coronavirus Disease-19 (COVID-19):

The current pandemic, COVID-19, is believed to have emerged from an animal host. The COVID-19 is caused by the SARSCoV-2 virus, whose genome shares 96% similarity with beta coronavirus isolated from a bat in 2013(RaTG13) (Zhou, P. et al, 2020).

The sequence of the receptor-binding motif (RBM) of SARS-CoV-2, which is critical for host infection, also shares a high sequence similarity with the beta coronavirus isolated from a Malayan pangolin.²⁴ In fact, the percentage of bases identical to the SARS-CoV-2 RBM sequence is higher for pangolin-CoV ($75/76 = 98.7\%$) than for RaTG13 ($59/76 = 77.6\%$) (Wong, M. C, et al, 2020).

In study (2020) observed that 5 of the amino acids shared uniquely between SARS-CoV-2 and pangolin-CoV occur at the key sites engaged in host binding. Therefore, it has been speculated that SARS-CoV-2 originated in bats and went through multiple recombination events as it migrated through other mammals (Wong, M. C, et al, 2020).

2.3- Epidemiology:

In the beginning, an association with a seafood market selling live animals in Wuhan, where most of the earlier patients having pneumonia had worked or visited, was recognized. However, as the epidemic disease grew, person-to-person transmission became the principal means of spread. COVID-19 infection is spread using large droplets produced during coughing and sneezing by symptomatic cases but may also happen from asymptomatic individuals before starting of their symptoms (Rothe C, et al, 2020).

These infected droplets can travel 1–2 meters and later put down on surfaces. Droplets normally do not extend more than 2 meters and do not hang on in the air. The virus could stay viable on surfaces for days in desirable environmental conditions but are ruined in less than a minute by regular disinfectants, such as sodium hypochlorite and hydrogen peroxide (Kampf G, et al, 2020).

SARS-CoV-2 is obtained either by breathing of the droplets or touching surface tainted by them and then touching the nose, mouth and eyes. Cases may be contagious for as long as the symptoms continue and even after clinical improvement. Moreover, certain cases may behave as super-spreaders. As said by a joint WHO-China statement, the rate of secondary COVID-19 disease attack varied from 1 to 5% among tens of thousands of close contacts of verified cases in China. In the USA, the symptomatic secondary attack rate was 0.45% among 445 close contacts of 10 verified cases. SARS-CoV-2 RNA has been demonstrated in sputum, blood and stool samples. However, fecal-oral, as well as maternal-fetal vertical transmission, have not been identified as an important element in the spread of infectivity (Burke RM, et al, 2020).

2.4- Virology

Coronavirus belongs to the Coronaviridae family, Nidovirales order. Coronaviruses are separated into four generam as follows: α -, β -, γ -, and δ - CoV. α - and β - CoVs only infect mammals, but γ - and δ - CoVs mostly infects birds. Human CoVs consists of α - CoVs (229E and NL63), β - CoVs (OC43 and HKU1), the Middle East respiratory syndrome-related coronavirus (MERS-CoV), and SARS-CoV. The genomic and phylogenic analysis showed that the

CoV causing COVID-19 is a β -CoV in the identical subgenus as the SARS virus, but in a different clade (Zhu N, et al, 2020).

On 7th January, the virus was recognized as a CoV that had >95% homology with the bat CoV and >70% resemblance with the SARSCoV (Xinhua, 2020).

The International Committee on Taxonomy of Viruses has suggested that this virus be named SARSCoV-2. The constitution of the receptor-binding gene region is very like to that of the SARS-CoV, and the virus has been demonstrated to utilize the same receptor, the angiotensin-converting enzyme 2 (ACE2), for entrance into respiratory cells. Recent studies have demonstrated that the SARS-CoV-2 originated from untamed animals, e.g., bats, the intermediary animals (such as pangolins and snakes) through which it crossed over to humans are undecided (Zhou P, et al 2020).

2.5- Clinical Features, Course and Complications of COVID-19 Disease:

The incubation period of SARS-CoV-2 infection is assumed to be in 14 days succeeding exposure, with most patients taking place around four to five days. Individuals of all ages may acquire SARS-CoV-2 infection, although middle age and older individuals are the majority. In some cohorts of hospitalized cases with confirmed COVID-19 infection, the median age varied from 49 to 56 years. The usual clinical characteristics involve fever, dry cough, fatigue, sore throat, rhinorrhea, conjunctivitis headache, myalgia, dyspnea, nausea, vomiting and diarrhea. Hence, there are no unique clinical features that yet dependably differentiate COVID-19 from other upper/lower airway viral infections. In a subgroup of cases, by the end of the first week (Zhou P, et al 2020).

COVID-19 may develop to pneumonia, pulmonary failure and death. Pneumonia seems to be the most common severe manifestation of COVID-19, distinguished mainly by fever, dry cough, dyspnea, and bilateral infiltrates on chest imaging. The median time from the beginning of symptom to dyspnea was five days, hospitalization seven days and acute respiratory distress syndrome (ARDS) eight days (Guan WJ, et al, 2020).

Recovery begins in the 2nd or 3rd week. According to the WHO, recovery time appears to be roughly two weeks for mild and three to six weeks for severe COVID-19 disease (World Health Organization, February 26, 2020).

The median period of hospitalization in recovered cases was 10 days. Poor outcomes and fatality are more common in the elderly than patients with co-morbidities (50–75% of a fatality). Even asymptomatic cases may have an objective laboratory rather than clinical abnormalities. In a study enrolling 24 patients with asymptomatic COVID-19 infection, all of whom underwent thorax computed tomography (CT), 50% had typical ground-glass opacities or patchy infiltration, and another 20% had atypical lung imaging pathology. Five out of 24 cases had a low-grade fever, with or without other characteristic symptoms, a few days after diagnosis (Hu Z, et al, 2020).

2.6- Differential Diagnosis:

The differential diagnosis consists of all kinds of upper/lower airway viral infectious agents, such as adenovirus, rhinovirus, influenza, parainfluenza, respiratory syncytial virus (RSV), human metapneumovirus, other coronaviruses and other well-known viral respiratory infections, atypical pathogens (chlamydia, mycoplasma) and bacterial microorganisms (Shen K, et al, 2020).

2.7- Diagnosis:

SARS-CoV-2 RNA is identified by RT-PCR. Samples from throat swabs (nasopharyngeal in children), sputum, lower airway secretions, stool and blood could be checked for SARS-CoV-2 ribonucleic acids. Studies have demonstrated higher viral loads in the nasal cavity as compared to the throat with no distinction in viral burden between symptomatic and asymptomatic individuals (Zou L, et al, 2020).

An oropharyngeal swab can be gathered, but is not crucial; if gathered, it should be put in the same container as the nasopharyngeal swab specimen. Negative RT-PCR results from oropharyngeal swabs, regardless of CT findings indicative of viral pneumonia, have been demonstrated in certain cases that ultimately shown to be positive for SARS-CoV-2 (Zou L, et al, 2020).

The American CDC suggests a collection of a nasopharyngeal swab to analyze for SARS-CoV-2 (Interim guidelines for collecting, March 15, 2020).

Sputum should only be obtained from cases with productive cough; sputum induction is not advised. If preliminary testing is negative, but the doubt for COVID-19 persists, the WHO advises recollection and analyzing from several airway sites. Laboratory testing of the SARS-CoV-2 ribonucleic acid may result in false-negative results, and serological analysis of virus-specific IgG and IgM antibodies should be utilized as an option for diagnosis (Tang YW, et al, 2020).

Typical disease manifestations and radiological lung abnormalities in a case with negative four times RT-PCR tests for SARS-CoV-2 and positive IgG and IgM antibodies against the virus were demonstrated. It has been earlier shown that some SARS-CoV-2 infected cases are asymptomatic while RT-PCR tests are verified positive, and some cases that improved from COVID-19 disease may still have positive RT-PCR results during follow-up (Dong X, et al, 2020).

Additional laboratory tests, including CBC and biochemistry, are generally nonspecific. The leukocyte count is frequently normal or low. There might be lymphopenia; a lymphocyte count <1.000 has been related to severe disease. The thrombocyte count is generally normal or slightly low. Most cases show high CRP and ESR, but procalcitonin levels are typically normal. An elevated procalcitonin level may point to a bacterial co-infection. The ALT/ AST, prothrombin time, creatinine, D-dimer, CPK, LDH, myo-hemoglobin and ferritin levels might be increased and elevated levels might be related to severe disease (Shen K, et al, 2020).

On hospitalization, many cases having pneumonia have normal serum procalcitonin levels, but in cases necessitating intensive care unit (ICU) management, they are more likely to be increased. Elevated D-dimer levels and more severe lymphopenia have been shown to be linked with fatality (Chen N, et al, 2020).

The lung X-ray (CXR) generally shows bilateral infiltrations but may be normal in the early phase of the disease. The chest CT is more sensitive and

specific. Lung CT scans generally demonstrate infiltrates, ground-glass opacities and subsegmental consolidation. Less common abnormalities contain pleural effusion/thickening, and lymphadenopathy. During the early phase of COVID-19 disease, thorax CT shows multiple small plaques and interstitial alterations, evident in the lung periphery, further worsens to bilateral multiple ground-glass opacity and/or infiltrating shadows. Pulmonary consolidation may happen in severe cases. Pleural effusion is infrequently observed (Bai HX, et al 2020).

Pathologic lung CT imaging has also been utilized to identify COVID-19 in suspected and/or asymptomatic cases with negative RT-PCR; many of them become to have positive PCR when they are repeated (Huang P, et al, 2020).

2.8- Management of COVID-19:

2.8- Treatment and Prevention of COVID-19:

2.8.a- Supportive Therapy:

Treatment is basically supportive and symptomatic. The first step is to guarantee sufficient isolation to stop spread for other contacted individuals, cases and healthcare workers. Depend on their medical situations, suspected cases should be isolated in a single room or self-isolated at home subsequent to the doctors' advice. Confirmed patients can be cohorted in the same ward. Critical patients should be admitted to ICU immediately (Huang P, et al, 2020).

The common strategies involve bed rest and palliative therapy, supplying enough calorie and water consumption, sustaining water-electrolyte balance and homeostasis, scrutinizing vital signs and oxygen saturation, maintaining airway unobstructed and supplementing oxygen when needed (Ahn DG, et al, 2020).

2.8.b- Covid-19 Drugs:

The therapy of COVID-19 includes oral and parenterally administered agents, antiviral drugs, immunomodulatory medications, anticytokines, monoclonal antibodies and miscellaneous agents. Many of the agents are conventional medications, initially approved for other medical conditions and repurposed to treat COVID-19 (Adams KK, et al, 2020).

Repurposed drugs that have been applied to treatment of COVID-19 include chloroquine and hydroxychloroquine, azithromycin, ivermectin, fluvoxamine colchicine, interferon beta and lopinavir/ritonavir. Despite early enthusiasm and some in vitro and animal model data supporting use of these agents, none of them has been shown to improve symptoms or signs, shorten the duration of illness, prevent complications or decrease mortality. Most of these agents have been implicated in rare cases of drug induced liver disease, but no specific instances of clinically apparent liver injury have been convincingly shown in case reports, case series or clinical trials of these agents being used as therapy of COVID-19 (Horby P, et al, 2021).

Specific antiviral agents for SARS-CoV-2 are still being developed. As of the start of 2022, three direct acting antivirals have received Emergency Use Authorization (EUA) as therapy for COVID-19. All three agents – molnupiravir, nirmatrelvir (Paxlovid) and remdesivir – have potent activity against SARS-CoV-2 in cell culture and in animal models of COVID-19. They are particularly potent when administered early after exposure in ameliorating the subsequent severity of infection (Hundt MA, et al, 2020).

In randomized controlled trials in humans with early COVID-19 who were at high risk for complications, all three agents were found to reduce the rate of subsequent hospitalization and death. While remdesivir requires intravenous administration (once daily for 3 days), molnupiravir and Paxlovid are administered orally (typically twice daily for 5 days) (Horby P, et al, 2020).

Only remdesivir has received full approval for use in COVID-19 infection, but the indication for this approval was for use in hospitalized patients with severe COVID-19 pneumonia and need for supplementary oxygen. In one large, randomized controlled trial, remdesivir was reported to shorten the time to recovery in hospitalized patients with severe COVID-19 pneumonia needing supplementary oxygen. This effect was not confirmed in other controlled trials, but remdesivir has become the standard of care in patients with life-threatening COVID-19 (Recovery Collaborative Group, 2020).

Analysis of cytokines and inflammatory pathways during severe COVID-19 pneumonia suggested that robust dysregulated inflammatory responses play a

role in disease severity and organ failure. Accordingly, anticytokines have been assessed as adjunctive therapies for the hyperinflammatory features of severe COVID-19 infection. Agents that have shown promising effects for treating COVID-19 infection include IL-6 inhibitors such as sarilumab and tocilizumab and small molecule inhibitors of JAK kinases, including baricitinib and ruxolitinib. Some of these agents have received provisional emergency use authorization (Satarker S, et al, 2021).

Interestingly, dexamethasone has been assessed in clinical trials and shown convincing evidence of reducing morbidity and mortality in patients with severe COVID-19 pneumonia and respiratory failure. Its usefulness in patients with earlier or less severe pulmonary compromise is not clear, and it is now recommended only for patients requiring high-flow oxygen or mechanical ventilation or in high risk patients with hypoxia requiring supplemental inhaled oxygen (Kalil AC, et al, 2021).

Several human monoclonal antibodies directed to the receptor binding domain of the spike protein of the SARS-CoV-2 virus have been developed and assessed in patients with COVID-19 infection. EUA has been granted to four such biologic products which are now recommended to be used in combination, namely, bamlanivimab with etesevimab and casirivimab with imdevimab, in non-hospitalized patients with early stages of COVID-19 infection. These monoclonal antibodies have also been used in attempts to prevent SARS-CoV-2 infection after known exposure (postexposure prophylaxis) and appear to be partially effective (Calabrese LH, et al, 2021).

Table (1) Ordinal Scale for Grading Disease Severity and Responses to Therapy of COVID-19.

1	Not hospitalized, no limitations on activities
2	Not hospitalized, limitation on activities and/or requiring home oxygen
3	Hospitalized, not requiring supplemental oxygen – no longer requires ongoing medical care
4	Hospitalized, not requiring supplemental oxygen – requiring ongoing medical care
5	Hospitalized, requiring supplemental oxygen
6	Hospitalized, on non-invasive ventilation or high flow oxygen devices
7	Hospitalized, on mechanical ventilation or ECMO
8	Death

Most trials of therapy of COVID-19 infection employ an ordinal scale to assess clinical status and improvement (Table below). This scale is also used to define sequential phases of the clinical syndrome and to define indications for when to start specific therapies. Whether the patient is at high risk for complications (older age, obesity, diabetes, cardiovascular disease, arterial hypertension, immune suppression, other co-morbidities) is also used to recommend therapy, usually to expand indications. Thus, monoclonal antibodies are recommended for patients in categories 1 and 2, particularly if they are in a high-risk group (Huang P, et al, 2020).

Remdesivir appears to have its main effects in patients in categories 5 and 6 but is also recommended in patients in category 4 who are at high risk of complications. The combination of remdesivir and baricitinib has been found to have significant benefit largely in patients in categories 5 to 7 and while dexamethasone demonstrated its major effects in patients in categories 6 and 7 (Marjot T, et al, 2021).

2.8.c- Prevention:

Preventive measures to reduce the chances of infection include staying at home, wearing a mask in public, avoiding crowded places, keeping distance from others, ventilating indoor spaces, managing potential exposure durations, washing hands with soap and water often and for at least twenty seconds, practising good respiratory hygiene, and avoiding touching the eyes, nose, or mouth with unwashed hands (Munster VJ, et al, 2020).

2.8.d- Covid-19 Vaccines:

Three major approaches to vaccine development were rapidly successful: mRNA-, adenovirus vector-, and recombinant DNA-based technologies. All have been found to be effective in preventing infection but particularly in preventing severe illness, breakthrough infections usually being asymptomatic or mild-to-moderate in severity (Zhu FC, et al, 2020).

The first two vaccines approved for use in the United States under an Emergency Use Authorization (EUA) were mRNA vaccines – BNT162b2 (Pfizer-BioNTech) and mRNA-1273 (Moderna). Following that, two highly effective adenovirus-based vaccines received emergency use authorization approval in Europe – ChAdOx1.nCoV-19 (Oxford-Astra Zeneca) and the United States – Ad26.COV2.S (Janssen-Johnson & Johnson). A recombinant DNA produced protein vaccine has also been developed and is under clinical evaluation (NVX-CoV2373: Novavax) (Anderson EJ, et al, 2020).

Furthermore, adenovirus vectored vaccines with reported efficacy have also been developed in Russia (Gam-COVID-Vac, Sputnik-V:) and China (Ad5 vectored COVID-19 vaccine) where conventional, inactivated viral vaccines

have also been produced. COVID-19 vaccines are given by intramuscular injection, and an initial inoculation followed by a second dose 3 to 4 weeks later are recommended for most currently used Table (Huang P, et al, 2020).

Booster doses given 6 months after the initial course of two doses are also now being recommended in selected populations. For the Johnson & Johnson COVID-19 vaccine, a booster dose may be given 2 months after the initial single dose to individuals 18 years of age and older (Zhang Y, et al, 2021).

The COVID-19 vaccines have been found to be generally safe. Common adverse events are mild-to-moderate in severity and self-limiting in course. Immediate local reactions of pain, redness and swelling are most frequent, occurring in 70% to 80% of vaccines. Mild-to-moderate systemic reactions after 1 to 3 days are also common, occurring in 20% to 40% of vaccines, and include fatigue, myalgias, headache, nausea and mental foggiess (Huang P, et al, 2020).

In contrast, severe immediate, hypersensitivity reactions are rare, but can occur, for which reason a 15 minute period of observation is required after administration of vaccine to allow for prompt treatment of anaphylactic reactions (Baden LR, et al, 2021)

2.8.d- BNT162b2, Tozinameran (Pfizer, BioNTech):

BNT162b2, which has been given the generic name tozinameran and brand name Comirnaty, is a nucleoside-modified mRNA vaccine that encodes the spike protein of SARS-CoV-2, modified in amino acid sequence to keep it in a stable, pre-fusion configuration which is most likely to induce neutralizing antibody. The vaccine was produced rapidly after publication of the SARS-CoV-2 sequence using already established techniques including encapsulation of the mRNA in lipid nanoparticles that protect the mRNA from degradation by plasma RNase and allow for its rapid uptake into host cells. Two doses of the vaccine (30 µg in 0.3 mL) are recommended, 3 weeks apart. The vaccine requires storage at ultra-low temperatures (-60° to -80° C) and, after thawing, no more than 30 days in temporary storage at 2° to 8° C and thus requires a rigorous cold temperature chain for distribution (Umbrello M, et al, 2021).

2.9- Nursing Management of COVID-19:

2.9.a- Nursing Assessment:

- ✚ Careful assessment is essential in the evaluation and management of patients who may have COVID-19, and particularly in those with fever, acute respiratory illness, and other symptoms of infection. Nursing assessments of these patients should include:
- ✚ Travel history – a detailed travel history should include travel to other countries, states, or cities with active COVID-19 cases; resources such as Johns Hopkins Coronavirus Resource Center can be helpful in determining geographic “hotspots” in the United States and worldwide.
- ✚ Physical examination – careful documentation of the patient’s signs and symptoms, which may develop 2 to 14 days after exposure to the virus; the Centers for Disease Control and Prevention (CDC) lists the following symptoms of COVID-19:
- ✚ Fever, chills, Cough, Dyspnea, Headache, Fatigue, Myalgia, Sore throat New loss of smell (anosmia) or taste (ageusia), Congestion or runny nose, Nausea or vomiting, Diarrhea, Not every patient with COVID-19 experiences all of these symptoms. In fact, a study published on June 23, 2020, found that 78 percent of COVID-19 patients had a fever, 57 percent reported a cough, and 31 percent said they had suffered fatigue. Interestingly, 25 percent had lost their sense of smell and 23 percent lost their sense of taste (Hetzler L, 2020).

2.9.b- Nursing Diagnosis:

A nursing diagnosis provides clinical judgment about the patient’s experiences and responses to potential coronavirus infection. Nursing diagnosis for a patient with COVID-19 can include:

- 1) Possible exposure to the virus that causes COVID-19
- 2) The patient’s level of knowledge about the transmission of COVID-19
- 3) Fever
- 4) Impaired breathing pattern related to shortness of breath
- 5) Anxiety associated with the unknown etiology of the disease (Hetzler L, 2020).

2.9.c- Nursing Care Planning and Goals:

Establishing nursing care plan goals can help improve patient outcomes and decrease the transmission of COVID-19. Major nursing care planning goals for COVID-19 may include:

- 1) Establishing goals, interventions
- 2) Assessing altered skin integrity risks, fatigue, impaired comfort, gas exchange, nutritional needs, and nausea
- 3) Preventing the spread of coronavirus infection to the patient's family members, community, and healthcare providers
- 4) Providing more information about COVID-19 and its management to the patient.
- 5) Reducing fever.
- 6) Restoring normal respiratory patterns.
- 7) Easing anxiety, which is relatively common in COVID-19 patients, with a combination of anxiolytic medications and psychotherapy that includes relaxation techniques, breathing exercises and encouragement (Hetzler L, 2020).

2.9.d- Nursing Interventions:

- 1) Based on assessment data, nursing interventions for COVID-19 should focus on monitoring vital signs, maintaining respiratory function, managing hyperthermia, and reducing transmission.
- 2) Monitor vital signs – particularly temperature and respiratory rate, as fever and dyspnea are common symptoms of COVID-19.
- 3) Monitor O₂ saturation – normal O₂ saturation as measured with pulse oximeter should be 94 or higher; patients with severe COVID-19 symptoms can develop hypoxia, with values dropping low enough to warrant supplemental oxygen.
- 4) Manage fever – use appropriate therapy for hyperthermia, including adjusting room temperature, eliminating excess clothing and covers, using cooling mattresses, applying cold packs to major blood vessels, starting or increasing intravenous (IV) fluids as allowed, administering antipyretic medications as

prescribed, and readying oxygen therapy in the event of respiratory problems resulting from the metabolic demands for oxygen during a fever.

- 5) Maintain respiratory isolation – isolation rooms should be well-marked with limited access; all who enter the restricted-access room should use personal protective equipment, such as masks and gowns.
- 6) Enforce strict hand hygiene – to reduce or prevent transmission of coronavirus, patients should wash hands after coughing, as should all who enter or leave the room.
- 7) Provide information – educate the patient and patient’s family members of the transmission of COVID-19, the tests to diagnose the disease, disease process, possible complications, and ways to protect oneself and one’s family from coronavirus (Hetzler L, 2020).

2.9.e- Evaluation:

- 1) Evaluation helps nurses determine if they have met their goals. Evidence for meeting nursing goals for COVID-19 might include:
- 2) The patient successfully prevented the spread of infection to family, the community, or to healthcare staff.
- 3) The patient learned more about COVID-19 and its management.
- 4) The patient had improved body temperature levels.
- 5) Restoration to normal breathing patterns.
- 6) Reduced anxiety (Hetzler L, 2020).

2.9.f- Documentation Guidelines:

Documentation is always important, but perhaps more so when caring for patients with COVID-19. Documentation guidelines for COVID-19 patients include:

- 1) Individual findings, including any external factors affecting the patient’s illness, interactions, nature of social exchanges, and specific patient behaviors.
- 2) Cultural and religious beliefs expressed by the patient.
- 3) Patient expectations.
- 4) Care plan.
- 5) Teaching plan.

- 6) Responses to nursing interventions, education, and information, and nursing actions performed.
- 7) Attainment of, or progress toward, the desired clinical outcome and fulfillment of patient expectations.
- 8) Many organizations and healthcare facilities have established guidelines for the nursing management of COVID-19. These guidelines may change quickly, though, in response to new information from researchers or as the result of overwhelming patient caseloads. For more information on the nursing management of COVID-19, consult with the hiring hospital, nursing facility, healthcare organization, or institution (Huang P, et al, 2020).

CHAPTER-3-

METHODOLOGY

Methodology

3.1-Design of the study

A descriptive study used cross-sectional design to assess the students' knowledge about covid-19 in University of Telafer / College of Nursing.

3.2-Time and setting

The study was conducted in University of Telafer / College of Nursing from 1 January to 23 February 2022.

3.3- Ethical consideration

Ethical approval is obtained from University of Telafer/ College of Nursing in 1 January to 23 February 2022.

3.4-The sample of study

The study sample consisted of (100) students from the University of Telafer / College of Nursing who were chosen at purposively. The selection of present sample based on special criteria which included; All students who were studying in a nursing college during the study period.

3.5-Data collection:

The data were collected by the interviewer himself who explained to the students the purpose of the study and asked them to answer the questionnaire voluntarily and filled the questionnaire by themselves. The average time to fill each questionnaire by each patient with assistance and explanation was from 15-25 minutes.

3.6-Instrument:

A special questionnaire was designed by the researchers and supervisor to assess the knowledge of students, and it consisted of two parts (Appendix A).

Part 1: Includes the socio-demographics characteristic about students such as (age, gender, stage, infection with COVID-19, Nature of living).

Part 2: includes information related to assessing the students' knowledge about covid19, consist of fourteen parts includes:

- 1.COVID-19 is a viral infection.
- 2.Chest pain is one of the symptoms of COVID-19.
- 3.Diarrhea is one of the symptoms of COVID-19.
- 4.Sore throat is one of the symptoms of COVID-19.
- 5.Loss of appetite is one of the symptoms of COVID-19.
- 6.Infection with COVID-19 negatively affects male fertility.
- 7.The elderly and patients with chronic diseases are more likely to suffer from severe infection and death.
8. To prevent the infection by COVID-19, individuals should avoid going to crowded places such as train stations and avoid taking public transportations.
- 9.The main method of transmission of the virus from one person to another is through respiratory droplets.
- 10.Antivirals are used to treat COVID-19.
- 11.Isolation and treatment of COVID-19 patients are effective ways to reduce the spread of COVID-19.
- 12.Wearing a face mask protects against infection with COVID-19.
- 13.Taking vitamin C tablets reduces the risk of infection with COVID-19.
- 14.Children and young people do not need to take measures to prevent infection with COVID-19.

Each question has two options: Yes=1, No=0.

3.7- Data analysis:

The data of present study were analyzed through the application of two statistical approaches. A descriptive statistical approach that includes frequency, percentage.

3.8- Pilot study:

- 1- Determine the validity of the instrument.
- 2- Calculate the reliability of instrument.
- 3- Estimate the time for each interview.

3.9- validity of the tools:

Prior to the collection of data of the study, the tool was examined to identify its validity. The content validity was used by exposing the tool to a committee of specialized experts in different fields of sciences (Medicine, Nursing) in order to get their opinions about the suitability of the items included in the tool. All of them agreed on the final steps of the assessment tool (Appendix B).

3.10- Reliability of the tools:

The pilot study was carried out on (10) students from the Nursing college / Telafer university the period between from the 20th to 31th of December 2021. Evaluation of the responses and statistical analysis between the test and retest on the same sample of nurses was done by using Pearson Coefficient Correlation for items of the tools which showed that reliability estimate for knowledge was (0.81) The pilot study revealed that the tools used in assessing the knowledge is clear to understand and comprehensive (Appendix C).

CHAPTER - 4 –

RESULTS

Table (2) The Socio-demographic characteristics of the students:

	Item	F	%
Age group	18-20 year	31	31
	21-24 year	37	37
	25-33 year	32	32
Gender	Male	60	60
	Female	40	40
Stage	First	25	25
	Second	25	25
	Third	30	30
	Fourth	20	20
Infection With COVID-19	Yes	32	32
	No	68	68
Nature of living	Urban	85	85
	Rural	15	15

The table (2) refer to the Socio-demographic characteristics the majority of students (37%) were from the age group (21-24) years ,also shows that the rate in males to females represent (60%:40%) of samples, males more than female ,and high percentage of students (30 %) are in third stage , the majority of students (68 %) most were not infected with COVID-19 , Finally regarding a Nature of living majority of students (85 %) were lived in urban.

Table (3) Knowledge of students about COVID-19:

	Questions about COVID-19	Yes		No	
		F	%	F	%
	COVID-19 is a viral infection.	76	76	24	24
2-	Chest pain is one of the symptoms of COVID-19.	83	83	17	17
3-	Diarrhea is one of the symptoms of COVID-19.	82	82	18	18
4-	Sore throat is one of the symptoms of COVID-19.	80	80	20	20
5-	Loss of appetite is one of the symptoms of COVID-19.	86	86	14	14
6-	Infection with COVID-19 negatively affects male fertility.	37	37	63	63
7-	The elderly and patients with chronic diseases are more likely to suffer from severe infection and death.	96	96	4	4
8-	To prevent the infection by COVID-19, individuals should avoid going to crowded places such as train stations and avoid taking public transportations	98	98	2	2
9-	The main method of transmission the virus from one person to another is through respiratory droplets.	92	92	8	8
10-	Antivirals are used to treat COVID-19.	87	87	13	13
11-	Isolation and treatment of COVID-19 patients are effective ways to reduce the spread of COVID-19.	95	95	5	5
12-	Wearing a face mask protects against infection with COVID-19.	95	95	5	5
13-	Taking vitamin C tablets reduces the risk of infection with COVID-19.	85	85	15	15
14-	Children and young people do not need to take measures to prevent infection with COVID-19.	10	10	90	90

Students' knowledge about covid19 is presented in Table (3). Most of the students' samples a good knowledge the question To prevent the infection by COVID-19, individuals should avoid going to crowded places such as train stations and avoid taking public transportations , represent a (98 %), While regarding the knowledge about the elderly and patients with chronic diseases are more likely to suffer from severe infection and death. , represent a (96%). Also, knowledge about isolation and treatment of COVID-19 patients are effective ways to reduce the spread of COVID-19,

and wearing a face mask protects against infection with COVID-19 are represent (95 %).

But knowledge about the main method of transmission the virus from one person to another is through respiratory droplets represent a (92%). while the knowledge about a children and young people do not need to take measures to prevent infection with COVID-19. represent (90%). While the knowing about antivirals are used to treat COVID-19, and loss of appetite is the one symptoms of COVID-19, and the taking vitamin c tablets reduces the risk of infection with COVID-19, it is represent (87 % - 86 % - 85 %), respectively. The questions about the symptoms of COVID-19 chest pain, diarrhea, sore throat, it is represent (83 % - 82 % - 80 %) respectively. Finally, the knowledge regarding the fact that COVID-19 is a viral infection, and infection with COVID-19 negatively affects males fertility represent (76 % - 37 %) respectively.

CHAPTER - 5-

DISCUSSION

Discussion

A successful response to COVID-19 requires people around the world to understand evolving messages from governments and health authorities in order to protect themselves from infection and prevent disease spread. Government messaging has led to misunderstanding about the danger of COVID-19, creating confusion and inaction (Wolf MS, et al, 2020).

From our study, the table (2) refer to the Socio-demographic characteristics the majority of students (37%) were from the age group (21-24) years ,also shows that the rate in males to females represent (60 %:40 %) of samples , also shows that a high percentage of students (30 %) are in third stage this is agreement with (Aldukhayel A , et al, 2020) where it showed the majority of students (74.9%) were from the age group (21-24) years , also showed the majority of students participate (69%) were a male, also shows that the majority of students(25.4) are in the third Academic year.

also shows the table (2) , the majority of students (68 %) most were not infected with COVID-19, Finally regarding a Nature of living majority of students (85 %) were lived in urban this is agreement with (Salem MR, et al, 2021) where it showed the majority of students (60.3 %) were lived in urban.

In addition, public health education has been recognized as an effective measure to prevent and control public health emergency for the public preparedness against such situation. It will lead the public to acquire appropriate knowledge, mitigate panic and seek for positive attitude, and comply with aligned and desired practices. All these KAP elements have been considered crucial to ensure effective prevention and control of the pandemic.

Students' knowledge about covid19 is presented in Tabl (3). To the best of our knowledge, this is the first survey conducted in university of Telafer investigating the knowledge toward COVID-19 among university students. This study found an overall correct rate of answers represented 85.71% of the answers' questions among university' students indicating that most students in university of Telafer/ college of nursing were knowledgeable about COVID-19 disease.

In a study carried out in Iran during the pandemic of COVID-19, where 8591 people participated, an overall correct rate of 90% on the knowledge questions among Iranian population was recorded (Erfani A, et al, 2020)

Our findings are in agreement with the results obtained from the study on COVID-19 in China which showed that the majority of participants had good knowledge about the main clinical symptoms, treatment and vaccine unavailability, and methods of prevention and control of COVID-19. In addition, our findings regarding the differences in responses according to age, gender, and program of study related to KAP concerning COVID-19 were greatly similar to previous KAP studies conducted in China (Zhong B-L, et al, 2020).

Most of the students' samples were a good knowledge about the question To prevent the infection by COVID-19, individuals should avoid going to crowded places such as train stations and avoid taking public transportations , represent a (98 %), While regarding the knowledge about the elderly and patients with chronic diseases are more likely to suffer from severe infection and death. , represent a (96%), But knowledge about the main method of transmission the virus from one person to another is through respiratory droplets represent a (92%), Also knowledge about isolation and treatment of COVID-19 patients are effective ways to reduce the spread of COVID-19, and wearing a face mask protects against infection with COVID-19 are represent (95%) this is agreement with(Hussein NR, et al, 2020) Indicating that most students in Kurdistan Region, Iraq were knowledgeable about COVID-19 disease

A higher knowledge score regarding COVID-19 was significantly associated with a higher likelihood of having positive attitude and good practice at the time of COVID-19 pandemic. Medical students showed a good score of knowledge which could be explained by their trainings in clinical medicine and public health. Their obligations and responsibilities to fight against this pandemic as future medical professionals are thought to drive them to present more positive attitudes and proactive practices during this public health emergency.

And when asking more questions about COVID-19 is a viral infection represented (76%), this is agreement with (Yaling Peng, et al 2020) they

referred that the overall knowledge score about COVID-19 is a viral infection was (97.3%),

While regarding the questions about the symptoms of COVID-19 loss of appetite, chest pain, diarrhea, and sore throat it is represent (86% - 83% - 82% - 80%) this is agreement with (Hussein NR, et al, 2020) they referred that the overall knowledge score about the clinical manifestation was (84.8%).

The high knowledge of recruited samples could be explained by various factors such as the seriousness of the disease and the effectiveness of different education programs in the region. In addition, it is worthy of note that there was no significant difference among first, second, third and fourth stage in terms of knowledge and attitude among students. This is expected because the infection outbreak is widely covered by local and international media.

while knowledge about a children and young people do not need to take measures to prevent infection with COVID-19 represent (90%) this is agreement with (Zhong B-L, et al, 2020).

While the knowing about antivirals are used to treat COVID-19, and the taking vitamin c tablets reduces the risk of infection with COVID-19, it is represent (87%- 85%), respectively.

Finally, the knowledge regarding infection with COVID-19 negatively affects males fertility represent (37%).

CHAPTER - 6-

CONCLUSION & RECOMMENDATIONS

Conclusion and Recommendations

6.1- Conclusion

1. Majority of students (37 %) they were from the age group (21-24) year.
2. Majority of students they were males (60 %) more than half number.
3. Majority of students (85%) they were lived in Urban.
4. Majority of students (68%) they were not infection with COVID-19.
5. Based on the current study, most of students' knowledge varied between good and middle about the covid19.

6.2- Recommendations:

1. These results show the significance of improving general knowledge among schools and colleges curriculum regarding COVID-19 by health education programs which, in turn, would enhance their attitude and practice regarding COVID-19.
2. According to these results the study recommended to use the results by public-health policymakers and health care professionals to recognize target populations for health education activities on the COVID-19 outbreak.
3. We recommend that the scholarly community conduct further research to provide valid and reliable ways to manage this kind of public health emergency in both the short-term and long-term.

REFERENCES

- Adams KK, Baker WL, Sobieraj DM. Myth busters: dietary supplements and COVID-19. *Ann Pharmacother.* 2020;54:820–6. [[PMC free article](#)] [[PubMed](#)].
- Ahn DG, Shin HJ, Kim MH, Lee S, Kim HS, Myoung J, et al. Current Status of Epidemiology, Diagnosis, Therapeutics, and Vaccines for Novel Coronavirus Disease 2019 (COVID-19). *J Microbiol Biotechnol* 2020; 30(3): 313–24.
- Aldukhayel A, Alhomidani RJA, Almazyad NS, AlHindi HA, Alsudairi HA. Knowledge, attitude, and practices associated with COVID-19 among university students: a cross-sectional survey in Qassim Region, Saudi Arabia. *IJMDC*, 2020;4(10):1554–1560.
- Anderson EJ, Roupael NG, Widge AT, Jackson LA, Roberts PC, Makhene M, Chappell JD, et al. mRNA-1273 Study Group. Safety and immunogenicity of SARS-CoV-2 mRNA-1273 vaccine in older adults. *N Engl J Med.* 2020;383:2427–38. [[PMC free article](#)] [[PubMed](#)].
- Baden LR, El Sahly HM, Essink B, Kotloff K, Frey S, Novak R, Diemert D, et al. COVE Study Group. Efficacy and safety of the mRNA-1273 SARS-CoV-2 vaccine. *N Engl J Med.* 2021;384:403–16. [[PMC free article](#)] [[PubMed](#)].
- Bai HX, Hsieh B, Xiong Z, Halsey K, Choi JW, Tran TML, et al. Performance of radiologists in differentiating COVID-19 from viral pneumonia on chest CT. *Radiology.* 2020 Mar 10:200823. doi: 10.1148/ radiol.2020200823.
- Burke RM, Midgley CM, Dratch A, Fenstersheib M, Haupt T, HolshueM, et al. Active Monitoring of Persons Exposed to Patients with Confirmed COVID-19 - United States, January-February 2020. *MMWR Morb Mortal Wkly Rep* 2020; 69(9): 245–6.
- Calabrese LH, Calabrese C. Baricitinib and dexamethasone for hospitalized patients with COVID-19. *Cleve Clin J Med.* 2021 Feb 1; [[PubMed](#)].

- Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. *Lancet* 2020; 395(10223): 507–13.
- Cucinotta D, Vanelli M. WHO declares COVID-19 a pandemic. *Acta Biomed.* 2020;91(1):157–160.
- Dong X, Cao YY, Lu XX, Zhang JJ, Du H, Yan YQ, et al. Eleven Faces of Coronavirus Disease 2019. *Allergy.* 2020 Mar 20. doi: 10.1111/all.14289.
- Erfani A, Shahriarirad R, Ranjbar K, Mirahmadizadeh A, Moghadami M. knowledge, Attitude and Practice toward the Novel Coronavirus (COVID-19) Outbreak: A PopulationBased Survey in Iran. *Bull Health World Organ,* 2020. <http://dx.doi.org/10.2471/BLT.20.256651>.
- Guan WJ, Ni ZY, Hu Y, Liang WH, Ou CQ, He JX, et al. Clinical characteristics of coronavirus disease 2019 in China. *N Engl J Med.* 2020 Feb 28. doi: 10.1056/NEJMoa2002032.
- Hetzler L . July 10, 2020. Nursing Management of COVID-19.Retrieved from <https://everynurse/nursing-management-covid-19>.
- Horby P, Lim WS, Emberson JR, Mafham M, Bell JL, Linsell L, et al. RECOVERY Collaborative Group. Dexamethasone in hospitalized patients with Covid-19. *N Engl J Med.* 2021;384:693–704. [[PMC free article](#)] [[PubMed](#)].
- Horby P, Mafham M, Linsell L, Bell JL, Staplin N, Emberson JR, Wiselka M, et al. RECOVERY Collaborative Group. Effect of hydroxychloroquine in hospitalized patients with Covid-19. *N Engl J Med.* 2020;383:2030–40. [[PMC free article](#)] [[PubMed](#)].
- Hu Z, Song C, Xu C, Jin G, Chen Y, Xu X, et al. Clinical characteristics of 24 asymptomatic infections with COVID-19 screened among close contacts in Nanjing, China. *Sci China Life Sci.* 2020 Mar 4. doi: 10.1007/s11427-020-1661-4.

- Huang C, Wang Y, Li X, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet*. 2020; 395(10223):497–506.
- Huang P, Liu T, Huang L, Liu H, Lei M, Xu W, et al. Use of chest CT in combination with negative RT-PCR assay for the 2019 novel coronavirus but high clinical suspicion. *Radiology* 2020; 295(1): 22–3.
- Hundt MA, Deng Y, Ciarleglio MM, Nathanson MH, Lim JK. Abnormal liver tests in COVID-19: A retrospective observational cohort study of 1827 patients in a major U.S. hospital network. *Hepatology*. 2020;72(4):1169–76. [[PubMed](#)].
- Hussein NR, Naqid IA, Jacksi K, Abdi BA. Assessment of knowledge, attitudes, and practices toward COVID-19 virus among university students in Kurdistan region, Iraq: Online cross-sectional study. *J Family Med Prim Care* 2020;9:4809-14.
- Interim guidelines for collecting, handling, and testing clinical specimens from persons under investigation (PUIs) for coronavirus disease 2019 (COVID-19). Available from: URL: [https:// www.cdc.gov/coronavirus/2019-nCoV/lab/guidelines-clinical-specimens.html](https://www.cdc.gov/coronavirus/2019-nCoV/lab/guidelines-clinical-specimens.html). Accessed, March 15, 2020.
- Kalil AC, Patterson TF, Mehta AK, Tomashek KM, Wolfe CR, Ghazaryan V, Marconi VC, et al. ACTT-2 Study Group Members. Baricitinib plus remdesivir for hospitalized adults with Covid-19. *N Engl J Med*. 2021;384:795–807. [[PMC free article](#)] [[PubMed](#)].
- Kampf G, Todt D, Pfaender S, Steinmann E. Persistence of coronaviruses on inanimate surfaces and their inactivation with biocidal agents. *J Hosp Infect* 2020; 104(3): 246–51.
- Marjot T, Webb GJ, Barritt AS 4th, Moon AM, Stamataki Z, Wong VW, Barnes E. COVID-19 and liver disease: mechanistic and clinical perspectives. *Nat Rev Gastroenterol Hepatol*. 2021;18:348–64. [[PMC free article](#)] [[PubMed](#)].

Munster VJ, Koopmans M, van Doremalen N, van Riel D, de Wit E. A Novel Coronavirus emerging in China-Key questions for impact assessment. *N Engl J Med* 2020;382:692-4 .

RECOVERY Collaborative Group. Lopinavir-ritonavir in patients admitted to hospital with COVID-19 (RECOVERY): a randomised, controlled, open-label, platform trial. *Lancet*. 2020;396(10259):1345–52. [[PMC free article](#)] [[PubMed](#)].

Rothe C, Schunk M, Sothmann P, Bretzel G, Froeschl G, Wallrauch C, et al. Transmission of 2019-nCoV Infection from an Asymptomatic Contact in Germany. *N Engl J Med* 2020; 382(10): 970–1.

Salem MR, Alhanafy SH, Bayad AT, Abdel-aziz SB, Shaheen D, Amin TT. Assessment of knowledge, attitudes, and precautionary actions against COVID-19 among medical students in Egypt. *JIPH* 14 (2021) 1427–1434.

Satarker S, Tom AA, Shaji RA, Alosious A, Luvis M, Nampoothiri M. JAK-STAT pathway inhibition and their implications in COVID-19 therapy. *Postgrad Med*. 2021;133(5):489–507. [[PMC free article](#)] [[PubMed](#)].

Shen K, Yang Y, Wang T, Zhao D, Jiang Y, Jin R, et al. Diagnosis, treatment, and prevention of 2019 novel coronavirus infection in children: experts' consensus statement. *World J Pediatr*. 2020 Feb 7. doi: 0.1007/s12519-020-00343-7.

Shen K, Yang Y, Wang T, Zhao D, Jiang Y, Jin R, et al. Diagnosis, treatment, and prevention of 2019 novel coronavirus infection in children: experts' consensus statement. *World J Pediatr*. 2020 Feb 7. doi: 0.1007/s12519-020-00343-7.

Tang YW, Schmitz JE, Persing DH, Stratton CW. The Laboratory Diagnosis of COVID 19 infection: Current issues and challenges. *J Clin Microbiol*. 2020 Apr 3. pii: JCM.00512-20. doi: 10.1128/JCM.00512-20.

- Umbrello M, Brena N, Vercelli R, Foa RA, Femia M, Rossi U, Podda GM, et al. Successful treatment of acute spleno-porto-mesenteric vein thrombosis after ChAdOx1 nCoV-19 vaccine. A case report. *J Crit Care*. 2021;65:72–75. Epub ahead of print. [[PubMed](#)].
- Wolf MS, Serper M, Opsasnick L, O’Conor RM, Curtis LM, Benavente JY, et al. Awareness, attitudes, and actions related to COVID-19 among adults with chronic conditions at the onset of the U.S. outbreak: a cross-sectional survey. *Ann Intern Med*. (2020) 9:M20–1239. doi: 10.7326/M20-1239.
- Wong, M. C.; Javornik Cregeen, S. J.; Ajami, N. J.; Petrosino, J. F. Evidence of recombination in coronaviruses implicating pangolin origins of nCoV-2019. *Microbiology* 2020, 1.
- World Health Organization. WHO Director-General’s opening remarks at the media briefing on COVID-19 - 24 February 2020. Available from: URL: <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---24-february-2020>. Accessed, February 26, 2020.
- Xinhua. China’s CDC detects a large number of new coronaviruses in the South China seafood market in Wuhan. Available from: URL: https://www.xinhuanet.com/2020-01/27/c_1125504355.htm. Accessed, February 20, 2020.
- Yaling Peng, Chenchen Pei, Yan Zheng, Juan Wang, Kui Zhang, Zhaohui Zheng , & Ping Zhu . A cross-sectional survey of knowledge, attitude and practice associated with COVID-19 among undergraduate students in China(2020) 9:3–12.
- Zhang Y, Zeng G, Pan H, Li C, Hu Y, Chu K, Han W, et al. Safety, tolerability, and immunogenicity of an inactivated SARS-CoV-2 vaccine in healthy adults aged 18-59 years: a randomised, double-blind, placebo-controlled, phase 1/2 clinical trial. *Lancet Infect Dis*. 2021;21:181–92. [[PMC free article](#)] [[PubMed](#)].
- Zhong B-L, Luo W, Li H-M, Zhang Q-Q, Liu X-G, Li W-T, et al. Knowledge, attitudes, and practices towards COVID-19

among Chinese residents during the rapid rise period of the COVID-19 outbreak: A quick online cross-sectional survey. *Int J Biol Sci* 2020;16:1745-52

Zhou P, Yang XL, Wang XG, Hu B, Zhang L, Zhang W, et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 2020; 579(7798): 270–3.

Zhou, P. et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 579, 270–273 (2020).

Zhu FC, Guan XH, Li YH, Huang JY, Jiang T, Hou LH, Li JX. Yet al. Immunogenicity and safety of a recombinant adenovirus type-5-vectored COVID-19 vaccine in healthy adults aged 18 years or older: a randomised, double-blind, placebo-controlled, phase 2 trial. *Lancet*. 2020;396(10249):479–88. [[PMC free article](#)] [[PubMed](#)].

Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, et al; China Novel Coronavirus Investigating and Research Team. A Novel Coronavirus from Patients with Pneumonia in China, 2019. *N Engl J Med* 2020; 382(8): 727–33.

Zou L, Ruan F, Huang M, Liang L, Huang H, Hong Z, et al. SARSCoV-2 Viral Load in Upper Respiratory Specimens of Infected Patients. *N Engl J Med* 2020; 382(12): 1177–9.

Appendices

APPENDIX -A-

استابفة حول

تقففم معارف الطلاب حول كوففد -١٩ فف كلفة التمرفض جامعة تلعفر

١- جزء ١: الخصائص الاجتماعفة و الءفموجراففة للطلاب

□ العفر: □ الففس: □ المرحلة الءراسفة:

□ محل الإقامة: رفف / مءفنة □ الإصابة بففرس كوففد -١٩: نعم □ / لا □

٢- جزء ٢: ففضمف المعلومات المءعلقة بفقففم معارف الطلاب حول كوففد -١٩ فف ففكون من أربعة عشر جزءًا ففشل :

الخفار		السؤال
لا	نعم	
		١- فعد ففرس كورونا عدوى ففرسفة.
		٢- الم الصدر هو أءء أعراض مرض كوففد -١٩.
		٣- الإسفال هو أءء أعراض مرض كوففد -١٩.
		٤- الفهاب الفلق هو أءء أعراض مرض كوففد -١٩.
		٥- فقءان الشهفة هو أءء أعراض مرض كوففد -١٩.
		٦- فؤثر العدوى بففرس كورونا المسفءء (كوففد -١٩) سلبًا على الخصوبة لءى الرفال.
		٧- كبار السن والمرضى الءفن فعانون من الأمراض المزمنة هم أكثر عرضة للإصابة بالعدوى الشءفءة والفافة.
		٨- لمنع الإصابة بففرس كوففد-١٩ ، ففب على الأفراد ففنب الفهاب إلى الأماكن المزدحمة مثل محطات القطار وففنب اسفءءام وسائل النقل العام.
		٩- الفرفة الرئفسفة لافنقال الففرس من شخص إلى آفر هف الرءاء الفنفسف.
		١٠- ففسءءم الأدوية المضاءة للففرس فف علاج مرض كوففد -١٩.
		١١- إن عزل و علاج مرضى كوففد-١٩ هف طرق فعالة للءء من افنشار كوففد-١٩.
		١٢- ارءاء قناع الوجه ففف من الإصابة بففرس كورونا.
		١٣- فناول أقراص فففامفن سف فقل من خطر الإصابة بءءوى كوففد -١٩.
		١٤- لا ففءاف الأطفال والشباب إلى افءاء فءابفر للوقافة من الإصابة بءءوى كوففد-١٩

APPENDIX -B-

قائمة بأسماء الخبراء

ت	اسم الخبير	اللقب العلمي	الشهادة	محل العمل
١	د. عبدالعزيز احمد عزيز	أستاذ	دكتوراه في الطب وجراحة عامة	جامعة تلعفر
١	د. نصير كاظم المالكي	أستاذ	دكتوراه في الطب وجراحة عامة	كلية طب جامعة واسط
٢	د. رضوان حسين إبراهيم	أستاذ	دكتوراه تمريض صحة مجتمع	كلية التمريض جامعة الموصل
٣	د. ضرغام مجيد حميد	أستاذ	دكتوراه تمريض صحة مجتمع	كلية التمريض جامعة المثنى
٤	د. هيو استار صالح	أستاذ مساعد	دكتوراه تمريض صحة مجتمع	كلية التمريض جامعة كركوك
٥	د. ابراهيم علوان كاظم	أستاذ مساعد	دكتوراه تمريض بالغين	كلية التمريض جامعة الكوفة
٦	د. رعد كريم فرج	أستاذ مساعد	دكتوراه تمريض صحة مجتمع	كلية التمريض جامعة بغداد
٧	د. تحسين محسن	أستاذ مساعد	دكتوراه تمريض بالغين	كلية التمريض جامعة الموصل
٨	سعد حسين مراد	مدرس	دكتوراه تمريض بالغين	كلية التمريض جامعة الموصل

Appendix - C –

Statistical analysis of the reliability of the test and re-test format To evaluate statistically the reliability of the instruments, Pearson's coefficient of correlation was used between test and re-test, the following formula used (Polit 1999):

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Table(1)Shows the correlation between the scores obtained from test and re-test and level of significant of knowledge tool

Sample	test-scores	Re-test scores
1	75	73
2	72	70
3	73	71
4	79	77
5	80	78
6	77	74
7	75	75
8	74	76
9	76	77
10	75	74
r=0.81	significant at p<0.01	

الخلاصة

يبقى فيروس كورونا من قضايا الصحة العامة المهمة على الصعيدين الوطني والعالمي. لذا يجب على جميع المتخصصين في الرعاية الصحية بما في ذلك الممرضين امتلاك المعرفة الحالية لتثقيف مرضاهم حول فيروس كورونا وتوفير آليات الإحالة والدعم المناسبة.

تم إجراء التصميم الوصفي في الفترة من ١ يناير إلى ٢٣ فبراير ٢٠٢٢. عينة الدراسة تتكون من (١٠٠) طالب وطالبة من كلية التمريض / جامعة تلغفر تم اختيارهم بشكل مقصود.

تم تصميم استبانة خاصة من قبل الباحثين والمشرف لتقويم معرفة الطلاب ، وتتكون من جزأين (ملحق A).

١- جزء ١: يتضمن الخصائص الاجتماعية والديموغرافية للطلاب مثل (العمر ، الجنس ، المراحل ، الإصابة بفيروس كوفيد-١٩ ، محل الإقامة)

٢- الجزء ٢: يتضمن المعلومات المتعلقة بتقييم معرفة الطلاب حول كوفيد-١٩ ، ويتكون من أربعة عشر جزءاً.

تم تحليل بيانات الدراسة الحالية من خلال تطبيق نهجين إحصائيين يتضمن التكرار والنسبة المئوية.

وجدت هذه الدراسة أن المعدل الإجمالي الصحيح للإجابات يمثل ٨٥,٧١٪ من اجابات الاسئلة بين طلاب الجامعة مما يشير إلى أن معظم الطلاب في جامعة تلغفر/ كلية التمريض كانوا على دراية بمرض كوفيد-١٩.

وكشفت الدراسة أن غالبية الطلاب (٣٧٪) هم من الأعمار المجموعة (٢١ - ٢٤) سنة ، ونسبة عالية من الطلاب (٨٥٪) هم كانوا يعيشون في المناطق الحضرية .

كما أن معظم معارف الطلاب متنوعة بين الجيد و المتوسط حول كوفيد-١٩.

تظهر النتائج أهمية تحسين المعرفة العامة بين مناهج المدارس والكليات فيما يتعلق ب كوفيد-١٩ من خلال برامج التثقيف الصحي والتي بدورها ستعزز مواقفهم وممارساتهم فيما يتعلق بكوفيد-١٩.



وزارة التعليم العالي والبحث العلمي
جامعة تلعفر
كلية التمريض



تقييم معارف الطلاب حول كوفيد-19 في كلية التمريض جامعة تلعفر.

مشروع تخرج تقدم به:

محمد طه محمد
محمد عبد الرزاق اسود
عمر عبد الرزاق عزيز
ثامر حسن علي

إلى
مجلس كلية التمريض / جامعة تلعفر كجزء من متطلبات نيل شهادة البكالوريوس
علوم في التمريض.

بإشراف

الدكتور

احسان حسن زينل

المدرس



Iraqi Ministry of Higher
Education and Scientific Research
University of Telafer
College of Nursing
2022-2023



Knowledge of mothers on childhood Acute Respiratory Infection in Telafer city

A Graduation project submitted by:

Mustafa Ali khaleel Fawzi Abdulamir khalo

Ahmed Nofal Qassim Layla Taher Abdulkhadir

To

**The council of College of Nursing University of Telafer,
In part fulfillment of the Requirements for the Degree of
Bachelors of Scientific in Nursing**

Supervised by:

Dr. Mohmmmed Qassim Baktash

Lecturer

2022 A.D

1443 A.H

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

{ وَوَصَّيْنَا الْاِنْسَانَ بِوَالِدَيْهِ حَمَلَتْهُ اُمُّهُ وَهَنَا عَلٰى
وَهْنٍ وَفِصْلُهُ فِى عَامَيْنِ اَنْ اَشْكُرْ لِيْ وَلِوَالِدَيْكَ
اِلَى الْمَصِيْرِ }

صدق الله العظيم

[لقمان: ١٤]

الاهـداء

التيقية الله التي لا تخلوا من العترة الهادية الى باب الله الذي منه يؤتى الى السبب المتصل بين الارض
والسمااء وعدلا * مولاي صاحب الزمان روجي له الفداء *

الى من ارضعتني حليب الوفاء ...

امي ...

الى من شق الصخر بانامله لكي اكون ...

ابي ...

الى من ربطوا مصيرهم بمصيري ...

اخوتي ... اخواتي ... اصدقائي ...

الى من ضحوا من اجل ان نكون هنا ...

الشهداء ... السعداء ...

شكر وتقدير

" كن عالماً .. فان لم تستطع فكن متعلماً ، فان لم تستطع فاحب العلماء ، فان لم تستطع فلا تبغضهم "

بعد رحلة بحث وجهد واجتهاد تكلفت بإنجاز هذا البحث ، نحمد الله عز وجل على نعمه التي منّ بها علينا فهو العلي القدير كما لا يسعنا الا ان نخص بأسمى العبارات الشكر والتقدير الى رئاسة جامعة تلعفر المتمثلة بالاستاذ الدكتور عبدالعزيز احمد عزيز والى السيد عميد كلية التمريض المحترم الدكتور احسان حسن زينل والى مشرفنا العزيز الدكتور "محمد قاسم بكتاش" لما قدمه لنا من جهد ونصح ومعرفة طيلة انجاز هذا البحث والى مركز الصحي الصدر للرعاية الصحية الاولى وكافة المراجعين الذين ساهموا في البحث

كما لا ننسى ان نتقدم بأرقى واثمن عبارات الشكر والعرفان الى الدين كانوا عوننا لنا في بحثنا هذا ونورا يضى الظلمة التي كانت تقف احيانا في طريقنا ، الى من زرعو التفاؤل في دربنا وقدموا لنا المساعدات والتسهيلات والمعلومات فلهم منا كل الشكر .

البحث بحثنا فلو لا وجودهم لما احسنا بمتعة العمل وحلاوة البحث ولما وصلنا الى ما وصلنا اليه فلهم منا كل الشكر....

Abstract

Acute respiratory infection in children under five years old is one of the major health problems that directly affect the respiratory and physical health of the child. Acute respiratory infections are high prevalence worldwide, and the complications of these condition may reach the death of the child. Mothers' knowledge about acute respiratory infection plays an important role in prevention. The current study aims to assess the knowledge of mothers about acute respiratory infection in Telafer city.

The study is conducted by using the descriptive cross-sectional study approach. The study included the participation of a total of (100) mothers attending Al-Sadder primary health care center for period from 10 November 2021 to 15 April 2022. The study sample is selected by adopting a convenient purposeful sampling method. Data is collected through a questionnaire prepared for this purpose.

The results of the study shows that the majority of the participants (77%) are possess a moderate level of knowledge about acute respiratory infection, also the statistical analysis for results of the study indicates that about (10%) of women who participated in the study are having poor knowledge. Finally, the study proved the presence of a high significant positive correlation between mothers' knowledge about acute respiratory infection and their educational attainment.

The current study recommends conducting other studies on acute respiratory infections in the city of Tal Afar. The study also indicated the necessity of constructing a health education program about acute respiratory infections for women residing in the city of Telafer.

CONTENTS

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1	Introduction	(2-3)
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List of Abbreviations:

Symbols	Meaning
<i>ARI</i>	<i>Acute respiratory infection</i>
<i>MOH</i>	<i>Ministry of health</i>
<i>WHO</i>	<i>World health organization</i>
<i>URTI</i>	<i>Upper respiratory tract infection</i>
<i>URIs</i>	<i>Upper respiratory tract infections</i>
<i>LRIS</i>	<i>Lower respiratory track infections</i>
<i>HIV</i>	<i>Human immunodeficiency virus</i>
<i>=</i>	<i>Equal</i>
<i>SPSS</i>	<i>Statistical package for social science</i>
<i>SD</i>	<i>Standard deviation</i>
<i>F</i>	<i>frequency</i>
<i>n</i>	<i>Sample size</i>
<i>P</i>	<i>probability</i>
<i>±</i>	<i>Minus l Plus</i>
<i>≥</i>	<i>Equal and more than</i>
<i>r</i>	<i>Pearson Correlation coefficient</i>
<i>%</i>	<i>Percentage</i>

CHAPTER ONE

INTRODUCTION

Chapter one

Introduction

1.1 Introduction

Acute respiratory infection (ARI) is a leading cause of death in children and contributes to a substantial amount of mortality in adults worldwide. It is estimated that 11–22% of deaths among children aged < 5 years and 3% of deaths among adults aged 15–49 years globally are due to ARI (Williams et.al, 2018). Beside that the condition consider as one of the leading causes of morbidity that results in a significant biopsychosocial burden (Lozano R. IHME, 2012).

Locally, the Iraqi Ministry of Health (MOH) reports that the number of children diagnosed with ARI in 2013 was 1,804,374 (excluding the northern governorates). The case fatality rate was 0.14% in 2013. In that ways a survey conducted in 1998 by the MOH in collaboration with WHO, indicated that there were 5-8 episodes of ARI per child per year. Available data reveals that only a third of Iraqi mothers were able to recognize the major warning signs of respiratory distress (Chalabi DA, 2013).

Clinically, Acute respiratory infection is a serious infection that prevents normal breathing function. It usually begins as a viral infection in the nose, trachea (windpipe), or lungs. If the infection is not treated, it can spread to the entire respiratory system (Shi et al, 2020).

Acute respiratory infection prevents the body from getting oxygen and can result in death. Person suffering from this condition needs medical assistance immediately. Also, acute respiratory infections are infectious, which means they can spread from one person to another. The disease is quite widespread.

It is particularly dangerous for children, older adults, and people with immune system disorders (Jolliffe et al, 2013).

Most causes of an acute respiratory infection are not treatable. Therefore, prevention is the best method to ward off harmful respiratory infections. Global studies confirm that ARI is preventable if certain steps are taken in childcare (Pandey et al, 1989).

The steps of ARI prevention are simple and includes washing hands frequently, especially after having been in a public place. Always sneeze into one's arm of the shirt or in a tissue. Avoid touching one's face, especially eyes and mouth, to prevent introducing germs into one's system (Troko et al, 2011).

Despite the easiness of prevention methods most children under 5 are unable to practicing these steps. Methods play a significant role in teaching child how to adopting healthful behaviors. Therefor the mother's knowledge regarding ARI is essential in preventing this tribble condition and teaching the child (Bezerra et al, 2011).

This study tries to determine mothers' knowledge about acute respiratory infection in Telafer City.

1.2 Important of the study:

The objective of the study is to measure the mother's knowledge of acute respiratory infections. The ARI of deadly diseases worldwide, and in Iraq, the knowledge of mothers plays an important role in treating and preventing diseases (chen et al, 2014). This study is important in determining mothers' knowledge in Telafer about ARI.

1.3 Statement of the problem:

Knowledge of mothers on childhood Acute Respiratory Infection in Telafer city

1.4 Objective of the study:

1. To describe the characteristics of mothers in Telafer city
2. To determine the mother's knowledge regarding acute respiratory infection in Telafer city
3. To identify the association between mothers' demographic characteristics and acute respiratory infection related knowledge

1.5 Definition of terms:

1.5.1 Acute Respiratory Infection

1.5.1.a Theoretical definition

Acute respiratory infection is any serious infection caused by microorganism (viral, bacterial, fungi...etc.) that that affect human respiratory system and prevents normal breathing function (pore et al, 2010).

1.5.1.b. Operational definition

Acute respiratory infection (ARI) in children: children with any one or combination of symptoms and signs like cough, sore throat, rapid breathing, noisy breathing, chest in drawing, at any time in the last 2 weeks.

1.5.2. Acute Respiratory Infection Knowledge

1.5.2.a Theoretical definition

Acute Respiratory Infection Knowledge an awareness about definition, causes, sign and symptoms, diagnosis, treatment, and prevention of all types of infections affection the respiratory system for period less than 2 weeks (Pierangeli et al, 2007).

1.5.2.b. Operational definition

Acute Respiratory Infection Knowledge is measured for mother attending Al-Sader Primary Health care center by using acute respiratory infection knowledge scale.

CHAPTER TWO

**REVIEW OF THE
LITERATURE**

Chapter Two**Review of Literature****2.1 Acute Respiratory Infection**

Acute respiratory infection is any serious infection caused by microorganism (viral, bacterial, fungi...etc.) that that affect human respiratory system and prevents normal breathing function. (Sons Ltd,2017)

Today, the condition is one of are a major public health issue and also a major cause of morbidity and mortality in young children. ARIs include a diverse group of diseases ranging from self-limiting illnesses to bronchiolitis and pneumonia (Pettigrew, 2011).

2.1.1 Epidemiology of Acute respiratory infection

Nearly 25% of all deaths among children less than 5 years of age in developing countries are caused by acute respiratory infections (ARI).(Robson,2011) Estimates of annual mortality rates for ARI in infants range from 1.5 per 1,000 in North America to from 11 to 15 in 1,000 per Central and South America and Africa. Annual mortality rates for ARI for children 1 to 4 years of age ranged from 0.08 per 1,000 in North America to 1 to 1.5 per 1,000 in Central and South America and in Asia to nearly 5 per 1,000 in Africa (Emukule et al, 2009).

Studies, showed that male patients were more infected with Acute Respiratory Infection (ARI) than female. They were 1.5 times more likely to suffer ARIs than female patients, but there was no significant association between gender and the severity of ARIs. A research which has been done in Australia at the age of less than 5 years old stated a relation between gender and

case of acute upper respiratory tract infection (URTI) which was caused by the factor of man activity that was valued as more active than woman, so it enabled the man to get more exposure of acute Upper respiratory tract infection agent.(Cox et al, 2017)

2.1.2 Type of Acute respiratory infection

Acute respiratory infections (ARIs) are classified as upper respiratory tract infections (URIs) or lower respiratory tract infections (LRIs). (Nduati,2003)

The upper respiratory tract infections consist of any infections that affects the airways from the nostrils to the vocal cords in the larynx, including the paranasal sinuses and the middle ear. (Van-Tam,2011)

The lower respiratory tract infections cover any inflammatory process of the airways from the trachea and bronchi to the bronchioles and the alveoli (Edwards et al, 2013).

2.1.3 Causes of Acute Respiratory Infection

Causes of ARI however the disease causes can be classified according to the microorganism that invasion the respiratory system. This microorganism can include (virus, bacteria, fungal and parasite)the most common causes of ARI identified to days. Although some causes of the condition are unknown, a few have been identified. They are as follows.(Kirk,2014)

Adenoviruses (a class of microorganisms that can cause acute respiratory infection). Adenoviruses (consist of more than 50 different types of viruses known to cause the common cold, bronchitis, and pneumonia), Pneumococcus (a type of bacterium that causes meningitis. However, it can also trigger certain

respiratory illnesses like pneumonia) and Rhinoviruses (the source of the common cold, which in most cases is uncomplicated). However, in the very young, elderly, and people with a weak immune system, a cold can advance to acute respiratory infection (Loens et al,2006).

2.1.4 Risk factors of acute respiratory infection

The risk factors significantly associated with ARI are poor mothers knowledge about ARI, infection with HIV, poor maternal education, passive smoking, exposure to wood smoke and contact with person having ARI. Measures taken to abate these conditions will reduce the morbidity and mortality associated with ARI (Harerimana et al, 2016).

2.1.5 pathophysiology of acute respiratory infection

The disease occur when organism enter to nasal by breathing this leading to chemical mediators of inflammation and occur vascular dilatation and increase vascular permeability and lead to tissue edema, and serum transudation final nasal obstruction. or the virus lead to sensitization and irritation of airways receptors this result cholinergic stimulation final lead bronchoconstriction and cough (Weltle,2010)

2.1.6 Signs and Symptoms of Acute Respiratory Infection

The early symptoms of acute respiratory infection usually appear in the nose and upper lungs. Other symptoms include congestion, either in the nasal sinuses or lungs, runny nose, cough, sore throat, body aches and fatigue (Durbin JE ,2013)

If the disease advances, there may be high fever and chills. Other serious symptoms are difficulty breathing, dizziness, low blood oxygen level and loss of consciousness (Durbin et al, 2013)

2.1.7 Diagnosis of Acute Respiratory Infection

In a respiratory exam, the health care professional focuses on the patient's breathing. Breath sounds in the lungs are checked for fluid and inflammation. The professional may peer into the nose and check the throat.(Monteior FP,2007)

If diagnosed early, over-the-counter medications can help alleviate symptoms while the virus runs its course. However, if the infection is advanced, an X-ray or CT scan (computer tomography) may be needed to check the condition of the lungs.

Lung function tests have shown to be useful as diagnostic tools and for prognosis purposes. Pulse oximetry, also known as pulse ox, may be used to check how much oxygen gets into the lungs. A physician may also need a sputum (material coughed up from the lungs) sample to check for the type of virus causing the diseaseBezerra,2011)

2.1.8 Treatment of acute respiratory infection

There are no known treatments. Some drugs may be given to manage the symptoms while monitoring condition. If a bacterial infection suspected, the antibiotics medication may be prescribed (Simoes et al, 2006)

2.1.9 Prevention of Acute Respiratory Infection

Most causes of an acute respiratory infection are not treatable. Therefore, prevention is the best method to ward off harmful respiratory infections. Practice good hygiene by washing hands frequently, especially after having been in a public place. Always sneeze into one's arm of the shirt or in a tissue. Avoid touching one's face, especially eyes and mouth, to prevent introducing germs into one's system (Andrade,2012).

2.1.10 Nursing management of patient with acute respiratory infection

2.1.10.a-Assessment

Patients with acute respiratory failure should be closely observed for potential deterioration. Respiratory assessment should occur on a frequent/continual basis. (Pandey,1989)

Monitoring may involve intermittent/continual pulse oximetry and regular peak expiratory flow rate measurement but should always include basic respiratory rate monitoring and general assessment. Physiological track and trigger warning systems are widely used to identify patients on general wards at risk of clinical deterioration (Pascoal et al, 2014).

These systems provide a framework to access higher levels of care. Patients at risk of developing acute respiratory failure are an ideal group for these systems and their use should be encouraged. Any changes in physiological signs should be reported promptly to the senior practitioner (Andrade et al, 2012)

2.1.10.b Nursing diagnosis for acute respiratory infection

- Ineffective airway clearance as related to excessive mucus production secondary to retained secretion and inflammation

- Acute pain related to upper airway irritation secondary to an infection
- Difficulty in breathing related to narrowing of upper airways manifested by noisy respiration
- Impaired verbal communication related to narrowing and irritation of upper airway secondary to infection or swelling(Tacsi et al,2014)

2.1.10.c Nursing Care plan

Nursing care plan for acute respiratory infection

Planning is essential to establish the interventions that are appropriate for the patient's condition.

Improve airway patency.

Rest to conserve energy.

Maintenance of proper fluid volume.

Maintenance of adequate nutrition.

Understanding of treatment protocol and preventive measures.

Absence of complications.(Monteiro et al, 2007)

2.1.10.d Nursing intervention

These nursing interventions, if implemented appropriately, would result in the achievement of the goals of the management of ARI Adequate hydration of 2 to 3 liters per day thins and loosens pulmonary secretions. Humidification may loosen secretions and improve ventilation. Coughing exercises. An effective, directed cough can also improve airway patency.

Chest physiotherapy. Chest physiotherapy is important because it loosens and mobilizes secretions. To promote rest and conserve energy:

- Encourage avoidance of overexertion and possible exacerbation of symptoms.
- Semi-Fowler's position. The patient should assume a comfortable position to promote rest and breathing and should change positions

frequently to enhance secretion clearance and pulmonary ventilation and perfusion.

To promote fluid intake:

- Fluid intake. Increase in fluid intake to at least 2L per day to replace insensible fluid losses.

To maintain nutrition:

- Fluids with electrolytes. This may help provide fluid, calories, and electrolytes.

Nutrition-enriched beverages. Nutritionally enhanced drinks and shakes can also help restore proper nutrition.

To promote patient's knowledge:

Instruct patient and family about the cause of pneumonia, management of symptoms, signs, and symptoms, and the need for follow-up.

Instruct patient about the factors that may have contributed to the development of the disease.(Pascoal et al,2016)

2.1.10.e Nursing evaluation

Expected patient outcomes include the following:

Demonstrates improved airway patency.

Rests and conserves energy by limiting activities and remaining in bed while symptomatic and then slowly increasing activities.

Maintains adequate hydration.

Consumes adequate dietary intake.

States explanation for management strategies.

Complies with management strategies.

Exhibits no complications.

Complies with treatment protocol and prevention strategies. (Silva et al,2012)

2.1.11 Previous studies

Kumer et al, 2012 were conducted cross sectional study to evaluate the health seeking behavior of mothers, regarding ARI in under five children and to assess the knowledge, attitude and practices of mothers regarding ARI. This study involved a sample 1000 mothers were selected by convenience sampling and interviews were conducted. Study conducted from Nov 2008 to March 2009 at Civil Hospital Mithi of Tharparkar Desert. The result was that the duration of illness was less than 2 days in 3% and more than 2 days in 97% of children. 11% children are less than 1 year age, 31% between 1 year and 3 years age and 58% between the age of 3 to 5 years. 72% mothers had knowledge about ARI and could recognize it but 28% had no knowledge about ARI. 56% mothers took ARI as a serious disease while 44% did not. 76% mothers said that breast feeding should be continued during illness, while 24% said routine feeding should not be continued during ARI.(kumer et al,2012)

Jansen et al, 2020 were conducted case control study (retrospective techniques) to confirm that mothers' knowledge of breastfeeding and infant feeding types affect the prevalence of Acute Respiratory Infections (ARIs). This study involved a sample 100 mothers from 50 mothers with infants aged 7-12 months who had experienced ARIs in the last 3 months (case group) and 50 mothers with healthy infants (control group) living in Yogyakarta, Indonesia. The study was conducted in April-May 2017 . Data were collected from Maternal and Child Health Services in the area of 3 Community Health Centres (Mlati I, Godean I, and Gamping I) in Sleman Regency, Special Region of Yogyakarta, Indonesia. The results showed that types of infant feeding are associated with the prevalence of ARIs. Non-breastfed infants were 14 times riskier to contract ARIs. Mothers' knowledge of exclusive breastfeeding

influenced their preferences of feeding practice. However, their attitude towards breastfeeding did not appear to significantly affect their choices of feeding practice.(jansen et al,2020).

CHAPTER THREE

METHODOLOGY

Chapter Three**Methodology****3.1 Design**

This descriptive study used a cross-sectional design to assess mother knowledge regarding acute respiratory infection among children under 5 years.

3.2 Time and setting

The study is conducted in Iraq, Nineveh governate, Telafer city for period from 1 November 2021 to 15 April 2022

3.3 Ethical consideration

Ethical approval for conducting for study obtain from university of Telafer / college of nursing (approval litter number 1367 In date 10 November) and from Al sadder Primary health care center. (Appendix A)

3.4 Sampling

One hundred women attending in Al- sadder primary health care center is purposively and conveniently selected. Inclusion criteria are women have at least one child under 5 years. Exclusion criteria where women not having children or women with psychological disease

3.5 Data collection

Data is collected by using questioner and interview method each interview take about 10 minutes (Appendix B)

3.6 instrument

Constricted questioner used to collect data from participant. The questioner consists two parts and as follow:

Part I: Demographical characteristic of participant and included five questions about (age, number of children, marital status, residence, educational level)

Part II: This part is designed to measure the mother knowledge regarding ARI. The part is consisted of four domains (signs & symptoms, risk factor, treatment and prevention) Each domain involved five questions measured in multiple choice question format the score ranged between 0-1(0 for wrong answer and 1 for write answer) With higher score include higher level of knowledge.

3.7 Pilot study

Pilot study is conducted for the following purpose: -

1. Determine the validity of the instrument
2. Calculate the reliability of instrument
3. Estimate the time for each interview

3.7.1 Validity of Instrument

Validity of Instrument is ability of the questionnaire to measure what is intended to measure (Robson, 2011). The validity of instrument is obtained by presenting it to five experts in medical and nursing filled related to the study. The experts where one physician, two nursing specialist from university of Telafer/ college of nursing and two pediatric physicians from Nineveh health

department. According to the expert's opinion some items were removed and other are modified or added.(Appendix C)

3.7.2 Reliability of instrument

A test-retest reliability method is used to determine the stability of the instrument. Ten participants are interviewed two times with interval between the first test and second one was ten days. These participant where excluded from the study. The reliability of questionnaire was acceptable $r= 0.8$ (Appendix D)

3.8 Data Analysis

Data is analyzed by using Statistical Package for social Science (SPSS) for windows version 25

CHAPTER FOUR

Results
&
Discussion

Chapter Four

The Results of The Study

This chapter represents the result of the study.

Table 4.1 Demographical Characteristics of the Study Participants (n=100)

Characteristics	Items	F	%
Age	15-20	9	9.0
	21-25	22	22.0
	26-30	37	37.0
	31-35	21	21.0
	36-40	11	11.0
	Mean (SD)		28.65 (5.28)
Number of children	1-2	43	43.0
	3-4	43	43.0
	5-6	14	14.0
Marital status	Married	88	88.0
	Divorced	7	7.0
	Widowed	5	5.0
Educational background	Illiterate	13	13.0
	Read and write	11	11.0
	Elementary school	27	27.0
	Intermediate school	14	14.0
	High school	21	21.0
	Graduated	14	14.0
Residence	Urban	97	97.0
	Rural	3	3.0

F: Frequency; %: percentage

This table indicates that the mean age of participants is (28.65 ±5.28) years old. It's clear that the most of participants (37%) are in the age group of (26-30) years old. Concerning other demographical characteristics, the table shows that the most of participants are married (88%), completed their elementary school education (27%), living with in the urban area (97%) and having (1 to 4) children (86%).

Table: 4.2: The participant Level of knowledge Regarding acute respiratory

Domains	Level of Knowledge					
	Low		Moderate		High	
	F	%	F	%	F	%
Signs and symptoms	15	15.0	57	57.0	28	28.0
Risk factors	21	21.0	64	64.0	15	15.0
Prevention	35	35.0	50	50.0	15	15.0
Treatment	14	14.0	69	69.0	17	17.0

F: Frequency, %: percentage

Level of knowledge cut off points:

1. low (0-1)
2. moderate (2-3)
3. high (4-5)

infection.

This table shows the level of knowledge about acute respiratory infection among women in Telafer City. The table indicate that the low level of knowledge is signaled at (15%) of women in signs and symptoms domain, (21%) of women in risk factor domain, (35%) of women in prevention domain and (14%) of women in treatment domain.

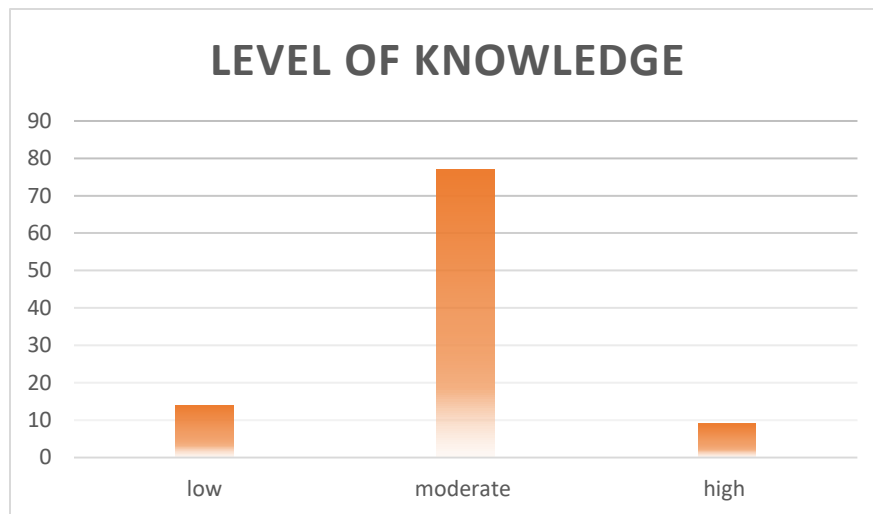


Figure 4.1: Woman's Knowledge Regarding Acute Respiratory Infection in Telafer City

This figure illustrates that women knowledge regarding ARI is moderate among (77%) of participants. it's clear that more than (10%) of participant having low level of knowledge. Finally, the figure demonstrates that (9%) of participant are posses high level of knowledge concerning ARI.

Characteristics	ARI Knowledge <i>r</i>
Age	-.073
Number of children	-.104
Marital Status	-.092
Educational Background	.567**
Residence	.018

Correlation is significant at the 0.01 level (2-tailed).

Correlation is significant at the 0.05 level (2-tailed).

This table shows that there is a high significant correlation between participants knowledge regarding acute respiratory infection educational levels. These results imply that the level of knowledge about ARI is increased among those with higher educational levels.

CHAPTER FIVE

**Conclusion
&
Recommendation**

Chapter Five

Conclusion and recommendation

6.1 conclusion

This study concludes the following

1. The most of mother having child under 5 years old with ARI are in the age group of 26 to 30 years old.
2. Most mothers having elementary school certificate.
3. Mothers' knowledge about ARI is moderate among 77% of participate.
4. There is a positive strong correlation between mothers' knowledge and their education level.

2.6 Recommendations

The study recommends the followings

1. Conduct additional study regarding ARI in Telafer city.
2. Constrict an educational program to improve mother knowledge regarding ARI in Telafer city.

REFERENCES

References

Andrade, L. Z. C., Chaves, D. B. R., Silva, V. M. D., Beltrão, B. A., & Lopes, M. V. D. O. (2012). Respiratory nursing diagnoses for children with acute respiratory infection. *Acta Paulista de Enfermagem*, 25, 713-720.

Bezerra, P. G., Britto, M. C., Correia, J. B., Duarte, M. D. C. M., Fonceca, A. M., Rose, K., ... & McNamara, P. S. (2011). Viral and atypical bacterial detection in acute respiratory infection in children under five years. *PloS one*, 6(4), e18928.

Burkhardt, O., Ewig, S., Haagen, U., Giersdorf, S., Hartmann, O., Wegscheider, K., ... & Welte, T. (2010). Procalcitonin guidance and reduction of antibiotic use in acute respiratory tract infection. *European Respiratory Journal*, 36(3), 601-607.

Chalabi DA. Acute respiratory infection and malnutrition among children below 5 years of age in Erbil governorate, Iraq. *East Mediterr Health J*. 2013 Jan;19(1):66-70. PMID: 23520908.

Chen, Y., Williams, E., & Kirk, M. (2014). Risk factors for acute respiratory infection in the Australian community. *PloS one*, 9(7), e101440.

Cox M, Rose L, Kalua K, de Wildt G, Bailey R, Hart J. The Prevalence and Risk Factors for Acute Respiratory Infections in Children Aged 0-59 Months in Rural Malawi: A cross-sectional study. *Influenza Other Respiratory Viruses*. Published by John Wiley&Sons Ltd. 2017;11(6):489–496. Available from: wileyonlinelibrary.com/journal/irv

Doracaj D, Grabocka E, Hallkaj E O-195 Mothers' Knowledge And Practice On Management Of Childhood Acute Respiratory Infections In Albania Archives of Disease in Childhood 2014;99:A98.

Durbin RK, Kotenko SV, Durbin JE (2013) Interferon induction and function at the mucosal surface. Immunol Rev 255(1):25–39

Edwards KM, Zhu Y, Griffin MR, et al. Burden of human metapneumovirus infection in young Children. N Engl J Med. 2013; 368(7):633–643. [PubMed: 23406028]

Emukule GO, Khagayi S, McMorro ML, Ochola R, Otieno N, Widdowson MA, et al. The burden of influenza and RSV among inpatients and outpatients in rural western Kenya, 2009–2012. PLoS One. 2014;9:e105543. <http://dx.doi.org/10.1371/journal.pone.0105543>

Harerimana J-M, Nyirazinyoye L, Thomson DR, Ntaganira J. Social, economic And environmental risk factors for acute lower respiratory infections among Children under five years of age in Rwanda. Arch Public Health. 2016;74(1):19.

Jansen S, Wasityastuti W, Astarini FD, Hartini S. Mothers' knowledge of breastfeeding and infant feeding types affect acute respiratory infections. J Prev Med Hyg. 2020 Oct 6;61(3):E401-E408. Doi: 10.15167/2421-4248/jpmh2020.61.3.1499. PMID: 33150229; PMCID: PMC7595061

Jolliffe, D. A., Griffiths, C. J., & Martineau, A. R. (2013). Vitamin D in the prevention of acute respiratory infection: systematic review of clinical studies. *The Journal of steroid biochemistry and molecular biology*, 136, 321-329.

Kumar, R., Hashmi, A., Soomro, L. A., & Ghouri, A. (2012). Knowledge, Attitude and Practice about Acute Respiratory Infection among the mothers of under five children attending civil hospital, Mithi, Tharparkar Desert. *Primary Health Care*, 2(108), 2167-1079.

Loens K, Beck T, Ursi D, Pattyn S, Goossens H, Ieven M (2006) Two quality control exercises involving nucleic acid amplification methods for detection of *Mycoplasma pneumoniae* and *Chlamydia pneumoniae* and carried out 2 years apart (in 2002 and 2004). *J Clin Microbiol* 44:899–908

Lopez-Alarcon, M., Villalpando, S., & Fajardo, A. (1997). Breast-feeding lowers the frequency and duration of acute respiratory infection and diarrhea in infants under six months of age. *The Journal of nutrition*, 127(3), 436-443.

Lozano R. IHME: global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2012: a systematic analysis for the global burden of disease study 2012. *Lancet*. 2012;380:2095–128

Monteiro FP, da Silva VM, Lopes MV, de Araújo TL. Nursing conducts for the care of children with respiratory infection: validation of a guideline. *Acta Paul Enferm*. 2007; 20(4):458-63.

Pandey, M. R., Boleij, J. S., Smith, K. R., & Wafula, E. M. (1989). Indoor air pollution in developing countries and acute respiratory infection in children. *Lancet (London, England)*, 1(8635), 427-429.

Pascoal, L. M., de Oliveira Lopes, M. V., da Silva, V. M., Chaves, D. B. R., Beltrão, B. A., Nunes, M. M., & de Moura, K. K. M. (2016). Clinical differentiation of respiratory nursing diagnoses among children with acute respiratory infection. *Journal of Pediatric Nursing*, 31(1), 85-91.

Pascoal, L. M., Lopes, M. V. D. O., da Silva, V. M., Beltrão, B. A., Chaves, D. B. R., de Santiago, J. M. V., & Herdman, T. H. (2014). Ineffective breathing pattern: defining characteristics in children with acute respiratory infection. *International journal of nursing knowledge*, 25(1), 54-61.

Pettigrew MM, Gent JF, Pyles RB, Miller AL, Nokso-Koivisto J, Chonmaitree T. Viral-bacterial interactions and risk of acute otitis media complicating upper respiratory tract infection. *Journal of clinical microbiology*. 2011 Nov; 49(11):3750–5. [PubMed: 21900518]

Pierangeli, A., Gentile, M., Di Marco, P., Pagnotti, P., Scagnolari, C., Trombetti, S., ... & Antonelli, G. (2007). Detection and typing by molecular techniques of respiratory viruses in children hospitalized for acute respiratory infection in Rome, Italy. *Journal of medical virology*, 79(4), 463-468.

Pore, P. D., Ghattargi, C. H., & Rayate, M. V. (2010). Study of risk factors of Acute Respiratory Infection (ARI) in underfives in Solapur. *Nat J Com Med*, 1(2), 64-7.

Robson, C. (2011). *Real World Research: A Resource for Users of Social Research Methods in Applied Settings*, (2nd Ed.). Sussex, A. John Wiley and Sons Ltd.

Seto, W. H., Conly, J. M., Pessoa-Silva, C. L., Malik, M., & Eremin, S. (2013). Infection prevention and control measures for acute respiratory infections in healthcare settings: an update. *EMHJ-Eastern Mediterranean Health Journal*, 19 (supp. 1), S39-S47, 2013.

Shaikh BT, Wasim S, Yasin H, Khalid S, Sabih Masood MM. Maternal Knowledge Of W.H.O Guidelines For Treatment Of Acute Respiratory

- Infections In Children Under Five In Pakistan. J Ayub Med Coll Abbottabad. 2019 Oct-Dec;31(4):530-535. PMID: 31933305.
- Shi, T., Denouel, A., Tietjen, A. K., Campbell, I., Moran, E., Li, X., ... & Nair, H. (2020). Global disease burden estimates of respiratory syncytial virus-associated acute respiratory infection in older adults in 2015: a systematic review and meta-analysis. *The Journal of infectious diseases*, 222(Supplement_7), S577-S583.
- Silva, M. D. B., de Paiva, M. B., da Silva, L. R., & de Luca Nascimento, M. A. (2012). Acute respiratory disease in the child: an integrative review/Doença respiratoria aguda na crianca: uma revisao integrative/Enfermedad respiratoria aguda en el nino: una revision integradora. *Enfermagem Uerj*, 20(2), 260-267.
- Simiyu, Edwin & Wafula, Emily & Nduati, Ruth. (2003). Mothers' knowledge, attitudes and practices regarding acute respiratory infections in children in Baringo District, Kenya. *East African medical journal*. 80. 303-7. 10.4314/eamj.v80i6.8706.
- Simoës, E. A., Cherian, T., Chow, J., Shahid-Salles, S. A., Laxminarayan, R., & John, T. J. (2006). *Acute respiratory infections in children. Disease Control Priorities in Developing Countries*. 2nd edition.
- Tacsi YR, Vendruscolo DM. [Nursing assistance in pediatric emergency services]. *Rev Latinoam Enferm*. 2014; 12(3):477-84.
- Troko, J., Myles, P., Gibson, J., Hashim, A., Enstone, J., Kingdon, S., ... & Van-Tam, J. N. (2011). Is public transport a risk factor for acute respiratory infection?. *BMC infectious diseases*, 11(1), 1-6.

Williams BG, Gouws E, Boschi-Pinto C, Bryce J, Dye C. Estimates of world-wide distribution of child deaths from acute respiratory infections. *Lancet Infect Dis.* 2018;2(1):25–32

Fathmawati F, Rauf S, Indraswari BW. Factors related with the incidence of acute respiratory infections in toddlers in Sleman, Yogyakarta, Indonesia: Evidence from the Sleman Health and Demographic Surveillance System. *PLoS One.* 2021 Sep 24;16(9):e0257881. doi: 10.1371/journal.pone.0257881. PMID: 34559864; PMCID: PMC8462707.

APPENDICES

APPENDIX-A-

Republic of Iraq Ministry of Higher Education and Scientific Research University of Telafer No: Date:	بسم الله الرحمن الرحيم  University of Telafer	جمهورية العراق وزارة التعليم العالي والبحث العلمي جامعة تلعفر كلية التمريض التسجيل (الدراسة الصباحية) العدد: ك ت / ١٣٦٧ التاريخ: ٢٠٢١ / ١١ / ١٠
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الى // مركز الصدر للرعاية الصحية الاولى


م / تسهيل مهمة

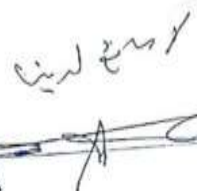
يرجى تسهيل مهمة الطلبة المدرجة اسمائهم ادناه بجمع العينات لمشروع البحث التخرج الموسوم (معارف الامهات حول التهاب التنفسي الحاد عند الاطفال في مدينة تلعفر) وبإشراف الدكتور محمد قاسم بكتاش.

اسماء الطلبة:

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٢. مصطفى علي خليل مصطفى
٣. احمد نوفل قاسم
٤. ليلي طاهر عبدالقادر عيو

مع التقدير...


الدكتور
محمد قاسم بكتاش
معاون العميد للشؤون الادارية
٢٠٢١/١١/١٠


فايزة صبيحة نبهسوي
مفتحة
مركز صحي الشهيد الصدر
للرعاية الصحية الاولى
العدد: ١٣٦٧

نسخة منه الى :-
الكاتب الصادرة.
التسجيل.

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APPENDIX-B-

استبانة حول

تقييم معارف الامهات حول التهاب الجهاز التنفسي الحاد في الاطفال في تلعفر

١- جزء ١: الخصائص الاجتماعية والديموغرافية للامهات

العمر:

عدد الأطفال:

الحالة الزوجية:

مطلقة:

ارملة:

متزوجة:

السكن:

ريف:

مدينة:

التحصيل الدراسي:

ابتدائية:

يقرأ و يكتب:

امي:

جامعة:

اعدادية:

متوسطة:

جزء ٢: تتضمن المعلومات المتعلقة بتقييم معارف الامهات حول التهاب الجهاز التنفسي الحاد في الاطفال في تلعفر.

ثانياً: هل تعتقد أن الإصابة بالتهاب التنفسي الحاد يتضمن ظهور العلامات و الاعراض التالية :

ت	العلامات و الاعراض	اوافق	لا اوافق	لا اعلم
١	السعال			
٢	الاسهال			
٣	الحمى			
٤	إحتقان الانف			
٥	صعوبة في الرضاعة			

ثالثاً : هل تعتقد أن عوامل الخطورة التالية من الممكن ان تؤدي للإصابة بالتهاب التنفسي الحاد هي :

ت	العوامل الخطورة	اوافق	لا اوافق	لا اعلم
١	البيوت المكتظة بالافراد			
٢	الاطفال الذين لديهم سوء تغذية			
٣	الاشخاص الملقحين			
٤	الاشخاص الذين يهتمون بنظافتهم الشخصية			
٥	ارتداء الملابس الصيفية في الشتاء			

رابعاً : هل تعتقد أن السلوكيات التالية من الممكن أن تقي الطفل من الإصابة بالالتهاب التنفسي الحاد :

ت	السلوكيات	اوافق	لا اوافق	لا اعلم
١	عدم الاختلاط مع الاطفال المصابين بالتهاب التنفسي الحاد			
٢	المحافظة على الطفل دافئاً			
٣	الاقتصار على الرضاعة الطبيعية			
٤	تناول المشروبات الغازية			
٥	زيادة تناول السوائل			

خامساً : هل تعتقد ان الإجراءات التالية تساعد في علاج التهاب التنفسي الحاد عند الاطفال :

ت	الاعراض	اوافق	لا اوافق	لا اعلم
١	اعطاء الطفل كميات كبيرة من السوائل			
٢	اخذ العلاجات في وقتها المناسب وحسب استشارات الطبيب			
٣	اعطاء الطفل كميات من الراحة البدنية			
٤	اعطاء الطفل الادوية المتوفرة في المنزل			
٥	السماح للطفل باللعب مع اشخاص مصابين بالتهابات او امراض انتقالية			

APPENDIX-C-

قائمة بأسماء الخبراء

ت	اسم الخبير	اللقب العلمي	الشهادة	محل العمل	سنوات الخبرة
١.	د. عبد العزيز احمد عزيز	أستاذ	دكتوراه في الطب وجراحة عامة	جامعة تلعفر	٣٠
٢.	د. احسان حسن زينل	استاذ	دكتوراه تمريض بالغين	كلية تمريض جامعة تلعفر	٢٠
٣.	د. علي اسماعيل سليمان	مدرس مساعد	ماجستير تمريض بالغين	كلية تمريض جامعة تلعفر	١٥
٤.	د. رضوان حسين ابراهيم	أستاذ	دكتوراه تمريض صحة مجتمع	كلية تمريض جامعة الموصل	٢٠
٥.	د. سعد حسين مراد	مدرس	دكتوراه تمريض بالغين	كلية تمريض جامعة الموصل	٢٠

Appendix-D-

Reliability test :

Sample	test	Re-test
1	72	75
2	73	74
3	75	76
4	79	75
5	77	72
6	80	77
7	75	75
8	74	73
9	76	77
10	75	74
r=0.8		

الخلاصة

تعد عدوى الجهاز التنفسي الحادة عند الأطفال دون سن الخامسة من المشاكل الصحية الرئيسية التي تؤثر بشكل مباشر على صحة الطفل التنفسية والجسدية. تنتشر التهابات الجهاز التنفسي الحادة بشكل كبير في جميع أنحاء العالم ، وقد تصل مضاعفات هذه الحالة إلى وفاة الطفل. تلعب معرفة الأمهات بالعدوى التنفسية الحادة دورًا مهمًا في الوقاية. تهدف الدراسة الحالية إلى تقييم معرفة الأمهات حول عدوى الجهاز التنفسي الحادة في مدينة تلغفر.

أجريت الدراسة باستخدام المنهج الوصفي المقطعي. تضمنت الدراسة مشاركة (١٠٠) من الامهات في مدينة تلغفر حضرن مركز الصدر للرعاية الصحية الأولية للفترة من ١٠ تشرين الثاني ٢٠٢١ إلى ١٥ نيسان ٢٠٢٢. تم اختيار المشاركين في الدراسة باستخدام نهج العينة العرضية وقد تم جمع المعلومات بيانات الدراسة من النساء المشاركات بواسطة استبانة خاصة اعدت لهذا الغرض.

أظهرت نتائج الدراسة أن غالبية المشاركين (٧٧٪) لديهم مستوى معتدل من المعرفة حول عدوى الجهاز التنفسي الحادة ، كما يشير التحليل الإحصائي لنتائج الدراسة إلى أن حوالي (١٠٪) من النساء المشاركات في الدراسة لديها معرفة ضعيفة. وأخيرًا أثبتت الدراسة وجود علاقة ارتباط موجبة عالية بين معرفة الأمهات بالعدوى التنفسية الحادة وتحصيلهن التعليمي.

توصي الدراسة الحالية بإجراء دراسات أخرى حول التهابات الجهاز التنفسي الحادة في مدينة تلغفر. وكما توصي الدراسة بضرورة إنشاء برنامج تثقيف صحي حول التهابات الجهاز التنفسي الحادة للنساء المقيمات في مدينة تلغفر.



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
وزارة التعليم العالي والبحث العلمي
جامعة تلعفر
كلية التمريض



معارف الامهات حول التهاب الجهاز التنفسي الحاد في الاطفال في مدينة تلعفر

مشروع تخرج تقدم به:

مصطفى علي خليل فوزي عبدالامير خلو
احمد نوفل قاسم ليلى طاهر عبدالقادر

الى مجلس كلية التمريض في جامعة تلعفر كجزء من متطلبات نيل شهادة
البكالوريوس في علوم التمريض

باشراف:

د.محمد قاسم بكتاش

مدرس

م٢٠٢٢

ه١٤٤٣



College of Nursing



University of Telafer

Nurses knowledge Towards Nursing Care for Patients with Diabetic Foot in Telafer General Hospital

A Graduation project submitted by

*Hiyam Abdul Qader Fakhruddin Marwah Salahuddin Ismael
Zahra Abdul Razzaq Wais*

To the Council of the College of Nursing / University of Telafer
in Partial Fulfillment of the Requirement for the Degree of
Bachelors of Sciences in Nursing

Supervised by
Ali Ismael Sulaiman
Assistant Lecturer

1442 A.H

2021 A.D

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿وَإِنْ يَمْسَسْكَ اللَّهُ بِضُرٍّ فَلَا كَاشِفَ لَهُ إِلَّا هُوَ

وَإِنْ يَمْسَسْكَ بِخَيْرٍ فَهُوَ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ

(١٧) وَهُوَ الْقَاهِرُ فَوْقَ عِبَادِهِ وَهُوَ الْحَكِيمُ

الْخَبِيرُ ﴿١٨﴾

صدق الله العظيم

سورة الانعام الآية (١٨-١٧)

أهداء

أني من بذلوا الغالي والنفيس من أجل أن تبقى شمس هذا
الوطن مشرقة دائماً.

أني من ضحوا بأرواحهم لكي يبقى هذا الوطن شامخاً
عزيباً مرفوع الأمامة مرفوعة رأيته في عنان السماء.

((أني شهدائنا من القوات الأمنية))

أني من تجرع كأس المصائب ليستقيني قطرة من الحب.
أني من حصدت الأشواك من دربي لتمهد لي طريق العلم.

أني من كنا شمعة تضيئ لي الدنيا من حولي

((أباي وأمي))

أني من هم شفاء الروح.

أني من كانوا نعم السند والملاذ الآمن في الشدائد.

أني من تمر السنين والأيام ولا يبدلهم الزمان.

((أصدقائي))

أهدي لهم جميعاً بحبي هذا...

شكر وتقدير

أول مشكور هو الله عز وجل الذي انعم علينا بنعمه الكثيرة ووفقنا لاتمام هذا المشروع.

جزيل الشكر والعرفان لوالدينا على كل مجهوداتهم منذ الولادة إلى هذه اللحظات.

يسرنا أن نوجه شكرنا إلى رئاسة جامعة تلغفر المتمثلة بالاستاذ الدكتور (عبدالعزیز أحمد عزیز) والشكر موصول إلى عمادة كلية التمريض المتمثلة بالدكتور (احسان حسن زينل) وإلى كل من نصحننا أو أرشدنا أو وجهنا أو ساهم معنا في إعداد هذا البحث في أي مرحلة من مراحلها وعلى وجه الخصوص استاذنا الفاضل (علي اسماعيل سليمان) على مساندتنا وإرشادنا بالنصح والتصحيح وعلى اختيار العنوان والموضوع. كما لانسى ان نتقدم بأرقى آيات الشكر إلى لجنة المناقشة الموقرة لدعمهم لنا وتصحيحهم لمسار هذا المشروع العلمي.

طلاب البحث

Abstract

The prevalence of diabetes mellitus is growing at epidemic proportions worldwide. Foot disorders are a major source of morbidity and a leading cause of hospitalization for persons with diabetes. Ulceration, infection, gangrene, and amputation are significant complications of the disease.

A descriptive cross-sectional study performed to identify the knowledge of nurses about nursing care provided to patients with diabetic foot, the sample of study was 50 nurses(34) males and(16) female in Telafer General Hospital for the period from 12/12/2020 to 1/4/2021, A special questionnaire tool was constructed by the researchers to collect data after it has been presented and judged by a group of experts, the questionnaire consists of two portions: Part (I): Demographic Characteristics of the Nurses (gender, age, education level, nurse duty, years of experience, work place and training session). And Part (II): Self-Administered Questionnaire Sheet Related to Nurses' Knowledge Regarding nursing care for Patients with diabetic foot which consisted of (10) questions.

The study showed that the greatest proportion of the age group among (30-39) by.43.1% and there is a relationship between nurses age and knowledge as well as poor nurses knowledge toward caring for patient with diabetic foot ulcers, the study recommends increase the number of qualified nursing staff in health sector and increase training courses for nursing staff regarding caring for patient with diabetic foot ulcers.

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List of Vocabularies

No.	List of Vocabularies	
1.	Diabetes Mellitus	داء السكري
2.	Complications	مضاعفات
3.	Foot ulceration	تقرح القدم
4.	Nursing Care	العناية التمريضية
5.	Infections	الأخماج
6.	Wound	الجرح
7.	Risk factors	عوامل الخطورة

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Diabetes mellitus represents a group of chronic diseases characterized by high levels of glucose in the blood resulting from defects in insulin production, insulin action, or both (Arad, et al., 2012).

Worldwide, the number of cases of diabetes has been estimated to be 171 million, and by 2025, this number is projected to reach 366 million (American Diabetes Association, 2010). As obesity represents an important risk factor for type 2 (non-insulin-dependent or adult-onset) diabetes, Behavioral Risk Factor Surveillance System data show a dramatic increase in prevalence of both obesity and diabetes in the United States (Brem & Tomic-Canic, 2013).

Patients with diabetes are at risk for developing serious health problems that may affect the eyes, kidneys, feet, skin, and heart (Guyatt, 2018).

Diabetic foot ulcers (DFUs), one of the most common complications of diabetes mellitus (Brunner & Suddarth, 2018). Often recalcitrant to treatment and are associated with serious medical complications such as osteomyelitis and lower limb amputation (Veves, et al., 2011). Diabetic foot ulcers are associated with decreased quality of life and having a history of (DFU) is an independent predictor of mortality in patients with diabetes (Pham, et al., 2015) Despite the use of standard management strategies, healing rates of (DFUs) remain low, and rapid and complete healing of DFUs remains a challenge. Comprehensive evidence-based guidelines have defined good wound care for DFUs; however, these recommendations are not uniformly put into practice. (Guyatt et al., 2017).

1.2 Importance of the study

Complications that occur for patients with diabetes mellitus can be life-threatening, so the patients who suffer from complications need long-term care and follow-up (Moderchai et al., 2012; Smeltzer et al., 2011). There is a gap between ideal care and the usual care for many health conditions, especially the poor compliance that causes the gap to be larger and it is considered a remedial problem in caring quality (Wahl et al., 2015). Providing information and assisting the patients with diabetic foot ulcers to make right health decisions and motivating the patient to learn about the health is considered a vital nursing role so, implementation of diabetic foot nursing care guidelines for patients may cause improve patient's outcomes by promoting patient compliance with medical treatment regimens and improving healthy lifestyles (Delamater et al., 2011).

1.3 Aim of the Study

Assessment Nursing knowledge about nursing care for Patients with diabetic foot in Telafer General Hospital.

1.4 Objectives of the Study

- 1- To Describe the demographical characteristics of the participant nurses in the study.
- 2- To identify the nurse's knowledge regarding diabetic foot Nursing care.
- 3- To identify the relationship between nurse's knowledge to diabetic foot with some variables like (Age, gender, educational level, experience).

1.5 Definition of Basic Terms

Nurse:

A. Theoretical Definition:

Is a someone who administer care to the ill people and woks in a hospital or at home (Oxford Advanced Learners Dictionary, 2010).

B. Operational Definition:

Nurses who working at Tal Afar General Hospital.

Knowledge:

A. Theoretical definition:

Is ability for acquiring, using of skills and information (Badran, 1995).

B. Operational definition:

Is information and skills acquired through experience or education.

Patient:

A. Theoretical definition:

Person who is receiving medical care or cared by a particular doctor or dentist when necessary (Oxford Advanced Learners Dictionary, 2010).

B. Operational definition:

Any person with diabetic foot ulcer in Telafer city.

Diabetic foot:

A. Theoretical definition:

Ulcers are formed as a result of skin tissue breaking down and exposing the layers underneath.

CHAPTER TWO

**REVIEW OF THE
LITERATURE**

Review of Literatures

2.1. Overview

2.1.1 Definition

Diabetes mellitus, commonly known as diabetes, is a metabolic disease that causes high blood sugar. The hormone insulin moves sugar from the blood into cells to be stored or used for energy. Untreated high blood sugar from diabetes can damage nerves, eyes, kidneys, and other organs (American Diabetes Association, 2010).

2.1.2 Types of Diabetes mellitus

There are a few different types of diabetes:

- Type 1 diabetes is an autoimmune disease. The immune system attacks and destroys cells in the pancreas, where insulin is made. It's unclear what causes this attack. About 10 percent of people with diabetes have this type.
- Type 2 diabetes occurs when body becomes resistant to insulin, and sugar builds up in blood.
- Gestational diabetes is high blood sugar during pregnancy. Insulin-blocking hormones produced by the placenta cause this type of diabetes (Ackley & Ladwig, 2013).

2.1.3 Symptoms of diabetes

Diabetes symptoms are caused by rising blood sugar.

General symptoms

The general symptoms of diabetes include:

- increased hunger
- increased thirst
- weight loss

- frequent urination
- blurry vision
- extreme fatigue
- sores that don't heal (American Diabetes Association, 2010).

2.1.4 Causes of diabetes

Type 1 diabetes

Doctors don't know exactly what causes type 1 diabetes. For some reason, the immune system mistakenly attacks and destroys insulin-producing beta cells in the pancreas. Genes may play a role in some people. It's also possible that a virus sets off the immune system attack.

Type 2 diabetes

Type 2 diabetes stems from a combination of genetics and lifestyle factors. Being overweight or obese increases risk too. Carrying extra weight, especially in belly, makes cells more resistant to the effects of insulin on blood sugar. This condition runs in families. Family members share genes that make them more likely to get type 2 diabetes and to be overweight.

Gestational diabetes

Gestational diabetes is the result of hormonal changes during pregnancy. The placenta produces hormones that make a pregnant woman's cells less sensitive to the effects of insulin. This can cause high blood sugar during pregnancy (Boulton et al., 2014; American Diabetes Association, 2012).

2.1.5 Diabetes risk factors

Type 1 diabetes

More likely to get type 1 diabetes a child or teenager, have a parent or sibling with the condition, or carry certain genes that are linked to the disease.

Type 2 diabetes

Risk for type 2 diabetes increases:

- are overweight
- are age 45 or older
- have a parent or sibling with the condition
- aren't physically active
- have had gestational diabetes
- have prediabetes
- have high blood pressure, high cholesterol, or high triglycerides

Gestational diabetes

Risk for gestational diabetes increases:

- are overweight
- are over age 25
- had gestational diabetes during a past pregnancy
- have given birth to a baby weighing more than 9 pounds
- have a family history of type 2 diabetes
- have polycystic ovary syndrome (PCOS)

(Boulton et al., 2014; American Diabetes Association, 2012).

2.1.6 Diabetes complications

High blood sugar damages organs and tissues throughout body. The higher blood sugar is and the longer live with it, the greater risk for complications.

Complications associated with diabetes include:

- heart disease, heart attack, and stroke
- neuropathy
- nephropathy
- retinopathy and vision loss
- foot damage such as ulcerations and infections that don't heal
- skin conditions such as bacterial and fungal infections

(American Diabetes Association, 2012).

2.1.7 Diabetic foot ulcers

Foot disorders are a main source of morbidity and a leading cause of stay in hospital for diabetes mellitus patients (Ackley & Ladwig, 2013). Foot ulceration, infection, gangrene, and limb amputations are considered the late complications of the diabetes mellitus (Al-Jubouri, 2014).

Another serious complication of long-standing diabetes, neuropathic osteoarthropathy can lead to the development of other limb-threatening disorders (Veves et al., 2011). Costs of management are estimated at several billion dollars annually (Aiken et al., 2011).

Although the underlying pathophysiology of diabetic foot complications has been elucidated to a great extent, much research is yet needed to determine which of our treatments are most effective (Celeste, 2011). Furthermore, we must determine how to more effectively prevent those ulcerations which are now known to be leading precursors to lower extremity amputation in patients with diabetes (Arad et al., 2012).

2.1.8 Risk for foot ulceration

Risk factors for foot ulceration are as follows.

- History of previous foot ulceration or amputation.
- Peripheral vascular disease.
- Trauma (poor footwear, walking barefoot, objects inside the shoes).
- Foot deformities (prominent metatarsal heads, claw toe, hammer toe, nail deformities, deformities related to previous trauma and surgery, bony prominences).
- Callus formation.
- Neuro-osteoarthropathy.
- Limited joint mobility.

- Long duration of diabetes.
- Poor diabetes control (Boulton et al., 2014; American Diabetes Association, 2012).

2.1.9 Guiding principles in the care of patients with diabetic foot ulcers

1. Diabetic foot ulcers are complex wounds, best treated with a team approach.
2. Nurses and their interdisciplinary colleagues require knowledge and collaboration to provide care.
3. Successful management of foot ulcers can significantly improve quality of life for patients with diabetes, their family and caregivers.
4. Patients are empowered through education and involvement in the planning and implementation of their care.
5. The V. I. P. principle (Vascular supply, Infection, and Pressure redistribution) guides the assessment and management of diabetic foot ulcers.
6. Nurses and their interdisciplinary colleagues demonstrate integration of the best evidence for practice and expertise in local wound care.
7. Patients with diabetes who are aware of their risk category and management strategies can reduce ulcer re-occurrence. So, nurses and their interdisciplinary colleagues have a role in educating their patients about reducing ulcer recurrence and further foot complications.
8. Ulcer healing of patients with diabetes, improvement of quality of life and reduction in amputation rate requires the successful implementation of a comprehensive foot ulcer program.
9. The development and implementation of a successful diabetic foot ulcer program involves collaboration with practice leaders, educators and administrators.

10. Diabetic foot ulcer program outcomes should be evaluated and benchmarked for continuous quality improvement. (Brunner & Suddarth, 2018).

2.1.10. Patient education

Patients with diabetes and high-risk foot conditions should be educated regarding their risk factors and appropriate management (Baumann et al., 2018) A non-judgmental assessment of a person's current knowledge and care practices should be obtained first (Ackley & Ladwig, 2013). Patients at risk should understand the implications of the loss of protective sensation, the importance of foot monitoring on a daily basis, the proper care of the foot, including nail and skin care, and the selection of appropriate footwear (Aiken et al., 2011).

The patient's understanding of these issues and their physical ability to conduct proper foot surveillance and care should be assessed (Ackley & Ladwig, 2013). Patients with neuropathy should be advised to break in new shoes gradually to minimize the formation of blisters and ulcers (Brunner & Suddarth, 2018).

Patients with visual difficulties, physical constraints preventing movement, or cognitive problems that impair their ability to assess the condition of the foot and to institute appropriate responses will need other people, such as family members, to assist in their care (Boulton et al., 2014).

2.1.11. Self-care home

Foot examination: Examine the feet daily and also after any trauma, no matter how minor, to feet and report any abnormalities to physician (Brunner & Suddarth, 2018). Use a water-based moisturizer every day (but

not between the toes) to prevent dry skin and cracking, wear cotton or wool socks, and avoid elastic socks and hosiery because they may impair circulation (Celeste, 2011).

Eliminate obstacles: Move or remove any items you are likely to trip over or bump your feet on. Keep clutter on the floor picked up. Light the pathways used at night - indoors and outdoors (Al-Jubouri, 2014).

Toenail trimming: Always cut your nails with a safety clipper, never a scissors. Cut them straight across and leave plenty of room out from the nailed or quick. If the patient has difficulty with vision or using hands, let nurse do it or train a family member how to do it safely (Abdulkadir & Reja, 2013)

Footwear: Wear sturdy, comfortable shoes whenever feasible to protect your feet. To be sure the shoes fit properly, see a podiatrist (foot doctor) for fitting recommendations or shop at shoe stores specializing in fitting people with diabetes. The endocrinologist (diabetes specialist) can provide with a referral to a podiatrist or orthopedist who may also be an excellent resource for finding local shoe stores (Boulton et al., 2014).

Exercise: Regular exercise will improve bone and joint health in feet and legs, improve circulation legs, and will also help to stabilize blood sugar levels. Consult the physician prior to beginning any exercise program (American Diabetes Association, 2010).

Smoking: In case of smoking any form of tobacco, quitting can be one of the best things can do to prevent problems with feet. Smoking accelerates damage to blood vessels, especially small blood vessels leading

to poor circulation, which is a major risk factor for foot infections and ultimately amputations (Ackley & Ladwig, 2013).

Diabetes control: Following a reasonable diet, taking medications, checking blood sugar regularly, exercising regularly, and maintaining good communication with physician are essential in keeping diabetes under control. Consistent long-term blood sugar control to near normal levels can greatly lower the risk of damage to nerves, kidneys, eyes, and blood vessels (Brunner & Suddarth, 2018).

2.2. Previous Studies

Hashem (2008) studied effectiveness of designed nursing guidelines on minimizing diabetic foot ulceration. This study was performed in the surgical department and out-patient surgery clinics at Hospital of Assiut University. A convenient sample of 60 patients of both sexes, and were divided into two groups (study and control) thirty clients for each. The researchers find out that there was statistically variance between control and the study groups regarding knowledge and practice scores, wound healing. So, they concluded that implementation of the designed nursing guidelines in the management of patients with foot ulceration had improved patients' outcomes and significantly increased level of knowledge and practice scores.

CHAPTER THREE

METHODOLOGY

Methodology

3.1. Design of the Study

A descriptive cross-sectional study was performed in Telafer General Hospital for period 12th of December 2020 to 1st April 2021.

3.2. Setting of the Study

The target population for this study were nurses who work in (surgical wards, intensive care unit, surgery room) in Telafer General Hospital.

3.3. Sample of the Study

A sampling frame consisted of (50) nurses. A probability random sampling method was selected for present study.

3.4. The Study Tools

To ultimate study goal an electronic questionnaire was used to meet the purpose of data collection of study project that regarding nursing care for Patients with diabetic foot. The electronic questionnaire consists of two portions:

Part (I): Self-Administered Questionnaire Sheet Related to Demographic Characteristics of the Nurses. (gender, age, education level, nurse duty, and years of experience, work place and training session in nursing care for Patients with diabetic foot).

Part (II): Self-Administered Questionnaire Sheet Related to Nurses' Knowledge Regarding nursing care for Patients with diabetic foot. This portion was adopted to assess knowledge level of nurses regarding nursing care for Patients with diabetic foot. It consisted of (10) questions (Appendix A).

3.5. Validity of the Instruments

To determine validation of instrument tool related to research project the questionnaire instrument tool and entire program was introduce to (8) experts in different fields (Appendix B).

3.6. Collection and analysis of data

The data was collected from the nurses in Telafer General by the electronic questionnaire through the social media for the period form 25th December 2020 to 1st January 2021. Then data analyzed by using of Statistical Package for Social Science SPSS (version 25).

CHAPTER FOUR

Results

Table (1): The Demographic Characteristics of the Nurses Sample in the Study

Demographic Characteristics		Freq	%
Gender	Male	34	66.7
	Female	16	31.4
Age	20-29	16	31.4
	30-39	22	43.1
	40-49	11	21.6
	50-More	1	2.0
Educational Level	Secondary Institution	12	23.5
	College	20	39.2
		18	35.3
Duty	Morning	27	52.9
	Evening	23	45.1
Service	Less Than 5 Years	9	17.6
	5-10	29	56.9
	11-15	9	17.6
	More Than 15 Years	3	5.9
Place	General Surgical Ward	34	66.7
	Intensive Care Unit	13	25.5
	Surgical Room	3	5.9
Course	Yes	25	49.0
	No	25	49.0

F=frequency, %=percentage.

Table (1) presents the demographic characteristics of the Nurses' sample in the study, the table shows that 66.7% (34) of the sample as male gender, majority 43.1% (22) of the total sample at age (30-39), concerning of level of education 39.2% (20) of the sample have college certification, on the other hand the majority 56.9% (29) of the sample having (5-10) years servant in the hospitals, finally 66.7% (34) of sample working in general surgical ward.

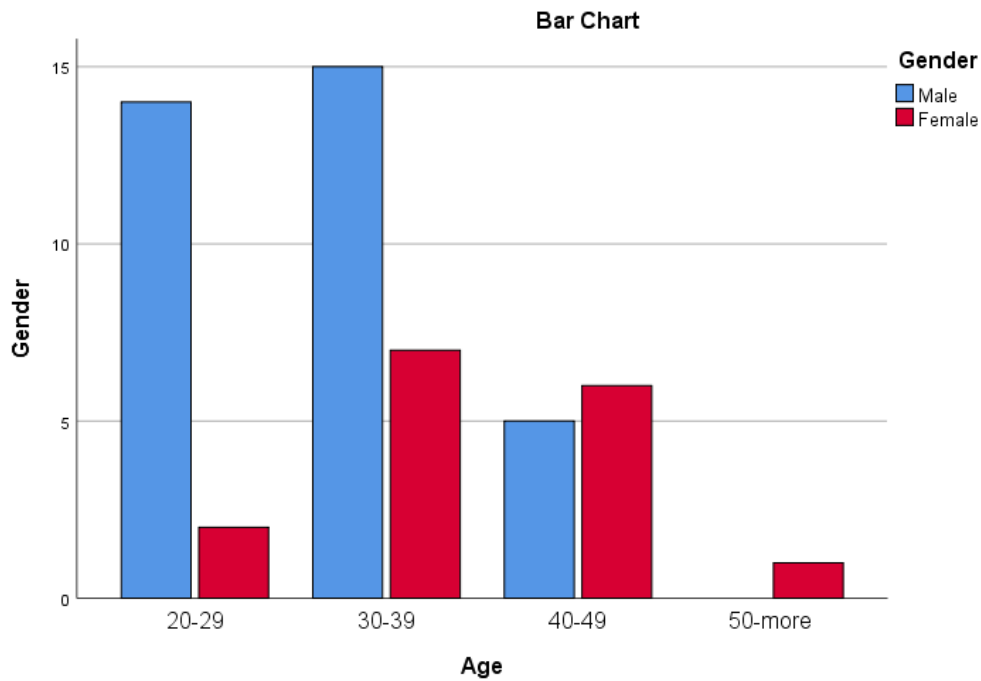


Figure (1): The Nurses Gender Results regarding Nursing Care for Diabetic Foot According to Age Sample Study Stage

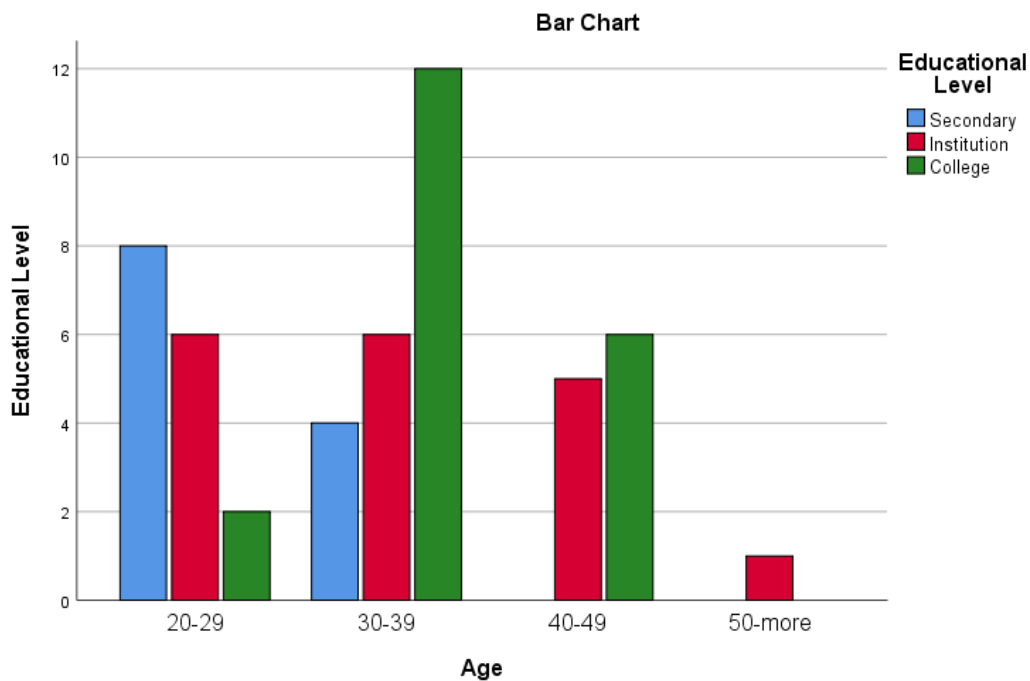


Figure (2): The Nurses Gender Results regarding Nursing Care for Diabetic Foot According to Educational level

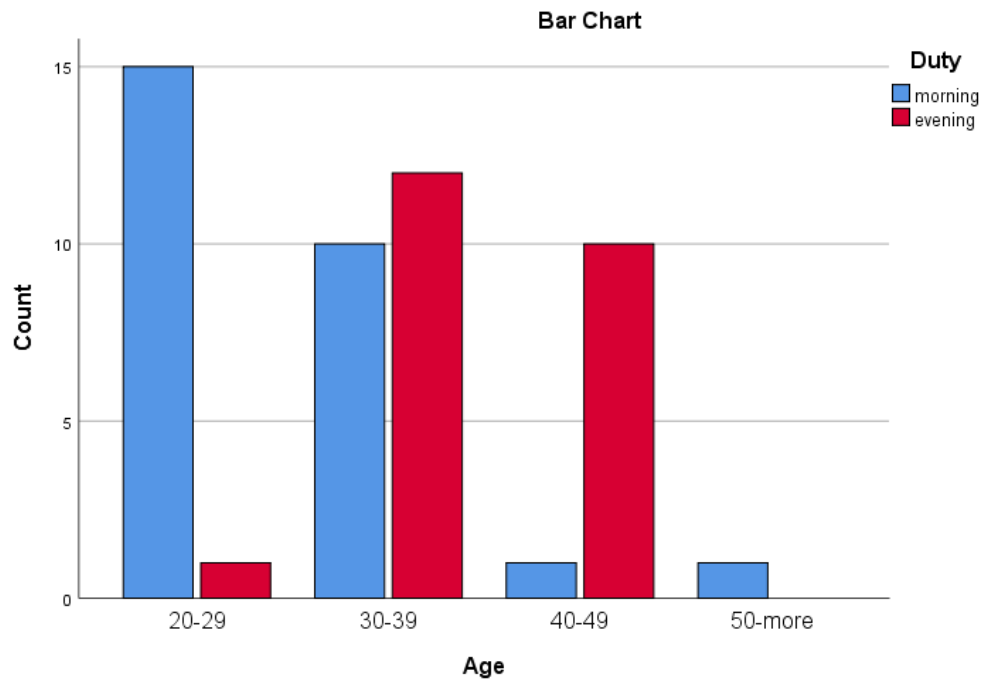


Figure (3): The Nurses Gender Results regarding Nursing Care for Diabetic Foot According to Duty

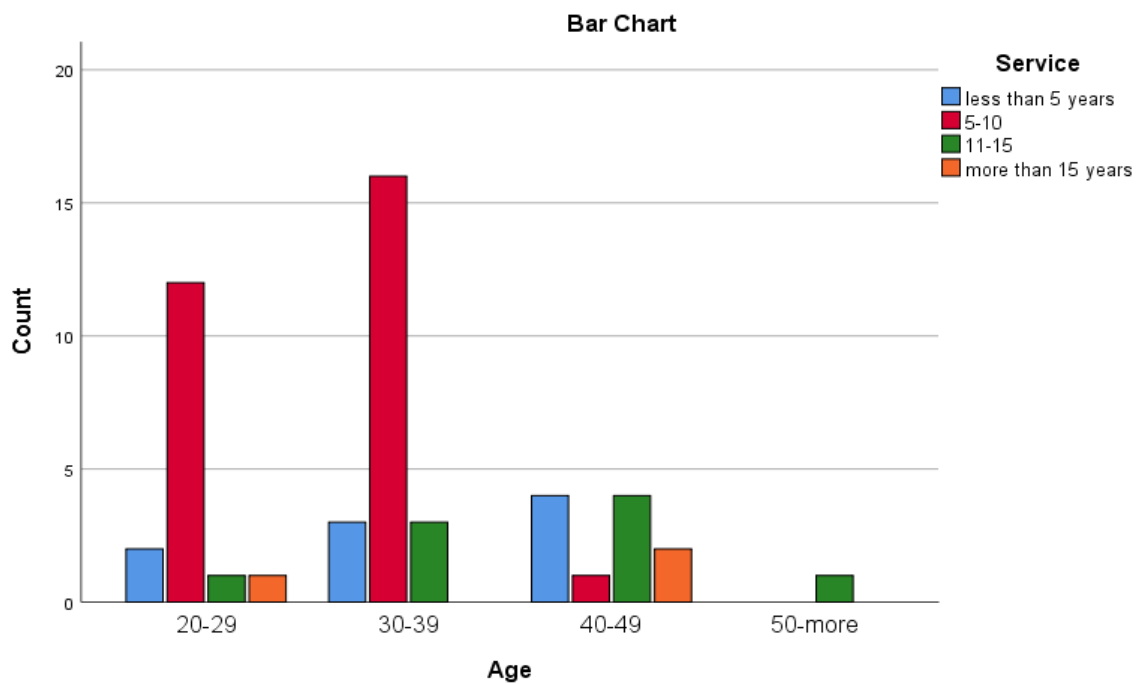


Figure (4): The Nurses Gender Results regarding Nursing Care for Diabetic Foot According to Service

Table (2): Statistical Differences Result for Nurses' answers regarding Nursing Care for Diabetic Foot

Domains	Answers	Freq.	%	Mean	Std. D.
Performing hand hygiene and wearing gloves before caring for clients	Yes	17	34.0	1.64	0.776
	No	33	66.0		
Donning special gowns and using aseptic technique when changing dressing.	Yes	28	56.0	1.42	0.499
	No	22	44.0		
Checking the vital signs regularly before and after of dressing	Yes	21	42.0	2.04	0.832
	No	29	58.0		
Check the sugar level after dressing	Yes	9	18.0	1.30	0.463
	No	41	82.0		
Assess pain level to avoid shock	Yes	7	14.0	1.32	0.653
	No	43	86.0		
Providing healthy and safely environment	Yes	18	36.0	1.52	0.505
	No	32	64.0		
Assist the client for healthy nutrition	Yes	28	56.0	1.42	0.499
	No	22	44.0		
Using special preparation like honey during dressing	Yes	9	18.0	1.30	0.463
	No	41	82.0		
Assess the patient weight	Yes	17	34.0	1.64	0.776
	No	33	66.0		
Giving the client advices and programs to diabetic foot	Yes	21	42.0	2.04	0.832
	No	29	58.0		

Freq= Frequency %= Percentage Mean = Mean Std.D = standard deviation

The table (2) present the statistical differences answers for students' knowledge regarding nursing care for diabetic foot that show the majority of the nurse have inadequate knowledge toward caring for patient with diabetic foot ulcers.

Table (3): Statistical Correlation of Demographic Characteristics Results and Nurses' Knowledge Level regarding Nursing Care for Diabetic Foot

Domains	Gender		Age		Educational Level	
	r	Sign	r	Sign	r	Sign
Performing hand hygiene and wearing gloves before caring for clients	0.349	NS	0.970	NS	0.782	NS
Donning special gowns and using aseptic technique when changing dressing.	0.099	NS	0.179	NS	0.628	NS
Checking the vital signs regularly before and after of dressing	0.035	S	0.020	S	0.316	NS
Check the sugar level after dressing	0.608	NS	0.777	NS	0.347	NS
Assess pain level to avoid shock	0.166	NS	0.844	NS	0.446	NS
Providing healthy and safely environment	0.009	S	0.006	S	0.000	S
Assist the client for healthy nutrition	0.633	NS	0.833	NS	0.509	NS
Using special preparation like honey during dressing	0.651	NS	0.683	NS	0.768	NS
Assess the patient weight	0.001	S	0.000	S	0.000	S
Giving the client advices and programs to diabetic foot	0.625	NS	0.851	NS	0.477	NS

Correlation is significant at the 0.05 level, NS= Non-significant, S= Significant

The table (3) Presents the statistical correlation of demographic characteristics results and nurses' knowledge level regarding nursing care for diabetic foot. That non-statistical correlation between the Q1, Q2, Q4, Q5, Q7, Q8, and Q10 with all parts of demographic characteristics, but there are found statistical correlation between of Q6, and Q9 with all parts of demographic characteristics, also there are found statistical correlation between of Q3 with gender and age only of demographic characteristics.

Table (4): Statistical Correlation of Demographic Job Characteristics Results and Nurses' Knowledge Level regarding Nursing Care for Diabetic Foot

Domains	Duty		Service		Place		Course	
	r	Sign	r	Sign	r	Sign	r	Sign
Performing hand hygiene and wearing gloves before caring for clients	0.756	NS	0.194	NS	0.025	S	0.294	NS
Donning special gowns and using aseptic technique when changing dressing.	0.350	NS	0.004	S	0.646	NS	0.000	S
Checking the vital signs regularly before and after of dressing	0.047	S	0.385	NS	0.511	NS	0.365	NS
Check the sugar level after dressing	0.784	NS	0.271	NS	0.491	NS	0.008	S
Assess pain level to avoid shock	0.096	NS	0.074	NS	0.382	NS	0.580	NS
Providing healthy and safely environment	0.001	S	0.001	S	0.043	S	0.416	NS
Assist the client for healthy nutrition	0.645	NS	0.000	S	0.800	NS	0.000	S
Using special preparation like honey during dressing	0.794	NS	0.001	S	0.853	NS	0.000	S
Assess the patient weight	0.001	S	0.662	NS	0.031	S	0.305	NS
Giving the client advices and programs to diabetic foot	0.717	NS	0.000	S	0.946	NS	0.000	S

Correlation is significant at the 0.05 level, NS= Non-significant, S= Significant

The table (4) shows the statistical correlation of demographic job characteristics results and nurses' knowledge level regarding nursing care for diabetic foot. There are non-statistical correlations between duty with the Q1, Q2, Q4, Q5, Q7, Q8, and Q10 only. But there are statistical correlations between Service with the Q2, Q6, Q7, Q8, and Q10 only. Also there are statistical correlations between Place with the Q1, Q6, and Q9 only. Finally there are statistical correlations between Course with the Q2, Q4, Q7, Q8, and Q10 only.

CHAPTER FIVE

Discussion

Discussion

5.1. Discussion of Demographic Characteristics for the sample

Table (1) presents the demographic characteristics of the Nurses' sample in the study, that 66.7% (34) of the sample as male gender, 43.1% (22) of the total sample at age (30-39), 39.2% (20) of the sample graduated from college at Level of Education stage, 56.9% (29) of the sample having (5-10) years for general service, 66.7% (34) of sample working in general surgical ward.

These results were in agreed with results of a study which performed via (Osoky et al., 2009) which confirmed that the mean age of the nurses was 31.53 and about three quarters were female and supported by (Hend et al., 2012) which reported that (87.4%) were females. This age set which is considered as young adult, so the nurses in this age group can provide nursing care efficiently and correctly.

5.2 Discussion of Statistical Differences Result for Nurses' answers regarding Nursing Care for Diabetic Foot

The table (2) shows the statistical differences result for nurses' knowledge regarding nursing care for diabetic foot that most of the were answers unacceptable. Table reveals that the plurality of nurses has unsatisfactory level of knowledge about nursing care for patients with diabetic foot ulceration. This may be attributed to their absence of courses toward management of diabetic foot ulcerations in hospitals as well as it is not included in their undergraduate curriculum of nursing education. This leads to a conclusion that the nursing staff who work in medical surgical should be provided with a continuing training and educational programs to help

them in improving their knowledge and performances to meet the new demands of nursing care based on the technological advancement.

Lim et al., (2012) in Korea, found that the group of students from nursing college at the teaching hospital of University of Maiduguri who had engaged and received education on the standard diabetic foot management practice showed that there are significant high students knowledge ($p=0.036$) at ($P.value<0.001$) levels than the other group who are not engaged similar program.

5.3 Discussion of Statistical Correlation of Demographic Characteristics Results and Nurses' Knowledge Level regarding Nursing Care for Diabetic Foot

The table (3) Presents the statistical correlation of demographic characteristics results and nurses' knowledge level regarding nursing care for diabetic foot. That non-statistical correlation between the Q1, Q2, Q4, Q5, Q7, Q8, and Q10 with all parts of demographic characteristics, but there are found statistical correlation between of Q6, and Q9 with all parts of demographic characteristics, also there are found statistical correlation between of Q3 with gender and age only of demographic characteristics, which may be explained by the fact that younger nurses were comes with inexperience, inadequate knowledge and misconceptions regarding diabetic foot management. This result agrees with (**Al-Augoidy, 2001**), who stated that general and theoretical information increase as the age advance. This result disagrees with (**Mohamed and Wafa, 2011**) who proved that there was significant correlation between post-test scores and the level of education of nurses, and also disagreed with (**Ghahramani et al., 2006**) showed that there was a significant relationship between knowledge of hepatitis and educational level.

5.4 Discussion of Statistical Correlation of Demographic Job Characteristics Results and Nurses' Knowledge Level regarding Nursing Care for Diabetic Foot

The table (4) shows the statistical correlation of demographic job characteristics results and nurses' knowledge level regarding nursing care for diabetic foot. There are non-statistical correlations between duty with the Q1, Q2, Q4, Q5, Q7, Q8, and Q10 only. But there are statistical correlations between Service with the Q2, Q6, Q7, Q8, and Q10 only. Also there are statistical correlations between Place with the Q1, Q6, and Q9 only. Finally there are statistical correlations between Course with the Q2, Q4, Q7, Q8, and Q10 only. This result agrees with **(Al-Jubouri, 2014)** who showed that concerning years of employment of nurse in the hospital, there is no relation at $P > 0.05$ between nurse's years of employment and their knowledge. This result also agrees with **(El-Desouqi, 2004)** who showed that the main causes of nurses' poor performance were shortage of resources, nurses' level of knowledge and experience, high workload, lack of supervision or guidance and nurses' careless attitude. regarding place of work /ward, this result may be due to the fact that there were many participants who did not spend enough time in clinical nursing to acquire better expertise of being executive Mentor. This result agrees with **(Ghahramani et al., 2006)** showed who was no significant difference between knowledge of thyroid surgery management and practices and nurses place of work.

CHAPTER SIX

**Conclusion
&
Recommendations**

Conclusion

This study concludes the followings

1. The majority of the sample are male gender.
2. High percentage 43.1% of the total sample are at age (30-39).
3. Majority of the nurse have inadequate knowledge toward caring for patient with diabetic foot ulcers.

Recommendations.

1. Increase the number of qualified nursing staff in health sector
2. Increase the number of training courses in this specialty
3. Facilitate the procedures and equipment's that needed for work

REFERENCES

References

- Abdulkadir J, Reja A. (2013). Management of diabetes mellitus: coping with limited facilities. *Ethiop Med J* .349-365.
- Ackley, B. J., & Ladwig, G. B. (2013). Nursing diagnosis handbook: An evidence based guide to planning care for diabetic foot (10th ed.). St. Louis, MO: Mosby.
- Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J. A., Busse, R., Clarke, H., Shamian, J. (2011). Nurses' reports on hospital care in five countries. *Health Affairs*, 20(3), 43–53.
- Al-Augoidy, R. (2008) Quality Assurance of Nursing Care Diabetic Foot Patients, MSc Thesis University of Mosul.; pp.73-74.
- Al-Jubouri, M. (2014). Assessment of Nurse's Knowledge about Nosocomial Infection at Hospitals in Baghdad City, *Journal of Kufa for Nursing Science*.; 4 (1).
- American Diabetes Association (2010). Standards of medical care in diabetes – 2010. *Diabetes Care*. 33(suppl 1): S11-S61
- American Diabetes Association. (2012). Diabetes Facts and Figures. *Diabetes Care*. 12 Alexandria, VA.
- Arad Y, Fonseca V, Peters A, Vinik A (2012). "Beyond the Monofilament for the Insensate Diabetic Foot: A systematic review of randomized trials to prevent the occurrence of plantar foot ulcers in patients with diabetes". *Diabetes Care* **34** (4): 1041–6.
- Badran, I. (1995). Knowledge, Attitude and practice, the nurse pillars of excellence and wisdoms, *Eastern Mediterranean health journal*, Vol. 1(1). pp.8-16.
- Baumann, M., Baumann, C., Le Bihan, E., & Chau, N. (2018). How patients perceive the therapeutic communications skills of their general

practitioners, and how that perception affects adherence: use of the TCom-skill GP scale in a specific geographical area. *BMC Health Services Research*, 8(1), 244.

Brem, H.; Tomic-Canic, M. (2013). "Cellular and molecular basis of wound healing in diabetes". *Journal of Clinical Investigation* **117** (5): 1219–1222.

Boulton, A. J., Kirsner, R. S., & Vileikyte, L. (2014). Clinical practice. Neuropathic diabetic foot ulcers. *New England Journal of Medicine*, 351(1), 48-55

Brunner, L. S., & Suddarth, D. S. (2018). *Medical surgical nursing* (Vol.6112). Philadelphia: Lippincott Williams & Wilkins.pp 2551-2555,2258

Celeste, W. (2011). Education, Health, Byrdsong Quincy Jamal.,Tennessee State Universty. Available at; www.proquest.com.

El-Desouqi, N. (2004). The Use of Continuous Quality Improvement Methodology to improve Nurses' Infection Control Practices at a General Hospital in Alexandria, published MSc Hospital Administration thesis of Alex.

Ghahramani, F., Mohammad, A., and Mohammad Salehi., N. (2006) Survey of the Students' Knowledge about osteomyelitis in diabetic patients in Shiraz University of Medical Sciences. *Hepatitis Monthly*; 6(2): pp.59-62.

Guyatt GH, Cook DJ, Jaeschke R, Pauker SG, Schunemann HJ. (2018). Grades of recommendation for antithrombotic agents: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. (8th ed). *Chest* ; 133:123S–31S.

Guyatt GH, Oxman AD, Kunz R, Vist GE, Falck-Ytter Y, Schunemann HJ. (2017). What is “quality of evidence” and why is it important to clinicians? *BMJ* ; 336:995–8.

- Hashem, E. M. (2008). Effect of Designed Nursing Guidelines on Minimizing Diabetic Foot Ulcers. *Assiut Scientific Nursing Journal*, 6(13), 29–38.
- Hend, M., Elazazay, Amany L., Abdelazez, Omibrahem, A. (2012). Effect of diabetic foot management training Program on Nurses Knowledge and Practice *Life Science Journal*: 9(4)
- Lim, K., Kim, M., Chung, Y., Kim, N. (2012). Knowledge and performance of the universal prevention the infections by nursing and medical students in Korea. *Am J Infection Control*. 29(5): pp.295-300.
- Mohamed, S., Wafa, A. (2011). The Effects of an Educational Program on Nurses Knowledge and Practice Related to Hepatitis C Virus: A Pretest and Posttest Quasi-Experimental Design, *Australian Journal of Basic and Applied Sciences*. 2011; 5(11): pp.564-570.
- Osoky, A. A., Mohamed, M. A., Ahmed, M. T., & Ghanem, H. M. (2009). Assessment of nurses' performance for patients with diabetes mellitus at assiut university hospital. *AAMJ*, 7(2), 18,223-227.
- Oxford Advanced Learners Dictionary. (2010). 8th edition. UK: Oxford University press. pp.1001, 828.
- Pham H, Armstrong DG, Harvey C, Misto W. (2015). Screening techniques to identify people at high risk for diabetic foot ulceration: a prospective multicenter trial. *Diabetes Care* 23:606.
- Veves A, Marie HJ, Young MJ, Boulton AJM. (2011). The risk of foot ulceration in diabetic patients with high foot pressure: a prospective study. *Diabetologia*; 660-3

APPENDICES

Appendix -A-

عنوان البحث : تقييم معارف الممرضين حول العناية التمريضية لمرضى القدم السكري في
مستشفى تلعفر العام

أخي الممرض/أختي الممرضة : يرجى قراءة الاسئلة التالية ثم وضع وضع اشارة (✓) في
المربع المناسب

(1) الجنس:

1. ذكر 2. أنثى

(2) العمر: سنة

(3) التحصيل الدراسي:

1. خريج اعدادية التمريض
2. خريج معهد/ فرع التمريض
3. خريج كلية التمريض
4. دراسات عليا في التمريض

(4) واجبات الممرض:

1. صباحا 2. خفر ليلي

(5) مكان العمل الحالي:

1. ردهة الجراحة العامة
2. العمليات
3. وحدة العناية المركزة

(6) هل سبق وان دخلت دورات في مجال العناية بمرضى السكري

نعم كلا

Appendix -A-

ت	الفقرة	نعم	كلا
.١	اقوم بغسل اليدين ولبس الكفوف قبل تقديم العناية لمريض السكري المصاب بتقرحات في القدم		
.٢	ارتدي ملابس خاصة اثناء تقديم العناية و استخدم معقمات خاصة اثناء تغير الضماد		
.٣	اقوم بقياس العلامات الحيوية بصورة منتظمة قبل وبعد تغيير الضماد		
.٤	اتابع مستوى السكر لدى المريض قبل تبديل الضماد		
.٥	اقم الالم و اقوم بتقييم عمل الدورة الدموية للمريض لتجنب الصدمة		
.٦	اعمل على توفير بيئة صحية و أمانة اثناء رقاد المريض في المستشفى		
.٧	اساعد في توفير تغذية صحية للمريض و اتابع اعطاء الادوية بالوقت المحدد		
.٨	استخدم خلطات خاصة مثل العسل و الخل اثناء تغير الضماد و اهتم بعناية للجلد لتجنب الجفاف		
.٩	اتابع وزن المريض اثناء رقاوده في المستشفى		
.١٠	اعطي بعض النصائح الصحية للمرضى و لدي برنامج لتثقيف المرضى حول السكري		

قائمة بأسماء الخبراء

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الخلاصة

ان مدى انتشار مرض داء السكري في تزايد مستمر في العالم ويعتبر مرض القدم السكري من الاسباب الرئيسية للوفيات ويؤدي الى الرقود في المستشفى للشخص المصاب وتعتبر التقرحات والاصابات وموت الخلايا وحالات البتر من المضاعفات المهمة للمرض

هدفت الدراسة الى التعرف على معارف الممرضين حول العناية التمريضية المقدمة لمرضى القدم السكري ، شملت الدراسة ٥٠ ممرض (٣٤) ذكور و (١٦) اناث من العاملين في مستشفى تلعفر العام . للفترة من ٢٠٢٠/١٢/١٢ الى ٢٠٢١/٤/١ ، تم اعتماد استبانة معلومات نظمها الباحثين لجمع البيانات بعد ان تم عرضها وتحكيمها من قبل مجموعة من الخبراء، وقد تضمنت الاستمارة جزئين: الجزء (الأول) المعلومات الديموغرافية للمرضين (العمر، الجنس، المستوى التعليمي، واجبات الممرض، سنوات الخدمة، مكان العمل) والجزء (الثاني) وقد تضمن (١٠) أسئلة خاصة بالعناية التمريضية بتقرحات قدم السكري. اظهرت الدراسة بان هناك علاقة بين معارف الممرضين واعمارهم حيث كانت اكبر نسبة للفئة العمرية (٣٠-٣٩) وبنسبة %٤٣,١ ، كما كان هناك ضعف في مستوى معلومات الممرضين حول العناية بمرضى قدم السكري، وتوصي الدراسة بزيادة عدد الممرضات وزيادة الدورات التدريبية للكادر التمريضي حول العناية بمرضى قدم السكري.



جامعة تلعفر



كلية التمريض

معارف المرضين حول العناية التمريضية لمرضى قدم السكري في مستشفى تلعفر العام

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الى مجلس كلية التمريض في جامعة تلعفر
كجزء من متطلبات نيل شهادة البكالوريوس علوم في التمريض

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Percentage of pregnant women with gestational diabetes in Telafer district and its relationship to some biomarkers

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



رَبِّ أَوْزِعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي
أَنْعَمْتَ عَلَيَّ، وَعَلَى وَالِدَيَّ وَأَنْ
أَعْمَلَ صَالِحًا تَرْضَاهُ وَأَدْخِلْنِي
بِرَحْمَتِكَ فِي عِبَادِكَ الصَّالِحِينَ.

الاهداء

الى من علمتني النجاح والصبر لمواجهة الصعاب (امي الغالية).

الى النورالذي ينير لي درب النجاح وسبب وجودي في الحياة (والدي الحبيب) .

الى من كانوا يضيئون لي الطريق ويساندوني ويتنازلون عن حقوقهم لأرضاءنا ...
أخوتي .

الى من تحمل (ت) اعبائي وكان (ت) عوناً لي زوجي,زوجتي.

الى كل من أضاء بعمله عقل غيره او هدى بالجواب حيرة سائليه ... أساتذتي الكرام.

اهدي ثمرة هذا الجهد.

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اول مشكور هو (الله عزوجل) الذي انعم علينا بنعمه الكثيرة ووفقنا لأتمام هذا المشروع.

جزيل الشكر والعرفان لوالدينا على كل مجهوداتهم منذ الولادة الى هذه اللحظات .
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Abstract

Background

Gestational diabetes is a type of diabetes that is diagnosed for the first time during pregnancy (gestational period). Like other types of diabetes, gestational diabetes affects how the cells use sugar (glucose). Gestational diabetes causes high blood sugar, which can affect pregnancy and the health of the fetus.

Although the occurrence of any complications during pregnancy is a cause for concern, there is good news for pregnant women with this disease. Gestational diabetes can be controlled by eating healthy foods, exercising, and taking medication if necessary. It is also possible, by controlling blood sugar levels, to maintain the health of the mother and the health of the fetus, and to prevent labor difficulties.

Research has not yet determined why some women develop gestational diabetes and not others. Excess weight before pregnancy often plays a role.

Normally, several hormones work to keep blood sugar at normal levels. But during pregnancy, levels of hormones such as insulin, glucagon, cortisol, estrogen, and progesterone change, making it difficult for the body to regulate blood sugar efficiently. This leads to an increase in the level of sugar in the blood.

Objectives

To verify the percentage of pregnant women with gestational diabetes who live in the Tal Afar district in northwestern Iraq (with a Turkmen majority) and compare it with the percentage mentioned by other researchers for Iraqi pregnant women (of Arab nationality). As well as confirming the possible association between insulin resistance and high blood sugar with cholesterol and cortisol levels. In addition to comparing the

levels of glucose, cholesterol, and cortisol among the different groups of healthy pregnant women.

Subjects and Methods

Subjects

This study included two groups of women from Tal Afar district, their ages ranged between (16-40 years), the first group included 85 pregnant women, while the second group included 40 non-pregnant married women.

Methods:

- 1- The colorimetric enzymatic method and the spectrophotometer (visible rays lamp) were used to estimate the levels of glucose and total cholesterol in the blood.
- 2- A competitive immunoassay technique was used using the ichroma device to estimate cortisol levels in the blood.

Results

This study showed that the percentage of pregnant women with gestational diabetes in the Tal Afar district was (12.9%). It was also found that (45.4%) of the women with gestational diabetes were suffering from obesity, and a similar percentage were suffering from lack of sleep and chronic stress. In addition to this, it was found that (63.6%) of them had a family history of diabetes, and it was also found that among the women with gestational diabetes, (36.3%) and (27.2%) suffered from high cholesterol and cortisol, respectively.

Our study showed a significant ($p < 0.05$) increase in random glucose levels and total cholesterol, in the blood of healthy pregnant women, compared to the non-pregnant group.

Comparing the three stages of pregnancy, the results of our study indicated that there was a significant ($p < 0.05$) increase in random glucose levels, total cholesterol levels, and cortisol levels, from the first trimester until the third trimester.

Finally, the study indicated that there was a significant increase ($p < 0.05$) in the level of total cholesterol in obese pregnant women compared with women of normal weight. It was also noted a statistically significant increase in the level of cortisol hormone in pregnant women who suffer from chronic stress, compared to their counterparts who enjoy a good psychological state and take enough sleep and rest.

Conclusions:

The percentage of women with gestational diabetes among the residents of the Tal Afar district was (12.9%), and this percentage is not significantly different from the percentage referred to in the city of Baghdad. The vast majority of healthy pregnant women experience a physiological increase in glucose, cholesterol, and cortisol levels. The levels of the three biomarkers rise gradually during the progression of pregnancy. It was also shown that obesity has a clear effect on blood cholesterol levels, and there is a direct relationship between fatigue, chronic stress, and lack of sleep with cortisol levels in the blood of healthy pregnant women.

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Chapter One Introduction & Literature review

1.1 Diabetes mellitus

Diabetes mellitus is commonest endocrine disorder that affects more than 100 million people worldwide (6% population). It is caused by deficiency or ineffective production of insulin by pancreas which results in increase in concentrations of glucose in the blood. It is found to damage many of body systems particularly blood vessels, eyes, kidney, heart and nerves (Ismail, 2009). Diabetes mellitus has been classified into two types, insulin dependent diabetes mellitus (IDDM, Type I) and non-insulin dependent diabetes mellitus (NIDDM, Type II (Arora et al., 2009).

In the islets of Langerhans in the pancreas, there are two main subclasses of endocrine cells: insulin-producing beta cells and glucagon secreting alpha cells. Beta and alpha cells are continually changing their levels of hormone secretions based on the glucose environment. Without the balance between insulin and glucagon, the glucose levels become inappropriately skewed. In the case of DM, insulin is either absent and/or has impaired action (insulin resistance), and thus leads to hyperglycemia. (Da Silva Xavier, 2018)

It is estimated that 366 million people had DM in 2011; by 2030 this would have risen to 552 million. The number of people with type 2 DM is increasing in every country with 80% of people with DM living in low- and middle-income countries. DM caused 4.6 million deaths in 2011 (Olokoba et al., 2009). It is estimated that 439 million people would have type 2 DM by the year 2030. The incidence of type 2 DM varies substantially from one geographical region to the other as a result of environmental and lifestyle risk factors (Zimmet et al., 2001). It is predicted that the prevalence of DM in adults of which type 2 DM is becoming prominent will increase in the next two decades and much of the increase will occur in developing countries where the majority of patients are aged between 45 and 64 years (Deshmukh & Jain, 2015).

1.1.1 Type 1 diabetes

Is one of the most common chronic diseases of childhood (Atkinson, Eisenbarth, & Michels, 2014). It belongs to the group of diseases called diabetes mellitus, characterised by an impairment in carbohydrate and lipid metabolism (Goodman, 2012). Worldwide, the incidence of Type 1 diabetes has risen by 3.4% annually during the years 1995-1999 (DIAMOND Research Group, 2006). The International Diabetes Federation (IDF) estimated that 86,000 children between the ages of 0-14 would be newly diagnosed with Type 1 diabetes in 2015 globally (IDF, 2015).

T1DM is characterized by the destruction of beta cells in the pancreas, typically secondary to an autoimmune process. The result is the absolute destruction of beta cells, and consequentially, insulin is absent or extremely low (Sapra & Bhandari, 2022). The aetiology of Type 1 diabetes remains complex, with the current understanding that environmental factors such as infections trigger the autoimmune process in genetically susceptible individuals (Åkerblom et al., 2002). At present, there is no known cure or preventive measure against the onset of Type 1 diabetes (Todd, 2010).

1.1.2 Type 2 diabetes

Is the most common form of diabetes, accounting for 90% of all diabetes cases (Singal et al., 2014). Type 2 diabetes usually occurs in adults but nowadays is increasingly seen in children and adolescents (Tuomilehto et al., 2001). Type 2 diabetes may remain undiagnosed for many years, leading to severe complications like retinopathy, nephropathy, neuropathy, and cardiovascular diseases (Laws et al., 2012). It was estimated that 5.1 million people aged between 20 and 79 years died from diabetes in 2013, accounting for 8.4% of global all-cause mortality among people in this age group. In addition to this disease burden, diabetes causes a large economic burden. Diabetes costs at least USD 548 billion in health expenditure in 2013, accounting for 10.8% of total health care expenditure worldwide (Tuomilehto et al., 2001).

Type 2 diabetes is caused by a combination of genetic factors and environmental aspects (Knowler et al., 2002). Several genetic variants that are associated with type 2 diabetes have been identified, however, their contribution to the development of type 2 diabetes is modest (5-10%) (Rutten et al., 2006). Other non-modifiable risk factors are for example advancing age, ethnicity, family history of diabetes, and maternal diabetes (Tuomilehto et al., 2001).

1.1.3 Pathophysiology

A patient with DM has the potential for hyperglycemia. The pathology of DM can be unclear since several factors can often contribute to the disease. Hyperglycemia alone can impair pancreatic beta-cell function and contributes to impaired insulin secretion. Consequentially, there is a vicious cycle of hyperglycemia leading to an impaired metabolic state. Blood glucose levels above 180 mg/dL are often considered hyperglycemic in this context, though because of the variety of mechanisms, there is no clear cutoff point. Patients experience osmotic diuresis due to saturation of the glucose transporters in the nephron at higher blood glucose levels. Although the effect is variable, serum glucose levels above 250 mg/dL are likely to cause symptoms of polyuria and polydipsia. Insulin resistance is attributable to excess fatty acids and proinflammatory cytokines, which leads to impaired glucose transport and increases fat breakdown. Since there is an inadequate response or production of insulin, the body responds by inappropriately increasing glucagon, thus further contributing to hyperglycemia. While insulin resistance is a component of T2DM, the full extent of the disease results when the patient has inadequate production of insulin to compensate for their insulin resistance (Sapra & Bhandari, 2022).

1.1.4 Gestational diabetes

Is essentially diabetes that manifests during pregnancy. It is still unknown why it develops; however, some suggest that proinsulin may induce beta-cell stress. Others

believe that high concentrations of hormones such as progesterone, cortisol, prolactin, human placental lactogen, and estrogen may affect beta-cell function and peripheral insulin sensitivity (Kühl, 1998).

In the last decade, the prevalence of GDM has increased due to inactivity, obesity, and increasing age of mothers. One in ten pregnancies is diagnosed with diabetes, 90% of which is identified as GDM. The prevalence of GDM is estimated at 17% worldwide. It is reported to be 10% in North America and 25% in Southeast Asia, depending on population, region, diagnostic criteria, and methods of data collection (Cho et al., 2018). According to the World Health Organization (WHO), diabetes is reported as the seventh cause of human death (Amirian et al., 2019).

GDM is considered as a silent disease that can have adverse effects on the mother and fetus and lead to undesirable consequences such as polyhydramnios, pre-eclampsia, stillbirth, fetal macrosomia, hyperbilirubinemia, hypocalcemia, and polycythemia on mother and fetus (Amirian et al., 2020). On the other hand, the risk of developing type 2 diabetes, metabolic syndrome, and cardiovascular problems will increase in the mother with GDM and her child in the future (Sudasinghe et al., 2018). GDM is also a serious concern for any system with increasing use of health and care resources and adverse outcomes, many of which can be mitigated by early diagnosis and treatment (Hod et al., 2015).

1.1.5 Complications of diabetes

Regardless of the specific type of diabetes, complications involve microvascular, macrovascular, and neuropathic issues. Microvascular and macrovascular complications vary according to the degree and the duration of poorly control diabetes and include nephropathy, retinopathy, neuropathy, and ASCVD events, especially if it is associated with other comorbidities like dyslipidemia and hypertension (Yamazaki et al., 2018). One of the most devastating consequences of DM is its effect on cardiovascular disease (ASCVD). Approximately two-thirds of those with DM will die

from a myocardial infarction or stroke (Wannamethee et al., 2011). In T2DM, fasting glucose of more than 100 mg/dL significantly contributes to the risk of ASCVD, and cardiovascular risk can develop before frank hyperglycemia (Rao Kondapally et al., 2011).

1.2 Cholesterol

A major sterol in animal tissues, has a significant function in the human body. Cholesterol is a structural component of cell membranes and plays an integral role in membrane fluidity. Cholesterol is also important in the synthesis of lipid rafts which are needed for protein sorting, cellular signaling, and apoptosis (Jacobson et al., 2007). The characteristic structural feature of cholesterol is a fused four hydrocarbon ring referred to as a steroid nucleus, and a hydrocarbon tail consisting of eight hydrocarbon chain (Soliman, 2018). The cholesterol ring is the precursor of steroid hormones including estrogen, progesterone, testosterone, as well as vitamin D. As a hydrophobic molecule, cholesterol is transported in the blood via spherical macromolecules in the plasma termed lipoproteins including chylomicrons, VLDL, LDL, and HDL. The lipoproteins consist of a neutral lipid core containing cholesteryl ester and triacylglycerol surrounded by amphipathic apoproteins, phospholipids and non-esterified cholesterol. As such, the LDL particles transport cholesterol to peripheral tissues, and thus if the LDL-cholesterol is elevated, lipids can deposit in the arterial lumen leading to plaque formation, and thickening or narrowing of the blood vessel, the hallmark of atherosclerosis. On the other hand, HDL is responsible for the reverse cholesterol transport from peripheral tissues to the liver for bile acid synthesis, and steroid synthesis or for disposal of cholesterol ring via bile. Blood cholesterol is derived from two sources, exogenous dietary cholesterol and endogenous de novo synthesized cholesterol, and there is a balance and negative feedback to maintain cholesterol homeostasis. Endogenous cholesterol is synthesized by all cells and tissues, but predominantly in the liver, intestine and reproductive organs (Harvey & Ferrier, 2011). The rate-limiting and key regulatory step in endogenous cholesterol synthesis is

mediated via 3-hydroxy-3-methylglutaryl CoA Reductase (HMG CoA Reductase), which reduces HMG CoA molecules to mevalonate, in the presence of NADPH as a reducing agent. Expression of HMG CoA reductase is inhibited by cholesterol as well as by statin drugs (atorvastatin, lovastatin, and Simvastatin). Thus, to maintain cholesterol balance, if dietary cholesterol absorption is increased, the endogenous synthesis is decreased (Soliman, 2018).

1.3 The relationship between gestational diabetes and blood cholesterol levels

Most studies showed that circulating lipid patterns were different between GDM and normal pregnancy, nevertheless, results have been inconsistent (Li et al., 2021). It has been reported that patients with GDM had increased concentrations of TG, TC and LDL-C and lower levels of HDL-C (Li et al., 2015). However, other studies indicated that no elevated serum TC and LDL-C levels were found in the 1st, 2nd, and 3rd trimesters, between patients with GDM and normal pregnant women (Li et al., 2021)

The study by Rahnamaei et al. (2021) indicated that the levels of TC, LDL-C, VLDL-C, and TG were higher in women with GDM than in normal pregnant women, while the level of HDL-C was lower in women with GDM than in normal pregnant women. In another study by Mankuta et al. (2010) note that TC, LDL-C, and TG decrease in the first trimester and increase during the second and third trimesters. HDL-C levels had no significant change in the first trimester, although they increased in the second trimester and decreased in the third trimester. In a study by Correa et al. (2019) maternal biomarkers were evaluated in the first trimester for early detection of GDM. They showed that TG, TC and LDL levels in the first trimester of pregnancy were significantly associated with GDM. They also indicated changes in the lipid profile during the normal state of glycemia and glycosylated hemoglobin. Shen et al. (2016) found that lipid levels, including TyG, TC and LDL-C, gradually increased during pregnancy and peaked before birth, while HDL-C levels increased from the first trimester to the second trimester, then showing a slight decrease in the third trimester.

In contrast, the results of Aydemir et al. (2019) study aimed at examining serum lipoprotein particle levels and their relationship to gestational glucose metabolic status showed that TG levels were not significantly correlated in the two GDM groups and the control group.

1.4 Cortisol

Cortisol hormone is a glucocorticoid that affects every bodily system to such a large extent that it is difficult to characterize its actions succinctly. One major function of glucocorticoids is the rapid mobilization of amino acids and fat from cells that make them available for use as energy as well as for synthesis into new compounds. Cortisol hormone is named the “stress hormone” as it helps the body in responding to stress by increasing the heart rate, elevating blood sugar levels, etc (Levine et al., 2007).

Cortisol hormone is the primary hormone released by the adrenal glands, which is responsible for producing energy from the stored nutrients, and responds to stress by increasing the heart rate, elevating blood sugar levels, controlling the sex drive, etc. When stimulated, the hypothalamus secretes corticotrophin-releasing hormone (CRH). In response, the pituitary gland secretes adrenocorticotrophic hormone (ACTH), which in turn, stimulates the secretion of cortisol from the cortex of the adrenal gland. In general, the HPA axis self-regulates via negative feedback whereby elevated circulating levels of cortisol lead to suppression of CRH and ACTH release, thus reducing cortisol production. Cortisol in humans is secreted diurnally, in response to trophic hormone stimulation (Crown & Lightman, 2005) with cortisol levels peaking early, prior to awakening, and decreasing progressively during the day to reach low levels in the evening (Levine et al., 2007).

1.5 Insulin resistance during pregnancy and its relationship to stress hormones

Stress hormones are also known as hyperglycemia hormones that can aggravate IR and increase blood glucose (Feng et al., 2020). Prolonged serious OS injury could also induce IR and impair glucose metabolism (Rabiepoor et al., 2019). It has been found

through studies that the hormones epinephrine, norepinephrine, and cortisol are biomarkers of stress, and that glucagon also undergoes a change in a stressful state (Feng et al., 2020).

Cortisol is one of the important stress hormones. In addition to its prominent role in regulating the response to stress, cortisol is involved in many metabolic processes, including gluconeogenesis, insulin regulation, glucose utilization, and cerebral perfusion (Fries et al., 2009). Cortisol could increase hepatic glucose production, aggravate β cell function, and decrease insulin secretion, all of which could lead to hyperglycemia (Ortiz et al., 2019).

The results of the studies indicate that stress hormones were closely related to IR, which may be an important cause of GDM. It was found that E, NE, and glucagon were significantly increased in GDM women, which may explain the stressful state in GDM (Feng et al., 2020). Whereas a study by MAHMOOD et al. (2020) revealed that the mechanism of insulin resistance is not clear due to the effect of cortisol, he indicates that the mechanisms in insulin resistance GDM may be due to all placental hormones including cortisol but their expressions are very complex and provide strong clues for further investigation of the complexity of GDM in cohorts different demographics.

Chapter Two Subjects & Methods

2.1 Volunteers and study protocol

Blood samples were drawn from 125 women (ages between 16-40 years) from the city of Tal Afar (northwestern Iraq), which has a Turkmen majority. 85 of them were pregnant (different from each other according to the stage of pregnancy), while the remaining 40 were non-pregnant women (control group). The sampling period was in October and November of the last year 2022.

2.1.1 Inclusion Criteria

- a- Age of volunteers between (16- 40) years.
- b- Apparently health well (Physically and mentally).

2.1.2 Exclusion Criteria

Individuals suffering from chronic diseases such as cancer, diabetes, blood pressure, heart, kidney, and liver diseases, and other diseases.

2.1.3 Sample collection

Each participant provided 5 ml of blood, which was deposited into disposable gel tubes, and the blood was allowed to clot for 20 min at room temperature before centrifugation at 4000 rpm for approximately 10 min, after which serum samples were obtained and kept at - 20. °C to be prepared for biochemical analyses.

2.2 Instruments used:

- 1- Centrifuge from the Chinese Anke company
- 2- U.V- Visible Spectrophotometer from the English company (Cecil Instruments Limited).
- 3- Water bath from the English Gallen Kamp company .
- 4- Ichroma device from the Korean Boditech company.

2.3 Materials used:

- 1- Blood glucose estimation kit from Biolabo, France
- 2- Blood total cholesterol estimation kit from Biolabo, France
- 3- Cortisol estimation kit from Boditech Med, South Korea

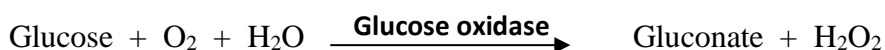
2.4 Methods:

2.4.1 Estimation of total glucose in the blood:

2.4.1.1 Principle of the assay

The level of glucose in the blood serum was estimated using the analysis kit (BIOLABO) type, which is an enzymatic method (Appendix A).

This glucose determination method is an enzymatic method in which glucose is oxidized according to the (Trinder) reaction (Burtis and Ashwood, 1999) and according to the following equations:



2.4.1.2 Solutions used:

1- Buffer solution

It consists of (100) mmol/L of phosphate buffer solution with a pH of (7.5) and (7.5) mmol/L of phenol.

2- Enzymatic solution

It consists of (15000) units/liter of glucose oxidase enzyme, (1000) units/liter of peroxidase enzyme, (0.4) mmol/liter of 4-aminoantipyrine.

- working solution

The used reagent was prepared by adding the buffer solution to the enzymatic solution and shaking them well. The reagent became stable for one month at (20-25) °C or the study period at (2-8) °C.

3- Standard solution

It consists of (100) mg glucose / (100) cm³, and it is kept at a temperature of (2-8) °C.

2.4.1.3 Procedure:

We take three test tubes, and follow the following steps:

Table (2-1) Summary of additives for Determination of glucose

Material used \ Test tube	Glucose in the blood	Standard tube	Blank tube
Reagent (Kit)	1 ml	1 ml	1 ml
Serum	10 µl		
Standard solution		10 µl	
Distilled water			10 µl

- After the additions, tubes are placed in a water bath at (37 ° C for 10 minutes).

-After that, the absorbance is measured by spectrophotometer at (500 nm).



Figure (2-1): Diagram of the spectrophotometer used

2.4.1.4 Calculations:

Glucose level mg/dl, calculated by the following equation

$$\text{Glucose concentration (mg/dl)} = \frac{(A)_{\text{sample}}}{(A)_{\text{standard}}} \times \text{standard concentration (100 mg/dl)}$$

2.4.1.5 Reference range

Fasting blood sugar (FBS) : Normal Range (65 - 125) mg/100 ml .

Random blood sugar (RBS) : Normal Range (110 - 160) mg/100 ml .

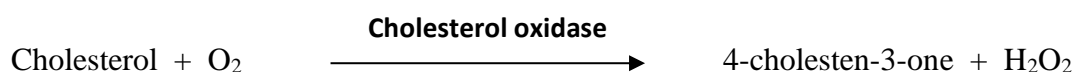
2-hour postprandial blood sugar: Normal Range (140 - 160) mg/100 ml .

2.4.2 Estimation of Total Cholesterol in Blood:

Serum total cholesterol levels were estimated using the (BIOLABO) kit (Appendix B).

2.4.2.1 Principle of the assay

This cholesterol determination method is an enzymatic method (Burtis and Ashwood, 1999) according to the following equations:



2.4.2.2 Solutions used

1- Buffer Solution

It consists of phosphate buffer solution (80) mmol/L, (16) mmol/L phenol.

2- Enzymes Solution

It consists of:

4-amino antipyrine (0.7 mmol/L)

Peroxidase (1250 units L/cm³)

Cholesterol oxidase (300 units L/cm³)

Cholesterol esterase (300 units L/cm³)

- Working Solution

The used reagent was prepared by adding the buffer solution to the enzymatic reagent and shaking them well. This solution is stable for three weeks at (20-25) °C or for three months at (2-8 °C) .

3- Standard cholesterol solution

It consists of 200 mg cholesterol / 100 cm³ absolute ethanol.

2.4.2.3 Procedure:

We take three test tubes, and follow the following steps:

Table (2-2) Summary of additives for Determination of cholesterol

Test tube Material used	Cholesterol in the blood (sample)	Standard tube	Blank tube
Reagent (Kit)	1 ml	1 ml	1 ml
Serum	10 µl		
Standard solution		10 µl	
Distilled water			10 µl

-After the additions, tubes are placed in a water bath at (37 ° C for 10 minutes) .

-After that, the absorbance is measured by spectrophotometer at (500 nm) .

2.4.2.4 Calculations :

Cholesterol level mg/dl, calculated by the following equation:

$$\text{Cholesterol concentration (mg/dl)} = \frac{(A)_{\text{sample}}}{(A)_{\text{standard}}} \times \text{standard concentration (200 mg/dl)}$$

2.4.2.5 Reference range

The normal range of cholesterol in human body is: **(140-250) mg/dl.**

2.4.3 Determination of cortisol hormone:

Human cortisol hormone ichroma Kit Catalog No. INS-CO-EN (Rev. 10) was used to quantify the levels of cortisol hormone in serum (Appendix C).

2.4.3.1 The principle of the assay:

- The test uses a competitive immunodetection method.
- The target material in the sample was ligated with a fluorescence detection (FL) antibody in the detection solution, and the complex was formed as a sample mixture.
- This complex was loaded to transfer to a nitrocellulose matrix, where the covalent couple of cortisol and bovine serum albumin (BSA) were attached to a test strip, and interfered with the binding of the target material and the FL-labelled antibody.
- If more target substances are present in the blood, the accumulation of detection antibodies decreases, resulting in a lower fluorescence signal.

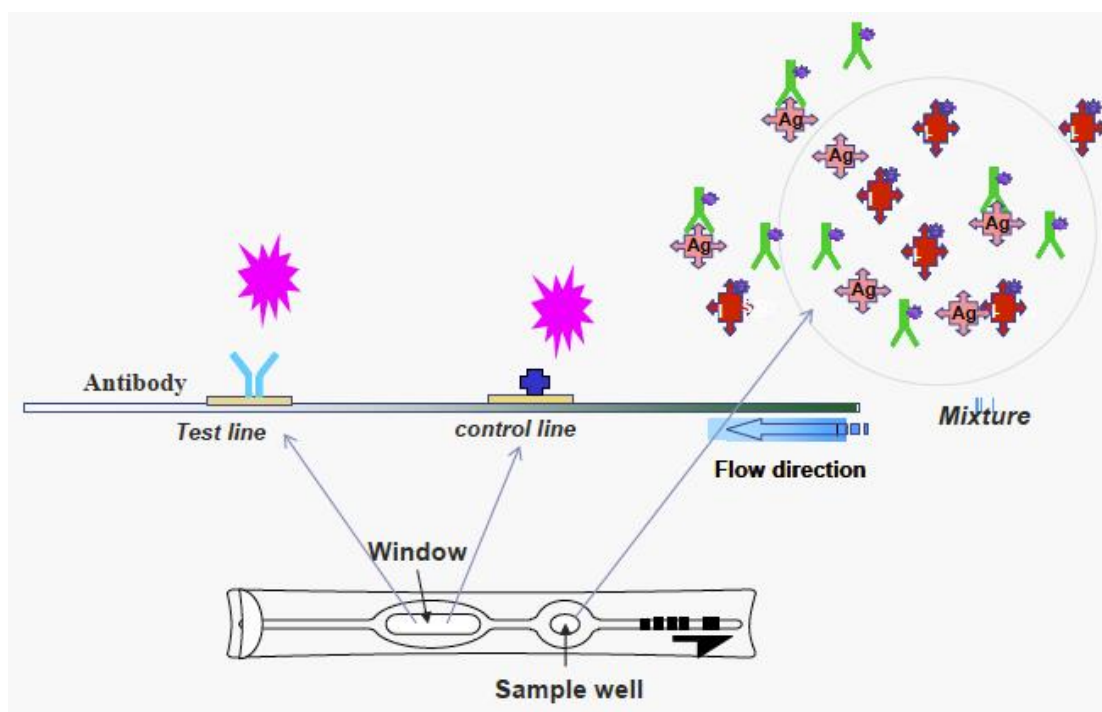


Figure (2-2): A graphic showing the immune reaction to cortisol determination

2.4.3.2 Test procedure:

- 1) 30 μ l of serum was added using a micropipette to a tube containing detection buffer.
- 2) The detection buffer cover was closed and the sample was mixed thoroughly by shaking it several times.
- 3) Then 75 μ l of the sample mixture was withdrawn and loaded into the groove of the sample well on the cartridge.
- 4) The cartridge loaded with the sample was inserted into the incubator chamber (at 25 °C) for 10 minutes.
- 5) The loaded sample cartridge has been inserted into the ichroma™ device.
- 6) Finally, the test result was read on the display of the ichroma™ test tool.



Figure (2-3): Diagram of the ichroma device for cortisol estimation

2.4.3.3 Reference range

- Morning: 140-700 nmol/L
- Midnight: 80-350 nmol/L
- Working range: 80-800 nmol/L

2.5 Statistical analysis

The data were presented as mean values \pm SE. A comparison of data between groups were performed by applying a Student's t-test, and ANOVA. $P \leq 0.05$ values were considered significant. All statistics were analyzed using SPSS (SPSS 2021, version 25.0) and Microsoft Excel 2016.

Chapter three Results and discussion

3.1 Physiological analysis

- Age Distribution

The ages volunteers were divided into three groups as shown in Table (3-1), while the distribution of age groups between the two groups (pregnant and non-pregnant) did not show a significant difference between them as shown in Table (3-2) (P = 0.782).

Table (3-1): Distribution of sample according to age groups

Age group	Pregnant (85)	Non pregnant (40)
>18	8 (9.41 %)	3 (7.5 %)
18 - 40	70 (82.35 %)	34 (85 %)
40 <	7 (8.23 %)	3 (7.5 %)

Tables (3-2): Comparison of the mean ages between the two main groups

Age group	Healthy pregnant	Non pregnant
Mean \pm SD	25.5 \pm 6.2	25.6 \pm 6.7
p-value	0.782	

* Results interpreted as mean \pm SD and p-value corresponding to the paired sample t-test.

Statistical test was done after considering the P-value = **0.05**

3.2 Biochemical analysis

3.2.1 Percentage of pregnant women with gestational diabetes and its relationship to some physical and biochemical variables

According to Figure (3-1), the number of women with gestational diabetes was 11 out of 85 pregnant women from Iraqi Tal Afar City), at a percentage of (12.9%).

Global GDM prevalence estimates (<1% - 28%) show wide variation due to ethnic variation among different populations, (Al-Rifai et al., 2021).

Genetics play a role in GDM with the stress of pregnancy revealing glucose intolerance in genetically predisposed women. A review of 22 studies showed that several genetic variants associated with GDM share common susceptibility loci with T2DM. Thus, GDM, like T2DM, is a polygenic disease that interacts with the environment (Agarwal, 2020). Also, the inconsistent use of screening and diagnostic criteria can affect the difference in results between different studies (Hod et al., 2015). This is because, among various health and diabetes associations, the glucose thresholds for the diagnosis of GDM vary even though the same diagnostic oral glucose tolerance test is used. Despite repeated appeals for consensus, the ideal gold standard for the diagnosis of GDM continues to be debated (Agarwal, 2020).

A review of 77 studies showed that the Middle East and North Africa region had the highest prevalence of GDM with a median estimate of 12.9% (range 8.4-24.5%), followed by Southeast Asia, Western Pacific, South and Central America, Africa, and North America and the Mediterranean region and Caribbean (mean prevalence 11.7, 11.7, 11.2, 8.9, and 7.0%, respectively); Europe has the lowest prevalence (Zhu & Zhang, 2016).

In the Iraqi capital (Baghdad), in a recent study conducted two years ago (2020) on 120 women aged 20-45 years, it was found that the prevalence of GDM was 13.3% (Mohammed, 2020). From this, it can be said that there are no statistically significant differences in the percentage of pregnant women with gestational diabetes in Tal Afar City compared to Baghdad City (despite the difference in ethnicity between the two regions). However, this talk is considered preliminary, because the number of pregnant women is small in both studies.

As shown in the same Figure (1-3), it was found that among the women with gestational diabetes, 5 of them (45.4%) were in their third trimester. We also found that the same percentage of women were overweight or obese (BMI >25), and the same number reported poor sleep or chronic fatigue. Also, it was found that among the women with gestational diabetes, 7 (63.6%), 4 (36.3%), and 3 (27.2%) were suffering from having a family history of the disease, increased cholesterol, and high cortisol, respectively.

Gestational diabetes mellitus (GDM) is the most common metabolic disorder during pregnancy and is defined as diabetes identified most often in the second or third trimester of pregnancy that was not previously known. Insulin resistance is one of the leading causes of GDM and type 2 diabetes (Vejrazkova et al., 2014).

According to changes in normal pregnancy, insulin resistance occurs due to decreased glucose uptake and increased insulin secretion, and mainly GDM occurs in women whose pancreas does not function sufficiently to compensate for the insulin resistance caused by pregnancy (Rahnemaei et al., 2022). Insulin resistance occurs in pregnant women due to hormonal changes. Maternal hormones interfere with the action of insulin. As a result, the glucose level is increased in the blood with excess insulin

produced in GDM to overcome this resistance in normal pregnancy (Hossain et al., 2020).

Based on the above, the development of gestational diabetes in the third trimester can be explained by the increased secretion of insulin-resistant hormones, which the placenta increases during the last stages of pregnancy.

Although the cause of GDM is not fully understood, maternal obesity, older maternal age, and women from certain ethnic groups have been identified as being at high risk (Zhang et al., 2016). Increasingly, attention has been given to the associations between impaired glucose metabolism, abnormal circulating lipid levels, and consequent worsening of glucose intolerance (Hu et al., 2021).

Most studies showed that circulating lipid patterns were different between GDM and normal pregnancy, nevertheless, results have been inconsistent (Huang et al., 2016). It has been reported that patients with GDM had increased concentrations of TG, TC, LDL-C, and lower levels of HDL-C (Li et al., 2021). However, other studies indicated that no elevated serum TC and LDL-C levels were found in the 1st, 2nd, and 3rd trimesters, between patients with GDM and normal pregnant women (Wang et al., 2019). Several studies, such as (Rahnemaei et al., 2022), (Mankuta et al., 2010), and (Shen et al., 2016), indicated an increase in blood cholesterol in cases of gestational diabetes and also mentioned that cholesterol, LDL, and also triglycerides rise more in the third trimester of pregnancy. Evidence also suggests that hypertriglyceridemia is one of the most prevalent modifications in those pregnancies complicated with GDM (Ryckman et al., 2015). Nevertheless, the role of lipids profiles in predicting GDM is a controversial issue (Li et al., 2021). Maternal dyslipidemia not only leads to pregnancy complications but also adverse perinatal outcomes (Nasioudis et al., 2019). (Mudd et al., 2012), reported that elevated levels of total cholesterol (TC), low-density

lipoprotein-cholesterol (LDL-C), and triglycerides (TG) at 15–27 weeks of gestation were linked to an increased risk of spontaneous preterm delivery.

With regard to elevated cortisol in gestational diabetes, studies indicated that the average cortisol level of diabetic women was significantly higher than that of control, such as the (Feng et al., 2020), and (da Costa et al., 2016), it was found that cortisol was positively associated with the insulin resistance state. In summary, altering the stress hormone in women with type 2 diabetes can reduce insulin secretion and insulin resistance, both of which lead to significant and persistent hyperglycemia in pregnant women.

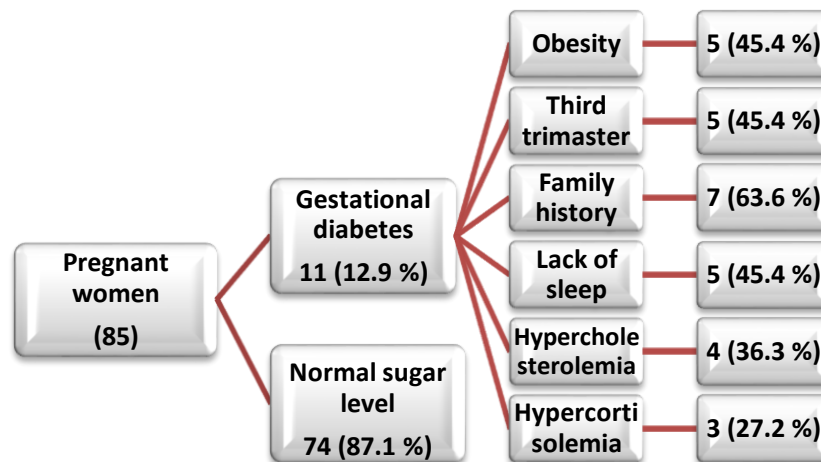


Figure (3-1): Percentage of pregnant women with gestational diabetes

3.2.2 The difference in the levels of parameters between the two groups studied (healthy pregnant women and non-pregnant women)

Our study showed a significant increase ($p < 0.05$) in the levels of random glucose and total cholesterol, but a statistically insignificant increase in cortisol levels ($p > 0.05$) was observed in the healthy pregnant group, compared to the of non-pregnant group, as shown in Table (3-3) and Figure (3-2).

The body experiences a significant increase in the workload of various organs during pregnancy, which can likely lead to a disorder of glucose metabolism (Li et al., 2021).

Relatively high glucose levels during pregnancy result in increased insulin resistance in order to limit the mother's use of glucose, in order to provide an adequate amount of glucose necessary for the growth of the fetus (Agarwal, 2020). Although the mechanisms of insulin resistance are complex and still not fully understood, it has been found that a number of factors such as placental hormones, obesity, diet, and genetic factors can influence insulin resistance during pregnancy (Hunt & Schuller, 2007).

Regarding the relatively high levels of cholesterol during pregnancy, in addition to our study, many studies indicated that pregnancy is characterized by a rise (up to 40-50%) in the level of cholesterol in the mother's blood (Leiva et al., 2013). Zeljković et al. (2022) also indicated a statistically significant increase in the different types of fats in the blood of pregnant women, both those with gestational diabetes and even healthy pregnant women. The cause of the increase in fat (including cholesterol) may be the increased secretion of estrogen, which stimulates the liver to synthesize more fat. Also, estrogen leads to a decrease in the activity of lipoprotein lipase (LPL) due to the down-regulation of LPL gene expression by estrogen during pregnancy, and this reduces the clearance of fat (Hossain et al., 2020). These changes in fat metabolism indicate a physiological adaptation in the body of pregnant women that shifts the priority of lipid metabolism over glucose metabolism, and lipids are used as a source of energy for pregnant women so that they can preserve glucose for growth and development of fetal development. Lipids also make it possible to produce embryonic cell membranes, bile acids, and steroid hormones (Rahnemaie et al., 2022).

In addition to the above, maternal factors such as body mass index, weight gain, maternal nutrition, pre-pregnancy lipid levels, and various medical complications of pregnancy may have significant effects on lipid metabolism and plasma lipid levels (Asare-Anane et al., 2013).

Several studies have indicated a link between cortisol and pregnancy, as cortisol rises from 2 to 4 times more than the normal level. Cortisol is a potent insulin-antagonistic hormone inhibiting insulin secretion, stimulating glucagon secretion, and disrupting insulin signaling. Cortisol inhibits insulin release and reduces GLP-1 production and thereby also insulin secretion. Cortisol induces the expression of key gluconeogenic enzymes and increases hepatic glucose production and glycogenolysis. In the muscle, cortisol reduces the translocation of the insulin-dependent glucose transporter 4 (GLUT4) to the plasma membrane thereby impairing glucose uptake and activating glycogen synthase kinase-3 suppressing glycogen synthesis and promoting protein degradation (Scaroni et al., 2017). In addition cortisol's lipolytic activity with an increase in circulating free fatty acids contributes to insulin resistance (Scherthaner et al., 2021). Thus it is not surprising that cortisol excess is associated with disturbed glucose homeostasis in pregnancy period.

Table (3-3): Comparison of the studied parameters among the two groups (healthy pregnant women and non-pregnant women)

Parameters	Groups	Mean \pm SE	P- Value
Random blood sugar (mg/dl)	Non-pregnant	85.72 \pm 3.03	0.001
	Healthy pregnant	102.66 \pm 5.40	
Blood cholesterol (mg/dl)	Non-pregnant	156.2 \pm 4.27	0.0001
	Healthy pregnant	212.22 \pm 9.50	
Serum cortisol (nmol/L)	Non-pregnant	607.3 \pm 28.7	0.123
	Healthy pregnant	669.9 \pm 25.11	

* Results interpreted as mean \pm SE and p-value corresponding to the paired sample t-test. Statistical test was done after considering the p-value = 0.05

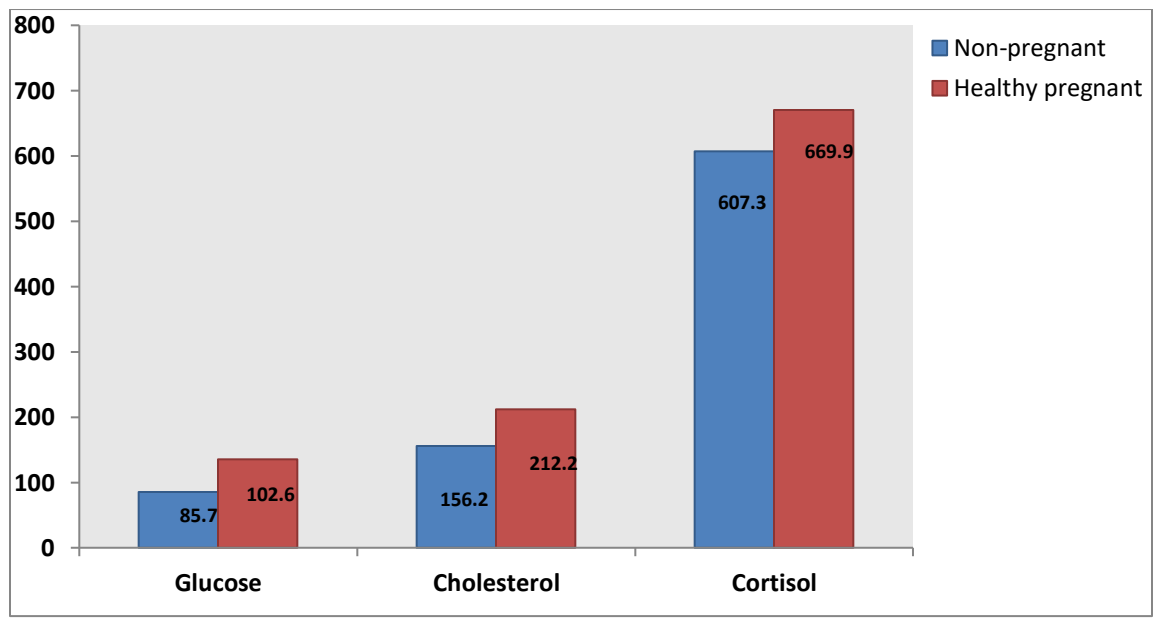


Figure (3-2): Representation of the difference in parameter values between the two groups studied (healthy pregnant and non-pregnant women)

3.2.3 Association between the three stages of pregnancy and biomarkers levels in the healthy pregnant group

The results of our study indicated, as shown in Table (3-4) and Figure (3-3), that there is a significant difference ($p < 0.05$) in the levels of random glucose, total cholesterol, and cortisol levels between the three stages of pregnancy (for the group of healthy pregnant women), where a gradual and significant increase in the levels of the three biomarkers was observed from the first trimester to the third trimester.

Our study agreed with a number of studies that indicated an increase in fat levels in the third trimester of pregnancy, such as (Rahnemaei et al., 2022), (Agarwal, 2020), and (Shen et al., 2016), But (Mankuta et al., 2010) observed that TC, LDL-C, and TG decrease in 1st trimester and increase during 2nd and 3rd trimesters.

It seems that there is a link between high blood sugar, cholesterol, and cortisol in the last trimester of pregnancy compared to other stages of pregnancy.

Increased secretion of hormones that resist insulin with the progression of pregnancy, such as estrogen and cortisol, can very well lead to high blood glucose. In the 11th week of gestation, free cortisol levels start to rise and higher levels are noted in the second and third trimesters of pregnancy. 30 to 32 weeks of gestation excessive production of cortisol has an important role in fetal lung surfactant production which is necessary for maturation of the fetal lungs (Bandoli et al., 2018). It is known that carbohydrate metabolism directly affects lipid metabolism, and although lipid levels have been studied extensively during pregnancy, there are conflicting results in this regard (Rahnemaei et al., 2022).

Pregnancy is characterized by a number of important changes in the physiology of the pregnant woman, changes that play a fundamental role in meeting the basic needs

of the mother and the requirements of the fetus (Agarwal, 2020). Among maternal physiological adaptations, changes in lipid metabolism are among the most characteristic (Agarwal, 2018). During early pregnancy, the increase in maternal fat depots is facilitated by insulin, followed by increased adipose tissue breakdown, and subsequent hypertriglyceridemia, mainly due to insulin resistance and estrogen effects (Agarwal, 2020).

Table (3-4): The difference in the studied biomarker values among the three stages of pregnancy

Parameters	First trimester Mean \pm SE	Second trimester Mean \pm SE	Third trimester Mean \pm SE	P- Value
Random blood sugar (mg/dl)	77.2 \pm 5.4	102.9 \pm 8.4	144.05 \pm 10.3	0.0001
Blood cholesterol (mg/dl)	153.07 \pm 13.8	223.4 \pm 9.4	290.4 \pm 15.4	0.0001
Serum cortisol (nmol/L)	569.7 \pm 41.6	667.8 \pm 33.4	838.6 \pm 39.6	0.0001

* Results interpreted as mean \pm SE and p-value corresponding to the ANOVA test. Statistical test was done after considering the p-value = 0.05

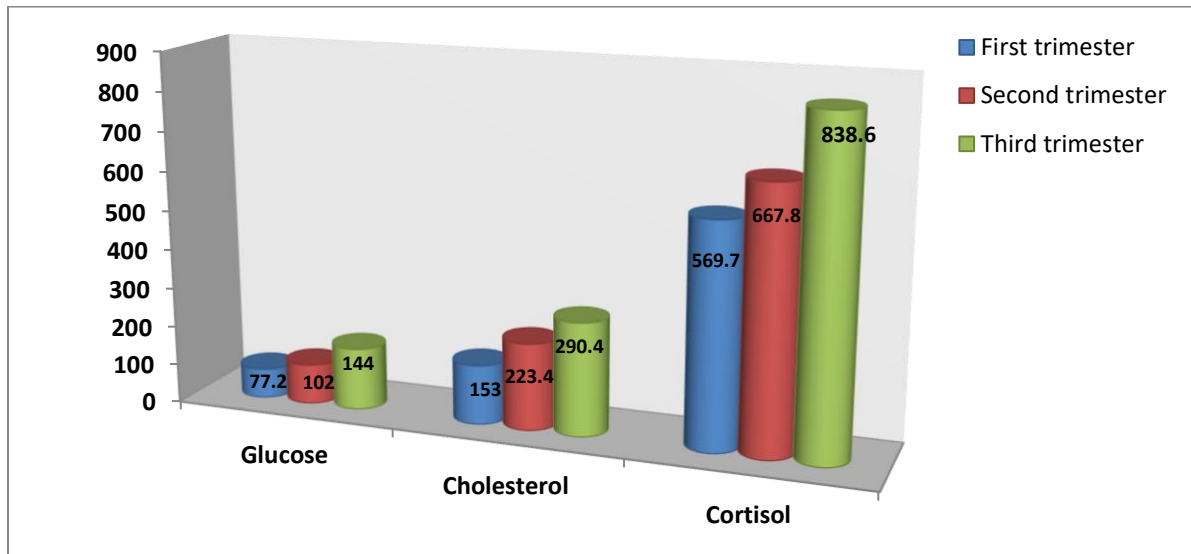


Figure (3-3): Representation of the difference in parameter values between the three stages of pregnancy within (the group of healthy pregnant)

3.2.4 Associations between weight and biomarker levels in the healthy pregnant group

Our study indicated a significant increase ($p < 0.05$) in total cholesterol levels and a non-significant increase in blood glucose ($p > 0.05$) in the group of obese pregnant women compared to their counterparts of normal weight, as shown in Table (3-5) and Figure (3-4).), while we will not notice any difference in cortisol levels between the two groups mentioned.

Our result was in agreement with several previous studies such as (Miettinen et al., 2014), which indicated elevated total cholesterol in obese women with and without gestational diabetes. Pre-pregnancy BMI has also been reported as the main factor associated with changes in TC and LDL during pregnancy (Mehran et al., 2014). A study he did (Wang et al., 2022), indicated that women who were overweight before pregnancy had a worse lipid profile (higher TG, lower HDL) even after one year from birth, indicating that the lipid profile during pregnancy is subject not only to

physiological changes but also to the patient's metabolic status. Obesity has turned into a worldwide epidemic. In the last decades, the number of obese patients has increased considerably. It is especially alarming that in recent years the increase was most pronounced in children and that it occurs both in developed, perhaps even more, in developing countries (Klop et al., 2013).

Visceral obesity leads to insulin resistance in part mediated by adipokines and free fatty acids (FFA). Adipokines such as resistin and retinol-binding protein 4 decrease insulin sensitivity. In addition, cytokines which originate from macrophages in adipose tissue, are involved in insulin resistance (Flock et al., 2011).

The postprandial increase of insulin results in the effective inhibition of hormone-sensitive lipase, which is the key enzyme for the hydrolysis of intracellular lipids (Evans et al., 2002). Insulin is also an important regulator of FFA mobilization from adipose tissue. Therefore, insulin resistance has a major impact on the metabolism of TG-rich lipoproteins and FFA (Karpe et al., 2011).

In more detail, the studies indicated that dyslipidemia observed in obesity induced by insulin resistance is multifactorial and includes hepatic overproduction of VLDL, decreased circulating TG lipolysis, impaired peripheral FFA trapping, increased influx of FFA from fat cells to the liver and other tissues and formation lipoproteins such as dense small portions (LDL). Treatment should aim at weight loss by increasing exercise and improving dietary habits while reducing total calorie intake and reducing saturated fatty acid intake (Klop et al., 2013).

Table (3-5): Effect of weight on biomarkers studied in healthy pregnant women

Parameter	Variants	Mean \pm SE	P- Value
Random blood sugar (mg/dl)	Normal weight	89.38 \pm 7.39	0.107
	Obesity	113.95 \pm 7.40	
Blood cholesterol (mg/dl)	Normal weight	179.35 \pm 12.56	0.003
	Obesity	240.17 \pm 12.48	
Serum cortisol (nmol/L)	Normal weight	669.91 \pm 34.43	0.454
	Obesity	670.05 \pm 36.49	

* Results interpreted as mean \pm SE and p-value corresponding to the paired sample t-test. Statistical test was done after considering the p-value = 0.05

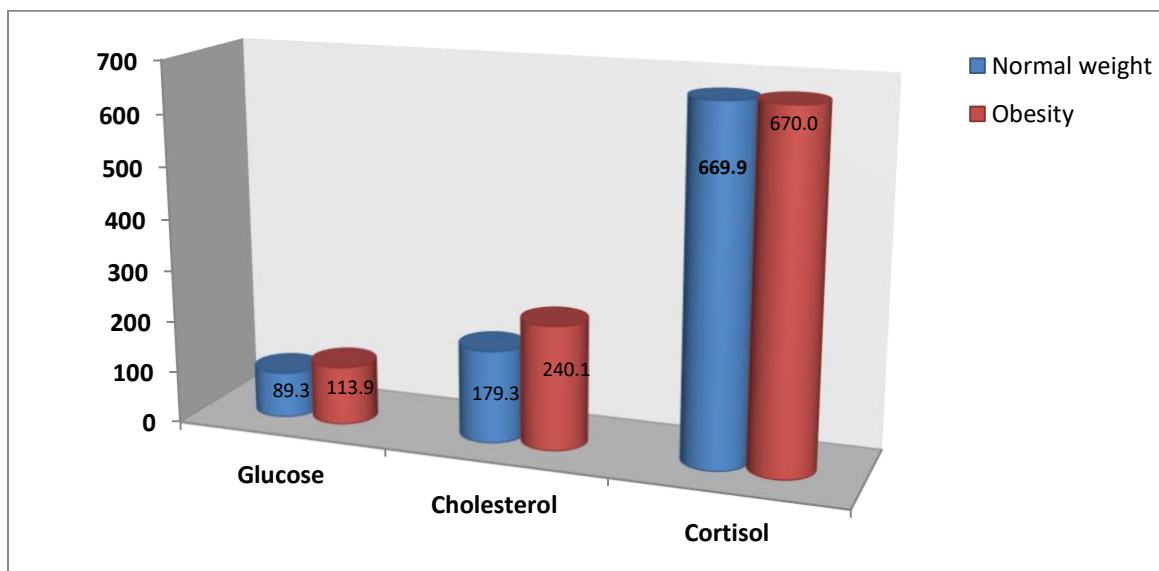


Figure (3-4): Representation of the difference in parameter values between obese and non-obese pregnant women

3.2.5 Associations between stress and biomarker levels in the healthy pregnant group

Finally, our study revealed a significant ($p < 0.05$) increase in cortisol levels in the group of pregnant women who suffer from short hours of sleep and chronic fatigue, compared to pregnant women who take enough rest, while we did not find any significant differences ($p > 0.05$) in glucose and cholesterol levels between the two groups as shown in Table (3-7) and Figure (3-6).

The physiological stress response leads to the release of cortisol, a glucocorticoid, from the adrenal glands. Designed to increase energy availability in the short term, cortisol acutely impairs insulin action and increases hepatic glucose output. The hypercortisolism associated with chronic stress exposure may further exacerbate insulin resistance and type 2 diabetes (Adam et al., 2010).

Studies of pregnant women show that apart from physiological factors, lack of sleep, extreme stress, and anxiety are also important causes of gestational diabetes (Bartha et al., 2003). On the one hand, the study found that fatigue and stress can lead to hyperactivity of the hypothalamus, pituitary gland, and adrenal glands, which leads to increased cortisol secretion and insulin resistance, which increases the risk of GDM in pregnant women (Levine et al., 2007).

Table (3-6): The effect of the sleep hours number on the studied biomarkers of healthy pregnant women

Parameter	Variants	Mean \pm SE	P- Value
Random blood sugar (mg/dl)	Enough sleep	100.45 \pm 5.93	0.283
	Lack of sleep	112.14 \pm 13.17	
Blood cholesterol (mg/dl)	Enough sleep	218.13 \pm 10.18	0.153
	Lack of sleep	201.98 \pm 24.55	
Serum cortisol (nmol/L)	Enough sleep	655.00 \pm 28.12	0.048
	Lack of sleep	734.21 \pm 54.36	

* Results interpreted as mean \pm SE and p-value corresponding to the paired sample t-test. Statistical test was done after considering the P-value = **0.05**

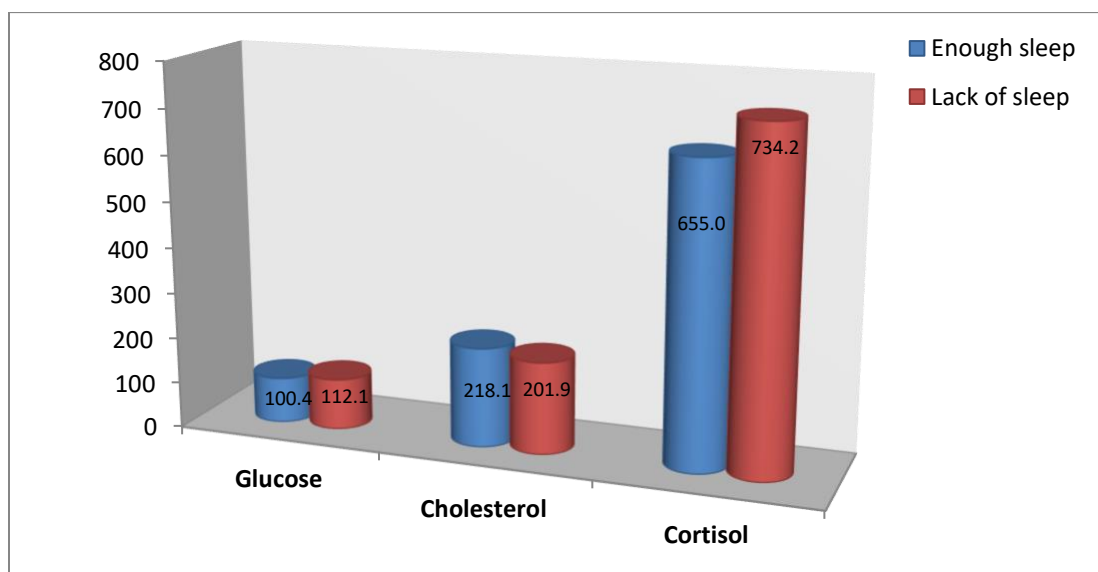


Figure (3-5): Representation of the difference in parameter values between pregnant women who sleep enough hours and those who do not take enough rest

Chapter Four: Conclusions and Recommendations

Conclusions

- 1- The percentage of pregnant women with gestational diabetes in the Tal Afar district (northwestern Iraq) is 12.9%.
- 2- 36.3% of women with gestational diabetes were diagnosed with high cholesterol
- 3- 27.2% of women with gestational diabetes reported high cortisol concentrations
- 4- A significant increase was recorded in the concentrations of glucose and cholesterol in the blood of healthy pregnant women compared to non-pregnant women.
- 5- A significant and gradual increase was observed in the levels of glucose, cholesterol, and cortisol in the blood of pregnant women from the first trimester to the third trimester of pregnancy.

Recommendations

- 1- Conducting a study to ascertain the percentage of pregnant women with gestational diabetes by including a larger number of pregnant women in the Tal Afar district and estimating their blood sugar level by following the method (glucose tolerance test).
- 2- Comparison of the blood lipid profile of pregnant women with gestational diabetes and healthy pregnant women, by drawing blood samples from volunteers while they were fasting.
- 3- Estimating the hormones insulin, pro-insulin, estrogen, progesterone, and glucagon in pregnant women with gestational diabetes to show the relationship of the mentioned biomarkers to the emergence of diabetes in pregnant women.

Chapter Five: References

1. **Adam, T. C., Hasson, R. E., Ventura, E. E., Toledo-Corral, C., Le, K. A., Mahurkar, S., Lane, C. J., Weigensberg, M. J., & Goran, M. I. (2010).** Cortisol is negatively associated with insulin sensitivity in overweight Latino youth. *The Journal of clinical endocrinology and metabolism*, 95(10), 4729–4735.
2. **Agarwal M. M. (2018).** Consensus in Gestational Diabetes MELLITUS: Looking for the Holy Grail. *Journal of clinical medicine*, 7(6), 123.
3. **Agarwal M. M. (2020).** Gestational Diabetes in the Arab Gulf Countries: Sitting on a Land-Mine. *International journal of environmental research and public health*, 17(24), 9270.
4. **Åkerblom, H. K., Vaarala, O., Hyöti, H., Ilonen, J., & Knip. M. (2002).** Environmental factors in the etiology of Type 1 diabetes. *American Journal of Medical Genetics*, 115, 18-29. doi:10.1002/ajmg.10340
5. **Al-Rifai, R. H., Abdo, N. M., Paulo, M. S., Saha, S., & Ahmed, L. A. (2021).** Prevalence of Gestational Diabetes Mellitus in the Middle East and North Africa, 2000-2019: A Systematic Review, Meta-Analysis, and Meta-Regression. *Frontiers in endocrinology*, 12, 668447.
6. **Amirian A, Kariman N, Hedayati M, Borumandnia N, Sheikhan Z(2019).** Predictive power of unconjugated estriol in diagnosis of gestational diabetes: a cohort study. *Iran Red Crescent Med J*. 21(11):1–15.
7. **Amirian, A., Rahnemaei, F. A., & Abdi, F. (2020).** Role of C-reactive Protein(CRP) or high-sensitivity CRP in predicting gestational diabetes Mellitus: Systematic review. *Diabetes & metabolic syndrome*, 14(3), 229–236.

8. **Arora, S., Ojha, S.K., Vohora, D., (2009).** Characterisation of Streptozotocin induced diabetes mellitus in Swiss Albino mice, *Glo J of Pharmacol.*, 3(2): 81-84
9. **Asare-Anane, H., Bawah, A.T., Osa-Andrews, B., Adanu, R., Ofori, E.K., Tagoe, S.B. and Nyarko, A.K. (2013).** Lipid Profile in Ghanaian Women with Gestational Diabetes Mellitus. *International Journal of Scientific & Technology Research*, 2, 168-175.
10. **Atkinson, M. A., Eisenbarth, G. S., & Michels, A. W. (2014).** Type 1 diabetes. *Lancet (London, England)*, 383(9911), 69–82.
11. **Aydemir, B., Behice Serinkan Cinemre, F., Cinemre, H., Tüten, A., Aytaç Yüksel, M., Yılmaz, N., Kaya, B., Akdemir, N., Erdogan, E., & Madazlı, R. (2019).** Paraoxonase 1 (PON1) Q192R and L55M polymorphisms, lipid profile, lipid peroxidation and lipoprotein-a levels in Turkish patients with pregnancy-related disorders. *Gynecological endocrinology : the official journal of the International Society of Gynecological Endocrinology*, 35(5), 417–421.
12. **Bandoli, G., Jelliffe-Pawlowski, L. L., Feuer, S. K., Liang, L., Oltman, S. P., Paynter, R., Ross, K. M., Schetter, C. D., Ryckman, K. K., & Chambers, C. D. (2018).** Second trimester serum cortisol and preterm birth: an analysis by timing and subtype. *Journal of perinatology:: official journal of the California Perinatal Association*, 38(8), 973–981.

13. **Bartha, J. L., Martinez-del-Fresno, P., Romero-Carmona, R., Hunter, A., & Comino-Delgado, R. (2003).** Maternal anxiety and fetal behavior at 15 weeks' gestation. *Ultrasound in obstetrics & gynecology : the official journal of the International Society of Ultrasound in Obstetrics and Gynecology*, 22(1), 57–62.
14. **Burtis, C.A. and Ashwood, E.R. (1999).** Tietz Textbook of Clinical Chemistry. 3rd Edition, W. B. Saunders Co., Philadelphia, 29-150.
15. **Cho, N. H., Shaw, J. E., Karuranga, S., Huang, Y., da Rocha Fernandes, J. D., Ohlrogge, A. W., & Malanda, B. (2018).** IDF Diabetes Atlas: Global estimates of diabetes prevalence for 2017 and projections for 2045. *Diabetes research and clinical practice*, 138, 271–281.
16. **Correa, P. J., Venegas, P., Palmeiro, Y., Albers, D., Rice, G., Roa, J., Cortez, J., Monckeberg, M., Schepeler, M., Osorio, E., & Illanes, S. E. (2019).** First trimester prediction of gestational diabetes mellitus using plasma biomarkers: a case-control study. *Journal of perinatal medicine*, 47(2), 161–168.
17. **Crown, A., & Lightman, S. (2005).** Why is the management of glucocorticoid deficiency still controversial: a review of the literature. *Clinical endocrinology*, 63(5), 483–492.
18. **Da Costa, R. M., Neves, K. B., Mestriner, F. L., Louzada-Junior, P., Bruder-Nascimento, T., & Tostes, R. C. (2016).** TNF- α induces vascular insulin resistance via positive modulation of PTEN and decreased Akt/eNOS/NO signaling in high fat diet-fed mice. *Cardiovascular diabetology*, 15(1), 119.

19. **Da Silva Xavier G. (2018).** The Cells of the Islets of Langerhans. *Journal of clinical medicine*, 7(3), 54.
20. **Deshmukh, C., & Jain, A., (2015).** Diabetes Mellitus: A Review. *Int. J. Pure App. Biosci.* 3 (3): 224-230
21. **DIAMOND Research Group. (2006).** Incidence and trends of childhood Type 1 diabetes worldwide 1990–1999. *Diabetic Medicine*, 23(8), 857-866.
22. **Evans, K., Burdge, G. C., Wootton, S. A., Clark, M. L., & Frayn, K. N. (2002).** Regulation of dietary fatty acid entrapment in subcutaneous adipose tissue and skeletal muscle. *Diabetes*, 51(9), 2684–2690.
23. **Feng, Y., Feng, Q., Qu, H., Song, X., Hu, J., Xu, X., Zhang, L., & Yin, S. (2020).** Stress adaptation is associated with insulin resistance in women with gestational diabetes mellitus. *Nutrition & diabetes*, 10(1), 4.
24. **Flock, M. R., Green, M. H., & Kris-Etherton, P. M. (2011).** Effects of adiposity on plasma lipid response to reductions in dietary saturated fatty acids and cholesterol. *Advances in nutrition (Bethesda, Md.)*, 2(3), 261–274.
25. **Fries, E., Dettenborn, L., & Kirschbaum, C. (2009).** The cortisol awakening response (CAR): facts and future directions. *International journal of psychophysiology : official journal of the International Organization of Psychophysiology*, 72(1), 67–73.
26. **Goodman, S. (2012).** Endocrine alterations. In N. L. Potts & B. L. Mandelco (Eds.), *Pediatric nursing: Caring for children and their families* (3rd ed., pp. 983-1022). Clifton Park, NY: Delmar Cengage Learning.
27. **Harvey, R.A.; Ferrier, D. (Eds.) (2011).** *Biochemistry, Lippincott Illustrated Reviews*, 5th ed.; LippincottWilliams and Wilkins: Philadelphia, PA, USA, 2011.

28. **Hod, M., Kapur, A., Sacks, D. A., Hadar, E., Agarwal, M., Di Renzo, G. C., Cabero Roura, L., McIntyre, H. D., Morris, J. L., & Divakar, H. (2015).** The International Federation of Gynecology and Obstetrics (FIGO) Initiative on gestational diabetes mellitus: A pragmatic guide for diagnosis, management, and care. *International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics*, *131 Suppl 3*, S173–S211.
29. **Hossain, M. , Rahman, A. , Mahjabeen, S. , Zaman, M. , Abedin, M. , Mahmood, T. , Razzaque, M. and Alam, U. (2020).** Comparison of Serum Lipid Profile between Gestational Diabetes Mellitus and Pregnant Women with Normal Glucose Tolerance. *Journal of Biosciences and Medicines*, *8*, 148-159.
30. **Hu, J., Gillies, C. L., Lin, S., Stewart, Z. A., Melford, S. E., Abrams, K. R., Baker, P. N., Khunti, K., & Tan, B. K. (2021).** Association of maternal lipid profile and gestational diabetes mellitus: A systematic review and meta-analysis of 292 studies and 97,880 women. *EClinicalMedicine*, *34*, 100830.
31. **Huang, A., Ji, Z., Zhao, W., Hu, H., Yang, Q., & Chen, D. (2016).** Rate of gestational weight gain and preterm birth in relation to prepregnancy body mass indices and trimester: a follow-up study in China. *Reproductive health*, *13*(1), 93.
32. **Hunt, K. J., & Schuller, K. L. (2007).** The increasing prevalence of diabetes in pregnancy. *Obstetrics and gynecology clinics of North America*, *34*(2), 173–vii.
33. **International Diabetes Federation. (2015).** IDF Diabetes Atlas (7th ed.). Brussels, Belgium: International Diabetes Federation.
34. **Ismail, M.Y., (2009).** Clinical evaluation of antidiabetic activity of Trigonella seeds and Aegle marmelos Leaves, *World Appl Sci J.*, *7*(10): 1231-1234 .

35. **Jacobson, K., Mouritsen, O. G., & Anderson, R. G. (2007).** Lipid rafts: at a crossroad between cell biology and physics. *Nature cell biology*, 9(1), 7–14.
36. **Karpe, F., Dickmann, J. R., & Frayn, K. N. (2011).** Fatty acids, obesity, and insulin resistance: time for a reevaluation. *Diabetes*, 60(10), 2441–2449.
37. **Klop, B., Elte, J. W., & Cabezas, M. C. (2013).** Dyslipidemia in obesity: mechanisms and potential targets. *Nutrients*, 5(4), 1218–1240.
38. **Knowler, W. C., Barrett-Connor, E., Fowler, S. E., Hamman, R. F., Lachin, J. M., Walker, E. A., Nathan, D. M., & Diabetes Prevention Program Research Group (2002).** Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *The New England journal of medicine*, 346(6), 393–403.
39. **Kühl C. (1998).** Etiology and pathogenesis of gestational diabetes. *Diabetes care*, 21 Suppl 2, B19–B26.
40. **Laws, R. A., St George, A. B., Rychetnik, L., & Bauman, A. E. (2012).** Diabetes prevention research: a systematic review of external validity in lifestyle interventions. *American journal of preventive medicine*, 43(2), 205–214.
41. **Leiva, A., de Medina, C. D., Guzmán-Gutiérrez, E., Pardo, F., & Sobrevi, L. (2013).** Maternal Hypercholesterolemia in Gestational Diabetes and the Association with Placental Endothelial Dysfunction. *InTech*. doi: 10.5772/55297
42. **Levine, A., Zagoory-Sharon, O., Feldman, R., Lewis, J. G., & Weller, A. (2007).** Measuring cortisol in human psychobiological studies. *Physiology & behavior*, 90(1), 43–53.

43. **Li, G., Kong, L., Zhang, L., Fan, L., Su, Y., Rose, J. C., & Zhang, W. (2015).** Early Pregnancy Maternal Lipid Profiles and the Risk of Gestational Diabetes Mellitus Stratified for Body Mass Index. *Reproductive sciences (Thousand Oaks, Calif.)*, 22(6), 712–717.
44. **Li, Y., Wang, X., Jiang, F., Chen, W., Li, J., & Chen, X. (2021).** Serum lipid levels in relation to clinical outcomes in pregnant women with gestational diabetes mellitus: an observational cohort study. *Lipids in health and disease*, 20(1), 125.
45. **MAHMOOD, F., HUMZA1, M. S., MUDASSAR, S., ALI1, M., NOOR, A., SAEED, M. Q., HAQ, M. F., AKRAM, S., NISAR, U., SALEEM, A., & CHEEMA, A. M. (2020).** The Hormonal Levels of Cortisol in Second and Third Trimesters of Gestational Diabetes Mellitus patients with or without family history. *Pakistan Journal of Medical & Health Sciences*, Vol. 14, NO. 2, APR – JUN 2020.
46. **Mankuta, D., Elami-Suzin, M., Elhayani, A., & Vinker, S. (2010).** Lipid profile in consecutive pregnancies. *Lipids in health and disease*, 9, 58.
47. **Mehran, L., Amouzegar, A., Tohidi, M., Moayedi, M., & Azizi, F. (2014).** Serum free thyroxine concentration is associated with metabolic syndrome in euthyroid subjects. *Thyroid : official journal of the American Thyroid Association*, 24(11), 1566–1574.
48. **Miettinen, H. E., Rönö, K., Koivusalo, S., Stach-Lempinen, B., Pöyhönen-Alho, M., Eriksson, J. G., Hiltunen, T. P., & Gylling, H. (2014).** Elevated serum

- squalene and cholesterol synthesis markers in pregnant obese women with gestational diabetes mellitus. *Journal of lipid research*, 55(12), 2644–2654.
49. **Mohammed, M.K. (2020).** Estimating the difference of glucose levels during 1st and 3rd trimester of pregnancy in Tikrit city in Iraq. *Annals of Tropical Medicine and Public Health*, 23, 106-111.
50. **Mudd, L. M., Holzman, C. B., Catov, J. M., Senagore, P. K., & Evans, R. W. (2012).** Maternal lipids at mid-pregnancy and the risk of preterm delivery. *Acta obstetrica et gynecologica Scandinavica*, 91(6), 726–735.
51. **Nasioudis, D., Doulaveris, G., & Kanninen, T. T. (2019).** Dyslipidemia in pregnancy and maternal-fetal outcome. *Minerva ginecologica*, 71(2)155–162.
52. **Olokoba, A. B., Obateru, O. A., & Olokoba, L. B. (2012).** Type 2 diabetes mellitus: a review of current trends. *Oman medical journal*, 27(4), 269–273.
53. **Ortiz, R., Kluwe, B., Odei, J. B., Echouffo Tcheugui, J. B., Sims, M., Kalyani, R. R., Bertoni, A. G., Golden, S. H., & Joseph, J. J. (2019).** The association of morning serum cortisol with glucose metabolism and diabetes: The Jackson Heart Study. *Psychoneuroendocrinology*, 103,25–32.
54. **Rabiepoor, S., Abedi, M., Saboory, E., & Khalkhali, H. R. (2019).** Stress during pregnancy affected neonatal outcomes and changed cortisol and leptin levels both in mothers and newborns. *Journal of neonatal-perinatal medicine*, 12(2), 209–219.

55. **Rahnemaei, F., Pakzad, R., Amirian, A., Pakzad, I. & Abdi, F. (2022).** Effect of gestational diabetes mellitus on lipid profile: A systematic review and meta-analysis. *Open Medicine*, 17(1), 70-86.
56. **Rao Kondapally Seshasai, S., Kaptoge, S., Thompson, A., Di Angelantonio, E., Gao, P., Sarwar, N., Whincup, P. H., Mukamal, K. J., Gillum, R. F., Holme, I., Njølstad, I., Fletcher, A., Nilsson, P., Lewington, S., Collins, R., Gudnason, V., Thompson, S. G., Sattar, N., Selvin, E., Hu, F. B., ... Emerging Risk Factors Collaboration (2011).** Diabetes mellitus, fasting glucose, and risk of cause-specific death. *The New England journal of medicine*, 364(9), 829–841.
57. **Rutten GEHM, De Grauw WJC, Nijpels G, et al (2006).** NHG-standaard Diabetes mellitus type 2 - Tweede herziening [Dutch College of General Practitioners' guidelines on Type 2 Diabetes Mellitus - second version]. *Huisarts Wet*;49(3):137-52.11.
58. **Ryckman, K. K., Spracklen, C. N., Smith, C. J., Robinson, J. G., & Saftlas, A. F. (2015).** Maternal lipid levels during pregnancy and gestational diabetes: a systematic review and meta-analysis. *BJOG : an international journal of obstetrics and gynaecology*, 122(5), 643–651.
59. **Sapra A, Bhandari P. Diabetes Mellitus. (2022).** In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from:
60. **Scaroni, C., Zilio, M., Foti, M., & Boscaro, M. (2017).** Glucose Metabolism Abnormalities in Cushing Syndrome: From Molecular Basis to Clinical Management. *Endocrine reviews*, 38(3), 189–219.

61. **Scherthaner-Reiter, M. H., Wolf, P., Vila, G., & Luger, A. (2021).** The Interaction of Insulin and Pituitary Hormone Syndromes. *Frontiers in endocrinology*, *12*, 626427.
62. **Shen, H., Liu, X., Chen, Y., He, B., & Cheng, W. (2016).** Associations of lipid levels during gestation with hypertensive disorders of pregnancy and gestational diabetes mellitus: a prospective longitudinal cohort study. *BMJ open*, *6*(12), e013509.
63. **Singal, A. G., Higgins, P. D., & Waljee, A. K. (2014).** A primer on effectiveness and efficacy trials. *Clinical and translational gastroenterology*, *5*(1), e45.
64. **Soliman G. A. (2018).** Dietary Cholesterol and the Lack of Evidence in Cardiovascular Disease. *Nutrients*, *10*(6), 780.
65. **Sudasinghe, B. H., Wijeyaratne, C. N., & Ginige, P. S. (2018).** Long and short-term outcomes of Gestational Diabetes Mellitus (GDM) among South Asian women - A community-based study. *Diabetes research and clinical practice*, *145*, 93–101.
66. **Todd, J. A. (2010).** Etiology of Type 1 diabetes. *Immunity*, *32*, 457-467. doi:10.1016/j.immuni.2010.04.001
67. **Tuomilehto, J., Lindström, J., Eriksson, J. G., Valle, T. T., Hämäläinen, H., Ilanne-Parikka, P., Keinänen-Kiukaanniemi, S., Laakso, M., Louheranta, A., Rastas, M., Salminen, V., Uusitupa, M., & Finnish Diabetes Prevention Study Group (2001).** Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance. *The New England journal of medicine*, *344*(18), 1343–1350.

68. **Vejrazkova, D., Vcelak, J., Vankova, M., Lukasova, P., Bradnova, O., Halkova, T., Kancheva, R., & Bendlova, B. (2014).** Steroids and insulin resistance in pregnancy. *The Journal of steroid biochemistry and molecular biology*, 139, 122–129.
69. **Wang, J., Li, Z., & Lin, L. (2019).** Maternal lipid profiles in women with and without gestational diabetes mellitus. *Medicine*, 98(16), e15320.
70. **Wang, Y., Lu, S., Xu, X., Zhang, L., Yang, J., & Hu, W. (2022).** The interactive effects of pre-pregnancy body mass index, thyroid function, and blood lipid levels on the risk of gestational diabetes mellitus: a crossover analysis. *BMC pregnancy and childbirth*, 22(1), 580.
71. **Wannamethee, S. G., Shaper, A. G., Whincup, P. H., Lennon, L., & Sattar, N. (2011).** Impact of diabetes on cardiovascular disease risk and all-cause mortality in older men: influence of age at onset, diabetes duration, and established and novel risk factors. *Archives of internal medicine*, 171(5), 404–410.
72. **Yamazaki, D., Hitomi, H., & Nishiyama, A. (2018).** Hypertension with diabetes mellitus complications. *Hypertension research: official journal of the Japanese Society of Hypertension*, 41(3), 147–156.
73. **Zeljковиć, A., Ardalić, D., Vekić, J., Antonić, T., Vladimirov, S., Rizzo, M., Gojković, T., Ivanišević, J., Mihajlović, M., Vujčić, S., Cabunac, P., Spasojević-Kalimanovska, V., Miković, Ž., & Stefanović, A. (2022).** Effects of Gestational Diabetes Mellitus on Cholesterol Metabolism in Women with High-Risk Pregnancies: Possible Implications for Neonatal Outcome. *Metabolites*, 12(10), 959.

74. **Zhang, C., Rawal, S., & Chong, Y. S. (2016).** Risk factors for gestational diabetes: is prevention possible?. *Diabetologia*, *59*(7), 1385–1390.
75. **Zhu, Y., & Zhang, C. (2016).** Prevalence of Gestational Diabetes and Risk of Progression to Type 2 Diabetes: a Global Perspective. *Current diabetes reports*, *16*(1), 7.
76. **Zimmet, P., Alberti, K. G., & Shaw, J. (2001).** Global and societal implications of the diabetes epidemic. *Nature*, *414*(6865), 782–787.

Appendix A : Glucose Kit .



BIOLABO
www.biolabo.fr
MANUFACTURER:
BIOLABO SAS
Les Hautes Rives
02160, Maizy, France

GLUCOSE GOD-PAP

Reagent for quantitative determination of glucose in human plasma, serum, cerebrospinal fluid (CSF) or urines

I REF 87409 R1 10 x 100 mL R2 10 x 100 mL R3 1 x 5 mL

TECHNICAL SUPPORT AND ORDERS

Tel: (33) 03 23 25 15 50

support@biolabo.fr

Latest revision: www.biolabo.fr



Made In France

I: corresponds to significant modifications

I INTENDED USE

This reagent is designated for professional use in laboratory (automated method). It allows the quantitative determination of glucose in human serum and plasma, urines to screen its level.

CLINICAL SIGNIFICANCE (1) (6)

The glucose level in blood is maintained within a fairly narrow range under diverse conditions (feeding, fasting, or severe exercise) by regulatory hormones such as insulin, glucagon, or epinephrin. Measurement of glucose is one of the most frequently performed procedures in clinical chemistry laboratories in conjunction with other tolerance testing (Glucose tolerance test, Glucose 2h post-prandial...).

The most frequently encountered disorder of carbohydrate metabolism in blood is hyperglycemia due to diabetes mellitus.

Hyperglycemia higher than 300 mg/dL (16.5 mmol/L) may induce keto-acidosis and hyperosmolar coma.

In prolonged hypoglycemia, lower than 30 mg/dL (1.7 mmol/L), severe irreversible encephalic damage may occurs.

PRINCIPLE (4) (5)

Trinder Method.

Glucose is oxidized by GOD to gluconic acid and hydrogen peroxide which in conjunction with POD, reacts with chloro-4-phenol and PAP to form a red quinoneimine. The absorbance of the colored complex, proportional to the concentration of glucose in the specimen is measured at 500 nm.

REAGENTS

R1	GLUCOSE GOD PAP	Enzymes-Buffer
	Phosphate Buffer	150 mmol/L
	Glucose oxidase (GOD)	≥ 20 000 UI/L
	Peroxidase (POD)	≥ 1000 UI/L
	4-Amino-antipyrine (PAP)	0.8 mmol/L
R2	GLUCOSE GOD PAP	Chromogen
	Chloro-4-phenol	2 mmol/L
R3	GLUCOSE GOD PAP	Standard
	Glucose 100 mg/dL (5.55 mmol/L)	

According to 1272/2008/EC regulation, these reagents are not classified as dangerous

SAFETY CAUTIONS

- Refer to current Material Safety Data Sheet available on request or on www.biolabo.fr
 - Verify the integrity of the contents before use.
 - Waste disposal: Respect legislation in force in the country.
 - All specimens or reagents of biological origin should be handled as potentially infectious. Respect legislation in force in the country.
- I Any serious incident that has occurred in connection with the device is notified to the manufacturer and the competent authority of the Member State in which the user and/or patient is based.

REAGENTS PREPARATION

Use a non-sharp instrument to remove aluminum cap.
Add promptly the content of vial R1 into vial R2.
Mix gently until complete dissolution.
Vial R3: Ready to use

STABILITY AND STORAGE

Stored away from light, well cap in the original vial at 2-8°C, reagent is stable when stored and used as described in the insert:

- Unopened,
 - Until the expiry date stated on the label of the Kit.
- Once opened:
 - Reconstitute immediately Enzymes-buffer (vial R1)
 - Vial R3: Transfer requested quantity and store the vial at 2-8°C.
- Once reconstituted:
 - Transfer requested quantity and store the vial at 2-8°C.
 - Working reagent is stable at least for 2 years.
 - Discard any reagent if cloudy or if reagent blank at 500 nm > 0.400.
 - Don't use working reagent after expiry date.

SPECIMEN COLLECTION AND HANDLING (2)

Serum or plasma:

Separate promptly from cells to prevent glycolysis. If fluoride is used as a preservative, a decrease of 9 mg/dL (0.5 mmol/L) is seen within the first 2 hours, then concentration stabilises.

Glucose is stable in serum or heparinised plasma :

- for 8 h at 25°C or 72 h at 2-8°C

Glucose is stable in plasma (Sodium fluoride or iodoacetate) :

- for 24 h at room temperature.

CSF: Process immediately to avoid falsely low results. Store at -20°C.

Urinés: Collect in dark bottle and store at 2-8°C. Preserve 24 h urines with 5 mL glacial acetic acid or 5 g sodium benzoate or sodium fluoride.

LIMITS (3)


For a more comprehensive review of factors affecting this assay refer to the publication of Young D.S.

MATERIAL REQUIRED BUT NOT PROVIDED

- Basic medical analysis laboratory equipment.
- Spectrophotometer or Biochemistry Clinical Analyzer

GL_DT_220_IFU_87409_EN_V02_20220519

Appendix B : Cholesterol Kit .



BIOLABO
www.biolabo.fr
MANUFACTURER:
BIOLABO SAS,
Les Hautes Rives
02160, Maizy, France

CHOLESTEROL CHOD PAP Method

Reagent for quantitative determination of Total Cholesterol in human serum or plasma

REF 80106	R1	2 x 100 mL	R2	2 x 100 mL	R3	1 x 5 mL
REF 87356	R1	10 x 100 mL	R2	10 x 100 mL	R3	1 x 5 mL
REF 87656	R1	6 x 500 mL	R2	6 x 500 mL	R3	1 x 10 mL

TECHNICAL SUPPORT AND ORDERS
Tel : (33) 03 23 25 15 50
Fax: (33) 03 23 256 256

CLINICAL SIGNIFICANCE (1) (2)

Total cholesterol assay, associated to assays of others lipids in serum is used in the diagnosis of hyperlipidemia. Increased levels are also seen in hepatic and thyroid disorders.

Total cholesterol assay associated to triglycerides, HDL-Cholesterol and LDL-Cholesterol determination is useful in the prediction of coronary heart diseases.

So this assay is used in the diagnosis and treatment of atherosclerotic diseases. Hypercholesterolemia can also be observed in certain cases of diabetes. Secondary disorders that elevate cholesterol levels, should be ruled prior to initiating therapy with cholesterol-lowering drugs.

PRINCIPLE (4)

Enzymatic method described by Allain and al., which reaction scheme is as follows:

$$\text{Cholesterol esters} \xrightarrow{\text{CE}} \text{Cholesterol} + \text{free fatty acids}$$

$$\text{Cholesterol} + \text{O}_2 \xrightarrow{\text{CO}} \text{Cholesten 4 one 3} + \text{H}_2\text{O}_2$$

$$2 \text{H}_2\text{O}_2 + \text{Phenol} + \text{PAP} \xrightarrow{\text{POD}} \text{Quinoneimine (pink)} + 4 \text{H}_2\text{O}$$

SAFETY CAUTIONS

BIOLABO reagents are designated for professional, in vitro diagnostic use.

- Verify the integrity of the contents before use.
- Use adequate protections (overall, gloves, glasses).
- Do not pipette by mouth.
- In case of contact with skin and eyes, thoroughly wash affected areas with plenty of water and seek medical advice.
- Reagents contain sodium azide (concentration < 0.1%) which may react with copper and lead plumbing. Flush with plenty of water when disposing.
- Material Safety Data Sheet is available upon request.
- Waste disposal: Respect legislation in force in the country. All specimens should be handled as potentially infectious, in accordance with good laboratory practices using appropriate precautions. Respect legislation in force in the country.

REAGENTS PREPARATION

Add promptly the content of vial R2 (Enzymes), into vial R1 (Buffer).

Mix gently until complete dissolution (approximately 2 minutes).

Vial R2: If appropriate, use a non-sharp instrument to remove aluminium cap.

STABILITY AND STORAGE

Store at 2-8°C, well recap in the original vial and away from light.

- **Standard (vial R3):** Transfer the requested quantity, recap and store at 2-8°C.
- Reagents are stable until expiry date stated on the label of the kit when stored and used as described in the insert.
- Working reagent is stable at least for 2 years.
- Discard any reagent if cloudy or if reagent blank at 500 nm > 0.400.
- Don't use working reagent after expiry date stated on the label of the Kit.

SPECIMEN COLLECTION AND HANDLING (2)

Serum or plasma (Heparin or EDTA).
Do not use oxalate, fluoride or citrate. Collect on fasting patient. Separate serum from cells within 2 hours.

Cholesterol is stable in the specimen for:

- 5-7 days at 2-8°C
- 3 months at -20°C
- Many years at -70°C.
- Avoid repeated freezing and thawing

REAGENTS COMPOSITION

Vial R1 BUFFER

Phosphate buffer	100	mmol/L
Chloro-4-phenol	5	mmol/L
Sodium Cholate	2.3	mmol/L
Triton x 100	1.5	mmol/L
Preservative		

Vial R2 ENZYMES

Cholesterol oxydase (CO)	≥ 100	IU/L
Cholesterol esterase (CE)	≥ 170	IU/L
Peroxydase (POD)	≥ 1200	IU/L
4 - Amino - antipyrine (PAP)	0.25	mmol/L
PEG 6000	167	µmol/L

Vial R3 STANDARD

Cholesterol 200 mg/dL (5.17 mmol/L)

CE

IVD IN VITRO DIAGNOSTIC USE



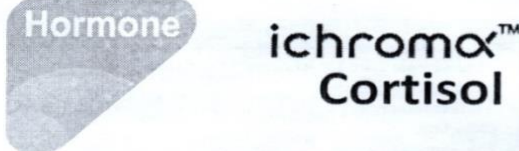
Manufacturer Use by In vitro diagnostic Temperature limitation Catalogue number See insert Batch number Store away from light sufficient for dilute with

Made in France Latest revision: www.biolabo.fr Revision: 26/07/2011

Appendix C: Cortisol Kit .

Document No. : INS-DCO-EN
Revision date : April 6, 2022 (Rev. 00)

BIO-TECHNOLOGY
boditech



INTENDED USE

ichroma™ Cortisol is a fluorescence immunoassay (FIA) for the quantitative determination of Cortisol in human whole blood/serum/plasma. It is useful as an aid in management and monitoring of concentration of cortisol. For *in vitro* diagnostic use only.

INTRODUCTION

Cortisol is a potent hormone known as a glucocorticoid that affects the metabolism of carbohydrates, proteins, and fats, but especially glucose. Cortisol test is performed on patients who may have malfunctioning adrenal glands. Cortisol level normally rises and falls during the day. It peaks its highest level between 6 and 8 AM and gradually falls, reaching its lowest point around midnight. When cortisol level is measured, blood specimen is usually collected at 8 AM and again at 4 PM. It should be noted that normal values may be adjusted in individuals who have worked during the night and slept during the day for long periods of time. **ichroma™ Cortisol** quantitatively measures the cortisol concentration of whole blood, serum and plasma.

PRINCIPLE

The test uses a competitive immunodetection method. The antigen in the sample binds to the fluorescence-labeled detector antibodies in buffer, forming the complexes as a sample mixture. They will migrate onto nitrocellulose matrix, which will interfere with the binding of the free fluorescence-labeled detector antibodies to the immobilized-BSA-cortisol conjugate on the test strip. More antigens in the sample will result in less free detection antibodies to accumulate, which lead to less fluorescence signal by the free fluorescence-labeled detector antibodies. This signal is processed by the instrument for **ichroma** tests to show cortisol concentration in the sample.

COMPONENTS

ichroma™ Cortisol consists of 'cartridges', 'detector tube', 'detector diluent'.

- The cartridge contains the membrane called a test strip which has cortisol-BSA conjugate and anti-mouse IgG at two test lines, and streptavidin at the control line. All cartridges are individually sealed in an aluminum foil pouch containing a desiccant, and they are further packaged in a box.
- The detector tube has a granule containing anti-cortisol-fluorescent conjugator, BSA-biotin-fluorescence conjugate, bovine serum albumin (BSA) as a stabilizer and sodium azide as a preservative in phosphate buffered saline (PBS). All detector tubes are packed in a pouch.

- The detector diluent contains bovine serum albumin (BSA) as a stabilizer, tween 20 as detergent, sodium azide as a preservative in phosphate buffered saline (PBS), and it is pre-dispensed in a vial. The detector diluent is packed in a box.

WARNINGS AND PRECAUTIONS

- For *in vitro* diagnostic use only.
- Follow the instructions and procedures described in this 'Instructions for use'.
- Use only fresh samples and avoid direct sunlight.
- Lot numbers of all the test components (cartridge, detector tube, detector diluent and ID chip) must match each other.
- Do not interchange the test components between different lots or use the test components after the expiration date, either of which might yield incorrect result(s).
- Do not reuse cartridges or detector tubes. A cartridge should be used for testing one sample only. A detector tube should be used for processing of one sample only.
- The cartridge should remain sealed in its original pouch until just before use. Do not use the cartridge, if pouch is damaged or has already been opened.
- Frozen sample should be thawed only once. For shipping, samples must be packed in accordance with local regulations. Sample with severe hemolysis and/or hyperlipidemia must not be used.
- If test components and/or sample are stored in refrigerator, then allow cartridge, detector tube, detector diluent and sample to be at room temperature for approximately 30 minutes before use.
- The instrument for **ichroma™** tests may generate slight vibration during use.
- Used cartridges, detector tubes, detector diluent and pipette tips should be handled carefully and discarded by an appropriate method in accordance with relevant local regulations.
- The detector tube and the detector diluent contain sodium azide (NaN₃), and they may cause certain health issues like convulsions, low blood pressure and heart rate, loss of consciousness, lung injury and respiratory failure. Avoid contact with skin, eyes, and clothing. In case of contact, rinse immediately with running water.
- No Biotin interference was observed in **ichroma™ Cortisol** when biotin concentration in the sample was below 500 ng/mL. If a patient has been taking biotin at dosage of more than 0.03 mg a day, it is recommended to test again 24 hours after discontinuation of biotin intake.
- **ichroma™ Cortisol** will provide accurate and reliable results subject to the below conditions.
 - **ichroma™ Cortisol** should be used only in conjunction with the instrument for **ichroma™** tests.
 - Have to use recommended anticoagulant.

Recommended anticoagulant

K₂ EDTA, K₃ EDTA, Lithium heparin

الخلاصة

المقدمة :

سكري الحمل هو نوع من مرض السكري يتم تشخيصه لأول مرة أثناء الحمل (فترة الحمل). مثل الأنواع الأخرى من داء السكري ، يؤثر سكري الحمل على كيفية استخدام الخلايا للسكر (الجلوكوز). يتسبب سكري الحمل في ارتفاع نسبة السكر في الدم ، مما قد يؤثر على الحمل وصحة الجنين.

على الرغم من أن حدوث أي مضاعفات أثناء الحمل هو مدعاة للقلق ، إلا أن هناك أخبارًا جيدة للسيدات الحوامل المصابات بهذا المرض. يمكن السيطرة على سكري الحمل عن طريق تناول الأطعمة الصحية وممارسة الرياضة وتناول الأدوية إذا لزم الأمر. من الممكن أيضًا ، من خلال التحكم في مستويات السكر في الدم ، الحفاظ على صحة الأم وصحة الجنين ، ومنع صعوبات المخاض.

لم تحدد الأبحاث بعد سبب إصابة بعض النساء بسكري الحمل دون أخريات. غالبًا ما يلعب الوزن الزائد قبل الحمل دورًا. عادة ، تعمل العديد من الهرمونات على الحفاظ على نسبة السكر في الدم عند المستويات الطبيعية. لكن أثناء الحمل ، تتغير مستويات الهرمونات مثل الأنسولين والجلوكاجون والكورتيزول والإستروجين والبروجسترون ، مما يجعل من الصعب على الجسم تنظيم نسبة السكر في الدم بكفاءة. وهذا يؤدي إلى زيادة مستوى السكر في الدم.

أهداف البحث:

التحقق من نسبة الحوامل المصابات بسكري الحمل من سكنة قضاء تلعفر الواقع شمال غرب العراق (ذات الأغلبية التركمانية) ومقارنتها مع النسبة التي ذكرها باحثون آخرون عن الحوامل العراقيات (من الجنسية العربية). وكذلك تأكيد العلاقة المحتملة بين مقاومة الأنسولين وارتفاع نسبة السكر في الدم وارتفاع مستويات الكوليسترول والكورتيزول. بالإضافة إلى مقارنة مستويات الجلوكوز والكوليسترول والكورتيزول بين المجموعات المختلفة للحوامل الأصحاء.

العينات وطرق العمل:

جمع العينات:

اشتملت هذه الدراسة على مجموعتين من النساء من سكنة قضاء تلعفر العراقية ، تراوحت أعمارهن بين (16-40 سنة) ، المجموعة الأولى ضمت 85 امرأة حامل ، في حين ضمت المجموعة الثانية 40 امرأة متزوجة غير حامل.

طرق العمل:

1- تم اتباع الطريقة الأنزيمية اللونية واستخدام جهاز المطياف الضوئي (الباعث للاشعة المرئية) لتقدير مستويات الجلوكوز والكوليسترول الكلي في الدم.

2- تم استخدام تقنية المقايسة المناعية التنافسية باستخدام جهاز ichroma لتقدير مستويات الكورتيزول في الدم.

النتائج:

أظهرت هذه الدراسة أن نسبة الحوامل المصابات بسكري الحمل في منطقة تلعفر كانت (12.9%). كما وجد أن (45.4%) من النساء المصابات بسكري الحمل كن يعانين من السمنة ، ونسبة مماثلة يعانين من قلة النوم والاجهاد المزمن. بالإضافة إلى ذلك ، وجد أن (63.6%) منهن كان لديهن تاريخ عائلي للإصابة بمرض السكري ، كما وجد أن من بين النساء المصابات بسكري الحمل (36.3%) و (27.2%) يعانين من ارتفاع الكوليسترول والكورتيزول. ، على التوالي.

أظهرت دراستنا زيادة معنوية ($P < 0.05$) في مستويات الجلوكوز العشوائية والكوليسترول الكلي في دم النساء الحوامل الأصحاء ، مقارنة بمجموعة غير الحوامل.

بالمقارنة بين مراحل الحمل الثلاث ، أشارت نتائج دراستنا إلى وجود زيادة معنوية ($p < 0.05$) في مستويات الجلوكوز العشوائية ، ومستويات الكوليسترول الكلي ، ومستويات الكورتيزول ، من الثلث الاول حتى الثلث الثالث من الحمل.

وأخيراً أشارت الدراسة إلى وجود زيادة معنوية ($P < 0.05$) في مستوى الكوليسترول الكلي لدى النساء الحوامل البدنيات مقارنة بالنساء ذوات الوزن الطبيعي. كما لوحظ زيادة ذات دلالة إحصائية في مستوى هرمون الكورتيزول لدى النساء الحوامل اللواتي يعانين من الإجهاد المزمن، مقارنة بنظيرتهن اللواتي يتمتعن بحالة نفسية جيدة ويأخذن قسطاً كافياً من النوم والراحة.

الاستنتاج:

بلغت نسبة النساء المصابات بسكري الحمل بين سكان قضاء تلعفر (12.9%) ، ولا تختلف هذه النسبة كثيراً عن النسبة المشار إليها في مدينة بغداد. تعاني الغالبية العظمى من النساء الحوامل الأصحاء من زيادة فسيولوجية في مستويات الجلوكوز والكوليسترول والكورتيزول. ترتفع مستويات المؤشرات الحيوية الثلاثة تدريجياً أثناء تقدم الحمل. كما تبين أن السمنة لها تأثير واضح على مستويات الكوليسترول في الدم ، وهناك علاقة مباشرة بين التعب والإجهاد المزمن وقلة النوم مع مستويات الكورتيزول في دم المرأة الحامل السليمة.



وزارة التعليم العالي والبحث العلمي

جامعة تلعفر

كلية التمريض



نسبة الحوامل المصابات بسكري الحمل في قضاء تلعفر وعلاقتها ببعض المؤشرات الحيوية

مشروع تخرج تقدم به:

فاطمة باقر خضر

صلاح عبد الله قنبر

ابتهال عادل علي

عمر صادق عباس

زينب عبد الغني مصطفى

خالد محمود قدو

الى

مجلس كلية التمريض / جامعة تلعفر كجزء من متطلبات نيل شهادة البكالوريوس
في علوم التمريض

باشراف

المدرس الدكتور

أشرف رعد الصفار



العدد : ت / ٥٩٨٩
التاريخ : ٢٠٢٣/٩/١٦

رقم

الجامعات كافة / السيد رئيس الجامعة

الهيئتين / السيد رئيس الهيئة

المجلس العراقي للاختصاصات الطبية / السيد رئيس المجلس

م/ التحول الرقمي

تحية طيبة. . .

إشارة الى كتاب الأمانة العامة لمجلس الوزراء ذي العدد ش.ز.ل/١٠/١٠/إعمام/٤١٩٢١ المؤرخ في ٢٠٢٣/٨/٣١ المتضمن توجيه السيد رئيس مجلس الوزراء خلال اجتماع مجلس الوزراء في جلسته الاعتيادية الخامسة والثلاثين المنعقدة في ٢٠٢٣/٨/٢٩ بالآتي:
"إعطاء الأولوية في التحول الرقمي إلى الدوائر ذات المساس المباشر مع المواطنين".

لعمل بموجبه وإعلامنا بإجراءاتكم بالسرعة الممكنة ليتسنى لنا إجابة الأمانة العامة لمجلس الوزراء .. مع فائق التقدير والاحترام.

السيد جاد المصطفى
لتزويد السيد جاد المصطفى
السيد احمد مكي المصطفى
لتزويد السيد احمد مكي المصطفى
السيد عدنان ابراهيم عبد
السيد عدنان ابراهيم عبد

كلية الجراحين
السيد جاد المصطفى
السيد احمد مكي المصطفى
السيد عدنان ابراهيم عبد

وكيل الوزارة للشؤون الإدارية

٢٠٢٣/٩/١٦
٣٥٠٥
٢٠٢٣/٩/١٦

نسخة منه إلى //

- الأمانة العامة لمجلس الوزراء / إشارة الى كتابكم المشار اليه اعلاه / للفضل بالاطلاع ... مع التقدير.
- مكتب الوزير / إشارة الى هامش معاليه بتاريخ ٢٠٢٣/٩/٤ على كتاب الأمانة العامة لمجلس الوزراء المشار اليه اعلاه ... مع التقدير.
- مكتب وكيل الوزارة للشؤون الإدارية / إشارة الى هامش سيادته بتاريخ ٢٠٢٣/٩/٤ على كتاب الأمانة العامة لمجلس الوزراء المشار اليه اعلاه ... مع التقدير.
- مكاتب الوكلاء / للفضل بالاطلاع ولنفس الغرض اعلاه ... مع التقدير.
- مكاتب المستشارين / للفضل بالاطلاع ... مع التقدير.
- مكتب رئيس جهاز الاشراف والتقويم العلمي / لنفس الغرض اعلاه ... مع التقدير.
- دوائر الوزارة كافة / لنفس الغرض اعلاه ... مع التقدير.
- دائرة البحث والتطوير / لجنة التحول الرقمي / للفضل بالاطلاع ... مع التقدير.
- دائرة التعليم الجامعي الاهلي / لاتخاذ ما يلزم من قبلكم فيما يخص الجامعات الاهلية .. مع التقدير
- دائرة الاعمار والمشاريع / اقسام الدائرة كافة / لنفس الغرض اعلاه .. مع التقدير
- دائرة الاعمار والمشاريع / قسم تكنولوجيا المعلومات / شعبة الأنظمة البرمجية وقاعدة البيانات ... مع الأولويات.
- وحدة نظام إدارة الوثائق الوطني
- الصادرة

- روابط الکریمیہ تفہیم بڑا و اہم ادارے اتحادہ طبیبہ کراچی،
تعلیم طبیبہ اجماعہ و غیرہ

- ارتقا لکچر

- مواقع تراویح

- ایسیلات

- براہ

- اہل تہذیب

کندہ ای دہائے ہوائیہ
مستقیم و مراجعہ

Chapter One

Introduction to Community/Public Health Nursing

- Community/public health nursing is the synthesis of nursing practice and public health practice.
- The major goal of community/public health nursing is to preserve the health of the community and surrounding populations by focusing on health promotion and health maintenance of individuals, families, and groups within the community.
- Thus community/public health nursing is associated with health and the identification of populations at risk rather than with an episodic response to patient demand.
- Public Health is often described as the art and science of preventing disease, prolonging life, and promoting health through organized community efforts to benefit each citizen.
- The mission of public health is social justice, which entitles all people to basic necessities such as adequate income and health protection and accepts collective burdens to make it possible.

Concepts related to CHN

1. Community:

- A community is a collection of people who share some important features of their lives.
- sharing common interests (eg, a community of farmers),
- living under the same laws and regulations (eg, a prison community).
- The function of any community includes its members' collective sense of belonging and their shared identity, values, norms, communication, and common interests and concerns.
- Vulnerable: populations are groups and communities at a higher risk for poor health as a result of the barriers they experience to social, economic, political and environmental resources, as well as limitations due to illness or disability
- There are two main types of communities: Geopolitical communities and phenomenological communities.
 - A. Geopolitical communities are those most traditionally recognized or imagined when the term *community* is considered.

- *Geopolitical communities* are defined or formed by natural and/or man-made boundaries and include cities, counties, states, and nations.
 - Other commonly recognized geopolitical communities are school districts, census tracts, zip codes, and neighborhoods.
- B. *Phenomenological communities*, on the other hand, refer to relational, interactive groups.
- In phenomenological communities, the place or setting is more abstract, and people share a group perspective or identity based on culture, values, history, interests, and goals.
 - Examples of phenomenological communities are schools, colleges, and universities; churches, synagogues, and mosques; and various groups and organizations, such as social networks.
 - A community of solution is a type of phenomenological community. A *community of solution* is a collection of people who form a group specifically to address a common need or concern.
- Although many believe that health and illness are individual issues, evidence indicates that they also are community issues. The spread of the HIV pandemic, nationally and internationally, is a dramatic and tragic case in point. So, Communities can influence the spread of disease, provide barriers to protect members from health hazards, organize ways to combat outbreaks of infectious disease, and promote practices that contribute to individual and collective health.
 - Many different professionals work in community health to form a complex team
 - ✓ The city planner designing
 - ✓ The social worker
 - ✓ The physician
 - ✓ And other

Public Health

- Public health is the science and art of preventing disease, prolonging life, and promoting health and efficiency through organized community

efforts for the sanitation of the environment, the control of communicable infections, the education of the individual in personal hygiene, the organization of medical and nursing services for the early diagnosis and preventive treatment of disease, and the development of the social machinery to insure everyone a standard of living adequate for the maintenance of health, so organizing these benefits as to enable every citizen to realize his birthright of health and longevity.

Community Health

- Community health, as a field of practice, seeks to provide organizational structure, a broad set of resources, and the collaborative activities needed to accomplish the goal of an optimally healthy community.

Community Health Nursing

- Community health nursing is a specialized practice. It combines all of the basic elements of professional clinical nursing with public health and community practice.
- CHN is a synthesis of nursing practice and public health practice applied to promoting and preserving the health of populations.
- Community based is defined as nurses providing sick care in community settings.
- Community-focused: bringing nursing knowledge and expertise to community health nursing.
- One of the challenges community health practice faces is to remain responsive to the community's health needs. As a result, its structure is complex; numerous health services and programs are currently available or will be developed.
- Examples include health education, family planning, accident prevention, environmental protection, immunization, nutrition, early periodic screening and developmental testing, school programs, mental health services, occupational health programs, and the care of vulnerable populations.

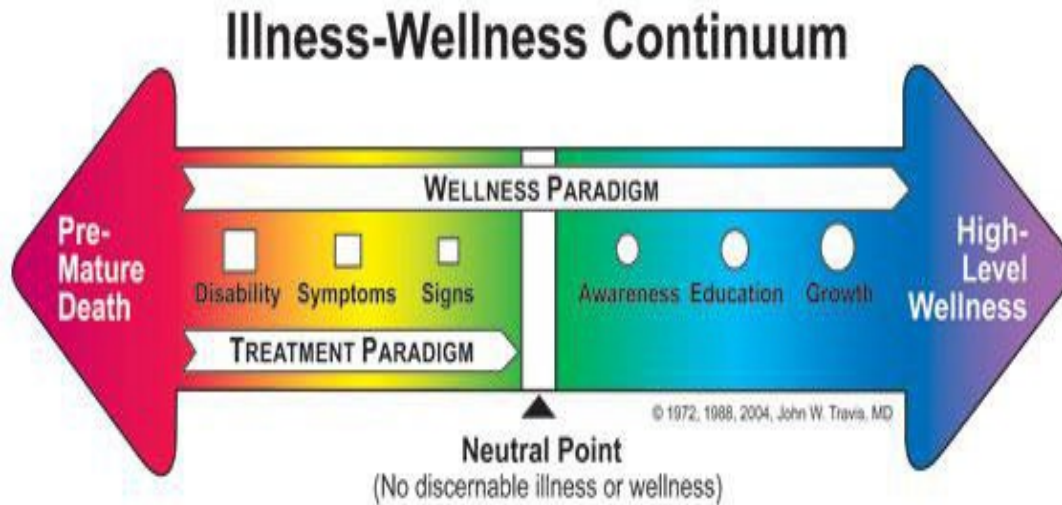
- Table 1: differences between CHN and CBN

	Community Health Nursing	Community-Based Nursing
Goal	Emphasizes preservation and protection of health	Emphasizes managing acute or chronic conditions
Client	The primary client is the community	The primary clients are the individual and the family
Services	Both direct and indirect	Largely direct

2. Health

- Classical WHO definition:
 - A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.
- New WHO definition
 - The extent to which an individual or group is able, on the one hand, to realize aspirations and satisfy needs; and, on the other hand, to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living; it is a positive concept emphasizing social and personal resources, and physical capacities.
- Health: holistic state of well-being, including soundness of mind, body, and spirit
- Wellness: Is the process of moving toward integrating human functioning and maximizing potential. can be measured in terms of quality of life.
- Well-being: a state of positive health or a person's perception concerning positive health.
- illness is a state of being relatively unhealthy. There are many levels and degrees of wellness and illness, Because health involves a range of degrees from optimal health at one end to total disability or death at other.
 - High-level wellness. (Optimal Health)
 - Good health. - Normal health - Illness. - Critical illness.
 - Total Disability or Death.

Health Continuum



❖ The Health Continuum: Wellness–Illness

3. Population and aggregate.

- Population is typically used to denote a group of people with common personal or environmental characteristics. It can also refer to all of the people in a defined community
- population refers to all of the people occupying an area, or to all of those who share one or more characteristics.
- A population also may be defined by common qualities or characteristics, the common characteristic might be anything that thought to relate to health such as age, sex, race, social class etc
- Aggregate; are people who don't have the relatedness necessary to constitute an interpersonal group but who have one or more characteristics in common
- Aggregates are subgroups or subpopulations that have some common characteristics or concerns (Group at risk).

Example:

- Aggregate can be identified by virtue of setting (those enrolled in a well-baby clinic)
- Demographic characteristics (women)
- Health status (smokers, hypertension)
- Depending on the situation, needs, and practice parameters, community health nursing interventions may be directed toward a community (e.g.,

residents of a small town), a population (e.g., all elders in a rural region), or an aggregate (e.g., pregnant teens within a school district).

OBJECTIVES OF COMMUNITY HEALTH NURSING:-

1. To increase the capability of individuals, families, groups, and communities to deal with their own health and nursing problems
2. To strengthen community resources.
3. To control and counteract the environment.
4. To prevent and control communicable and non-communicable diseases.
5. To provide specialized services for mothers, children, adults, workers, elderly handicapped and eligible couples, etc.
6. To conduct research and contribute to the further refinement and improvement of community health nursing practice
7. To supervise, guide, and help health personnel in carrying out functions effectively.
8. To participate in preparing health personnel to function in the community for community health care services.

Philosophy Of Community Health Nursing:

- Philosophy of community health nursing is community-based nursing
- is a philosophy of care that is characterized by collaboration, continuity of care, client and family responsibility for self-care, and preventive health care.
- Community-based nursing focuses on an individual and is family-centered in orientation,
- Community health nursing provides (disease prevention, health protection, maintenance, and health promotion. so, community health nursing is called imperial for other nursing fields.

following ideas and beliefs:

1. Philosophy of an individual's right of being healthy.
2. Philosophy of working together under a competent leader for the common good.
3. Philosophy that people in the community have potential for continued development and are capable of dealing with their own problems if

educated and helped.

4. Philosophy of socialism: health is believed to be one of the rights of all human beings nationally and
5. internationally.

COMPONENTS OF COMMUNITY HEALTH PRACTICE

These components are

1. Promotion of health,
2. prevention of health problems,
3. treatment of disorders,
4. Rehabilitation
5. Evaluation
6. Research

CHARACTERISTICS OF COMMUNITY HEALTH NURSING

Eight characteristics of community health nursing are particularly salient to the practice of this specialty:

1. it is a field of nursing;
2. it combines public health with nursing;
3. It is population focused;
4. It emphasizes prevention, health promotion, and wellness;
5. It uses aggregate measurement and analysis;
6. It uses principles of organizational theory; and
7. It involves interprofessional collaboration.

Principles of Community Health Nursing (CHN):

1. The recognized need of individuals, families, and communities: the primary purpose is to further apply public health measures within the framework of the total CHN effort.
2. Knowledge and understanding of the objectives and policies of the agency facilities' goal achievement.
3. CHN considers the family as the unit of service: level of functioning is influenced by the degree to which it can deal with its own problems.
4. CHN integrated health education and counseling as vital parts of functions:

These encourage and support community efforts in the discussion of issues to improve people's health.

5. Periodic and continuing evaluation provides the means for assessing the degree to which CHN goals and objectives are being attained:
Clients are involved in the appraisal of their health program through consultations, observations and accurate.
6. Continuing staff education program quality services to the client are essential to upgrade and maintain sound nursing practices in their setting:
The professional interest and needs of Community Health Nurses are considered in planning staff development programs of the agency.
7. Maintenance of accurate records is a vital responsibility of community as these are utilized in studies and researches and as legal documents.

Scope community health nursing

1. Home care
2. Nursing care
3. MCH & family planing
4. School health nursing
5. Mental health nursing
6. Rehabilitation services
7. Geriatric health nursing

Community health nurses have seven major role settings for CHN Practice are examined.

The seven major roles are:

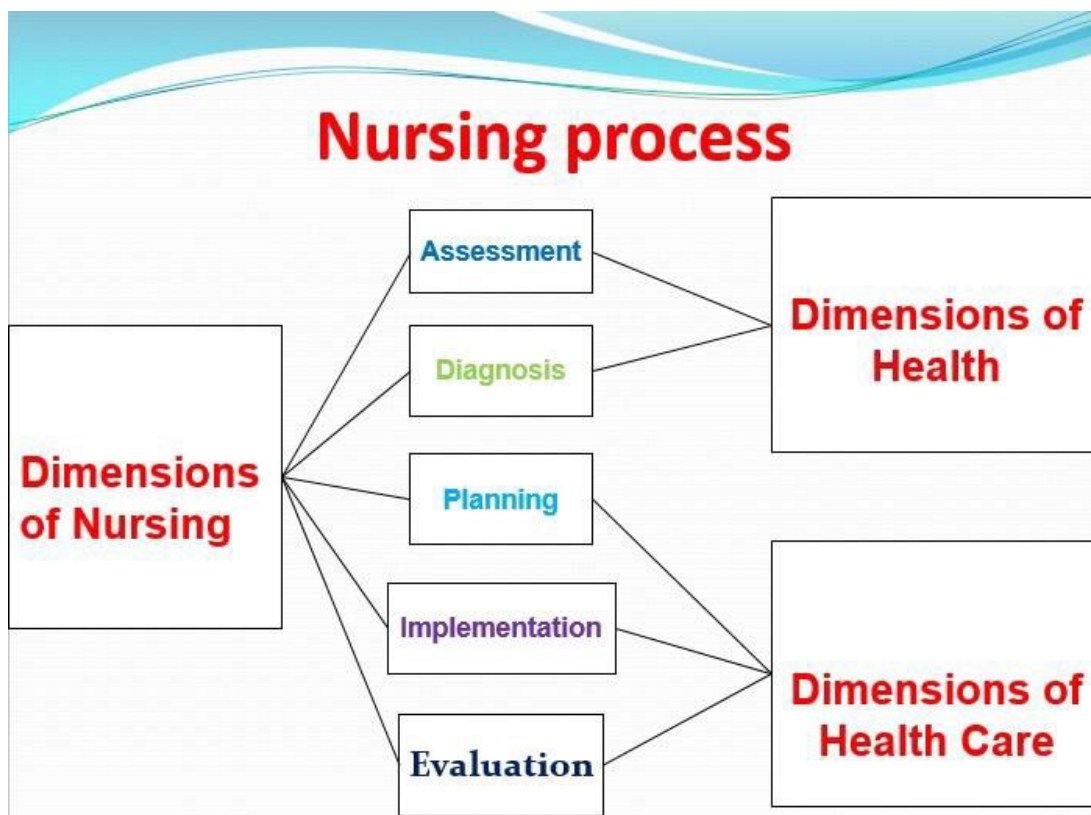
- Clinician: The community health nurse provides care along the entire range of the wellness-illness continuum; however, promotion of health and prevention of illness are emphasized. Skills in observation, listening, communication, counselling, and physical care are important for the community health nurse.
- Educator: As educators, nurses seek to facilitate client learning on a broad range of topics. They may act as consultants to individuals or groups, hold formal classes, or share information informally with clients or nurse who teaches and prepares licensed practical nurses (LPN) and registered nurses (RN) for entry into practice positions

- **Manager:** given the opportunity to acquire the operational, financial, and management skills essential to their success – and the success of their organization.
- **Advocate:** community health nurse as advocate is to help clients find out what services are available, which ones they are entitled to, and how to obtain these services. A second goal is to influence change and make the system more relevant and responsible to clients' needs.
- **Collaborator:** Collaboration with clients, other nurses, physicians, social workers, physical therapists, nutritionists, attorneys, secretaries, and other colleagues is part of the role of the community health nurse leader
- **Researcher:** systematic investigation, collection, and analysis of data to enhance community health practice Research in community health
- **CHN As a leader:** the community health nurse directs, influences, or persuades others to effect change that will positively affect people's health

Settings for CHN Practice:

4. Homes
5. Ambulatory service
6. Schools
7. Occupational health
8. Residential institutions
9. Faith communities
10. Community at large (domestic and international)

Dimensions of Community Health Nursing



Dimensions of Health

The dimension consists of six categories of factors that can be used to organize health assessment

1-Biophysical dimension:

- Includes factors related to human biology that influence health. These factors may be related to age and development level, genetic inheritance, and physiological function

2-Psychological dimension:

- Internal and external psychological environments.
- Depression and low self- steem are two factors in ones Internal psychological environment that contribute to variety of health problems, including suicide, substance abuse, family violence and obesity.
- External psychological factors can also influence the development of health problems. Ex crime rate

3-Physical environment dimension:

- The physical environment consists of weather, geographic locate, soil composition, temperature and humidity, and hazards posed by poor housing and unsafe working condition. Additional elements of physical environment that effect health include light and heat, exposure to pathogens, allergens, radiation, and noise.

4-Socio-cultural dimension:

- Consists of those factors within the social environment that influence health, either positively or negatively. The element of the social structure such as employment, economics, politics, ethics, and occupation.

5-Behavioral dimension:

- Consists of personal behaviors that either promote or impair health. Health related behaviors include dietary patterns, recreation and exercise, substance use and abuse, sexual activity, and use of protective measure.

6- Health system dimension:

- The way in which health care services are organized and their availability, accessibility, affordability, appropriateness, adequacy, acceptability, and use influence the health of individual clients and population groups

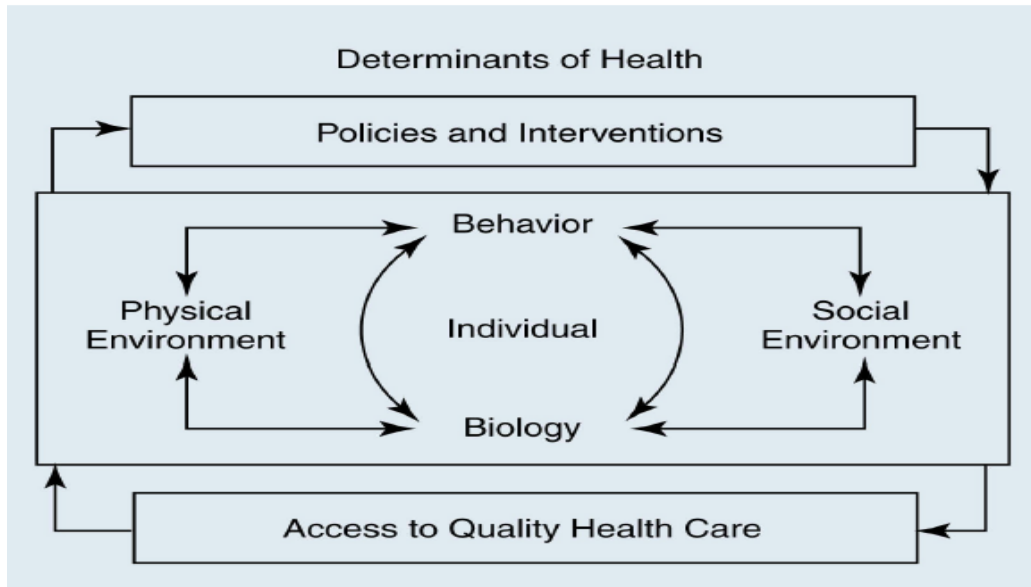


Figure 1 Determinants of Health

Dimensions of Health Care

Focused on the Prevention. Actions aimed at eradicating, eliminating or minimizing the impact of disease and disability.

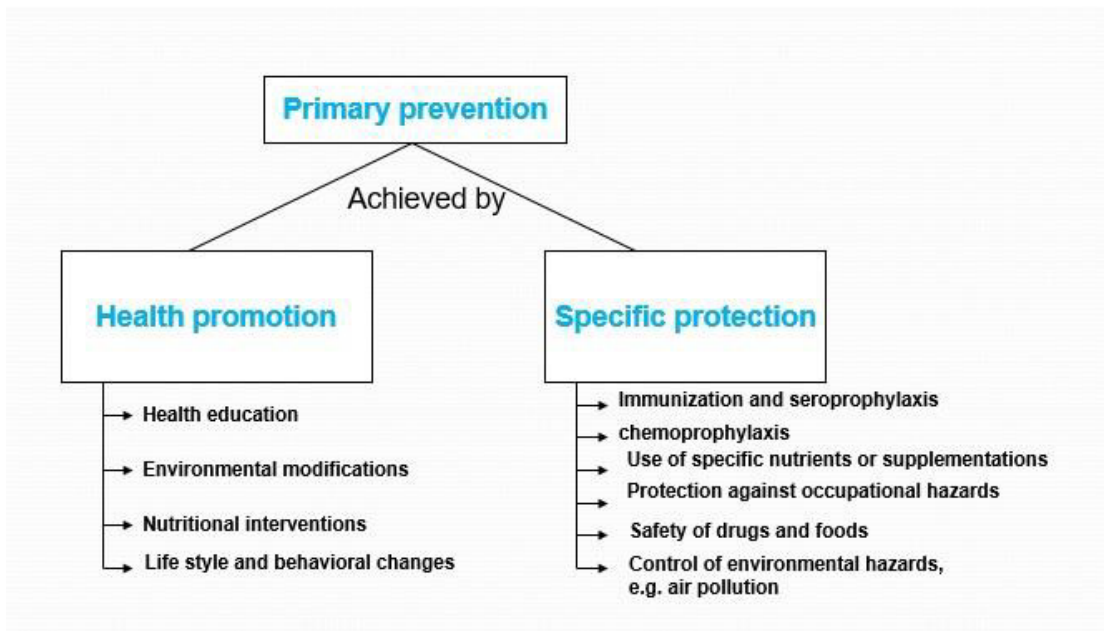
1-Primordial prevention:

- Primordial prevention consists of actions and measures that inhibit the emergence of risk factors in the form of environmental, economic, social, and behavioral conditions and cultural patterns of living etc.
- It is the prevention of the emergence or development of risk factors in countries or population groups in which they have not yet appeared
- For example, many adult health problems (e.g., obesity, hypertension) have their early origins in childhood, because this is the time when lifestyles are formed (for example, smoking, eating patterns, physical exercise).

- In primordial prevention, efforts are directed towards discouraging children from adopting harmful lifestyles
- The main intervention in primordial prevention is through individual and mass education

2-Primary prevention:

- Primary prevention may be accomplished by measures of “Health promotion” and “specific protection”



3-Secondary prevention

- It is defined as “action which halts the progress of a disease at its incipient stage and prevents complications.”
- The specific interventions are: early diagnosis (e.g., screening tests, and case finding programs....) and adequate treatment.

4-Tertiary prevention:

- It is defined as “all the measures available to reduce or limit impairments and disabilities, and to promote the patients’ adjustment to irremediable conditions.”

Dimensions of Nursing

1- Cognitive dimension:

- The knowledge needed for the nurse to identify client health needs and to plan and implement care to meet those needs

2- Interpersonal dimension:

- Includes affective elements and interaction skill. Affective elements consist of attitudes and values of nurse that influence his or her ability to practice affectivity with variety of different people

3- Ethical dimension:

- The nurse act in accord with moral and ethical principles. Willingness to advocate for clients is another element of the ethical dimension.

4- Skills dimension:

- A- manipulative skills include the ability to perform such activities as giving immunization, providing tuberculin skin tests and physical assessment and conducting hearing examination
- B-intellectual skills include the capacity for critical thinking as well as the ability to examine data and draw influences .

5- Process dimension:

- Nurses employ knowledge, attitudes, and skill in the application of several specific process when providing care to individuals, family, and population group (the nursing process) other processes use by nurses in their practice are the epidemiologic process, the health education process, the home visit process, and the case management process. CHNs also use change, leadership, group, and political processes in their care of clients

6- Reflective dimension:

- The nurse's reflection their care through theory development, research, and evaluation

Community Assessment

Definition: It is the process by which data are compiled regarding a community's health status and resources and from which nursing diagnoses are derived.

Population or Community health assessment can be approached from two perspectives:

1. **A need assessment approach:** focuses on community health problems.
2. **A population assessment approach:** on the other hand, provides an overall picture of community health status, including community strengths and assets as well as needs and/or problems.

Functions community health assessment:

1. Identifying problems.
2. Risk factors.
3. Needs as perceived by its members.
4. Determining its interests and priorities related to health.
5. Describing population lifestyles.
6. Delineating community strengths and resources.
7. Facilitates decision making, particularly with respect to resources allocation.
8. Provide skill training for residents.
9. Facilitates group mobilization.
10. Enables consciousness raising.

Principles of Community Health Assessment:

1. Multiple sources of information should be sought to provide an overall picture of community health rather than the view of one segment of the population.
2. Assessment should address the needs of specific subgroups within the population (e.g., vulnerable populations such as the elderly or members of diverse cultural groups).
3. Assessment should consider all potential stakeholders in the population. Stakeholders are those concerned with the outcome of the assessment (e.g., community residents, officials, health care providers, funders).
4. Assessment should identify population assets as well as needs and problems.
5. Assessment should be conducted or directed by persons with experience in population health assessment.

Data Sources for Population Health Assessment:

Assessment data may be either quantitative or qualitative.

1. **Quantitative** data reflect numbers of people, characteristics, or events within the population. (number of people in specific age or ethnic groups and rates of specific diseases and causes of death within the population).
2. **Qualitative data** focus on perceptions of health, attitudes, and health concerns as voiced by members of the population (community)

Types of Community Needs Assessment

Assessment for nurses means collecting and evaluating information about a community's health status to discover existing or potential needs and assets as a basis for planning future action. Assessment involves two major activities. The first is collecting of pertinent data, and the second is analysis and interpretation of data.

1. Community needs assessment I:

This type of needs assessment seeks to evaluate the strengths and weaknesses within a community and create or improve services based on the identified weaknesses. Organizing this type of needs assessment is primarily structured around how to best obtain information, opinions, and input from the community and then what to do with that information.

2. Community needs assessment II:

This type of needs assessment is constructed around a known problem or potential problem facing the community for example, disaster preparedness, how to address an increase in violent crime etc.

3. Community needs assessment III:

This final type of needs assessment is based within an organization which either serves the community at large, is currently addressing a need within the community, or is dedicated to an under-served population within the community. This type of needs assessment centers around improving the efficiency or effectiveness of such organizations.

Type of Community Health Assessment

1. Familiarization or Windshield Survey:

It involves studying data already available on a community, then gathering a certain amount of firsthand data in order to gain a working knowledge of the community. Nurses drive (or walk) around the community of interest; find health, social, and governmental services; obtain literature.

2. Problem-Oriented Assessment:

It begins with a single and assesses the community in terms of that problem.

3. Community Subsystem Assessment:

In community subsystem assessment, the CHN focuses on a single dimension of community life (e.g., the nurse might decide to survey churches and religious organizations to discover their roles in the community).

4. Comprehensive Assessment:

It seeks to discover all relevant community health information. It begins with a review of existing studies and all the data presently available on the community. A survey compiles all the demographic information on the population, such as its size, density, and composition.

Methods Community Assessment

1. Surveys

A survey is an assessment method in which a series of questions is used to collect data for analysis of specific group or area. To plan and conduct community health surveys, the goal should be to determine the variables (selected environmental, socio-economic, and behavioral conditions or needs) that affect a community ability to control disease and promote wellness.

2. Descriptive Epidemiologic Studies

It examines the amount and distribution of a disease or health condition in a population by person (Who is affected?), by place (Where does the condition occur?), by time (When do the cases occur?).

They are useful for suggesting which individuals are at greatest risk and where and when the condition might occur. They are useful for health planning purposes.

3. Community Forums or Town Hall Meetings:

It is a qualitative assessment method designed to obtain community opinions.

4. Focus Group:

It is similar to the community forum or town hall meeting in that it is designed to obtain grassroots opinion.

Sources of Community Data: Data sources can be

1. **primary:** Community members, including formal leaders, informal leaders, and community members, can frequently offer the most accurate insights and comprehensive information.

2. Secondary

People who know the community well and the records; examples are health team members, client records, community health (vital) statistics, census bureau data, reference books, research reports, and community health nurses.

3. International Sources:

World Health Organization (WHO) and its six regional offices and health organizations.

4. National Sources :

Definition of Primary Health Care

- Primary Health Care is the first level of contact with the health system to promote health, prevent illness, care for common illnesses, and manage ongoing health problems.
- "Primary health care is essential health care based on practical, scientifically sound and socially acceptable method and technology made universally accessible to individuals and families in the community through their participation and at a cost which the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination".

Function of PHC

The eight functions of Primary Health Centre

- MCH
- Control of communicable disease
- School health
- Medical care
- Collection of vital statistics
- Environmental sanitation
- Health education and
- Nutrition

Principles of primary health care

There are five basic principles identified in the primary health care approach:

- Equitable distribution: Health services must be shared equally by all people irrespective of their ability to pay, (rich or poor, urban or rural).
- Man power development.
- Community participation: Involvement of individuals, families, and communities in promotion of their own health and welfare. Meaningful involvement of the community in the planning, implementation and maintenance of health services.
- Appropriate technology: Appropriate technology is technology that is adaptable to local needs, acceptable to those who apply it and those

for whom it is used, and that can be maintained by the people themselves.

- Multisectoral approach. Primary health care involves in addition to the health sector, all related sectors, in particular agriculture, animal husbandry, food industry, education, housing, public works, communication and other sectors. An important element of intersectoral approach is planning - planning with other sectors to avoid unnecessary duplication of activities.

The Basic Requirements for Sound PHC (the 8 A's and the 3 C's)

- Appropriateness
- Availability
- Adequacy
- Accessibility
- Acceptability
- Affordability
- Assessability
- Accountability
- Completeness
- Comprehensiveness
- Continuity

Appropriateness

- Whether the service is needed at all in relation to essential human needs, priorities and policies.
- The service has to be properly selected and carried out by trained personnel in the proper way.

Adequacy

- The service proportionates to requirement.
- Sufficient volume of care to meet the need and demand of a community

Affordability

- The cost should be within the means and resources of the individual and the country.

Accessibility

- Reachable, convenient services
- Geographic, economic, cultural accessibility

Acceptability

- Acceptability of care depends on a variety of factors, including satisfactory communication between health care providers and the patients, whether the patients trust this care, and whether the patients believe in the confidentiality and privacy of information shared with the providers.

Availability

- Availability of medical care means that care can be obtained whenever people need it

Assessability

- Assessability means that medical care can be readily evaluated.

Accountability

- Accountability implies the feasibility of regular review of financial records by certified public accountants.

Completeness

- Completeness of care requires adequate attention to all aspects of a medical problem, including prevention, early detection, diagnosis, treatment, follow up measures, and rehabilitation.

Comprehensiveness

- Comprehensiveness of care means that care is provided for all types of health problems.

Continuity

- Continuity of care requires that the management of a patient's care over time be coordinated among providers.

Elements or Component of Primary Health Care

- According to Alma Ata declaration, these components are not merely independent but linked components. Since primary health care is an integrated development approach to health; these components have an ongoing interface with education, health and development. -These components are:
 1. Health Education: Educating people about health and family welfare matters.
 2. Promotion of food supply and proper nutrition.
 3. Safe drinking water and basic sanitation measures.
 4. Maternal, infant care and family planning.
 5. Immunization.
 6. Prevention and control of locally endemic diseases.
 7. Appropriate treatment of common diseases and injuries.
 8. Provision of essential drugs.
 9. Training of health guides, health workers and health assistants.
 10. Referral service

Primary Health Care and Community Health Nursing

- Primary health care emphasizes the development of universally, acceptable and accessible essential health services that are community based and emphasize health promotion and maintenance and community participation in decision making.
- There is a link between community health nursing and primary health care.

- The community health nurse has an important role in helping people learn to care themselves. To implement primary health care nurse must focus on prevention of disease and promotion of health.

Role of Community health nursing in PHC services

- Community health nurses work to improve the health and well, being of the communities they serve by educating them about illness, disease prevention, safe health practices, and how to obtain health care services. They also facilitate communication between people, their families, and the medical community in order to improve health outcomes.
- Community health nurses are instrumental in creating programs that allow communities to become healthier and often provide treatment for poor, culturally diverse, and uninsured populations. Their work may include performing free health care screenings, vaccinations, and other forms of preventative care at reduced costs.

Primary Care Reform

Traditional Model for Health Care	Primary Health Care
Treatment	Health promotion
Illness	Health
Cure	Prevention, care, cure
Episodic care	Continuous care
Specific problems	Comprehensive care
Individual practitioners	Teams of practitioners
Health sector alone	Intersectoral collaboration
Professional dominance	Community participation
Passive reception	Joint responsibility

Health indicators

Definition of Health indicators

- Health indicators are normally numbers or values that can be measured and that can reflect changes over time. They are yardsticks that can be used in the monitoring process.
- They often are used as markers as to how well the health system is performing. While indicators are useful tools for measuring change, they also have limitations.

Non hospital primary health care indicators

Immunization coverage rate

Definition:

- This indicator measures the proportion of children under one year of age who have completed their primary course of immunization.

HIV testing rate in Pregnant women

Definition:

- This indicator measures the proportion of pregnant women who are tested for HIV at an antenatal clinic.

Supervision rate

Definition:

- This indicator measures the number of primary level facilities, clinics and community health centers, which are visited by a supervisor at least once per month.

Family health services

Introduction

- Family health care nursing is an art and a science that has evolved over the last 20 years as a way of thinking about and working with families. Family nursing comprises a philosophy and a way of interacting with clients that affect how nurses collect information, intervene with patients, advocate for patients, and approach spiritual care with families.

Definitions:

- Family: The Family defines “family as the basic unit of society” Or "Family is the biological social unit composed of husband, wife, and children".
- Family health: a condition including the promotion and maintenance of physical, mental, spiritual, and social health for the family unit and for individual family members.

Types of Families

1. Nuclear family: consists of husband, wife, and perhaps one or more children
2. Extended family: includes members of the nuclear family and other relatives, aunts, uncles, grandparents, and cousins.
3. Blended families: are formed when parents bring unrelated children from prior marriages into a new family.
4. Single-parent families: are formed when one parent leaves the nuclear family because of divorce or death.
5. Adoptive family: consists of a parent or parents and one or more adopted children.
6. Foster family: the temporary placement of children in the homes of adults who are not related to them.

Family Life Cycle

- I. Families are not a constant.
- II. They are ever-changing

Having six phases:

Phases of family life cycle	Events Characterizing	
	Beginning of phase	End of phase
Formation	Marriage	Birth of 1 st child
Extension	Birth of 1 st child	Birth of last child
Complete Ext.	Birth of last child	1 st child leaves home
Contraction	1 st child leaves home	Last child leaves home
Complete Contra.	Last child leaves..	1 st spouse dies
Dissolution	1 st spouse dies	Death of survivor

Characteristics of the Family

1. Every family is a small social system.
2. Every family has its own cultural values and rules.
3. Every family has a structure.
4. Every family has certain basic functions.
5. Every family moves through stages in its life cycle.

Family functions

1. Providing Affection – Give members affection and emotional support
2. Providing Security and Acceptance – meet their members' physical needs by providing food, shelter, clothing, health care, secure environment, and equipping them with skills necessary to cope with the outside world.
3. Instilling Identity and Satisfaction – give their members a sense of social and personal identity.
4. Promoting Affiliation and Companionship – give members a sense of belonging throughout life. Provides its members with affiliation and fellowship.
5. Providing Socialization – families transmit their culture, values, attitudes, goals, and behavior patterns to their members. Members are socialized into a way of life that reflects and preserves the family culture for the next generation.

Role of family

- (1) Child care: involves the provision of physical and emotional care pattern
 - Feeding,
 - Hygiene
 - Clothing
- (2) Child socialization: It encompasses the process and activities in the family that contribute to the development of the child's social and mental capacities, Pattern:
 - Values
 - Believes
 - Personality formation:
 - To withstand
 - Stress and strain
- (3) Provider role: include production of goods and services needed. Pattern
 - Sick,
 - pregnancy,
 - Handicapped
- (4) Therapeutic role: for assisting the family member to cope with health problems and illness. Pattern:
 - Injuries
 - Anxiety
 - Lose
 - Mental illness
 - Hypertension
 - Ulcer
 - Diabetes and
 - Addiction
- (5) Housekeeper role: It involves preparing and maintaining the goods and services for the family use.
- (6) Recreational role: to provide recreation for the family members.

Determinants of family health

- (1) Living and working conditions
- (2) Physical environment,
- (3) Psycho-social environment
- (4) Education and economic factors
- (5) Health practices
- (6) Cultural factors
- (7) Age

Family Health Assessment

Certain basic information is needed to determine a family's health status and design appropriate nursing interventions.

1. Family Demographics
2. Physical environment data
3. Psychological and spiritual environment
4. Family function, structure, and roles
5. Family values and beliefs (cultural Patterns)
6. Family health behavior

Role of Community Health Nursing

Nurses help families in the following ways:

- (1) Providing direct care,
- (2) Removing barriers to needed services
- (3) Improving the capacity of the family to act on its own behalf and assume responsibility

One of the important aspects of working with the family is the nurse-family relationship, which is an intervention in and of itself. The nurse is responsible for helping the family implement the plan of care. The nurse can assume the role of teacher, counselor, advocate, coordinator, and evaluator in helping the family to implement the plan of the care.

CARE OF CLIENTS IN THE SCHOOL SETTING

- Reasons for Concern for School Health
 1. The health of the school population affects overall community health.
 2. Healthy children learn better.
 3. The school setting is an excellent avenue for developing health attitudes and behaviors that affect health in later life.
- Goal of School Health
 - To reduce or eliminate health-related barriers to learning
- Objectives of a School Health Program
 1. Decrease morbidity and absenteeism
 2. Identify and treat existing health problems
 3. Manage special health needs
 4. Promote employee health
 5. Integrate school, home, and community health efforts
 6. Contribute to staff development
 7. Provide a resource on school health and safety issues
 8. Assure quality of and accountability for school health services
- Comprehensive School Health Program
 - “An integrated set of planned, sequential school-affiliated strategies, activities, and services designed to promote the optimal physical, emotional, social, and educational development of students”
- Traditional Components of a School Health Program
 1. Health services
 2. Health education
 3. Healthy environment
 4. Physical education
 5. Nutrition services
 6. Staff health promotion
 7. Counseling, psychological, social services
 8. Parent and community involvement

- Health Services Component
 1. Assessment and screening
 2. Case finding
 3. Counseling
 4. Health promotion and illness prevention
 5. Case management
 6. Remedial or rehabilitation services
 7. Specific nursing procedures
 8. Emergency care
- Education for Health Literacy, Develop abilities to:
 1. Comprehend health promotion and disease prevention information
 2. Access health information and health promoting products and services
 3. Engage in behaviors that promote health and reduce risk
 4. Analyze influences on health
 5. Use interpersonal communication to enhance health
 6. Set goals and make decisions regarding health
 7. Advocate for personal, family, and community health
- Assessing Health in the School Setting
 1. Biophysical considerations
 2. Psychological considerations
 3. Physical environmental considerations
 4. Sociocultural considerations
 5. Behavioral considerations
 6. Health system considerations
- Biophysical Considerations
 - Maturation and aging
 1. Age
 2. Developmental stages and tasks
 - Genetic inheritance
 1. Gender
 2. Race/ethnicity
 3. Genetic predisposition to disease in population

- Physiologic function
 1. Incidence and prevalence of communicable diseases
 2. Incidence of injury and other problems
 3. Prevalence of chronic and handicapping conditions
 4. Immunization levels
- Psychological Considerations
 1. Organization of the school day
 2. Peer relationships
 3. Teacher-student relationships
 4. Teacher-teacher relationships
 5. Discipline and grading practices
 6. Parent-school relationships
- Physical Environmental Considerations
 1. Internal environment
 2. External environment
- Sociocultural Considerations
 1. Community attitudes to education
 2. Crime
 3. Racial unrest/violence
 4. Working parents
 5. Socioeconomic status
 6. Culture and language
 7. Homelessness
- Behavioral Considerations
 1. Consumption patterns
 2. Diet and nutrition
 3. Substance use and abuse
 4. Rest, exercise, and recreational activity
 5. Sexual activity
 6. Health and safety behaviors
- Health System Considerations
 1. Availability of internal and external sources of health care
 2. Relationship of school to external health care resources
 3. Organizational structure for school health care delivery

- Planning Health Care in the School Setting
 - Macrolevel planning
 - Development of the overall school health program
 - Microlevel planning
 - Planning to address specific health problems in the population or to meet health needs of individual members of the population
- Components of Microlevel Planning
 - Primary prevention
 - Secondary prevention
 - Tertiary prevention
- Primary Prevention
 - Immunization
 - Safety
 - Exclusion from school
 - Health education
 - Food and nutrition
 - Exercise and physical activity
 - Self-image
 - Coping
 - Interpersonal skills
- Secondary Prevention
 - Screening
 - Referral
 - Counseling
 - Treatment
- Tertiary Prevention
 1. Preventing recurrence of acute conditions
 2. Preventing complications
 3. Promoting adjustment to chronic and handicapping conditions
 4. Dealing with learning disability

Aspects of school health services

1. Health Appraisal of school children & School personnel.
2. Remedial measures and follow up.
3. Prevention of communicable diseases.
5. Healthful school environment.
6. Nutritional Services.
7. First aid and emergency care.
8. Mental Health.
9. Dental Health..
10. Eye health.
11. Health Education.
12. Education of Handicapped children.
13. Proper maintenance and use of school health records.

1. Health Appraisals: -

- Health Appraisal consists of periodic medical examination of school children and also teachers & other school personal.
- a) Periodic Medical Examination:
 - The recommended medical examination for the children who are newly entered in the school. The physical examination include - test for Vision, hearing, speech, blood, Urine, and faeces
- b) Dental Examination: - Children are frequently suffer from dental diseases i.e., dental Carries So at least once a year dental examination should be provided.
- c) School Personal: - Teachers & School personals are some of inspection like pulmonary tuberculosis. So, they should also be examined.
- d) Daily Morning Inspection: - Some of the Children help the teachers in detecting those children who need medical attention they are unusually flushed face.
 - Any rash or spots.
 - Sore throat, rigid neck, nausea, vomiting, Red or water eyes.
 - Head ache, symptoms of acute cold, chills or fever, diarrhea, body pain.
 - Head lice, skin infections like scabies etc.

2. Remedial Measures and Follow up: -
 - After medical examination they should be given appropriate treatment and follow up. Special clinics should be conducted.
3. Prevention of Communicable Diseases: -
 - This can be done by National Immunization program. A record of all immunization should be maintained as part of School health records when the child leaves the school, the health record should be accompanied with him.
4. Healthful School Environment: -
 - A healthful school environment is necessary for the child to grow best as emotionally, socially & Personal healthy. The school authority should follow same standards towards location, site structure, class room, furniture doors and windows, lighting, water supply, eating facilities and lavatory for the school.
5. Nutritional Services: -
 - If the child is physically weak, he may be mentally weak also. So, the child can't take full advantage of schooling.
 - In Iraq the nutritional disorders are malnutrition, Vitamin, Iron, Iodine and Calcium deficiencies.
 - To prevent these disorders the midday school meal, applied nutrition program, Vitamin A prophylaxis (Against blindness) programmes are important.
6. First aid and emergency care: -
 - The school teachers should be well trained during teacher training programme or in service training program in order to give first aid and emergency care for the pupils in school buildings.
7. Mental health: -
 - The school is the right place for shaping the child's behavior and promoting mental health. The mental health of the child affects the physical health and learning process. Some of the school children's problems are drug addiction,

Juvenile maladjustment and others. The school teacher plays an important role helping the child to attain positive mental health.

8. Dental Health Service: -

- A school health programmes for dental examination at least once in a year should be provided for the children to prevent dental diseases & maintain dental hygiene.

9. Eye health Services: -

- The eye health services are to be provided in school to detect the refractive errors, treatment of squint and eye infections (trachoma)

10. Health Education: -

- In school Health services the most important element is health education towards environmental health, personal hygiene and family life.

11. Education of Handicapped children: -

- The ultimate goal is to assist the handicapped child and his family members and the child will be able to reach his maximum energy to lead a normal life as possible

12. School health Records: -

- In school, there should be a cumulative record for every student. Such record contains identifying data, i.e., date of birth, parent's name & Address, past health examination & Screening tests and record of services provided. These records are useful to analyze and evaluate the school health program & provide a useful link between the school, home & the community.

Occupational Health

Introduction:

- No work is completely risk free and all health care professionals should have some basic knowledge workforce populations, work and related hazards, and methods to control hazards and improve health.
- Occupational Health: Aims to promote and maintenance the highest degree of physical, mental & social wellbeing of workers in all occupation.

Advantages of Health Care in Work Settings:

1. Workers spend substantial amounts of time on a regular basis in work settings.
2. Peers and employers can exert pressure for healthful behaviors.
3. Employment may motivate people to maintain their health to stay employed.
4. Personnel and mechanisms are often already in place for communicating health messages
5. On-site care minimizes time away from work for care elsewhere
6. Lack of care may increase costs
7. Work may involve health hazards

Definition and Scope of Occupational Health Nursing

- The specialty practice that provides for and delivers health care services to workers and worker populations. The practice focuses on promotion, protection, and restoration of workers' health within the context of a safe and healthy work environment.”
- The specialty practice that focuses on the promotion, prevention of disease and injury and restoration of health within the safe and healthy environment, thence to achieve optimal health and high productivity.
- It represents a dynamic equilibrium between the worker and his occupational environment.
- It involves the prevention of adverse health effects occupational and environmental hazards.
- It provides for and delivers occupational and environmental health and safety services to workers, worker populations, and community groups.

Objectives of Occupational Health

- To maintain and promote the workers' health and working capacity.
- To the improvement of working environment and work
- Development of work organisation in a direction which supports health and safety at work
- To prevent occupational diseases and injuries.
- To adapt the work place and work environment to the needs of the workers i.e., application of ergonomics principle.
- It should be preventive rather than curative.

Occupational Health Nurse Work Setting

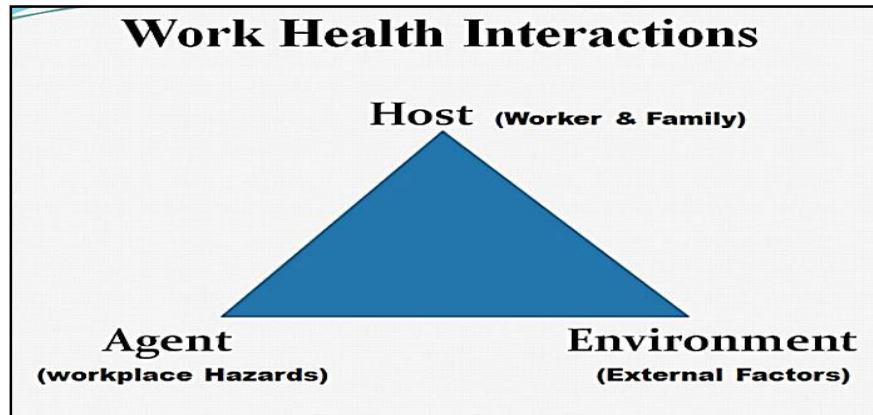
1. Traditional manufacturin
2. Services (banking, restaurants).
3. Industries.
4. Health care facilities.
5. Construction sites.
6. government settings.

Scope of Practice:

1. Worker/ workplace assessment and surveillance
2. Primary care
3. Counseling
4. Health promotion/protection
5. Administration and management
6. Research
7. Community orientation

The Professional Organization for Occupational Health Nurses is The American Association of Occupational Health Nurses (AAOHN) Functions:

1. Promotes the health and safety of workers.
2. Defines the scope of practice and sets the standards of occupational health nursing practice.
3. Promotes and provides continuing education in the specialty.
4. Advances the profession through supporting research.



Host

- Host Factors are Associated with Increased Risks to the Workplace
- Each worker represents a host within the working population group:
- Age and Gender
- Health Status
- Work Practice
- Ethnicity
- Lifestyle factors
- The host factors of age, gender and work experience combine by increased risk for injury due to:
 - Lack of knowledge
 - Lack of familiarity with the new job.
- Older workers have increased risk due to:
 - Diminished sensory abilities.
 - The effect of chronic illnesses.
 - Delayed reaction times.
- Women in child bearing years very susceptible to workplace exposure because:
 - The hormonal changes during these years.
 - Trans-placental exposures.

Agent

1. Biological Agents:

- Are living organisms are capable of causing human diseases by infectious process.
- Bacteria, Viruses, Fungi

- Common in workplace (Health Care Facilities and Clinical Laboratories).
2. Chemical agents: Various forms of chemicals
 - Medications
 - Solutions
 - Gases
 - Vapors, aerosols
 3. Environmental and mechanical Agents: Are those that can potentially cause accidents, injury, strain or discomfort e.g?
 - safe/ inadequate equipment
 - Lifting devices and lifting heavy loads.
 - Slippery floors
 - Repetitive motions.
 4. Physical agent: Within the work environment include the following:
 - Temperature extremes.
 - Vibration (affects internal organs, supportive ligaments and the shoulder girdle structure).
 - Noise
 - Radiation
 - Lighting
 - Electricity

★Personal protective equipment includes:

- Hearing protection
 - Eye guards
 - Protective clothing
 - Devices for monitoring exposure to agents such as radiation
5. Psychosocial agents: Interpersonal relationships among Employees and Coworkers and Managers are often sources of conflict and stress.

Environment

Environmental Factors:

- **Physical environment (Heat, Odor, Ventilation) influence the occurrence of host agent interactions.**
- **New environmental problems continue to arise such as:**

- An increase in industrial wastes and toxins.
- Indoor and outdoor environmental pollution.
- Addictive behaviors (negative social environment)

Team Of Occupational Health and Safety Programs:

The following are core members of this team:

- Occupational health nurse
- Occupational physician
- Industrial hygienist
- Safety professional

Role of the Nurse in the Team

- The nurse collaborate with a community physician or occupational medicine physician who provide consultation and accepts referrals where medical intervention is needed.
- The collaboration may occur primarily through telephone contact or the physician may be under contract with the company to spend a certain amount of time on site each week.
- And also responsible for; Home care • Special provision for services for women and children • Rehabilitation of the ill and injured workers • Industrial plant survey

Scope of Services Provided Through an Occupational Health and Safety Program:

1. Health/medical surveillance.
2. Workplace monitoring/ surveillance.
3. Health assessment (preplacement, periodic, mandatory, transfer, retirement/ termination, return to work).
4. Health promotion.
5. Health screening.
6. Primary health care for workers and dependents.
7. Worker safety and health education related to occupational hazards.
8. Prenatal & postnatal care.
9. Preretirement counseling.

Nursing Care of Working Populations

- The nurse is often the first health care provider seen by an individual with a work-related health problem.
- The occupational health nurse practices all levels of prevention.
 1. Primary prevention (provide education of safety in the workplace to prevent injury).
 2. Secondary prevention (periodic screening to identify an illness at the earliest possible).
 3. Tertiary prevention is intended to restore health as fully as possible.

Goal of Working Populations Assessment

- To identify agent and host factors that could place the employee at risk.
- To determine prevention steps that can be taken to minimize potential health problem.

Assessing workplace

1. Biophysical Considerations in Occupational Health
 - Age composition of the workforce
 - Racial composition of the workforce
 - Gender composition of the workforce
 - Physiologic conditions present in the workforce
 - Immunization status of the workforce
2. Psychological Considerations in Occupational Health
 - Extent of job strain
 - Stress in the work setting
 - Prevalence of mental health problems
 - Employee coping skills
3. Physical Environmental Considerations in OH
 - Presence of health and safety hazards in the environment
 - Adequacy of surveillance systems for hazardous work conditions
4. Sociocultural Considerations in Occupational Health
 - Regulatory activity
 - Cultural beliefs and behaviors
 - Language
 - Interpersonal interactions
 - Violence

- Family issues
- 5. Behavioral Considerations in Occupational Health
 - Type of work performed
 - Consumption patterns
 - Rest and exercise
 - Use of safety devices
- 6. Health System Considerations
 - Type of internal health care system
 - Adequacy of internal health care system to meet population needs
 - Interactions with the external system

Primary Prevention in Occupational Settings

- Health Promotion
 - Awareness programs
 - Motivation programs
 - Behavior change programs
 - Culture change programs
- Illness prevention
- Injury prevention

Secondary Prevention in Occupational Settings

- Screening and surveillance
 - Pre-employment screening
 - Periodic employee screening
 - Environmental screening
- Treatment for existing conditions
- Emergency Care

Tertiary Prevention in Occupational Settings

- Preventing the spread of communicable diseases
- Preventing recurrence of other acute conditions
- Preventing complications of acute and chronic conditions

Home Health Care Services

Definition of Terms-

- **Home Health Care Services** – These are the health services provided to individuals and families in their places of residence for the purpose of promoting, maintaining, or restoring health, or of maximizing the level of independence while minimizing illness. Services appropriate to the need of the patient and family are planned, coordinated, and made available by providers organized for the delivery of home care through the use of employed staff.
- **Home Health Care Nursing-** It is a nursing specialty in which nurses provide multidimensional home care to patients of all ages. Home health care is a cost-efficient way to deliver quality care in the convenience of the client's home. Home health nurses create care plans to achieve goals based on the client's diagnosis.

Team Members of Home Health Care Services-

- The following people are the medical and nursing professionals with whom the client will interact on a daily basis. Compassion, dignity, and respect for client needs are the guiding principles for the relationship these individuals develop with clients and their families.
1. **Attending Physician-** The attending physician has responsibility for all decisions made that affect your care.
 2. **Residents, Interns, and House Staff**
 3. **Specialists (physicians)**
 4. **Nurse Manager**
 5. **Registered Nurses**
 6. **Licensed Practical Nurses**
 7. **Nurse Practitioners and Physician's Assistants**
 8. **Patient Advocate**
 9. **Patient Care Technicians**
 10. **Social Worker**
 11. **Dietitian**
 12. **Therapists**
 13. **Interpreters** - An interpreter is available to provide interpretation between, patients, providers, and family members. Interpreter Services helps to facilitate language access for Deaf and Hard of Hearing

individuals and people whose primary language is not their mother language.

The Home Care Clients Needing Home Health Care Services-

- The largest population needing home care is the elderly because dependency increases with age, dramatically so after 75.
- Besides the elderly and long-term care populations, another group needing home care is discharged, acute care patients.
- Others include babies and children with disabilities or individuals sent with monitors medication, IVs, and various therapies.
- Some, such as children, women, and drug users have additional special needs.
- Another subpopulation receiving home health services is the “wellness home care market”.
- These clients do not require medical care but have concerns about their health and well-being and are receptive to health promotion and illness prevention strategies.
- They use services such as diagnostic testing and screening (e.g., blood pressure monitoring), and illness prevention (e.g., information about exercise and stress management).
- Chronic epileptic patients, handicapped mentally and physically, terminally ill patients, etc.

Roles and Functions of Community Health Nurse In the Home Health Care Services-

1. **Planner/Programmer-**
 - a. Identifies needs, priorities, and problems of individuals, families, and communities.
 - b. Formulates municipal health plan in the absence of a medical doctor.
 - c. Interprets and implements the nursing plan, program policies, and circular for the concerned staff personnel.
 - d. Provides technical assistance to rural health midwives in health matters.
2. **Provider of Nursing Care-**
 - a. Provides direct nursing care to sick or disabled in the home, clinic, or workplace.
 - b. Develops the family’s capability to take care of the sick, disabled, or dependent member.

3. Community Organizer-

- a. Motivates and enhances community participation in terms of planning, organizing, implementing, and evaluating health services.
- b. Initiates and participates in community development activities.

4. Coordinator of Services-

- a. Coordinates with individuals, families, and groups for health-related services provided by various members of the health team.
- b. Coordinates nursing programs with other health programs like environmental sanitation, health education, dental health, and mental health.

5. Trainer/Health Educator-

- a. Conducts pre- and post-consultation conferences for clinic clients.
- b. Acts as a resource speaker on health and health-related services.
- c. Initiates the use of tri-media (radio/TV, cinema plugs, and print ads) for health education purposes.
- d. Conducts pre-marital counseling.

6. Health Monitor-

- a. Detects deviation from the health of individuals, families, groups, and communities through contacts/visits with them.

7. Role Model-

- a. Provides good examples of healthful living to the members of the community and for the people in need.

8. Change Agent-

- a. Motivates changes in health behavior in individuals, families, groups, and communities that also include lifestyle in order to promote and maintain health.

9. Recorder/Reporter/Statistician-

- a. Prepares and submits required reports and records.
- b. Maintain adequate, accurate, and complete recording and reporting.
- c. Reviews, validates, consolidates, analyzes, and interprets all records and reports.
- d. Prepares statistical data/chart and other data presentation.

10. Researcher-

- a. Participates in the conduct of survey studies and research on nursing and health-related subjects.
- b. Coordinates with government and non-government organization in the implementation of studies/research.

Environmental Health and Safety

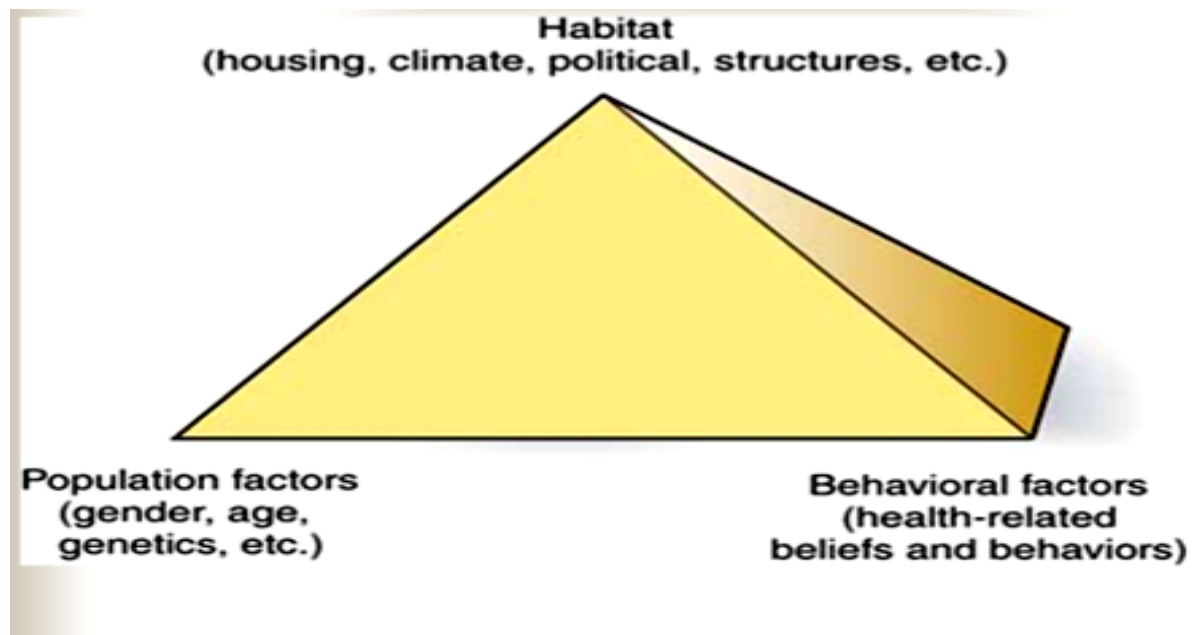
The Environment:

- Defined as the conditions by which one is surrounded
- An interaction world view separates persons from the environment
- An integration worldview conceptualizes persons & environment as one.

Ecologic Perspective: -

- An ecosystem is a community of living organisms and their interrelated physical and chemical environment. Within an ecosystem, any manipulation of one element or organism may have hazardous effects on the rest of the system.
- Habitat includes aspects of the environment in which people live, including housing, workplaces, communication systems, flora, fauna, climate, topography, services, and economic and political structures of societies and local communities.
- Population factors include the characteristics of the population (age, gender, and genetic predisposition).
- Behavioral factors include health-related beliefs and behaviors, which are shaped by a range of social and economic factors.

The Environmental Triad



Habitat: the natural home or environment of an animal, plant, or another organism.

Population factors: Population growth is based on four fundamental factors: birth rate, death rate, immigration, and emigration.

Behavioral Factors: health-related beliefs and behavior (Like; Psychological, Social, Cultural, Personal, and Economic)

Major Global Environmental Concerns:

Global environmental concerns now face the world, including:-

- Overpopulation.
- Ozone depletion.
- Global warming, deforestation, wetlands destruction, desertification.
- Energy depletion.

Overpopulation:

- Human population took hundreds of thousands of years to reach 1 billion in the 1800s and until 1960 to reach 3 billion. Less than 50 years later, it has more than doubled to 6.7 billion. Now, the number has reached 8 billion
- Every **11 years**, the world gains 1 billion people. Assuming that overall fertility rates continue to decline as they have since the 1970s.
- by 2050 there may still be well in excess of 9.2 billion inhabitants of Earth.
- in Germany, Italy, Russia, and Spain for instance, their populations will decrease by anywhere from 2% to 10 % by the year 2025.
- countries such as Nigeria, Zambia, and Jordan have high fertility rates, and it is likely that their populations will increase by 30% to 60% over the same period.
- What do these statistics and trends mean for the health of populations and the ecosystem?

Government's Role:

Governing a country has a responsibility to ;

1. Provide a well-formed infrastructure of health and safety services for its population;

2. Economic development that provides employment,
3. Housing, and services;
4. Political strength to provide stability to the nation.
5. Many countries with unstable political systems are unable to deal effectively with overpopulation issues.

Nurse's Role: Include the Following:

1. Teaching families that birth spacing improves child and maternal survival.
2. Prevent high-risk pregnancies, such as those among teens and adult women.
3. preventing the growing epidemic of HIV/AIDS;
4. Providing **family planning** education to prevent worldwide deaths from **unsafe abortions**.
5. Providing prenatal care—because healthy mothers equal healthy children.

Ozone Depletion:

- It's global warming, it's the trapping of heat radiation from the earth's surface that increases the overall temperature of the world, it is caused by carbon dioxide & other gases that enter the atmosphere through the depleted ozone layer & become trapped and affect health.

Government's Role:

1. Set standards for air quality and industrial emissions and delegated funds to assist in pollution control programs.
2. public health efforts are needed to help identify pollution sources and related health hazards.
3. Reduce sulfur in gasoline.
4. Reduce the use of more energy.
5. Consider transportation alternative

Nurse's Role:

1. Cigarette smoke are common indoor pollutants that can have ill effects on nonsmokers as well as smokers.
2. Infants and other exposed persons are at risk.
3. Carbon monoxide poisoning may result from stove and boiler emissions or from a car drain in a garage.

4. Nurses can assist with the prevention or elimination of these health hazards by ensuring that the indoor environment is well-ventilated (oxygenated) and heating equipment is properly maintained.

Deforestation, Wetlands Destruction, and Desertification:

- **Deforestation** is the clearing of tropical and temperate forests for cropland, cattle grazing, or urbanization.
- **Wetlands** are natural inland bodies of shallow water. The benefit of Wetlands; it's water purification, flood control, carbon sink, and shoreline stability.
- **Desertification** refers to converting fertile land into deserts, which cannot support crop growth or wildlife.
- Any natural or manmade process that changes life-supporting regions into land for other use or into unproductive wastelands upsets the ecosystem of the area.
- The destruction of forests and the upturning of Earth for urban sprawl uncovers **organisms hidden** for eons, to which humans and animals are then exposed

Government's Role: Make decisions that save the wetlands and forests.

Nurse's Role:

- Community health nurses can make a difference in this area. Perhaps no other person knows a community more intimately than the community health nurse. This role gives a valid voice of concern at the local level. By **using leadership and collaborative skills,**

Energy Depletion:

- Most of the energy sources we use today are not renewable. Wood has been used for thousands of years and was our first fuel.
- Natural gas for heat and fuel can be a highly efficient energy source.
- Nuclear energy has been used for at least 50 years.

Government's Role:

- Renewable sources of energy need to be discovered.
- A global effort to increase awareness and additional technology to use these energy sources.

Nurse's Role:

1. the nurse can educate people about energy conservation.
2. discuss alternative energy sources presently available in the community.
3. encourage people to become interested in and knowledgeable about the importance of the potential for energy depletion in the future.
4. Conservation methods include ensuring that a home or apartment is well-insulated and free from drafts.

Collaborative Strategies to Promote Environmental Health:

1. Learn about possible environmental health threats
2. Assess clients' environment and detect health hazards
3. Assist with the implementation of programs
4. Educate consumers and assist them to practice preventive measures.
5. Apply environmentally related research findings and participate in nursing research.
6. Take action to correct situations in which health hazards exist.
7. Plan collaboratively with citizens and other professionals to devise protective and preventive strategies
8. Take action to promote the development of policies and **legislation** that enhance consumer protection and promote a healthier environment.
9. Assist with and promote program evaluation to determine the effectiveness of environmental health efforts.

Factors Affecting of the Population:(Types of pollution)**1. Air Pollution:**

- Air pollution is now recognized as one of the most hazardous sources of chemical contamination.
- It is especially prevalent in highly industrialized and urbanized areas where concentrations of motor vehicles and industry produce large volumes of gaseous pollutants.
- Outdoor air pollution contributes to cardiovascular and respiratory diseases and is believed responsible for **nearly 1 million lung cancer deaths yearly**.
- **With respect to children**, infant mortality in the first year of life, bronchitis, asthma, and reduced lung development are additional health threats

2. Dust, Gases:

- It contains numerous types of chemical irritants and poisons.
- Coal miners have developed **black lungs** from inhalation of dust.

3. Acid Rain:

- Air pollutants such as sulfur dioxide from power plant emissions of nitrogen oxides from motor vehicle combine with rain water, and snow to produce sulfuric & nitric acid which change the biology of water, it kills small forms of life.

4. Water Pollution:

- Water can be contaminated and unsafe for drinking in many ways.
- Water may be infected with bacteria or parasites that cause disease. **Giardia lamblia is a parasite that enters the water supply.**
- Toxic substances, such as pesticides, are introduced by humans into water systems and structure another form of water pollution.
- Pollutants may upset the ecosystem, affecting natural organisms that help purify water systems.

5. Soil pollution:

- Soil contamination or soil pollution is caused by the presence of **(human-made)** chemicals or other alterations in the natural soil environment. It is typically caused by industrial activity, agricultural chemicals, or improper disposal of waste. Contamination is correlated with the degree of industrialization and intensity of chemical usage.

Approaches of Community Health Nursing

- Approaches of community health nurses use various approaches to provide care in the community. Some of them are:
 1. Health promotion approach
 2. Epidemiological approach
 3. Problem solving approach
 4. Evidence based approach
- The community health nursing approach Community health Nursing is the synthesis of nursing and public health practice applied to promote and protect the health of population. It combines all the basic elements of professional, clinical nursing with public health and community practice.
- Health: - Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.
- Three Broad Concepts of Health
 1. Medical (Traditional)
 2. Behavioral (Lifestyle)
 3. Socio-Environmental (Structural)
- These approaches lead to different definitions of problems, different strategies, different target groups, and different people responsible for the activities of promoting health.

Wellness

- Wellness a term often used interchangeably with health, is an;
 1. Active state of being health by living a lifestyle that promotes good physical, mental and social health.
 2. Emotional.
 3. Occupational.
 4. Spiritual.
 5. Intellectual.

Measurement of Health:

- The health of the public is measured more globally by Morbidity (How frequently a disease occurs) Mortality (Number of deaths).
- Measurements of "health" (both individual and population) traditionally focused on morbidity or mortality. Thus, the health status of countries

may be compared in terms of their death rates per thousand, or their average life expectancy, or infant and maternal mortality rates,

Disease Prevention;

- Measures to prevent disease and injury, such as risk factors reduction.
- It also refers to measures to stop the progress and reduce the impact of disease and injury that might already exist.

Health Protection;

- A term to describe important public health function in the areas of food, hygiene, clean water, environmental sanitation, drug safety and other activities that remove, as much as possible, the risk of adverse impacts on health that are linked to environmental hazards.
- Protect of individual and community from injuries and ill

Health Promotion

- Health promotion is the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group. Health Promotion Strategies
- Health promotion and disease prevention programs can improve health at every stage of life. To achieve this, there are several strategies for integrating health promotion and disease prevention perspectives into everyday practice. The strategies are:
 1. Health Education
 2. Health Communication
 3. Policy, Systems, and Environmental Change
 4. Life style / behavioral approach
 5. Develop of the individual skill

Define of Health Education:

- Communication facts, ideas and skills that change knowledge, attitudes, values beliefs, behaviors and practices of individuals, families, systems and/or communities.
- Health Communication: Communication is the process of exchanging information, thought, ideas, opinions, facts and feelings from one individual to another. Communication is a two-way process by which a

message is passed from the sender to the receiver with the objective that message sent is received and understood as intended.

Lifestyle: Lifestyle (daily activities)

- A way of life or living of a person or group: or a set of attitudes, habits, or possessions associated with a particular person or group.

Case Management

- Case Management: is a dynamic process that assesses, plans, implements, coordinates, monitors, and evaluates to improve outcomes, experiences, and value.
- Types of case management: Four Types of Case Management Models
 1. The Brokerage Model Case Management.
 2. The Clinical Case Management Model.
 3. The Strengths-Based Clinical Case Management Model.
 4. The Intensive Case Management (ICM) Model.

Health Care of Aggregates in the Community

- Aggregates in the community refer to specific groups of people that have common characteristics or demographic factors, such as race, ethnicity, age, or socioeconomic status (SES).
- These groups often experience health disparities and have unique healthcare needs.
- Community health nurses play a critical role in identifying and addressing the healthcare needs of these aggregate groups, through targeted interventions and culturally competent care.

Child and Adolescent Health

- A nation's destiny lies with the health, education, and well-being of its children.
 - Despite improvements, the mortality and morbidity rates for U.S. children are unacceptably high.
 - Black infants are more than twice as likely to die as white infants.
1. Issues of Pregnancy and Infancy:
 - Women who are not in optimal health before becoming pregnant are at increased risk for poor pregnancy outcomes, such as uncontrolled medical conditions, maternal drug, alcohol, tobacco exposure, and unsafe environmental conditions
 2. Infant Mortality an important indicator of health and welfare, related to maternal health, medical care quality, socioeconomic conditions, and public health practices.
 3. Preterm Birth and Low Birth Weight Preterm birth and low birth weight are the most important predictors of infant health.
 4. Preconception Health Maternal nutrition, drugs, alcohol, tobacco, chronic maternal diseases, environmental toxins, and other exposures can damage fetal organ systems early in pregnancy.
 5. Prenatal Care Early and regular prenatal care enhances a woman's chances of delivering a healthy baby.
 6. Prenatal Substance Use Tobacco, alcohol, and illicit drug use are harmful to women and their children during pregnancy, affecting their health and development.
 7. Tobacco Smoking tobacco during pregnancy is a major cause of infant morbidity and mortality.

8. Alcohol and Illicit Drugs Alcohol exposure during pregnancy can lead to FAS and FASDs.
9. Breastfeeding can save up to \$1500 per year in formula and supplies.
10. Sudden Unexplained Infant Death SUID is a sudden and unexpected death in infants, caused by poisoning, metabolic disorders, hyperthermia, neglect, homicide, and suffocation.

Childhood Health Issues

- Parents and communities must take steps to protect children from leading threats to their health. (i.e., accidental injury and exposure to toxins, abuse, and violence).
1. Accidental Injuries Unintentional injury is the leading cause of death for children ages 1-14, with low-income people more likely to die.
 2. Unhealthy Weight Childhood obesity is a health crisis, with an estimated one third of children overweight or obese, leading to cardiovascular disease, diabetes, bone and joint disease, and sleep apnea.
 3. Immunization Adequate immunization protects children from infectious diseases, especially immune-compromised individuals and pregnant women.
 4. Environmental Concerns Air pollution, poor indoor air quality, and secondhand smoke can cause or trigger childhood asthma.
 5. Child Maltreatment Child maltreatment is a major cause of death in the US, with neglect being the most common form.
 6. Children with Special Health Care Needs Children and youth with special health care needs require additional services due to chronic physical, developmental, behavioral, or emotional conditions.

Adolescent Health Issues

- Adolescence is a time of good health, as preteens and teens form lifelong health habits and develop emotional health skills. However, they rarely use health services unless they have an underlying condition or an acute illness.
1. Sexual Risk Behavior Adolescent sexual activity can lead to unintended pregnancy, HIV, and STIs.
 2. Violence Youth violence is a reflection of how well parents, schools, and the community are able to supervise and channel youth behavior. It

can cause emotional and physical harm, and is a major public health problem.

3. Tobacco, Alcohol, and Drug Use The use of tobacco, alcohol, and illicit drugs has serious and long-lasting consequences for adolescents and for society.

Factors Affecting Child and Adolescent Health

1. Parents' or caregivers' income, education, and stability
2. Security and safety of the home
3. Nutritional and environmental issues
4. Health care access and use

Community Health Nurse's Role for Child and Adolescent Health:

- The community health nurse is an advocate for improved individual and community responses to children's needs, researcher for effective strategies, participant in publicly funded programs, and promoter of social interventions.

Levels of Prevention Child and Adolescent Health:

- A. Primary Prevention focuses on encouraging healthy behaviors and preventing unwanted pregnancy, especially for adolescents.
- B. Secondary Prevention Pregnant women must receive early and adequate prenatal care, practice healthy behaviors, obtain necessary services, and prepare for becoming parents.
- C. Tertiary Prevention Programs and services should be established to prevent unwanted pregnancies and provide the best care to children and Adolescent's.

Care of Women

- Community health nurses work with other healthcare professionals to promote health promotion, prevent disease and accidents, and provide education for self-care and responsibility. Health initiatives should address health problems specific to women and examine women's health across the lifespan.

Roles of the Community Health Nurse

1. Direct Care Community health nurses provide direct care in a variety of settings, providing "hands-on" nursing care.
2. Educator Nurse must gain trust, be sensitive to cultural issues, and be aware of client's emotional and physical state.
3. Counselor Nurses must be aware of their value system to effectively counsel women's health, including biases and beliefs about sexual behavior.

Levels of Prevention and Women's Health

- A. Primary Prevention includes never smoking, following a nutritious diet, practicing safe sex, avoiding drugs, limiting alcohol consumption, and staying physically active.
- B. Secondary Prevention focuses on detecting disease before it appears clinically.
- C. Tertiary Prevention seeks to prevent further complications after a disease has become clinically evident.

Care of Men

- The health needs of men are largely unaddressed, with the majority of health programs focused on women's health. This study explores the implications for community health nursing, including the current health status of men, physiological and psychological theories, impediments to men's health, promoting factors, men's health needs, and planning gender-appropriate care.

Role of the Community Health Nurse in Men's Health

1. Assessment and screening
2. Health promotion and education
3. Health behavior modification
4. Access to care
5. Collaboration with healthcare team

Level of preventions

- A) Primary prevention: This level of prevention involves measures to prevent the onset of a disease or condition in healthy individuals, such as healthy lifestyle choices, regular check-ups, and early screening.

- B) Secondary prevention: This level focuses on early detection and treatment of a disease or condition, such as regular check-ups and screenings for conditions like high blood pressure, heart disease, and prostate cancer.
- C) Tertiary prevention: This level of prevention focuses on managing chronic health conditions and preventing further deterioration. This may include rehabilitation, pain management, and palliative care.

Care of the Elderly

- Aging is a natural process that affects all living organisms. The concept of aging is most often defined chronologically. Chronological age refers to the number of years a person has lived.

Issues associated with the elderly

1. Psychosocial Issues Depression, Alzheimer's disease, and drug abuse are common in older individuals, and can coexist with anxiety disorders.
2. Physiological Changes Genetic factors, diet, exercise, environment, health status, stress, lifestyle choices, and many other factors influence physiological aging.
3. Wellness and Health Promotion Health promotion programs help individuals maintain wellness, prevent illness, and manage chronic illnesses.
4. Additional Health Concerns Age-related conditions such as vision, hearing loss, and incontinence are common among the elderly population, and are often neglected due to inadequate dental care, poor nutrition, and lack of finances.

Elder Safety and Security Needs

1. Falls: More than one in three people 65 years or older experience falls each year. The risk of falling rises with age.
2. Driver Safety: one of the quality-of-life factors that is important to the senior is the ability to drive. Many older adults depend on driving in order to maintain independence and personal mobility.
3. Cold and Heat Stress: Hypothermia is the most serious cold stress-related disorder, followed by heat stress disorders.
4. Elder Abuse: Elder abuse is a health concern and legal problem, so caregivers must provide services to maintain mental and physical health.

5. Crime Older adults are more likely to be victims of crime, such as robbery, purse snatching, and scams.

Level of prevention

1. Primary Prevention refers to measures taken to prevent the onset of a health condition, with examples for the elderly being regular exercise, healthy eating, avoiding harmful substances, and getting vaccinated.
2. Secondary Prevention refers to early detection and treatment of health conditions through regular health screenings, early treatment of chronic diseases, and monitoring of symptoms and changes in health for the elderly.
3. Tertiary Prevention focuses on managing chronic health conditions to prevent further deterioration and includes rehabilitation, pain management, and palliative care.

Measures of dispersion

- Knowing a distributions central tendency is helpful, but it is not enough. it is also important to know whether the observations tend to be quite similar (homogenous) or vary considerably heterogeneous.
- To describe variability, measures of variation have been devised. The most common of these are the
 1. the range
 2. the variance
 3. the standard deviation
 4. the standard error of the mean
 5. the mean deviation.

1 – **range:** the range is defined as the difference in value between the highest (maximum) and lowest (minimum) observation:

$$\text{Range} = x_{\max} - x_{\min}$$

- The range can be computed quickly but it is not very useful because it considers only the extremes and does not take into consideration the bulk of the observations.

- Example.

$$x_i = 9 - 7 - 12 - 15 - 3 - 4$$

$$R = 15 - 3 = 12$$

2- The variance.

- When the values of observations lie close to their mean, the dispersion is less than when they are scattered over a wide range. If we could measure dispersion relative to the scatter of the values about their mean. Such a measure is realized in what is known as the variance.

Or

$$\sigma^2 = \frac{\sum (X_i - \mu)^2}{N}$$

$$\sigma^2 = \frac{N \sum x_i^2 - \frac{(\sum x_i)^2}{N}}{N}$$

} for ungrouped data

- Where σ^2 is the variance of population..

$$\sigma^2 = \frac{\sum f_i(x_i - \mu)^2}{\sum f_i} \quad \text{or} \quad \left. \begin{array}{l} \sigma^2 = \frac{\sum f_i x_i^2 - \frac{(\sum f_i x_i)^2}{\sum f_i}}{\sum f_i} \end{array} \right\} \text{grouped data}$$

And the formula for sample

$$s^2 = \frac{\sum (x_i - \bar{x})^2}{n-1} \quad n < 60 \quad \left. \text{or} \quad \right\} \text{ungrouped data}$$

$$s^2 = \frac{\sum (x_i - \bar{x})^2}{n} \quad n \geq 60$$

And

$$s^2 = \frac{\sum f_i (x_i - \bar{x})^2}{(\sum f_i) - 1} \quad \text{or} \quad \left. \begin{array}{l} s^2 = \frac{\sum x_i^2 - \frac{(\sum f_i x_i)^2}{\sum f_i}}{(\sum f_i) - 1} \end{array} \right\} \text{grouped data}$$

Example 1

Find the variance for the following data: -

7.1, 2.5, 2.5, 5.4, 8.3

Solution

x_i	$x_i - \bar{x}$	$(x_i - \bar{x})^2$	x_i^2
7.1	1.94	3.7636	50.41
2.5	-2.66	7.0756	6.25
2.5	-2.66	7.0756	6.25
5.4	0.24	0.0576	29.16
8.3	3.14	9.8596	68.89
Total 25.8	0.00	27.832	160.96

$$n=5$$

$$\bar{X} = \frac{\sum x_i}{n} = \frac{25.8}{5} = 5.16$$

$$s^2 = \frac{\sum (x_i - \bar{x})^2}{n-1}$$

$$s^2 = 27.832 / 4$$

$$s^2 = 6.958$$

Or

طريقة ثانية للحل

$$\sigma^2 = \frac{N \sum xi^2 - \frac{(\sum xi)^2}{N}}{N}$$

$$= \frac{160.96 - \frac{(25.8)^2}{5}}{5-1} = \frac{160.96 - 133.128}{4} = 6.958$$

3. Stander deviation

- It is the square root of the mean of the squared deviations from the arithmetic mean. It is denoted by the small Greek letter σ (sigma).

$$S.D = s = \sqrt{s^2}$$

Example

Find S.D of data

4, 6, 5, 8, 7

Solution

$$\sum x_i = 30$$

$$\bar{X} = \frac{\sum x_i}{n} = 6$$

$$s^2 = \frac{\sum (x_i - \bar{x})^2}{n-1} = \frac{4 + 0 + 1 + 4 + 1}{4} = \frac{10}{4} = 2.5$$

$$S.D = s = \sqrt{s^2}$$

$$SD = \sqrt{2.5} \longrightarrow SD = 1.58$$

Frequency Distribution

A frequency distribution is constructed for three main reasons:

- To facilitate the analysis of data.
- To estimate frequencies of the unknown population distribution from the distribution of sample data and
- To facilitate the computation of various statistical Measures

Steps of construction a frequency distribution:

1- Number of Classes

value: -

- k (no. of intervals = $1 + 3.322 \log n$)
where n : no. of observations.
- the number of classes should be no fewer than six and no more than 10.
- A simple formula could be used to find the total number of classes.

2- Find the range.

- The range is a distance between the lowest and highest values observation.
- R (the range) = $X_{\max} - X_{\min}$

3- Compute the width may be determined by dividing the range, by k , the number of class intervals symbolically, the class interval width, given by:

$$W = \frac{R}{K}$$

4 - Class Limits:

- The class limits are the lowest and the highest values that can be included in the class.
- For example, take the class 30-40. The lowest value of the class is 30 and highest class is 40.
- The two boundaries of class are known as the lower limits and the upper limit of the class.
- The lower limit of a class is the value below which there can be no item in the class.
- The upper limit of a class is the value above which there can be no item to that class.
- Of the class 60-79, 60 is the lower limit and 79 is the upper limit, i.e. in the case there can be no value which is less than 60 or more than 79.

- The way in which class limits are stated depends upon the nature of the data.
- In statistical calculations, lower class limit is denoted by L and upper-class limit by U.

5- Mid-value or mid-point:

- The central point of a class interval is called the mid value or mid-point.
- It is found out by adding the upper and lower limits of a class and dividing the sum by 2.
- (i.e.) Mid-value = $L + U/2$
- For example, if the class interval is 20-30 then the mid-value is

$$\frac{20 + 30}{2} = 25$$

6-find the frequency for each class.

Note:

Frequency: Certain guidelines should be followed:

- If the data values are integer, the lower limit of the first class should be 0.5 less than the lowest data value. The midpoint of the class should be an integer.

Cumulative frequency distribution

- The cumulative is a progressive total of the frequency. The cumulative frequency of score gives the number of scores equal to or less than, that particular score.

There are two types of cumulative F.D.:

- 1- Ascending accumulation.
- 2- Descending accumulation.

Relative Frequency Distribution:

- The proportion of value in each class, it is determined by dividing the no. of observation in interval by total no. observation.

EX1 // the following data represent the height of 40 high school students in Talafer city. Summarize these data by using Frequency distribution table. The height of 40 subject is as the follows:

119, 137, 146, 146, 164, 120, 138, 147, 147, 170, 125, 139, 148, 154, 171, 127, 140, 149, 155, 172, 128, 141, 150, 160, 180, 130, 141, 151, 161, 131, 139, 152, 162, 132, 144, 153, 163, 136, 145, 145

Solution of EX1:

Not: Xmin = 119

Xmax = 180

R = Xmax – Xmin

= 180 – 119 = 61

K = 1 + 3.322 log (n)

= 1 + 3.322 log (40)

= 7

R 61

W = ----- = ----- = 8.7 = 9

K 7

Class interval	Frequency	Mid-point	F.D. ascending	F.D. descending
118-126	3	122	3	40
127-135	5	131	8	37
136-144	9	140	17	32
145-153	12	149	29	23
154-162	5	158	34	11
163-171	4	167	38	6
172-180	2	176	40	2

Mathematical Presentation:

- (A) Measures of central Tendency although a frequency distribution serve useful purpose, there are many situations that require other types of data summarization, what we need in many instances is the ability to summarize data by mean of just a few descriptive measures.
- (B) Descriptive measures may be computed from the data of the sample (called statistic) or the data of population (called parameter)

The most commonly used measures are:

1. Arithmetic Mean.
2. Median.
3. Mode.

Arithmetic mean:

- The arithmetic mean – or simply mean is computed summing all the observation in sample and dividing the sum by the number of observations symbolically, the mean is represented by:

<i>For Population</i>		<i>For Sample</i>	
Ungrouped Data	Grouped Data	Ungrouped Data	Grouped Data
$\mu = \frac{\sum_{i=1}^N x_i}{N}$	$\mu = \frac{\sum_{i=1}^k (f_i x_i)}{\sum_{i=1}^k f_i}$	$\bar{x} = \frac{\sum_{i=1}^n x_i}{n}$	$\bar{x} = \frac{\sum_{i=1}^k (f_i x_i)}{\sum_{i=1}^k f_i}$

Where:

- μ : Symbol of population mean (Parameter).
- \bar{x} : Symbol of sample mean (statistics).
- x_i : Value of every unit.
- N : Population size.
- n : Sample size.
- f_i : Normal frequency.
- k : No. of classes.

Advantages of the mean:

1. It is a unique (single no.): that converts all data into a single no.
2. Simplicity: Simple & easy
3. Take in consideration all the values.

Disadvantages of the mean:

- It is greatly affected by extreme values (the biggest and the smallest).

EX1 //

The mark obtained in 10 class test is are:

25 – 20 – 20 – 9 – 16 – 10 – 21 – 12 – 8 – 13

Solution ///

$$\text{The mean} = \bar{X} = \frac{\sum_{i=1}^n X_i}{n}$$

$$= \frac{25+20+20+9+16+10+21+12+8+13}{10}$$

$$\bar{X} = \frac{154}{10} = 15.4$$

EX2 //

The following data represents income distribution of 100 families, calculate mean income of 100 families.

class	fi	Mid-Point	$\sum f_i x_i$
30 – 39	8	34.5	276
40 – 49	12	44.5	534
50 – 59	25	54.5	1362.5
60 – 69	22	64.5	1419
70 – 79	16	74.5	1192
80 – 89	11	84.5	929.5
90 – 99	6	94.5	567
Σ	100		6280

Find the Mean.

Solution //

We yet $N = \sum f_i = 100$

$$\sum f_i x_i = 6280$$

$$\bar{X} = \frac{\sum_{i=1}^n f_i x_i}{N}$$

$$= \frac{6280}{100} = 62.8$$

2- The Median:

- Median is defined as the middle item of all given observation arranged in order. For ungrouped data, the median is obvious.
- When determining the Median, you must arrange the scores in ascending or descending order first.
- If there are an odd number of scores the median is the middle score
- If there are an Even number of scores, the Median is the Midpoint between the two middle scores
- In case of the number of measurements is even, the median is obtained by taking the average of the middle.

Advantages of the median:

1. It is a unique (single no.): that convert lots of data into a single no.
2. Simplicity: Simple & easy to be calculated and understood.
3. Not effected by extreme data.

Disadvantages of the median:

- It is neglect all the values and take only the median one (the central value only).

Median for ungrouped data

N= Even Number	N= odd number
$\text{Median} = \frac{n}{2}$	$\text{Median} = \frac{N+1}{2}$

EX 1// 1, 3 ,5, 7, 8, 13, 15, 17, 18, 21, 23

Find the Median.

Solution //

$$M = \frac{n+1}{2} = \frac{11+1}{2} = 6$$

$\bar{M} = 13$

EX 3 //

The median for the following frequency table is:

Classes	fi	Ascending cumulative	True limits
8 – 10	5	5	7.5 – 10.5
11 – 13	7	12	10.5 – 13.5
14 – 16	10	22	13.5 – 16.5
17 – 19	15	37	16.5 – 19.5
20 – 22	8	45	19.5 – 22.5
23 – 25	3	48	22.5 – 25.5
26 – 28	2	50	25.5 – 28.5
Σ	50		

Solution //

$$L1 = 16.5$$

$$F = 22$$

$$f_i = 15$$

$$w = 3$$

$$\text{Me} = L1 + \left[\frac{(\Sigma f_i/2) - F_i}{f_i} \right] * W$$

$$\begin{aligned} \text{Me} &= 16.5 + \left(\frac{25 - 22}{15} \right) * 3 \\ &= 17.1 \end{aligned}$$

The Mode:

- The mode is the observation that occurs most frequently if all values are different there is no mode.
- On the other hand, a set of values may have more than one mode.
- The mode is not the greatest variable is the variable that is repeated the greatest no. of times.
- The mode for grouped data is:

$$\bar{M}_o = L1 + \left(\frac{d1}{d1 + d2} \right) * W$$

- The 1st step: the mode class = the class that is the most frequent.
- L1 = upper actual limit of the class that come before the mode class.
- d1 = the distance between the frequency of the mode and the frequency of the class that come before the mode class.
- w = the class length or width.

EX// Find the mode

10, 10, 2, 2, 5, 7, 9, 8, 9, 9

Solution:

$$\bar{M}_o = 9$$

EX// find the mode

Class	frequency
150 – 154	3
155 – 159	7
160 – 164	10
165 – 169	15
170 – 174	8
175 – 179	5
180 – 184	2

Solution //

$$L1 = 164.5$$

$$d1 = 5$$

$$d2 = 7$$

$$w = 5$$

$$\bar{M}_o = 164.5 + \left(\frac{5}{5 + 7} \right) * 5 = 166.6$$

Advantages of Mode:

- 1- It is easy to understand & easy to calculate.
- 2- It is not effected by extreme values or sampling fluctuations.
- 3- It is always present within the data.
- 4- It can be located graphically.

Disadvantages of mode:

- 1- It is not rigidly defined.
- 2- It is not based upon all values of the given data.
- 3- It is not capable of further treatment.

*Relation between mean and median and mod:

$$\mathbf{X - Mo = 3 (X - Me)}$$

Statistics: -

- Statistics is an empirical method for collecting, organizing, summarizing, and presenting data, and to make inferences about the population from which the data are drawn.

Biostatistics:

- Statistical processes and methods applied to the collection, analysis, and interpretation of biological data and especially data relating to human biology, health, and medicine

Some Basic Definition:**1- Population: -**

- A population is the group from which data are to be collected.

2- Sample: -

- A sample is subset of population; A sample is defined as a set of selected individuals, items, or data taken from a population of interest.

3- Variable: -

- A variable is a feature characteristic of any member of a population differing in quality or quantity from one member to another. Example, the variables to measure or observe might be the height, weight, gender, etc.

4- Parameters: Numerical measurements taken from a population.**5- Statistics:** Numerical measurements taken from a sample**Types of Variables:****1- Quantitative Variable:**

- A Variable differing in quantity is called quantitative Variable, for example, the weight of a person, number of people in a car.
- Quantitative Variable are represented by symbols (X, Y, Z).
- Can be sub – classified into:

1. Discrete Variable:

- Number of nights spent in hospital
- Number of courses of a given drug prescribed during the study period
- Age at last birthday
- Number of cigarettes smoked in a week

2. Continuous Variables:

- Blood pressure
- Lung function, for example peak expiratory flow rate (PEFR)

2- Qualitative Variable:

- A variable differing in quality is called qualitative variable or attribute, for example, color, the degree of damage of a car in accident.

Types of statistics: -

- There are two subdivisions of statistical method:
 - (A) Descriptive Statistics: it deals with the presentation of numerical, or, data, in either table or graphs form, and with the methodology of analyzing the data.
 - Descriptive statistics are used to describe or convey an understanding of data.
 - Descriptive statistics allow data to be organized, summarized, and described in a format that is more easily understood.
 - With descriptive statistics, we can present the data with the use of graphs, charts, tables, and/or numerical measures such as central tendency and variability. We discuss descriptive statistics in more detail in the following chapters.
 - (B) Inferential Statistics: it involves techniques for making inferences about the whole population on the basis of observation obtained from samples.
 - An inference is a conclusion based on logical reasoning in the absence of evidence or when only incomplete evidence is available.
 - Inferential statistics allows a researcher to generalize the results from a sample to a population through hypothesis testing.

It may seem that descriptive statistics and inferential statistics are two separate functions. However, descriptive statistics allows you to examine the collected data and to explain it better. Therefore, researchers use descriptive statistics as a prerequisite step to the use of inferential statistics.

Levels of Measurement:**1. Nominal level Measurement:**

- Are at the lowest level and must conform to the following two rules: **(1)** the data categories must be exclusive (each datum will fit into only one category) and **(2)** the data categories must be exhaustive (each datum will fit into at least one category). The data categories are developed for the purpose of naming or labeling the variables for a study. Example: Gender – respondents can be male or female.
- Variables measured at the nominal level that are frequently described in studies include gender, race/ethnicity, marital status, and medical diagnoses.

2. Ordinal level of measurement:

- Includes categories that can be rank ordered and, like nominal level measurement, the categories are exhaustive and mutually exclusive
- In ranking categories of a variable, each category must be recognized as higher or lower or better or worse than another category. However, with the ordinal level of measurement, you do not know exactly how much higher or lower one subject's score is on a variable in relation to another subject's score. Example: pain measurement

3. **Interval Level of Measurement:** Usually not begin from zero (ex. the temperature when we say zero, not mean that there is no temp). i.e. zero, less than, or more than.

4. **Ratio Level Measurement:** It usually begins from more than zero and it's mainly used for quantitative variables.

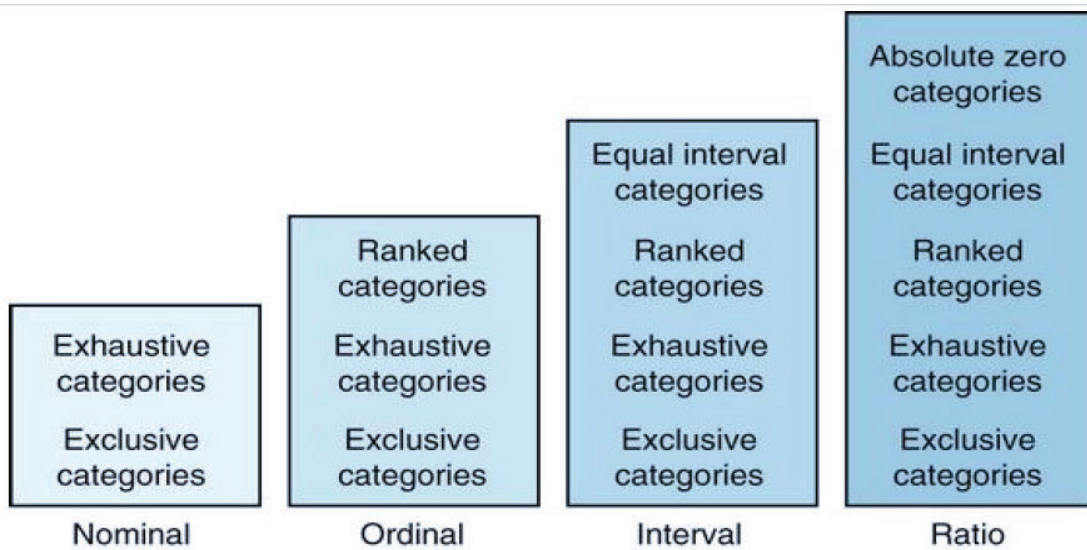


FIGURE 1 -1 SUMMARY OF THE RULES FOR THE LEVELS OF MEASUREMENT.

What are Communicable Diseases?

- A communicable disease is an illness that is transmitted from a person, animal or inanimate source to another person either directly, or indirectly.
- If diseases are communicable, then they present in an epidemic or endemic form, while if non-communicable as acute or chronic, as follows:

Communicable:

- epidemic (e.g., measles)
- endemic (e.g., malaria)

Non-communicable:

- acute (e.g., accidents)
- chronic (e.g., coronary heart disease)

Agent-Host-Environment Model for Communicable Disease Occurrence**A. The Agent**

- The agent can be an organism (virus, bacteria, rickettsia, protozoan, helminth, fungus or arthropod), a physical or a chemical agent (toxin or poison). If the agent is an organism, it needs to **multiply** and find a means of **transmission** and **survival**.

Stages of Infection: Latent period and Communicable period**Latent period**

- Infectious agent has invaded a host and found conditions hospitable to replicate
- Replication before shedding

Communicable period

- Follows latency
- Begins with shedding of agent

Incubation period

- Time from invasion to time when disease symptoms first appear
- May overlap with communicable period.

Transmission

- Communicable diseases fall into a number of transmission patterns

<u>Direct Contact</u>	<u>Indirect Contact</u>	<u>Airborne Transmission</u>
<ul style="list-style-type: none"> • Touching • Biting • Kissing • Sexual Contact • Sneezing • Coughing • Pregnant Women can pass disease to unborn child through placenta 	<ul style="list-style-type: none"> • Contaminated Objects • Vectors (flies, mosquitoes, ticks) • Water and Food 	<ul style="list-style-type: none"> • Travel through the air for a long time or distance • Don't settle quickly on surfaces

B. Host Factors

- If the agent is transmitted to a new host, its successful invasion and persistence will depend upon a number of host factors.

1. Susceptibility

- Genetic
- Age.
- Sex

2. Inherent defense mechanisms

- Any infecting organism must be able to overcome the body's inherent defense mechanisms. These can either be:
 - physical, such as the skin, mucussecreting membranes or acidity of the stomach; or
 - inflammatory, the localized reaction, which includes increased blood flow, the attraction of phagocytes and isolation of the site of inoculation.

3. Resistance

- The person's susceptibility and defence mechanisms may be altered by the resistance of the individual. This may be lowered by the following:
 - ✓ Nutrition. Where the nutritional status is decreased, the susceptibility to a disease is increased, or the clinical illness is more severe.
 - ✓ Trauma and debilitating conditions. Poliomyelitis may be a mild or inapparent infection, but if associated with trauma, such as an intramuscular injection, then paralytic disease can result. The appearance of shingles or fungal infections in debilitated people is often seen.
 - ✓ Multiple infections. The presence of one disease may make it easier for other infecting organisms. Secondary respiratory infections commonly occur in measles.

4. Immunity

- Experience of previous infection by a host can lead to the development of immunity.
- This can either be cellular, conferred by T-lymphocyte sensitization or humoral, from B-lymphocyte response. Immunity can either be acquired or passive.
 - ☒ Acquired (both cellular and humoral) immunity follows an infection or vaccination of attenuated (live or dead) organisms. This will induce the body to develop an immune response in a number of diseases.
 - ☒ Passive (humoral only) immunity is the transfer of antibodies from a mother to her child via the placenta. Passive immunity is short lived, as in the protection of the young infant against measles for the first 6 months of life. Passive immunity can also be introduced (e.g., in rabies immune serum).

C. The Environment

- The transmission cycle used by the agent to reach the host takes place within an environment that determines the success and severity of the infection like Climate, temperature, rainfall, seasonality.

Control Principles

- Control can be directed either at the agent, the route of transmission, the host or the environment:

1.The agent

- Destruction of the agent can be by specific treatment, using drugs that kill the agent in vivo, or if it is outside the body, by the use of antiseptics, sterilization, incineration or radiation.

2.Transmission

- When the agent is attempting to travel to a host, it is at its most vulnerable position; therefore, many methods of control have been developed to interrupt transmission:
 1. Quarantine or isolation Keeping the agent at a sufficient distance and for a sufficient length of time away from the host until it dies or becomes inactive can be effective in preventing transmission
 2. Contacts: People who might have become infected because of their close proximity to a case are called contacts. They can be isolated, given prophylactic treatment or kept under surveillance.
 3. Environmental health Methods of personal hygiene, water supplies and sanitation are particularly effective against all agents transmitted.
 4. Animals Whether they act as reservoirs or intermediate host animals can be controlled by destruction or vaccination (e.g. against rabies).
 5. Cooking Proper cooking renders plant and animal produce safe for consumption, although some toxins are heat-resistant.
 6. Vector control is one of the most highly developed methods of interrupting transmission

3 Host

- The host can be protected by physical methods (mosquito nets, clothing, housing, etc.), by vaccination against specific diseases or by taking regular prophylaxis.

4 Environment

- The environment of the host can be improved by education, assistance (agricultural advice, house building, subsidies, loans, etc.), and improvement of communications (to market his produce, reach health facilities, attend

school, etc.). In the course of time, these will be the most effective methods of preventing continuation of the transmission cycle.

Control Methods – Vaccination

What is a vaccine?

- The term ‘vaccine’ applies to all biological preparations, produced from living organisms, that enhance immunity against disease and either prevent (prophylactic vaccines) or, in some cases, treat disease (therapeutic vaccines).
- Vaccines are administered in liquid form, either by injection, by oral, or by intranasal routes.
- Vaccination: artificial induction of immunity by using vaccines
- Vaccine: A preparation of a weakened or killed pathogen, such as bacterium or virus, or of a part of pathogen’s structure that upon administration stimulates antibody production or cellular immunity against the pathogen but is incapable of causing severe infection itself

Types of immunization:

1. Active immunization

- Is the induction of immunity after exposure to an antigen
- Natural: exposure to a microbe
- Artificial: use of vaccine

2. Passive immunization

- Use of performed antibody from another host
- Natural: from mother to fetus
- Artificial: use of immunoglobulin

How do vaccines work?

- When inactivated or weakened disease-causing microorganisms enter the body, they initiate an immune response, this immune either as antibody or cell mediated or both.
- This response mimics the body’s natural response to infection. But unlike disease-causing organisms, vaccines are made of components that have limited ability, or are completely unable, to cause disease.
- The immunity developed will help the body to attack actual microorganism when enter the body and lead to damage of these microorganism and prevent disease development.

Names of disease prevented with vaccine:

- Tetanus
- Polio
- Mumps
- Hepatitis A and B
- Yellow fever
- Influenza
- Diphtheria
- Meningococcal
- Haemophilus influenza type b (Hib)
- Typhoid
- Rubella

Vaccine efficacy

- Vaccine Efficiency measures the decrease in incidence of a disease in the vaccinated population compared to the incidence of the disease in the unvaccinated population.
- In epidemiological terms, it is defined as the difference between the Attack Rate of the disease in the Unvaccinated and the Vaccinated relative to the Attack Rate in the Unvaccinated.
- The Attack Rate is defined as the number of individuals who become infected out of the total number who are exposed to a disease. When categorized into Unvaccinated and Vaccinated groups, vaccine efficacy is calculated as:

$$\text{Vaccine Efficiency} = \frac{(\text{Attack Rate in the Unvaccinated} - \text{Attack Rate in the Vaccinated})}{\text{Attack Rate in the Unvaccinated}} \times 100$$

Example: in outbreak of a given disease we had 10 vaccinated and 10 unvaccinated individuals. 3 of vaccinated 9 individuals of unvaccinated individuals develop the disease

Q. calculate the Vaccine Efficiency

Answer:

$$VE = 1 - \frac{\text{Incidence in Vaccinated}}{\text{Incidence in Unvaccinated}} \times 100\%$$

or

$$\frac{\text{Unvac incidence} - \text{Vac inc}}{\text{Unvac inc}} \times 100\%$$

What is VE in this example:
Vaccinated incidence = 3/10 = 30%
Unvaccinated incidence = 9/10 = 90%
VE = $\frac{90-30}{90} = 0.666 = 66.6\%$

Complication of vaccine:

1. local.
2. systemic reaction.
3. skin reaction.
4. renal complication.
5. Neurological complication.
6. Paralytic complication.
7. encephalitic complication.
8. Joint involvement.
9. Lymphadenopathy.
10. Teratogenic effect.
11. skeletal complication.
12. hematological complication

Environmental Control Methods

1. personal and domestic hygiene;
2. proper preparation, cooking and storage of food;
3. use of water supplies;
4. proper disposal of excreta and waste;
5. miscellaneous methods including meat inspection and hygiene.

Concepts in Epidemiology

Epidemics, Endemics, and Pandemics

Epidemic

- **An epidemic** is the occurrence of cases of an illness, specific health-related behavior, or other health-related events clearly in excess of normal expectancy in a community or region.
- Epidemics are often described by how they spread through the population. Two primary types of infectious-disease epidemics are **common-source and propagated**.
 - A common-source epidemic arises from a specific source (e.g., cholera)
 - A propagated epidemic arises from infections transmitted from one infected person to another (e.g., tuberculosis).
 - Some disease outbreaks may have both common-source and propagated epidemic features. **A mixed epidemic** occurs when victims of a common-source epidemic have person-to-person contact with others and spread the disease, resulting in a propagated outbreak.

Pandemic

- **A pandemic** is an epidemic that affects or attacks the population of an extensive region, country, or continent.

Endemic

- **Endemic** refers to the ongoing, usual, or constant presence of a disease in a community or among a group of people; a disease is said to be endemic when it continually prevails in a region. For example, although influenza follows a seasonal trend, with the highest number of cases in the winter months, it is considered endemic if the pattern is consistent from year to year

Case Concepts in Epidemiology

- A **case** is a person in a population who has been identified as having a particular disease, disorder, injury, or condition.
- **Case definition** is a set of standard criteria for classifying whether a person has a particular disease, syndrome, or other health condition. Case definition

ensures that cases are consistently diagnosed, regardless of where or when they were identified and who diagnosed the case.

- **The primary case** is the first disease case in the population.
- **Index case** is the first disease case brought to the attention of the epidemiologist. The index case is not always the primary case.
- **Secondary case** is a person who becomes infected and ill after a disease has been introduced into a population and who is infected as a result of contact with the primary case.
- A **suspect case** is an individual (or a group of individuals) who has all the signs and symptoms of a disease or condition but has not been diagnosed as having the disease or has the cause of the symptoms connected to a suspected pathogen (i.e., any virus, bacteria, fungus, or parasite)
- When all criteria are met for the case definition, the case is classified as a **confirmed case**.

The Epidemiology Triangle

- Three interrelated epidemiologic variables were involved and are present in any disease occurrence (1) the host; (2) the agent; and (3) the environment. The traditional triangle of epidemiology is shown in figure 1.
- The agent is the cause of the disease;
- The host is a human or an animal that is susceptible to the disease (e.g., healthcare workers, patients, unvaccinated individuals);
- The environment includes those surroundings and conditions external to the human or animal that cause or allow disease transmission;

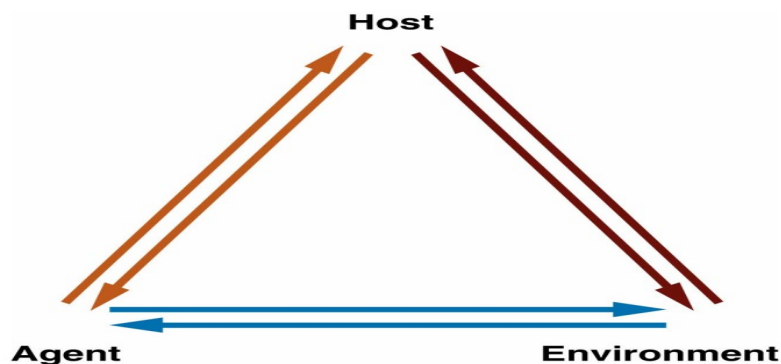


FIG. 1 Epidemiological triangle.

Some Disease Transmission Concepts

Several disease transmissions concepts that relate to or influence the epidemiology triangle are fomites, vectors, reservoirs, and carriers.

- A **fomite** is an object such as a piece of clothing, a door handle, or a utensil that can harbor an infectious agent and is capable of being a means of transmission.
- A **vector** is an invertebrate animal (e.g., tick, mite, mosquito, bloodsucking fly) that transmits infection by conveying the infectious agent from one host to another.
 - Transmission may be either mechanical (i.e., the agent does not multiply or undergo physiologic changes in the vector) or biological (i.e., the agent undergoes part of its life cycle inside the vector before being transmitted to a new host).
- A **reservoir** is the habitat (living or nonliving) in or on which an infectious agent lives, grows, multiplies, and on which it depends for its survival in nature. Reservoirs are humans, animals, or certain environmental conditions or substances (e.g., food, feces, decaying organic matter) that are conducive to the growth of pathogens. Two types of human or animal reservoirs are generally recognized: symptomatic (ill) persons who have a disease and carriers who are asymptomatic and can still transmit the disease.
- **Zoonosis** is an infectious organism in vertebrate animals (e.g., rabies virus, bacillus anthracis, Ebola virus, influenza virus) that can be transmitted to humans through direct contact, a fomite, or a vector.
- A **vehicle** is a nonliving intermediary such as a fomite, food, or water that conveys the infectious agent from its reservoir to a susceptible host.
- A **carrier** contains, spreads, or harbors an infectious organism. The infected person (or animal) harboring the disease-producing organism often lacks discernible clinical manifestation of the disease; nevertheless, the person or animal serves as a potential source of infection and disease transmission to other humans (or animals).

Carriers have been found to have several different conditions or states.

Traditionally, five types of carriers have been identified by the public health and medical fields:

1. **Active carrier.** Individual who has been exposed to and harbors a disease-causing organism (pathogen) and who has done so for some time, even though the person may have recovered from the disease.
2. **Convalescent carrier.** Individual who harbors a pathogen and who, although in the recovery phase of the course of the disease, is still infectious.
3. **Healthy carrier** (also called **passive carriers**). Individual who has been exposed to and harbors a pathogen but has not become ill or shown any of the symptoms of the disease. This could be referred to as a subclinical case.
4. **Incubatory carrier.** Individual who has been exposed to and harbors a pathogen, is in the beginning stages of the disease, is displaying symptoms, and has the ability to transmit the disease.
5. **Intermittent carrier.** Individual who has been exposed to and harbors a pathogen and who can spread the disease in different places or at different intervals

Modes of Disease Transmission

The two general **modes of disease transmission** include direct transmission and indirect transmission.

- **Direct transmission** is the direct and immediate transfer of an infectious agent from one person to another. Direct transmission requires physical contact between an infected host and a susceptible person, and the physical transfer of a pathogen. Examples include sexually transmitted diseases (e.g., HIV/AIDS, Chlamydia, Gonorrhea, Hepatitis B, Herpes simplex virus, Herpes), perinatal mother-to-child transmission (toxoplasmosis), and skin-to-skin (e.g., warts, impetigo, athlete's foot) transmission.
- **Indirect transmission** occurs when an agent is transferred or carried by some intermediate item, organism, means, or process to a susceptible host, resulting in disease. Air currents, dust particles, water, food, oral–fecal contact, and other mechanisms that effectively transfer disease-causing organisms are means of indirect disease transmission.
 - **Airborne transmission** occurs when droplets or dust particles carry the pathogen to the host and cause infection (e.g., respiratory viruses, pertussis, pneumococcal pneumonia, diphtheria, rubella).
 - **Vector-borne transmission** is when an arthropod (e.g., mosquito, flea, tick, lice) conveys the infection agent.

- **Vehicle-borne transmission** is related to fomites, food, or water that acts as a conveyance. For example, this occurs when a pathogen such as cholera or shigellosis is carried in drinking water, swimming pools, streams, or lakes used for swimming.

Chain of Infection and Immunity

There is a close association between the triangle of epidemiology and the **chain of infection (FIGURE 1-2)**.

- Disease transmission occurs when the pathogen leaves the reservoir (e.g., food, water, feces) through a **portal of exit** (e.g., nose, mouth, rectum, urinary tract, blood, other bodily fluids) and is spread by one of several modes of transmission.
- The pathogen or disease-causing agent enters the body through a **portal of entry** (e.g., mucous membranes, wounds) and infects the host if the host is susceptible.
- Once a pathogen leaves its reservoir, it follows its mode of transmission to a host, either by direct transmission (person-to-person contact) or by indirect transmission (airborne droplets or dust particles, vectors, fomites, and food).
- The final link in the chain of infection is, thus, the susceptible individual or host, usually a human or an animal.

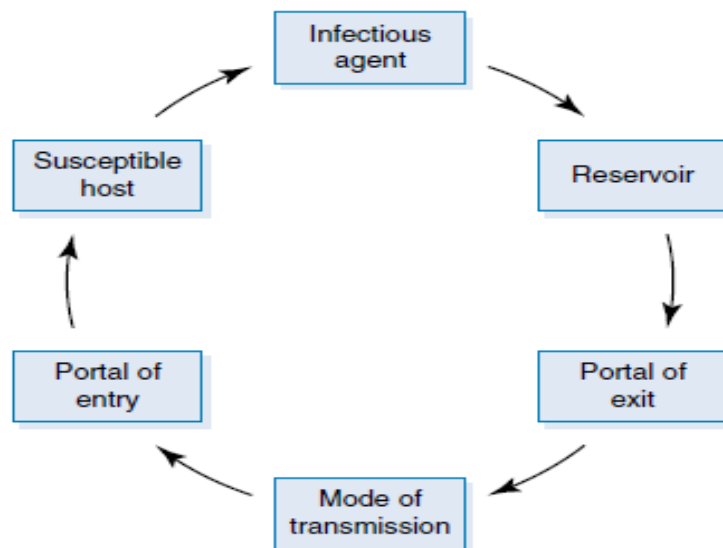


FIGURE 1-2 The chain of infection.

Practical Disease Concepts in Epidemiology

- **Disease** is an interruption, cessation, or disorder of body functions, systems, or organs. Diseases arise from infectious agents, inherent weaknesses, lifestyle, or environmental stresses. Often a combination of these factors influences the onset of disease.

Communicable and Noncommunicable Diseases and Conditions

- Infectious diseases are caused by invading organisms called pathogens.
- Infectious diseases may or may not be contagious. When an infectious disease is contagious, or capable of being communicated or transmitted, it is called a communicable disease. Examples of infectious communicable diseases are HIV/AIDS, cholera, and influenza.
- Noninfectious diseases may be referred to as noncommunicable diseases and conditions, such as heart disease, most forms of cancer, mental illness, and accidents.
- Infectious communicable diseases may be transmitted through vertical or horizontal transmission.
 - **Vertical transmission** refers to transmission from an individual to its offspring through sperm, placenta, milk, or vaginal fluids.
 - **Horizontal transmission** refers to transmission of infectious agents from an infected individual to a susceptible contemporary.
- Five different means of transmission can be used to classify certain infectious diseases. The five classifications are
 1. Airborne or respiratory transmission,
 2. Transmission through intestinal (alvine) discharge (which includes waterborne and food-borne diseases),
 3. Transmission through open lesions,
 4. Zoonotic or vector-borne transmission, and
 5. Fomite-borne transmission.

Diseases are classified as acute and chronic:

- **Acute:** relatively severe disorder with sudden onset and short duration of symptoms.
- **Chronic:** less severe but of continuous duration, lasting over long time periods if not a lifetime. Infectious and noninfectious diseases can be acute or chronic.

Classifying Disease

Diseases can be classified into five general categories: congenital and hereditary diseases, allergies and inflammatory diseases, degenerative diseases, metabolic diseases, and cancer. Each of these is defined as follows:

- **Congenital and hereditary diseases** are often caused by genetic and familial tendencies toward certain inborn abnormalities; injury to the embryo or fetus by environmental factors, chemicals, or agents such as drugs, alcohol, or smoking; or innate developmental problems possibly caused by chemicals or agents.
- **Allergies and inflammatory diseases** are caused by the body reacting to an invasion of or injury by a foreign object or substance. An allergen is a substance that can cause an allergic reaction.
- **Degenerative diseases** cause a lower level of mental, physical, or moral state than is normal or acceptable. Degenerative diseases are often associated with the aging process but in some cases may not be age related. Arteriosclerosis, arthritis, and gout are examples of degenerative chronic diseases.
- **Metabolic diseases** cause the dysfunction, poor function, or malfunction of certain organs or physiologic processes in the body, leading to disease states. Glands or organs that fail to secrete certain biochemicals to keep the metabolic process functioning in the body cause metabolic disorders. For example, adrenal glands may stop functioning properly causing Addison's disease; the cells may no longer use glucose normally, causing diabetes; or the thyroid gland might fail, resulting in a goiter, hyperthyroidism, or cretinism (hypothyroidism).
- **Cancer** is a collective name that refers to a group of many diseases with one common characteristic: uncontrolled cell growth or the loss of the cell's ability to perform apoptosis (cell suicide). The gradual increase in the number of uncontrolled dividing cells creates a mass of tissue called a tumor (neoplasm). When a tumor is malignant, meaning it is capable of spreading to surrounding tissue or remote places in the body, it is called cancer.

Classification of disease according to their source (Table 1):

Table 1	Classification of Sources of Disease or Illness
Classification	Examples of Sources
Allergic	Mold, dust, foods
Chemical	Drugs, acids, alkali, heavy metals (lead, mercury), poisons (arsenic)
Congenital	Rubella, cytomegalovirus, syphilis, toxoplasmosis, alcohol abuse
Hereditary	Familial tendency diseases such as alcoholism, genetic or chromosome structure that passes disability, disease, or disorders on to offspring.
Infectious	Bacteria, viruses, parasites
Inflammatory	Stings, poison ivy, wounds, slivers or impaled objects, arthritis, allergic reactions
Metabolic	Dysfunctional organs within the body producing hypothyroidism, hyperthyroidism
Nutritional	Vitamin deficiencies such as scurvy or protein deficiencies such as kwashiorkor
Physical agent	Excessive cold or heat, electrical shock, radiation, injury
Psychological	Biochemical imbalances in the brain as in schizophrenia; loss of or destruction of brain tissue such as in Alzheimer's disease
Traumatic	Wounds, bone fractures, contusions, mechanical injury
Tumors	Environmental or behaviorally stimulated tumors, such as cancer of the lung from smoking
Vascular	Smoking, stress, lack of proper diet, lack of exercise, and other behaviorally related implications that contribute to heart and cardiovascular diseases

Immunity:

Two classifications of disease **immunity are active or passive.**

- **Active immunity**, the body produces its own antibodies against a specific invading substance, called an antigen, thereby providing very selective protection. This can occur through a vaccine or in response to having a specific disease pathogen invade the body. Active immunity is usually permanent, lasting throughout one's lifetime.
- **Passive immunity** involves the transfer of antibodies to one person produced by another person. Passive immunity may be acquired through transplacental transfer or breastfeeding. Passive immunity can also come from the introduction of already-produced antibodies by another host (e.g., immune globulin). Passive immunity is comparatively short lived, usually lasting a few weeks or months.
- **Herd immunity** is based on the notion that if the herd (a population or group) is mostly protected from a disease by immunity then the chance that a major epidemic will occur is limited.

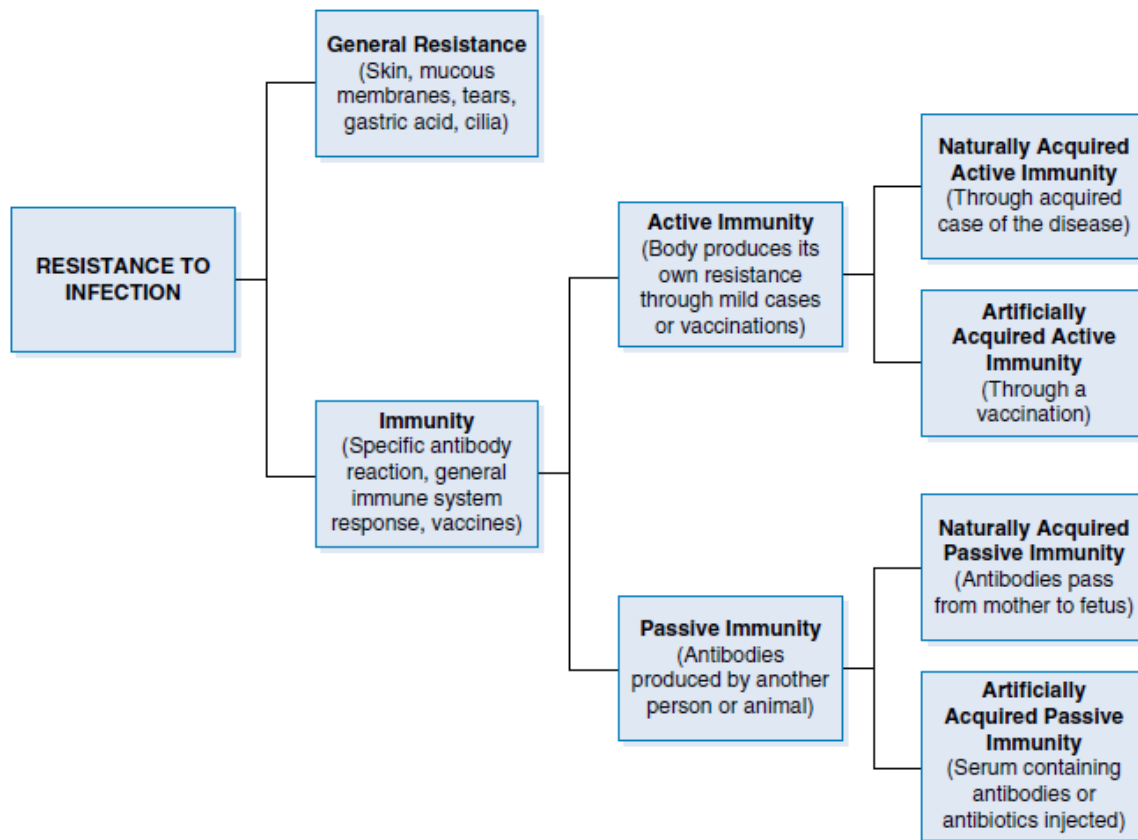


FIGURE 3-1 How the human body resists infections.

Natural History of Disease

Each disease has a natural history of progression if no medical intervention is taken and the disease is allowed to run its full course. There are four common stages relevant to most diseases.

1. Stage of susceptibility
 2. Stage of presymptomatic disease
 3. Stage of clinical disease
 4. Stage of recovery, disability, or death
- **The stage of susceptibility** precedes the disease and involves the likelihood a host has of developing ill effects from an external agent.
 - **The stage of presymptomatic disease** begins with exposure and subsequent pathologic changes that occur before the onset of symptoms. This is also typically called the incubation period. For chronic diseases, the time from exposure to clinical symptoms is typically called the latency period.

- The stage of clinical disease begins when signs and symptoms are manifest.
- The final stage reflects the expected prognosis.
- Several factors may influence these stages including early detection and effective treatment. With regard to prevention, **primary prevention** may occur during the stage of susceptibility. **Secondary prevention** may occur during the stage of presymptomatic disease or the stage of clinical disease, and **tertiary prevention** may occur during the stage of clinical disease or in the final stage.

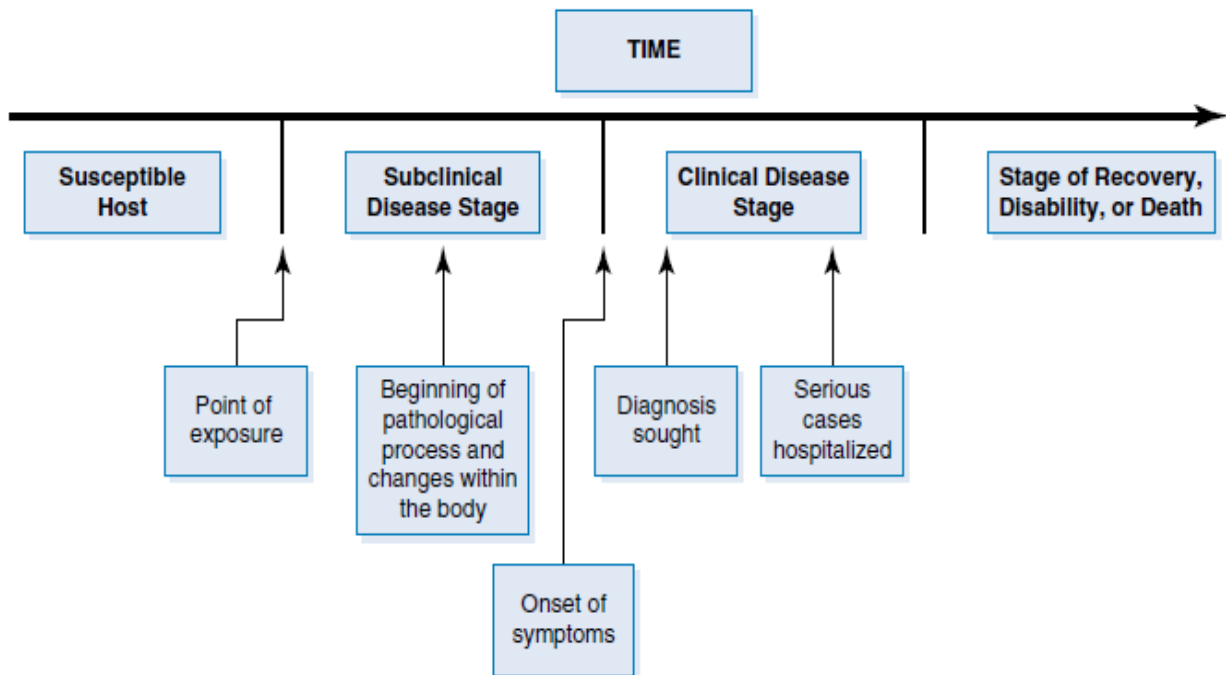


FIGURE 3-2 Natural course of communicable disease.

The epidemiologic approach

As with all scientific endeavors, the practice of epidemiology relies on a systematic approach. In very simple terms, epidemiologists:

- **Count** cases or health events, and describes them in terms of time, place, and person;
- **Divide** the number of cases by an appropriate denominator to calculate rates; and
- **Compare** these rates over time or for different groups of people.

Tools in epidemiology

Count

- The number of cases of a disease or other health conditions being studied
Example: Cases of AIDS reported in GZ in 2004, Stomach cancer patients who were female this Hospital
- Useful for allocation of health resources
- Limited usefulness for epidemiologic purposes without knowing size of the source population

Ratios, Proportions, and Rates

- In epidemiology, it is common to deal with data that indicate whether an individual was exposed to an illness, has an illness, experienced an injury, is disabled, or is dead.
- **Ratios, proportions, and rates** are commonly used measures for describing dichotomous data. The general formula for a ratio, proportion, or rate is:

$$\frac{x}{y} \times 10^n$$

- 10^n is called the rate base, with typical values of $n = 0, 1, 2, 3, 4, 5$.

Ratio

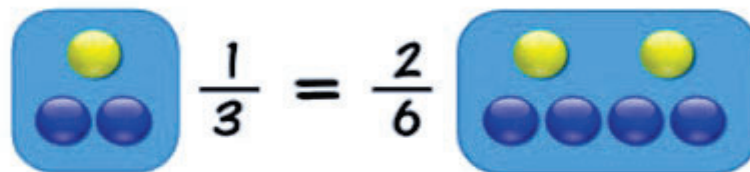
- In a **ratio** the values of x and y are independent such that the values of x are not contained in y . The rate base for a ratio is $10^0 = 1$.
- In other word, ratio is the quotient of 2 numbers, **Numerator** not necessarily included in the **denominator**
- **Ratio** allows to compare quantities of different nature

- **Briefly, the ratio contains:**
 - **Numerator (not part of denominator)**
 - **Denominator**
- For example, in 2012 there were 40,596 suicides in the United States, of which 31,777 were male and 8,819 were female. The ratio of males to females indicates that males were 3.60 times more likely than females to commit suicide



Proportion:

- **In a proportion, x is contained in y .**
- **A proportion is typically expressed as a percentage, such that the rate base is $10^2 = 100$.**
- **Briefly, the proportion contains:**
 - **Numerator (which is a part of denominator)**
 - **Denominator**
 - **Multiplier**
 - **No time factors**
- Thus, in the example above in 2012 the proportion of suicide cases in the United States who were male was 0.78 or 78%.



RATE

- Rate measure of speed with which events are occurring in a population in a specified time period.
- Types of rate
 - An **incidence rate** is the number of new cases of a specified health-related state or event reported during a given time interval divided by the estimated population at risk of becoming a case. (will be discussed in the next lecture)
 - **Mortality rate** is the total number of deaths reported during a given time interval divided by the population from which the deaths occurred. It is calculated as:

$$\text{Mortality Rate} = \frac{\text{Deaths occurring during a given time period}}{\text{Population from which deaths occurred}} \times 10^n$$

- For incidence and mortality rates, the time period is typically one year, and the population in the denominator is measured at midyear.
- The rate base is typically 1,000, 10,000, or 100,000, depending on how common the health-related state or event is under consideration
- Briefly, the rate contains:
 - **Numerator (which is a part of denominator)**
 - **Denominator**
 - **Multiplier**
 - **Time period**
 - **Usually expressed per 100/ per 1000 population**
 - **It has a time dimension**
- The size of the rate base influences the clarity of the rate. For example, the female breast cancer incidence rate in 2012 in the United States was 0.00139523 For the sake of presentation, cancer rates are typically multiplied by a rate base of 10^5 or 100,000 such that this rate is 139.5 per 100,000 person-years.

Mortality rates

- mortality rates are probably the single most important routinely available data source on the 'health' of populations. Familiarity with the use and interpretation of mortality rates is therefore very important.

Types of mortality rates

- There are several different mortality rates used to monitor the level of mortality in populations, the following are most commonly used:

1. Crude mortality rate

- Counts all deaths
- All causes
- All ages and both sexes
- Denominator includes entire population
- The crude mortality rate calculated as the number of all deaths in a special time period (usually a year) divided by the Denominator includes entire population, all ages and both sexes, for a given year can be defined as:

$$\text{crude death rate} = \frac{\text{total number of deaths in a given year}}{\text{total population}}.$$

- An immediate issue arises with the measurement of the total population. During any year, the population will usually change. At what point in the year, therefore, should it be measured? Conventionally, the point chosen is half-way through the year (30 June). The population on 30 June is called the mid-year population. Using this definition of the population exposed to the risk of dying, therefore,

$$\text{crude death rate} = \frac{\text{total number of deaths in a given year}}{\text{total mid-year population}}.$$

- Thus, for example, the population of Iraq on 30 June 1989 has been estimated to be 21 113000. It is estimated that there were 200468

deaths in Iraq in 1989. The crude death rate in Iraq in 1989 is therefore equal to $200468/21\ 113000$, which is 0.00950, or, multiplying by 1000, 9.5 per thousand.

Question

Exercise 3.6

The table below shows the number of deaths, and mid-year populations for England and Wales and three surveillance sites combined in Tanzania in 2001. Complete the table by calculating the crude death rates.

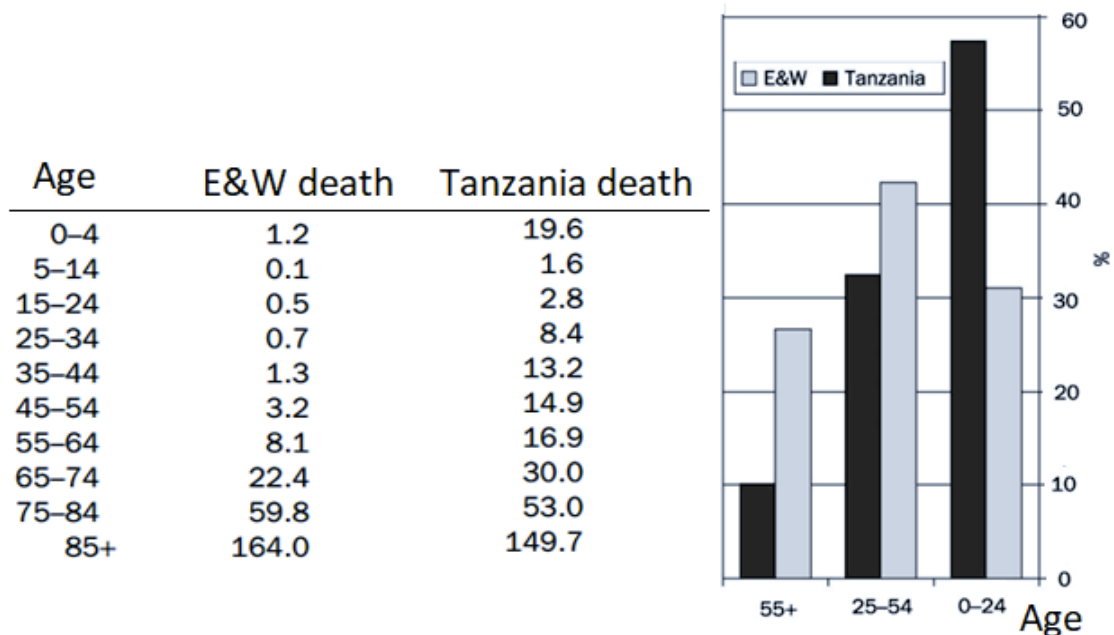
	<i>Total deaths</i>	<i>Mid-year population</i>	<i>Death rate per 1000 population per year</i>
England and Wales	530,373	52,084,000	
Tanzanian sites	3625	345,935	

Answer

- Crude mortality rate in England and Wales = $530,373/52,084,000 = 10.2/1000$
- Crude mortality rate in Tanzania = $3625/345,935 = 10.5/1000$
- The results show that the crude mortality rate in England and Wales is similar to that in Tanzania (i.e., 10.2 deaths per 1000 population per year versus 10.5 per 1000 per year).
- At first this result is surprising – one of the world's poorest countries has a similar crude mortality rate to one of the richest. Surely, mortality must be higher in Tanzania? The reason for this apparent paradox lies in the differences in age structure between the populations.
- Table 3.1. show that in every age group, apart from the two eldest, the rates are higher in Tanzania, often substantially so (particularly in the younger age groups), yet the crude mortality rate is not very

different. The reason for this that the age structures of the two populations are very different. A much larger proportion of the population in Tanzania consists of children and young adults.

Table 3.1 Mortality rates by age group (men and women combined) in England and Wales (E&W) and Tanzania in 2001



Age- and category-specific mortality rates

1. Age-specific mortality rate

- An age-specific mortality rate is simply the mortality rate for a particular age group. For example, the rate per 1000 for persons aged 45–54 would be
- Calculation of Age specific mortality rate (ASMR)

$$ASMR = \frac{\text{Number of death in the specific age group in a year}}{\text{Average population in that age – group in a year}} \times 1000$$

- To take an example, the male population aged 35-44 years last birthday in England and Wales on 30 June 1995 is estimated to have been 3 333 000. The number of deaths reported in England and Wales of males in this age group during the calendar year 1995 was 5860. The age-specific death rate in 1995 for males aged 35-44 years

last birthday was, therefore, $5860/3,333,000$, or 0.00176. Multiplying this by 1000 gives a rate of 1.76 per thousand.

2. Infant mortality rate

- There is one (and only one) age group for which a different method of calculating age specific death rates is employed. This is the age group 'under 1 year', or '0 last birthday'. For this age group, the denominator is taken to be the number of live births in the calendar year in question, rather than the mid-year population aged under 1 year.

Infant Mortality rate

The infant mortality rate is the ratio of deaths under 1 year of age in a given year to the total no of live births in the same year.

$$\text{IMR} = \frac{\text{No of deaths of children under 1 year of age} \times 1000}{\text{Total no of live births in the same year}}$$

- For example, in England and Wales in 1995 there were 648 100 live births, and 3970 deaths to infants under 1 year. The infant mortality rate is therefore equal to $3970/648\ 100$, which is 0.00613 or 6.13 per thousand births. Notice that this rate refers to both sexes. To measure infant mortality, unlike that of other age groups, demographers quite often use a rate referring to both sexes combined.

3. Cause specific death rate:

- When analysis is planned to throw a light on etiology, it is essential to use specific death rate. The specific death rates may be cause or disease specific (TB, cancer, accident etc) Specific group (age, sex etc)

$$\text{CSDR} = \frac{\text{No of deaths from sp disease during calendar year} \times 1000}{\text{Mid year population}}$$

4. Case fatality rate

- Case fatality rate (CFR): CFR represents the killing power of a disease. It is simply the ratio of deaths to cases. The time interval is

not specified CFR is typically used in acute infectious diseases (Food poisoning, cholera, measles) CFR for the same disease may vary in different epidemics because of change in the agent, host and environment.

Exercise

- In an Asian country with a population of 6 million people, 60,000 deaths occurred during the year ending December 31st, these include 30,000 deaths from cholera in 100,000 people who were sick with cholera Calculate the case fatality rate from cholera in 1995? What was the cause specific mortality rate from cholera in 1995?

5. Maternal Mortality rate

- Maternal deaths is defined as “the death of a women while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of pregnancy, from any causes related to or aggravated by the pregnancy or its management but not from accidental causes”

MMR = Total no of female deaths due to complication of pregnancy, child birth or within 42 days of delivery from puerperal causes in an area during given year X 1000

Total no of live births in the same area and year

6. Survival rate

- Used in research studies like cancer therapy or survival

$$\mathbf{(SR)} = \frac{\mathbf{Patients\ alive\ at\ the\ end\ of\ 5\ years}}{\mathbf{Total\ no.of\ patients}} \times 100$$

Prevalence and incidence

- **Prevalence** measures how much of some disease or condition there is in a population at a particular point in time.
- **prevalence** measures all of the existing cases at a given point in time. Prevalence includes the new cases (incidence) plus all of the existing cases. The prevalence rate is influenced by how many people become ill and how many people recover or die
- The prevalence is calculated by dividing the number of persons with the disease or condition at a particular time point by the number of individuals examined. The general formula for calculating the prevalence rate is:

$$\text{Prevalence rate} = \frac{\text{Total number of cases in a specified time period}}{\text{Total number in the defined population}}$$

- For example, in one study 6139 individuals completed the questionnaire. Of these 6139 people, 519 currently suffered incontinence and so had the condition at the particular time point of the study. Thus, the prevalence of incontinence = $519/6139 = 0.085$.
- Prevalence is often expressed as a percentage, calculated by multiplying the ratio by 100. The above study expresses prevalence as a percentage; thus, the prevalence of incontinence is 8.5% (or rounded is 9%). Another common way of expressing prevalence, particularly if the prevalence is low, is as the number of cases per 100,000 of the population. For example, it is easier to state the result as '66 cases per 100,000 people' than to say the prevalence is 0.00066.

Types of prevalence

- **Point prevalence** refers to the proportion of people in a population with a disease or condition at one point in time.
- **Period prevalence** is the proportion of people in a population known to have or have had a disease or condition at any time during a specified time period.

Uses of prevalence:

1. Estimate the magnitude of health / disease problems in the community and identify potentials high risk population groups
2. Assessing the need for preventive actions, health care the planning of health services
3. Prevalence is a useful measure of the occurrence of conditions for which the onset of disease may be gradual such as hypertension, diabetes or rheumatoid arthritis

Incidence

- **Incidence** refers to the rate at which a specific disease develops in a population. The incidence rate is the number of new cases of an illness or injury that occurs within a specified time.
- Incidence is calculated as the number of new cases of a disease or condition in a special time period (usually a year) divided by the size of the population under consideration who are initially disease free. The general formula for the incidence rate is:

$$\text{Incidence} = \frac{\text{Number of new cases in specified time period}}{\text{Population at risk in this time period}}$$

- For example, the incidence of meningitis in the Iraq in 1999 could be calculated by dividing the number of new meningitis cases registered during 1999 and dividing that number by the population of the Iraq. As this incidence rate would be very small again, we tend to consider number of cases per 100,000 people.

Exercise

- A nursing home has 100 residents. On the first day in January ten residents had a cold. Over the month of January another 18 residents developed a cold. Assuming that the number of residents did not change over January, answer the following questions:
- Q1. Calculate the point and period prevalence of people in a population with a disease.

$$\text{Prevalence rate} = \frac{\text{Total number of cases in a specified time period}}{\text{Total number in the defined population}}$$

- The point prevalence of the common cold among the nursing home residents in Exercise on the first day of January was 10 per cent (10/100).
- The period prevalence for the month of January of the common cold among the nursing home residents in Exercise was 28 per cent (28/100).
- Q2. Calculate the incidence of common cold
 - Ten out of 100 of the nursing home residents already had a cold at the start of January, hence 90 residents were ‘at risk’ of developing a cold for the first time during the month of January, and 18 did, giving an incidence of 20 per cent.

$$\text{Incidence} = \frac{\text{Number of new cases in specified time period}}{\text{Population at risk in this time period}}$$

- Incidence = $18/90 = 20$

Measurement of Risk

- Epidemiological definition of risk is the probability that an event will occur e.g., that an individual will become ill or die within a stated period of time or age.
- Formally defined as the proportion of initially disease-free individuals who develop disease over a defined period of observation.
- There are several measures of risk.
 1. Absolute risk = incidence rate
 2. Relative risk
 3. Attributable risk
 4. Odds Ratio

Absolute risk

- Absolute risk of a disease is the risk of developing the disease over a time period.
- We all have absolute risks of developing various diseases such as heart disease, cancer, stroke, etc.
- The same absolute risk can be expressed in different ways. For example, say you have a 1 in 10 risk of developing a certain disease in your life. This can also be said to be a 10% risk, or a 0.1 risk - depending on whether you use percentages or decimals.

Relative risk (Risk ratio)

- A risk ratio (RR), also called relative risk, compares the risk of a health event (disease, injury, risk factor, or death) among one group with the risk among another group.
- It does so by dividing the risk (incidence proportion, attack rate) in group 1 by the risk (incidence proportion, attack rate) in group 2.
- The two groups are typically differentiated by such demographic factors as sex (e.g., males versus females) or by exposure to a suspected risk factor (e.g., did or did not smoke).
- Often, the group of primary interest is labeled the exposed group, and the comparison group is labeled the unexposed group. For example, research has shown that smokers have a higher risk of developing heart disease compared to (relative to) non-smokers.

Method for Calculating risk ratio.

- The formula for risk ratio (RR) is: =

$$\frac{\text{Risk of disease (incidence proportion, attack rate) in group of primary interest}}{\text{Risk of disease (incidence proportion, attack rate) in comparison group}}$$

- A risk ratio of 1.0 indicates identical risk among the two groups.
- A risk ratio greater than 1.0 indicates an increased risk for the group in the numerator, usually the exposed group.
- A risk ratio less than 1.0 indicates a decreased risk for the exposed group, indicating that perhaps exposure actually protects against disease occurrence.

Example

Measures of association: Risk Ratio(RR)

In outbreak of T.B among prison inmates in South Carolina in 1999, 28 of 157 inmates residing on the east wing of the dormitory developed T.B, compared with 4 of 137 inmates residing on the west wing.

Q. Calculate risk ratio

Answer

	T.B +	Total
East Wing	:28	:157
West Wing	: 4	137

Risk of T.B among East Wing residents= $28/157 \times 100 = 17.8\%$

Risk of T.B among West Wing residents= $4/137 \times 100 = 2.9\%$

RR= $17.8/2.9 = 6.1$

The inmates who resided in the East wing of the dormitory were 6.1 times as likely to develop T.B as those who resided in the West wing.

15

Odds Ratio Calculation and Interpretation

What is the Odds Ratio?

- An odds ratio (OR) is a measure of association between a certain property A and a second property B in a population.
- Specifically, it tells how the presence or absence of property A has an effect on the presence or absence of property B.
- The OR is also used to figure out if a particular exposure (like eating processed meat) is a risk factor for a particular outcome (such as colon cancer), and to compare the various risk factors for that outcome.
- You could use the OR to find out how much alcohol use leads to liver disease. Or you might want to find out if cell phone use has some link to

brain cancer. As long as you have two properties you think are linked, you can calculate the odds.

Odds Ratio(OD)

In simpler term, an odds of an event can be calculated as:

Number of events divided by number of non-events

How to Calculate the Odds Ratio

You have two choices for the formula:

$(a/c) / (b/d)$

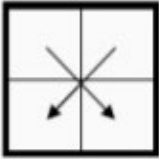
or, equivalently:

$(a*d) / (b*c)$

	Develop Disease	Do Not Develop Disease
Exposed	a	b
Non-exposed	c	d

The **probability** that an exposed person develops disease $= \frac{a}{a + b}$

The **probability** that a non-exposed person develops disease $= \frac{c}{c + d}$

$$OR = \frac{\frac{a}{c}}{\frac{b}{d}} = \frac{a}{c} \times \frac{d}{b} = \frac{ad}{bc}$$


Example

A case control study was conducted in **AL-SADR** Hospital to compare 35 lung cancer cases to controls to determine the associated factors related to lung cancer. Out of 117 subjects in the sample, 88 were daily smokers. Only two cases were found to be nonsmokers.

Calculate the Odds Ratio and interpret it. ?

	Cases Lung Cancer	Controls Without Lung Cancer	Total
Daily Smokers	33	55	88
Nonsmokers	2	27	29
Total	35	82	117

Odds Ratio = $33 \times 27 / 2 \times 55 = 8.1$

Daily Smokers showed risk of having lung cancer 8.1 times that of nonsmokers.

Odds Ratio Interpretation; What do the Results mean?

- An odds ratio of exactly 1 means that exposure to property A does not affect the odds of property B.
- An odds ratio of more than 1 means that there is a higher odds of property B happening with exposure to property A.
- An odds ratio is less than 1 is associated with lower odds.

Attributable risk

- Attributable risk helps to determine how much of an outcome may be attributable to a particular risk factor (i.e. an estimate of the excess risk) in a population exposed to that factor.
- This is a valuable measure, since it provides estimates of the relative impact of the poor outcome that could be achieved if the risk factor were reduced or eliminated.
- On the other hand, one might want to know the proportion of all cases of an outcome in the total population that could be attributed to the exposure

to the risk factor. This is called the population attributable risk and when expressed as a percent, the population attributable risk percent.

- Calculating the population attributable risk percent allows to determine what percent of an outcome could possibly be prevented if a risk factor were to be removed from the population.

Attributable proportion=

$\frac{\text{Risk for exposed group} - \text{risk for unexposed group}}{\text{Risk for exposed group}} \times 100\%$

Risk for exposed group

Example

A study of smoking and lung cancer, the lung cancer mortality rate among nonsmokers was 0.07 per 1,000 persons per year. The lung cancer mortality rate among who smoked 1-14 cigarettes per day was 0.57 lung cancer deaths per 1,000 persons per year. Calculate the attributable proportion?

EXAMPLES: Calculating Risk Ratios

Example A: In an outbreak of tuberculosis among prison inmates in South Carolina in 1999, 28 of 157 inmates residing on the East wing of the dormitory developed tuberculosis, compared with 4 of 137 inmates residing on the West wing. These data are summarized in the two-by-two table so called because it has two rows for the exposure and two columns for the outcome. Here is the general format and notation.

Table 1 General Format and Notation for a Two-by-Two Table

	Ill	Well	Total
Total	$a + c = V_1$	$b + d = V_0$	T
Exposed	a	b	$a + b = H_1$
Unexposed	c	d	$c + d = H_0$

In this example, the exposure is the dormitory wing and the outcome is tuberculosis) illustrated in Table 2. Calculate the risk ratio.

Table 2 Incidence of Mycobacterium Tuberculosis Infection Among Congregated, HIV-Infected Prison Inmates by Dormitory Wing — South Carolina, 1999

	Developed tuberculosis?		Total
	Yes	No	
Total	32	262	T = 294
East wing	a = 28	b = 129	H ₁ = 157
West wing	c = 4	d = 133	H ₀ = 137

To calculate the risk ratio, first calculate the risk or attack rate for each group. Here are the formulas:

Attack Rate (Risk)

- Attack rate for exposed = $a/a+b$
- Attack rate for unexposed = $c/c+d$

For this example:

- Risk of tuberculosis among East wing residents = $28/157 = 0.178 = 17.8\%$
Risk of tuberculosis among West wing residents = $4/137 = 0.029 = 2.9\%$
- The risk ratio is simply the ratio of these two risks:
- Risk ratio = $17.8/2.9 = 6.1$
- Thus, inmates who resided in the East wing of the dormitory were 6.1 times as likely to develop tuberculosis as those who resided in the West wing.

EXAMPLES: Calculating Risk Ratios (Continued)

Example B: In an outbreak of varicella (chickenpox) in Oregon in 2002, varicella was diagnosed in 18 of 152 vaccinated children compared with 3 of 7 unvaccinated children. Calculate the risk ratio.

Table 3 Incidence of Varicella Among Schoolchildren in 9 Affected Classrooms — Oregon, 2002

	Varicella	Non-case	Total
	21	138	159
Vaccinated	a = 18	b = 134	152
Unvaccinated	c = 3	d = 4	7

Data Source: Tugwell BD, Lee LE, Gillette H, Lorber EM, Hedberg K, Cieslak PR. Chickenpox outbreak in a highly vaccinated school population. *Pediatrics* 2004 Mar;113(3 Pt 1):455–459.

- Risk of varicella among vaccinated children = $18/152 = 0.118 = 11.8\%$
Risk of varicella among unvaccinated children = $3/7 = 0.429 = 42.9\%$
 - Risk ratio = $0.118/0.429 = 0.28$
- The risk ratio is less than 1.0, indicating a decreased risk or protective effect for the exposed (vaccinated) children. The risk ratio of 0.28 indicates that vaccinated children were only approximately one-fourth as likely (28%, actually) to develop varicella as were unvaccinated children.

Rate ratio

- A rate ratio compares the incidence rates, person-time rates, or mortality rates of two groups. As with the risk ratio, the two groups are typically differentiated by demographic factors or by exposure to a suspected causative agent. The rate for the group of primary interest is divided by the rate for the comparison group.

$$\text{Rate ratio} = \frac{\text{Rate for group of primary interest}}{\text{Rate for comparison group}}$$

- The interpretation of the value of a rate ratio is similar to that of the risk ratio. That is, a rate ratio of 1.0 indicates equal rates in the two groups, a rate ratio greater than 1.0 indicates an increased risk for the group in the numerator, and a rate ratio less than 1.0 indicates a decreased risk for the group in the numerator.

EXAMPLE: Calculating Rate Ratios (Continued)

- Public health officials were called to investigate a perceived increase in visits to ships' infirmaries for acute respiratory illness (ARI) by passengers of cruise ships in Alaska in 1998.⁽¹³⁾ The officials compared passenger visits to ship infirmaries for ARI during May–August 1998 with the same period in 1997. They recorded 11.6 visits for ARI per 1,000 tourists per week in 1998, compared with 5.3 visits per 1,000 tourists per week in 1997. Calculate the rate ratio.
- Rate ratio = $11.6/5.3 = 2.2$
- Passengers on cruise ships in Alaska during May–August 1998 were more than twice as likely to visit their ships' infirmaries for ARI than were passengers in 1997. (Note: Of 58 viral isolates identified from nasal cultures from passengers, most were influenza A, making this the largest summertime influenza outbreak in North America.)

Odds ratio

- An odds ratio (OR) is another measure of association that quantifies the relationship between an exposure with two categories and health outcome. Referring to the four cells in Table 3.15, the odds ratio is calculated as
 - a = number of persons exposed and with disease
 - b = number of persons exposed but without disease
 - c = number of persons unexposed but with disease
 - d = number of persons unexposed: and without disease
 - a+c = total number of persons with disease (case-patients)
 - b+d = total number of persons without disease (controls)
- The odds ratio is sometimes called the cross-product ratio because the numerator is based on multiplying the value in cell "a" times the value in cell "d," whereas the denominator is the product of cell "b" and cell "c." A line from cell "a" to cell "d" (for the numerator) and another from cell "b" to cell "c" (for the denominator) creates an x or cross on the two-by-two table.

Table 4 Exposure and Disease in a Hypothetical Population of 10,000 Persons

	Disease	No Disease	Total	Risk
Total	180	9,820	10,000	
Exposed	a = 100	b = 1,900	2,000	5.0%
Not Exposed	c = 80	d = 7,920	8,000	1.0%

EXAMPLE: Calculating Odds Ratios

- Use the data in Table 3.15 to calculate the risk and odds ratios.
 1. Risk ratio
 - $5.0/1.0 = 5.0$
 2. Odds ratio
 - $(100 \times 7,920)/(1,900 \times 80) = 5.2$
- Notice that the odds ratio of 5.2 is close to the risk ratio of 5.0. That is one of the attractive features of the odds ratio—when the health outcome is uncommon, the odds ratio provides a reasonable approximation of the risk ratio. Another attractive feature is that the odds ratio can be calculated with data from a case-control study, whereas neither a risk ratio nor a rate ratio can be calculated.
- In a case-control study, investigators enroll a group of case-patients (distributed in cells a and c of the two-by-two table), and a group of non-cases or controls (distributed in cells b and d).
- The odds ratio is the measure of choice in a case-control study. A case-control study is based on enrolling a group of persons with disease ("case-patients") and a comparable group without disease ("controls"). The number of persons in the control group is usually decided by the investigator. Often, the size of the population from which the case-patients came is not known. As a result, risks, rates, risk ratios or rate ratios cannot be calculated from the typical case-control study. However, you can calculate an odds ratio and interpret it as an approximation of the risk ratio, particularly when the disease is uncommon in the population.

Definition of epidemiology

- The word epidemiology comes from the Greek words epi, meaning “on” or “upon,” demos, meaning “people,” and logos, meaning “the study of.” In other words, the word epidemiology has its roots in the study of what befalls the population.
- Many definitions of epidemiology have been offered, but the following definition captures the underlying principles and the public health spirit of epidemiology:
 - *“Epidemiology is the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems.”*

Key terms in this definition reflect some of the important principles of the practice of epidemiology.

1. *Study.*

- Epidemiology is a scientific discipline with sound methods of scientific inquiry at its foundation.
- Epidemiology is data-driven and relies on a systematic and unbiased approach to the collection, analysis, and interpretation of data.

2. *Distribution.*

- *Distribution* refers to the **frequency and pattern** of health events in a population.
- **Frequency** means, not only the number of health events in a population, but the relationship of that number to the size of the population; that is, the number of events divided by the study population. The resulting proportion or rate allows epidemiologists to compare disease occurrence between different populations.
- **Pattern** refers to the description of health-related events by time, place, and personal characteristics.
 - **Time** patterns can use categories such as year, season, week, day, hour, weekday versus weekend, or any other breakdown of time that effectively and objectively displays disease or injury occurrence.
 - **Place** patterns include geographical variations, urban–rural differences, and the location of work sites or schools.

- **Personal characteristics** include demographic factors such as age, gender, marital status, and socioeconomic status, as well as behaviors and environmental exposures.
- The above characterization of the distribution of health-related states or events comprises one broad aspect of epidemiology called *descriptive epidemiology*.
- **Descriptive epidemiology** provides the What, Who, When, and Where of health-related events.

3. *Determinants*.

- *Determinants* are the Why and How—the causes and other factors that influence the occurrence of health-related events. Epidemiologists assume that illness does not occur randomly, but happens only when the right combination of risk factors or determinants accumulates.
- To search for these determinants, epidemiologists use *analytic epidemiology*—the process of assessing whether groups with different rates of disease have differences in demographic characteristics, genetic or immunological makeup, behaviors, environmental exposures, and other potential risk factors.

4. *Health-related states or events*.

- Early in its history, epidemiology tended to focus on epidemics of communicable diseases.
- Later, epidemiologic thinking was extended to endemic communicable diseases and noncommunicable infectious diseases.
- By the middle of the twentieth century, additional epidemiologic methods had been developed and applied to chronic diseases, injuries, birth defects, maternal–child health, occupational health, and environmental health.
- Next, epidemiologists looked “upstream” at behaviors related to health and well-being such as exercise, diet, and seat-belt use.
- More recently, advances in molecular methods have allowed epidemiologists to examine genetic markers of disease risk.
- Indeed, the phrase “health-related states or events” can be seen as including anything that affects the well-being of a population.
- Nonetheless, many epidemiologists still use the term “disease” as shorthand for the wide range of health-related states and events that are studied.

5. *Specified populations.*

- Although epidemiologists and direct health-care providers are both concerned with the occurrence and control of disease, they differ greatly in how they view “the patient.”
- The clinician has concern for the health of an individual; the epidemiologist has concern for the collective health of the people in a community or population under study. In other words, the clinician’s patient is the individual; the epidemiologist’s patient is the community.
- Therefore, the clinician and the epidemiologist have different responsibilities when faced with a person with, say, diarrheal disease. Both are interested in establishing the correct diagnosis. However, while the clinician usually focuses on treating and caring for the individual, the epidemiologist focuses on identifying the exposure or source of the agent that caused the illness, the number of other persons who may have been similarly exposed, the potential for further spread in the community, and interventions to prevent additional cases or recurrences.

6. *Application.*

- Although “-ology” is usually translated as “the study of,” the definition given above requires that epidemiology be more than just the academic pursuit of knowledge.
- Epidemiology embodies the application of the knowledge gained to protect and promote the public’s health. Thus, field epidemiology, like the practice of medicine and nursing, is both science and art. To make the proper diagnosis and prescribe appropriate treatment for a patient, the clinician combines medical knowledge with experience, clinical judgment, and an understanding of the patient. Similarly, the epidemiologist uses the scientific methods of descriptive and analytic epidemiology as well as experience, epidemiologic judgment, and an understanding of local conditions in “diagnosing” the health of a community and proposing appropriate, practical, and acceptable public health interventions to control and prevent disease in the community.

Epidemiologists ask such questions as the following:

- What is the occurrence of health and disease in a population?
- Has there been an increase or decrease in a health state over the years?
- Does one geographic area have a higher frequency of disease than another?

- What characteristics of people with a particular condition?
- Is one treatment or program more effective than another in changing the health of affected people?
- Why do some people recover from a disease and others do not?

Objectives of epidemiology

- Study of frequency and distribution of health and health related problems in community at large.
- Identification of determinants i.e., etiological factors causing health and health related problems.
- Need based planning and administration of comprehensive health care programmes with the available resources to deal with health and health related problems.
- Evaluating the effectiveness of the programmes to provide feedback.

Uses of epidemiology

1. Study the occurrence and distribution of diseases in a community.
2. Identify the determinants of diseases.
3. Diagnose the health status of the community
4. Estimate the risk.
5. Plan effective need-based health care services
6. Determine the effectiveness of health care services planned.
7. Determine the usefulness and effectiveness of new/innovative techniques, measures and programmes
8. Complete the clinical picture of chronic diseases and slow growing diseases
9. Identify syndromes by describing the distribution and association of clinical phenomena in the population.
10. Forecast the likely occurrence of diseases on the basis of epidemiological principles

What is a screening test?

- A screening test is done to detect potential health disorders or diseases in people who do not have any symptoms of disease.
- The goal is early detection and lifestyle changes or surveillance, to reduce the risk of disease, or to detect it early enough to treat it most effectively.
- Screening tests are not considered diagnostic, but are used to identify a subset of the population who should have additional testing to determine the presence or absence of disease.

Some common screening tests

- The following are some examples of common screening tests:

Cholesterol measurements

- Cholesterol is a waxy substance that can be found in all parts of the body.
- It aids in the production of cell membranes, some hormones, and vitamin D.
- The cholesterol in the blood comes from 2 sources: the eaten food and production in the liver. However, the liver produces all of the cholesterol the body needs.
- Cholesterol and other fats are transported in the bloodstream in the form of spherical particles, called lipoproteins.
- The 2 most commonly known lipoproteins are low-density lipoproteins (LDL), or "bad" cholesterol, and high-density lipoproteins (HDL), or "good" cholesterol.
- Cholesterol screening is performed by a blood test.
- People with high cholesterol measurements from a blood sample have a higher risk for cardiovascular disease (CVD), than those with cholesterol in the normal range.
- Studies have shown that people with high cholesterol can reduce their risk for heart disease by lowering their cholesterol.
- It is important to understand, however, that people can still have heart disease even with cholesterol levels in the normal range.

Fecal occult blood test

- Fecal occult blood is detected by microscopic analysis or by chemical tests for hemoglobin (blood) in the stool.
- People with blood in their stool may have a cancerous growth indicative of colorectal cancer.
- The test requires collection of 3 stool samples that are examined under the microscope for blood.
- It is important to understand that when blood is present in a stool sample, it can be due to other noncancerous factors, such as certain medications or foods, gastrointestinal bleeding, or hemorrhoids. Testing is recommended starting at age 50 by many organizations including the American Cancer Society.

Pap test (also called Pap smears)

- Pap smears are samples of cells taken from the cervix in women to look for cellular changes' indicative of cervical cancer.
- The Pap smear is an important screening test in sexually active women under the age of 65, to detect cancer at a stage when there are often no symptoms.
- It is important to understand that a Pap smear may be referred to as "abnormal," but may not mean that a person has cervical cancer. Some organizations also recommend HPV (human papilloma virus) screening in certain populations during the Pap smear.

Prostate specific antigen (PSA)

- This blood test measures the prostate specific antigen (PSA) levels in the blood.
- Antigens are any substances that evoke responses from a person's immune system.
- The prostate specific antigen levels can be elevated in the presence of prostate cancer. However, it is important to understand that other benign prostate conditions may also elevate PSA, such as benign prostatic hyperplasia (BPH), which is noncancerous swelling of the prostate.

- The PSA test is not recommended for all men, and there is considerable controversy over the role of PSA testing. Some organizations, such as the United States Preventive Services Task Force (USPSTF), now recommend against PSA screening.
- The pros and cons of PSA screening should always be discussed between the client and healthcare provider before testing. Some of the cons include unnecessary testing and procedures, unnecessary costs, and significantly increased anxiety.

Mammography

- Many organizations, including the USPSTF, recommend mammography screening for breast cancer every 1 year to 2 years after age 50. This test is done in conjunction with a clinical breast exam

Colonoscopy

- Many organizations, including the USPSTF, recommend screening for colon cancer or colon polyps at age 50, earlier if the client have a family history or other risk factors

Diabetes or prediabetes

- The American Diabetes Association (ADA) recommends that all adults be screened for diabetes or prediabetes starting at age 45, regardless of weight. Additionally, individuals without symptoms of diabetes should be screened if they are overweight or obese and have one or more additional diabetes risk factors.

Ocular pressure Test:

- Eye pressure test: A routine part of every routine eye exam that measures the fluid pressure inside the eye. The test is called tonometry.

- Increased pressure within the eye can be a sign of glaucoma, a common and potentially very serious eye problem, if it is not detected and treated promptly.

Phenylketonuria (PKU) Screening

- A PKU screening test is a blood test given to newborns 24–72 hours after birth.
- PKU stands for phenylketonuria, a rare disorder that prevents the body from properly breaking down a substance called phenylalanine (Phe).
- Phe is part of proteins that are found in many foods and in an artificial sweetener called aspartame.
- If the person have PKU and eat these foods, Phe will build up in the blood.
- High levels of Phe can permanently damage the nervous system and brain, causing a variety of health problems.
- These include seizures, psychiatric problems, and severe intellectual disability.
- PKU is caused by a genetic mutation, a change in the normal function of a gene.
- Genes are the basic units of heredity passed down from your mother and father.
- For a child to get the disorder, both the mother and father must pass down a mutated PKU gene.

TSH (Thyroid-stimulating hormone) Test

- TSH stands for thyroid stimulating hormone.
- A TSH test is a blood test that measures this hormone.
- The thyroid is a small, butterfly-shaped gland located near the throat.
- The thyroid makes hormones that regulate the way of how the body uses energy.
- It also plays an important role in regulating weight, body temperature, muscle strength, and even mood.
- TSH is made in a gland in the brain called the pituitary.
- When thyroid levels in the body are low, the pituitary gland makes more TSH.
- When thyroid levels are high, the pituitary gland makes less TSH.

- TSH levels that are too high or too low can indicate that the thyroid gland isn't working correctly.

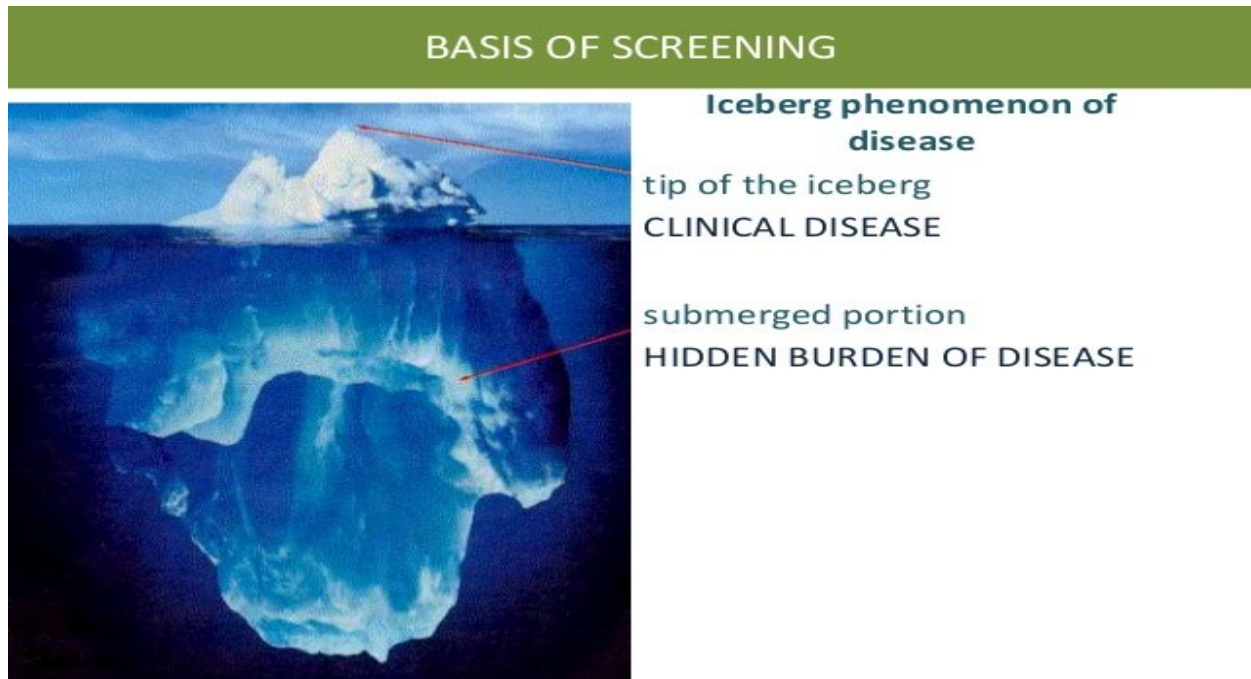


Table 1: Screening test versus diagnostic test

Screening test	Diagnostic test
Done on apparently healthy individuals	Done on sick or ill individual
Applied to group	Applied on a single patient
Results are arbitrary and final	Diagnosis is not final
Based on one criteria and cut-off	Based on evaluation of a number of signs/symptoms and lab findings
Less accurate	More accurate
Less expensive	More expensive
Not a basis for treatment	Used as a basis for treatment
Initiatives come from investigators	Initiatives come from patient

Types of screening:

1. Mass screening:

- Application of screening test to large, unselected population. Everyone in the group is screened regardless of the probability of having the disease or condition.
- Example:

1. visual defect in school children
2. mammography in women aged 40 year or less
2. high risk/ selective/ target screening
 - the screening of selected high-risk groups in population
 - example:
 1. Screening fetus for Down syndrome in a mother who already has a baby with down's syndrome
 2. Screening for familial cancers, HTN and DM
 3. Screening for CA cervix in low socioeconomic status women
 4. Screening for HIV in risk groups

Validity of screening test

- **Validity**, is the ability of a test to indicate which individuals have the disease and which do not.
- **Sensitivity**–The ability of the test to identify correctly those who have the disease (a) from all individuals with the disease (a+c).
- **Specificity**: the ability of the test to identify correctly those who do not have the disease (d) from all individuals free from the disease (b+d).

		Disease	
		+	-
New Test	+	a (True positive)	b
	-	c	d (True negative)

$$\text{sensitivity} = \frac{a}{a+c} = \frac{\text{true positives}}{\text{disease +}}$$

$$\text{sensitivity} = \frac{d}{b+d} = \frac{\text{true negatives}}{\text{disease -}}$$

Applying concepts of sensitivity and specificity to a screening test

- Assume a population of 1000 people
- 100 have a disease
- 900 do not have the disease
- A screening test is used to identify the 100 people with the disease
- The results of the screening appear in this table

Calculating Sensitivity and Specificity

Screening Results	True Characteristics in Population		Total
	Disease	No Disease	
Positive	80	100	180
Negative	20	800	820
Total	100	900	1,000

Sensitivity = $80/100 = 80\%$ **Specificity** = $800/900 = 89\%$

Predicative values**Positive predicative value (PPV)**

- The proportion of patients who test positive who actually have the disease

Negative predicative value (NPV)

- The proportion of patients who test negative who actually free of the disease

		Disease	
		+	-
Test	+	a (True positive)	b (False positive)
	-	c (False negative)	d (True negative)

		Disease	
		+	-
Test	+	a+b (all people with positive results)	
	-	c+d (all people with negative results)	

Predictive Value

■ Positive predictive value = $\frac{a}{a+b}$
= $\frac{\text{True Positives}}{\text{Test +}}$

■ Negative predictive value = $\frac{d}{c+d}$
= $\frac{\text{True Negatives}}{\text{Test -}}$

Example

- Assume a population of 1000 people
- 100 have a disease
- 900 do not have the disease
- A screening test is used to identify the 100 people with the disease
- The results of the screening appear in this table

Screening Results	True Characteristics in Population		Total
	Disease	No Disease	
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Negative	20	800	820
Total	100	900	1,000



University of Telafer



College of Nursing

***Fundamentals of
Nursing (1)***

Semester One

(2021-2022)

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Entrance to Fundamental of nursing

Health: is a state of complete physical, mental, psychological and social wellbeing not merely the absence of disease or infirmity.

Disease: is a pathological change in the structure or function of the body or mind.

Illness: is the response of the person to a disease.

Causes of disease:

1. Inherited genetic defects
2. Biologic agents or toxins
3. Physical agents as temperature, chemicals and radiation
4. Generalized tissue responses to injury or irritation
5. Physiological and emotional reaction to stress
6. Excessive or insufficient production of body secretions (hormones, enzymes)
7. Developmental defects resulting from exposure to such factors as viruses or chemicals during pregnancy.

Nurse:

Is a person educated and licensed in the practice of nursing, is concerned with the diagnosis and treatment of human responses to actual or potential health problems.

Nursing:

Is autonomic and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. Nursing includes the promotion of health, prevention of illness and the care of ill, disabled and dying people.

The unique function of the nurse is to assist the individual, sick or well in the performance of those activities contributing to health.

Definition of Nursing

A nurse is a person who nourishes, fosters, and protects; a person who is prepared to care for the sick, injured, and aged. In this sense “nurse” is used as a noun and is derived from the Latin *nutrix*, which means “nursing mother.” The word “nurse” also has referred to a woman who suckled a child (usually not her own)_ a wet nurse.

International definitions

Henderson definition, in 1987 the International Council of Nurses established an official definition of nursing for international use as follows:

Nursing, as an integral part of the health care system, encompasses the promotion of health, the prevention of illness, and care of the physically ill, mentally ill, and disabled people of all ages, in all health care and other community settings.

This definition incorporates the key concepts contained in many other definitions of nursing:

1. A focus on health not merely on sickness
2. A client that includes people of all ages in all settings, as individuals, families and communities
3. The identification of “human responses to actual or potential health problems” as nursing’s phenomena of concern.

Aims of nursing:

1. Promote health; increase quality and years of healthy life and eliminate health disparities.
2. Promote good health habits and maintain optimal functioning.
3. Restore health; perform diagnostic measurements and assessments as blood pressure, blood sugar, provide direct care as physical care, administering medications, planning, teaching and carrying out rehabilitation for illnesses as heart attack and stroke.

4. Facilitate coping with disability or death.

The factors influencing the trends in nursing:

1. Changes in society
2. Changes in other professions
3. Patients' Bill of Rights
4. Developments in other discipline
5. Leadership within the profession
6. Working and studying in abroad.
7. Greater specialization in nursing education and practice
8. Working conditions
9. Trends in other countries
10. Changing roles and functions of the nurse as perceived in the globe.

Hospital

Is an institution for health care providing patient treatment by specialized staff and equipment, and often, but not always providing for longer-term patient stays.

'Outpatients'

Patients go to a hospital just for diagnosis, treatment, or therapy and then leave, without staying overnight.

'Inpatients'

Patients are admitted to a hospital and stay overnight or for several weeks or months.

The functions of the hospital

1. Patient care and comfort .
2. Are distinguished by their ability to admit and care for inpatients .
3. The basic functions of a hospital such as:
 - a. Care of the sick and injured
 - b. Diagnosis
 - c. Treatment

- d. Rehabilitative services
 - e. Many undertake education of doctors, nurses, technicians etc.
4. Some hospitals do research work

Types of Hospitals

1. A Public Hospital

A Public Hospital are financed and operated by the government agency at the local, state or national level. Hospitals provide services at free of cost.

2. Private Hospitals

Private Hospitals are owned and operated by churches, corporations, individuals and charitable organizations. Private hospitals are operated on a for profit-basis.

Types of Private hospitals include:

- a. Trauma centers
- b. Rehabilitation hospitals
- c. Children's hospitals
- d. Geriatric hospitals
- e. Hospitals for dealing with specific medical needs such as psychiatric problems, certain disease categories, and so forth

3. Military Hospitals

Military Hospitals provide medical care for the armed forces and their families.

4. Teaching

A teaching hospital combines assistance to patients with teaching to medical students and nurses and often is linked to a medical school, nursing school or university.

5. Clinics

A medical facility smaller than a hospital is generally called a clinic, and often is run by a government agency for health services or a private partnership of physicians. Clinics generally provide only outpatient service

Unit 1

Nursing processes

OUTLINES

- 1.1 Nursing Assessment
- 1.2 Nursing Diagnosis
- 1.3 Nursing Planning
- 1.4 Nursing Implementation
- 1.5 Nursing Evaluation

LEARNING OUTCOMES

- 1. DESCRIBE THE PHASES OF THE NURSING PROCESS.
- 2. IDENTIFY MAJOR CHARACTERISTICS OF THE NURSING PROCESS.

Nursing process

The concept of nursing process:

The nursing process: is a systematic, rational method of planning and providing individualized nursing care.

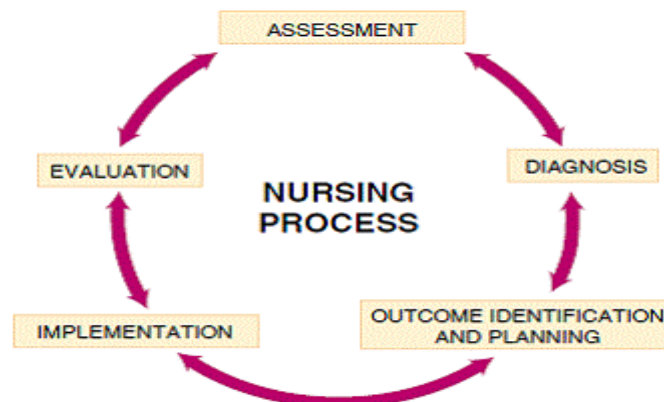
Nursing process: is a systematic , patient – centered , goal – oriented method of caring to provide a frame work for nursing practice .

The nursing process is the framework for providing professional, quality nursing care. It directs nursing activities for health promotion, health protection, and disease prevention and is used by nurses in every practice setting and different branches.

Purpose of Nursing Process

1. Identify needs of the patient.
2. To establish priorities of care.
3. To identify a client's health status.
4. To resolve actual & or potential patient problem.
5. To apply health promotion to possible for each patient.
6. To provide an individualized, holistic, effective and efficient nursing care.

Components of the nursing process:



Nursing Assessment

Nursing Assessment is the first phase of the nursing process, it is systematic , continuously collect, and communication of patient's data. Nursing Assessment is the gathering of information about a patient physiological, psychological, sociological and spiritual status.

Information is collected by using the skills observation, interviewing, physical examination, including clients, their family members or significant others, health records, other health team members.

5 Activities Needed to Perform a Systematic Assessment:

- Collect data
- Verify data
- Organize data
- Identify Patterns
- Report & Record data

Purpose of Assessment

1. Establish a baseline of data on the client and develop a data base.
2. Determine client's normal function.
3. Determine client's risk for dysfunction.
4. Determine presence or absence of dysfunction.
5. Determine client's strengths .
6. Provide data for diagnostic phase.

Source of Information:

1. Primary Source: from the client directly
2. Secondary Source:
 - Support People Family members, friends, and caregivers
 - Client Medical Records (e.g. medical history, physical examination, operative report, progress notes, and consultations done by primary care providers).

Types of Data collection:

- **Subjective** : from the client (symptom)
 - I have a headache , I feel colic pain in right side.
- **Objective** : observable data (sign)
 - Blood Pressure 130/80 ,increase temperature , pale.

Subjective	Objective
“I feel weak all over when I exert myself.”	Blood pressure 90/50 mmHg* Apical pulse 104 beats/min Skin pale and diaphoretic
Client states he has a cramping pain in his abdomen. States, “I feel sick to my stomach.”	Vomited 100 mL green-tinged fluid Abdomen firm and slightly distended Active bowel sounds auscultated in all four quadrants

Data Collection Methods:

1- Observation

Observation includes looking, watching, examining. Observation begins the moment the nurse meets the client. If he is conscious or not.

2- Interviewing

Is a planned communication or a conversation with a purpose, for example to get or give information, identify problems.

3- Health History

The health history is a review of the client’s functional health patterns prior to the current contact with a health care agency.

4- Physical examination techniques

Is a systematic data collection method that uses the senses of sight, hearing, smell, and touch to detect health problems. Four techniques are used (inspection, palpation, percussion, and auscultation).

5. Laboratory and Diagnostic Data

Results of tests can be useful objective data as these values often serve as defining characteristics for various altered health states; these can also be helpful in ruling out certain suspected problems.

Components of Data Collection:

- **Biographic data** : name, address, age, sex, marital status, occupation, religion.
- **Reason for visit/Chief complaint** : Reasons for seeking healthcare or hospitalization
- **Medical/Surgical Health history** : includes usual health status.
- **Past Health History** : includes all previous immunizations, Past illness.
- **Family History** : reveals risk factors for certain disease (Diabetes, hypertension, cancer, mental illness ,heart disease).
- **Review of systems** : review of all health problems by body systems (neurological/mental status, musculoskeletal, cardiovascular, respiratory, Gastro intestinal tract , skin and wound. etc.)
- **Lifestyle** : include personal habits, diets, sleep or rest patterns, activities of daily living, hobbies.
- **Social and Environmental history** include family relationships, ethnic and educational background, economic status, home and neighborhood conditions.
- **Psychological data** : information about the client's emotional status.

Nursing Diagnosis :

Is the second phase of the nursing process. In this phase, nurses use critical thinking skills to interpret assessment data and identify client strengths and problems. A clinical judgment about individual, family, or community responses to actual or potential health/life processes.

Purpose of a Nursing Diagnosis:

1. Identify how and individual, group or community responds to an actual or potential health and life processes.
2. Identify factors that contribute to or cause health problems (etiology).
3. Identify resources or strengths the individual, group or community can utilize(use) to prevent or resolve problems.

Status of the Nursing Diagnoses

The kinds of nursing diagnoses according to status are actual, health promotion and risk

1. An actual diagnosis is a client problem that is present at the time of the nursing assessment. Examples are Ineffective Breathing Pattern and Anxiety. An actual nursing diagnosis is based on the presence of associated signs and symptoms.

2. A health promotion diagnosis relates to clients' preparedness to implement behaviors to improve their health condition. These diagnosis labels begin with the phrase *Readiness for Enhanced*, as in *Readiness for Enhanced Nutrition*.

3. A risk nursing diagnosis is a clinical judgment that a problem does not exist, but the presence of risk factors indicates that a problem is likely to develop unless nurses intervene. For example, all people admitted to a hospital have some possibility of acquiring an infection.

Differentiating Nursing Diagnoses from Medical Diagnoses

Nursing Diagnosis	Medical Diagnosis
Made by the nurse	Made by a physician
Describes clients response to a health problem	Identify and Describes the disease

Nurse treats problem within scope of independent nursing practice	Physician directs treatment
Nurse orders interventions	Physician orders interventions
May change from day to day as the patient's responses change for example Pain, difficult of breathing	Remains the same as long as the disease is present for example Myocardial infarction, asthma

Examples the nursing diagnosis (NANDA : North American Nursing Diagnosis Association) :

1. Acute pain related to breast cancer .
2. Risk for Infection related to break in skin integrity (surgical incision, wound drainage devices).
3. Risk for falls related to age, narcotic use, generalized weakness.
4. Acute pain related to osteoarthritis aggravated by movement.
5. Imbalanced nutrition; less than body requirements related to chronic diarrhea, nausea.

Nursing Planning:

Third step of the Nursing Process ,this is when the nurse organizes a nursing care plan based on the nursing diagnoses. Nurse and client formulate goals to help the client with their problems.

Planning requires decision-making and problem-solving skills to design nursing care. In this phase, the nurse should: establish priorities determine goals and expected outcomes formulate a plan of nursing care.

Types of Planning goals:

1-Short term goals: Short term goal can be achieved (few hours to few days) (less than a week) for example reduce fever.

2-Long term goals: Long term goals may take weeks/months to be achieved, For example: "Patient's pressure ulcer will Heal.

Nursing Implementation:

The fourth step in the Nursing Process .Nursing actions planned in the previous step are carried out. Implementation includes interventions for performing, assisting, counseling and teaching; providing direct care, supervising, and recording and exchanging information relevant to client care.

Nursing Implementation actions performed by the nurse to:

1. Monitor health status
2. Reduce risks
3. Resolve, prevent, or manage a problem
4. Promote optimal sense of physical, psychological and spiritual well being

Three types of Interventions :

1-Independent (Nurse initiated): any action the nurse can initiate without direct supervision.

2-Dependent (Physician initiated):nursing actions requiring MD orders.

3-Interdependent (Collaborative): nursing actions performed with other health care team members.

Implementation Skills:

1. Cognitive skills: involve application of nursing knowledge.
2. Interpersonal skills: these are essential for nursing practice. They are built on confidence relationship and clear communication.
3. Psychomotor skills: require the integration of cognitive and motor activities, such as learning to give an injection, the nurse must understand anatomy and pharmacology (cognitive) and the mechanics of preparing and giving an injection (motor).

Nursing Evaluation:

Fifth step during this phase, the nurse and the patient together measure how well the patient has achieved the outcomes specified in the plan of care. Final step of the Nursing Process ,Also it is the step that measures the client's response to nursing actions and the client's progress toward achieving goals, also involves measurement of Quality of Care.

Purpose of Evaluation:

1. Collect data to evaluate nursing care.
2. Examine patient's response to nursing interventions.
3. Compare client's response with outcome criteria.
4. Determine involvement and collaboration of others in healthcare decision.
5. Provide basis for modifications of care plan.
6. Monitor quality of nursing care and its effect on client's health status.

OUTLINES

1. EXPLAIN THE CONCEPTS OF MEDICAL AND SURGICAL ASEPSIS.
2. TYPE OF MICROORGANISM CAUSING INFECTION.
3. TYPES OF INFECTION.
4. NOSOCOMIAL INFECTION.
5. CHAIN OF INFECTION.
6. BODY DEFENSES AGAINST INFECTION.
7. FACTORS INCREASING SUSCEPTIBILITY TO INFECTION.
8. INFECTION CONTROL FOR HEALTH CARE WORKERS.
9. ROLE OF THE INFECTION CONTROL NURSE.

LEARNING OUTCOMES

AT THE END OF THIS CHAPTER, THE STUDENT SHOULD BE ABLE TO:

1. DEFINE CONCEPTS.
2. DISCUSS THE TYPES OF MICROORGANISMS.
3. COMPARE THE TYPES OF INFECTIONS.
4. DISCUSS THE STAGES OF INFECTION.
5. IDENTIFY THE TYPES OF NOSOCOMIAL INFECTIONS.
6. OUTLINE THE CHAIN OF INFECTION.
7. DISCUSS THE INTERNAL AND EXTERNAL BODY DEFENSE SYSTEM.
8. LIST THE FACTORS INCREASING SUSCEPTIBILITY TO INFECTION.
9. IDENTIFY INTERVENTIONS TO REDUCE RISKS FOR INFECTIONS.
10. IDENTIFY MEASURES THAT BREAK EACH LINK IN THE CHAIN OF INFECTION.

Unit 2

Asepsis and infection control

Infections

Introduction:

Patients with infections and infectious disease regularly come to the medical facility for treatment. As the medical assistant goes from patient to patient performing clinical Procedures, such as taking vital signs and assisting the physician, the potential for transmitting disease is high if the medical assistant does not follow protective measures such as hand washing, sanitization, and proper handling of medical waste infection control and medical and surgical asepsis to prevent the spread of disease and infection.

Terminologies:

- ❖ *Asepsis*: The absence of microorganisms(the freedom from disease-causing microorganisms).

The two basic types of asepsis are medical and surgical.

1. Medical asepsis includes all practices intended to confine a specific microorganism to a specific area, limiting the number, growth, and transmission of microorganisms.

2. Surgical asepsis, or sterile technique, refers to those practices that keep an area or object free of all microorganisms; it includes practices that destroy all microorganisms and spores.

Surgical Asepsis Techniques:

1. Surgical hand washing.
2. Sterile field and equipment.
3. wearing the surgical dress.
4. wearing the sterile gloves.
5. Gowning and closed gloving.
6. Disposal of infectious materials.

❖ **Infection:** The invasion of the body by disease-producing microorganism and the body's reaction to their presence.

Four major categories of microorganisms cause infection in humans.

1. **Bacteria:** there are two types:
 - **Commensal bacteria** found as normal flora of healthy humans. These have a significant protective role by preventing colonization of pathogenic microorganisms.
 - **Pathogenic bacteria** have greater virulence, and cause infections
2. **Viruses:** such as hepatitis B, C viruses and HIV, influenza viruses.
3. **Fungi:** include yeasts and molds.
4. **Parasites:** include protozoa.

Stages of infections

1. **Incubation stage:** is the time between entry of an infectious agent in the host and the onset of symptoms.
2. **Prodromal stage:** is the time from the onset of nonspecific symptoms until specific symptom begun to manifest.
3. **Illness stage:** is the time when the client has specific signs and symptoms of an infectious process.
4. **Convalescent stage:** is the time from the beginning of the disappearance of acute symptoms until the client returns to the previous state of health.

Signs of Localized Infection:

- Localized swelling
- Localized redness
- Pain or tenderness with palpation or movement.
- Palpable heat in the infected area
- Loss of function of the body part affected, depending on the site and extent of involvement.

Signs of Systemic Infection:

- Fever
- Increased pulse and respiratory rate if the fever high
- Malaise and loss of energy
- Anorexia and, in some situations, nausea and vomiting
- Enlargement and tenderness of lymph nodes that drain the area of infection.

Factors Influencing Microorganism's Capability to Produce Infection:

- 1- Number of microorganisms present.
- 2- Severity and activity of the microorganisms (pathogenicity).
- 3- Ability to enter the body Susceptibility of the host.
- 4- Ability to live in the host's body.
- 5- Ability of the person's immune system

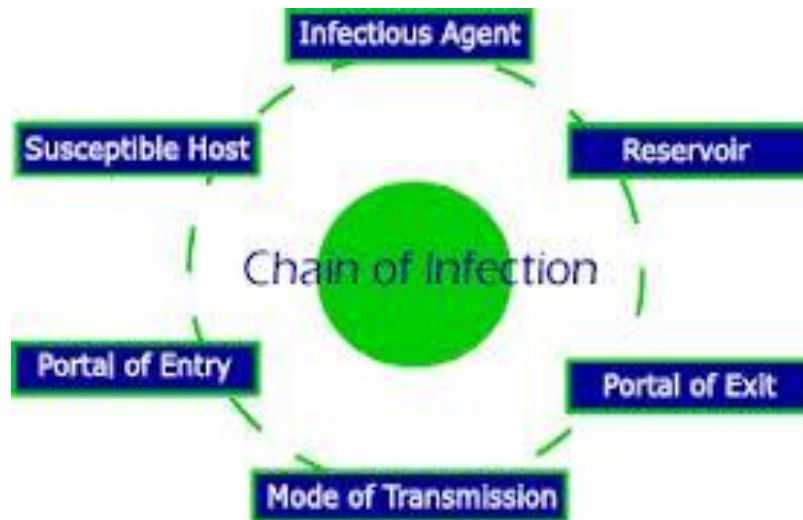
- ❖ **Disinfection:** Disinfection describes a process that remove many or all pathogenic microorganisms, except bacterial spores, on not motile objects (nonliving objects).
- ❖ **Sterilization:** destroys all microorganisms, including spores. Sterilization occurs by using heat, steam under pressure, gas, ultraviolet (UV) light, or chemicals.



autoclave operation

- ❖ **Microorganisms:** are found in the air we breathe, on our skin, on everything we touch, and even in our food. Microorganisms are so small that they can only be seen with a microscope. Fortunately, not all microorganisms are harmful.
- ❖ **Pathogens:** are disease-producing microorganisms (A microorganism that causes disease). When a pathogen invades a person, who has a weakened immune system, an infection can occur, possibly leading to death.
- ❖ **Cross –infection:** Is an infection transmitted from an infected person or an object to other persons or objects.
- ❖ **Inflammation:** Inflammation is a response of a tissue to injury, often injury caused by invading pathogens.
- ❖ **Endemic:** The occurrence of certain diseases as they relate to a population or geographic area.
- ❖ **Contamination:** Means to make something unclean, such as area equipment, if it contains microorganisms that cause disease.
- ❖ **Antiseptic:** A substance used to destroy pathogens on living object such as skin and mucous membrane.
- ❖ **Disinfectant:** A substance used to destroy pathogens but not necessarily their spores, in general may be not use on persons.

Chain of Infection



Chain of infection:

The chain of infection refers to those elements that must be present to cause an infection from a microorganism.

1. Infectious agent:

Microorganisms capable of causing infections are referred to as an infectious agent or pathogen, Infectious agent include:

a. Bacteria: The most significant and most commonly observed infection-causing agents in health care institutions. Can be categorized according to:

1. Shape:

- Spherical (cocci)
- Rod shaped (bacilli)
- Corkscrew (spirochetes)

2. Reaction to Gram stain:

- Gram positive bacteria
- Gram negative bacteria

3. Bacterial is their need for oxygen:

- Aerobic
- Anaerobic

b. Viruses: Is the smallest of all microorganisms, visible only with an electron microscope, such as virus cause common cold and AIDS, Organisms that live only inside cells. They cannot get nourishment or reproduce outside cells. Common viral infections include influenza, measles, common cold, chickenpox, hepatitis B, and AIDS.

c. Fungi: Plant-like organism (molds and yeasts) that also can cause infection, are present in the air, soil, and water. Fungi can cause infections of the hair, skin, nails, and mucous membranes.

2. Reservoir:

It for growth and multiplication of microorganisms is the natural habitat of the organism. Possible reservoirs that support organism pathogenic to humans include other people, animals, soil, food, water, and not motile objects.

3. Portal of exit:

The means in which the pathogen escapes from the reservoir and can cause disease; there is usually a common escape route for each type of microorganism; on humans, common escape routes are the gastrointestinal, respiratory and the genitourinary tract. as well as breaks in the skin. Blood and tissue can also be portals of exit for pathogens.

Portal of exit Includes:

- Sputum from respiratory tract.
- Semen, vaginal secretions, or urine, from the Genito-urinary tract.
- Saliva and feces, from the gastrointestinal tract.
- Blood.
- Draining wounds.
- Tears.

4. Mode of transmission:

Organism can enter the body by way of the contact route, either directly or indirectly, Contaminated blood, food, water, are vehicles of transmission. Vectors such as mosquito, and lice. Microorganism can also be spread through the airborne route when infected host coughs, sneezes, or talk.

1. **Direct contact:** describes the way in which microorganisms are transferred from person to person through biting, touching, kissing, or sexual intercourse; droplet spread is also a form of direct contact but can occur only if the source and the host are within 3 feet from each other; transmission by droplet can occur when a person coughs, sneezes, spits, or talks.
2. **Indirect contact:** can occur through fomites (not motile objects or materials) or through vectors (animal or insect, flying); the fomites or vectors act as vehicle for transmission.
3. **Air:** airborne transmission involves droplets or dust; droplet nuclei can remain in the air for long periods and dust particles containing infectious agents can become airborne infecting a susceptible host generally through the respiratory tract.

5. **Portal of entry:**

The portal of entry is the point at which organism enter a new host. The organism must find a portal of entry to a host or it may die. common escape routes are the gastrointestinal, respiratory and the genitourinary tract.

6. **Susceptible host:**

Is the degree of resistance the potential host has to the pathogen, in humans this may occur if the person's resistance is low because of poor nutrition, lack of exercise of a coexisting illness that weakens the host.

Breaking the Chain of Infection:

■ Etiologic agent (Infectious agent)

- Correctly cleaning, disinfecting or sterilizing materials before use
- Educating clients and support persons about appropriate methods to clean, disinfect, and sterilize materials.

■ Reservoir (source)

- Changing dressings and bandages when soiled or wet.
- Appropriate skin and oral hygiene.
- Disposing of Humidity, soiled linens appropriately.
- Disposing of feces and urine in appropriate methods.
- Ensuring that all fluid containers are covered or capped.
- Emptying suction and drainage bottles at end of each shift or before full or according to agency policy.

■ Portal of exit:

- Avoiding talking, coughing, or sneezing over open wounds or sterile fields.
- Covering the mouth and nose when coughing or sneezing.

■ Method of transmission:

- Proper hand hygiene.
- Instructing clients and support persons to perform hand hygiene before handling food, eating, after eliminating and after touching infectious material.
- Wearing gloves when handling secretions and excretions.
- Wearing gowns if there is danger of soiling clothing with body substances.

- Placing the contaminated materials in especial bags.
- Disposing of urine and feces in appropriate methods.
- Initiating and implementing aseptic precautions for all clients.
- Wearing masks and eye protection when in close contact with clients who have infections transmitted by droplets from the respiratory tract.

■ **Portal of entry:**

- Using sterile technique procedures, when exposing open wounds or handling dressings.
- Placing used disposable needles and syringes in puncture-resistant containers for disposal.
- Providing all clients with own personal care items.

■ **Susceptible host**

- Maintaining the integrity of the client's skin and mucous membranes.
- Ensuring that the client receives a balanced diet.
- Educating the public about the importance of immunizations.

The body's defense against infection:

1. Body's normal flora
2. Inflammatory response
3. Immune response

- **Body's normal flora:** Bacterial that normally cause no problem but, with certain factors, may potentially be harmful are referred to as opportunists. For example .one type of (Escherichia coli)

normally resides in the intestinal tract and causes no harm. However, if it migrates to the urinary tract, it can lead to UTI.

- **Inflammatory response:**

The inflammatory response is a productive mechanism that eliminates the invading pathogen and allows for tissue repair to occur. The inflammatory response also occurs in response to injury .it is either an acute or chronic process. Signs of inflammation (redness, heat, swelling, pain, and loss of function).

- **Immune response:**

The foreign material is called an antigen, and the body responds to the antigen by producing an antibody. Increase the number of lymphocytes (white blood cell), help to defend the body specifically against bacterial, viral, and fungal infections.

Factors Increasing Susceptibility to Infection

1.Age:

young infants & older adults are at greater risk of infection because of reduced defense mechanisms; young infants have reduced defenses related to immature immune systems. While elderly people, physiological changes occur in the body that make them more susceptible to infectious disease.

2.Heridity:

Some people have a genetic predisposition or susceptibility to some infectious diseases.

3.Cultural practices:

Healthcare beliefs and practices, as well as nutritional and hygiene practices, can influence a person's susceptibility to infectious diseases.

4. Nutrition:

Inadequate nutrition can make a person more susceptible to infectious diseases; nutritional practices that do not supply the body with the basic

components necessary to synthesized proteins affect the way the body's immune system can respond to pathogens.

5.Stress:

Stressors, both physical and emotional, affect the body's ability to protect against invading pathogens; stressors affect the body by elevating blood cortisone levels; if elevation of serum cortisone is prolonged, it decreases the anti-inflammatory response and decreasing the energy stores, thus increasing the risk of infection.

6. Rest, exercise and personal health habits:

Altered rest and exercise patterns decrease the body's protective mechanisms and may cause physical stress to the body resulting in an increased risk of infection; personal health habits such as poor nutrition and unhealthy lifestyle habits increase the risk of infectious over time by altering the body's response to pathogens.

7. Inadequate defenses:

Any physiological abnormality or lifestyle habit can influence normal defense mechanisms in the body, making the client more susceptible to infection; the immune system functions throughout the body and depends on the following:

- Intact skin and mucous membranes.
- Adequate blood cell production and differentiation.
- A functional lymphatic system and spleen.

8.Environment:

An environment that exposes individuals to an increased number of toxins or pathogens also increases the risk of infection; pathogens grow well in warm moist areas with oxygen (aerobic) or without oxygen (anaerobic) depending on the microorganism, an environment that increases exposure to toxic substances also increases risk.

9.Immunization history:

Inadequately immunized people have an increased risk of infection specifically for those diseases for which vaccines have been developed.

10.Medications and medical therapies:

Examples of therapies and medications that increase clients risk for infection includes radiation treatment, anti-inflammatory drugs and surgery.

Standard Precautions and Isolation:

Standard Precautions:

Preventive practices to be used in the care of all clients in hospitals regardless of diagnosis or presumed infection status.

Standard Precautions Apply to:

- Blood.
- All body fluids, secretions, and excretions.
- Non intact skin.
- Mucous membranes.

Infection Control & Standard Precautions:

- Standard Precautions must be practiced with all clients.
- Standard Precautions represent the most effective means of decreasing the risk of infection among clients and caregivers.

Barrier Precautions:

Methods to minimize risk of exposure to blood and bodily fluids, involving the use of personal protective equipment (masks, gowns, gloves) to create a barrier between the person and the microorganism.

Basics of Standard Precautions include:

1. Hand washing
2. Gloves.
3. Mask, eye protection, face shield.
4. Careful processing of linen.
5. Careful around Client-Care Equipment.
6. Environmental control.
7. Gown.
8. Occupational health regarding blood borne pathogens.
9. Client place.

Reverse Isolation(protective isolation)

Barrier protection designed to prevent infection in highly susceptible client.

Uses of Reverse Isolation:

- Are taking immunosuppressive medications.
- Have diseases such as leukemia, which depress resistance to infections.
- Are receiving chemotherapy or radiation therapy.
- Have extensive burns, dermatitis, or other skin impairments that prevent adequate coverage with dressings.

Infection Control Nurse (ICN):

A fulltime senior nursing staff should be appointed as ICN and to support her adequate full time or part time nursing. The duties of the ICN are primarily associated with ensuring the practice of infection control measures by healthcare workers.

Responsibilities of infection Control Nurse:

1. The ICN conducts Infection control rounds daily and follow up all positive culture cases and maintains monitoring the data.
2. The ICN is involved in education and training of health care workers (HCWs) under the supervision of infection control officer.
3. Ensures compliance to hospital's policy.
4. Maintains data of Sharps/Needle stick injuries and Post-exposure prophylaxis.
5. Initiates and ensure proper immunization for Hepatitis B Virus, annual influenza immunization for the staff especially in high risk areas and typhoid vaccination of kitchen workers.
6. In consultation with microbiologist/physician in case of suspected exposure of any hospital worker.

Unit 3

Vital Signs

LEARNING OUTCOMES

1. DESCRIBE FACTORS THAT AFFECT THE VITAL SIGNS AND ACCURATE MEASUREMENT OF THEM.
2. IDENTIFY THE VARIATIONS IN NORMAL BODY TEMPERATURE, PULSE, RESPIRATIONS, AND BLOOD PRESSURE THAT OCCUR FROM INFANCY TO OLD AGE.
3. VERBALIZE THE STEPS USED IN:
 - A. ASSESSING BODY TEMPERATURE.
 - B. ASSESSING A PERIPHERAL PULSE.
 - C. ASSESSING THE APICAL PULSE AND THE APICAL-RADIAL PULSE.
 - D. ASSESSING RESPIRATIONS.
 - E. ASSESSING BLOOD PRESSURE.
 - F. ASSESSING BLOOD OXYGENATION USING PULSE OXIMETRY.
4. DESCRIBE APPROPRIATE NURSING CARE FOR ALTERATIONS IN VITAL SIGNS.
5. IDENTIFY NINE SITES USED TO ASSESS THE PULSE AND STATE THE REASONS FOR THEIR USE.
6. LIST THE CHARACTERISTICS THAT SHOULD BE INCLUDED WHEN ASSESSING PULSES.
7. DESCRIBE THE MECHANICS OF BREATHING AND THE MECHANISMS THAT CONTROL RESPIRATIONS.
8. RECOGNIZE WHEN IT IS APPROPRIATE TO DELEGATE MEASUREMENT OF VITAL SIGNS TO UNLICENSED ASSISTIVE PERSONNEL.
9. DEMONSTRATE APPROPRIATE DOCUMENTATION AND REPORTING OF VITAL SIGNS.

Vital Signs

Vital Signs: Are measures of various physiological status, often taken by health professionals, in order to assess the most basic body functions.

The purpose of checking vital signs:

1. Key signs used to evaluate a patient's condition.
2. For making diagnosis.
3. Planning progressing of patient.
4. Seeing reactions of patient to the specific medications treatment and care.
5. Further information about patient's health status

Times assess vital signs:

1. Change in health status.
2. On a client's (patient) admission.
3. Before or after a surgical procedure.
4. Before and after administration of medication.
5. Before and after any nursing intervention.
6. According to the physician's order or the institution's policy.
7. When assessing the client during home health visit.
8. When client reports symptoms of physical distress.

The traditional vital signs are:

1. Body temperature.
2. Pulse.
3. Respirations.
4. Blood pressure.
5. Oxygen saturation

Body temperature:

Definition: It is a balance between heat production and heat loss, the normal degree of body temperature is 37°C (98.6°F).

Types of Body temperature

1. Core temperature

Is the temperature of the deep tissues of the body, such as the abdominal cavity and pelvic cavity. It remains relatively constant.

2. The surface temperature

Is the temperature of the skin, the subcutaneous tissue, and fat. It, by contrast, rises and falls in response to the environment.

Regulation of Body Temperature

1. Neural control

- Hypothalamus acts as thermostat.

2. Vascular control

- Vasoconstriction -hypothalamus directs the body to decrease heat loss and increase heat production.

When the skin becomes chilled over the entire body, three physiological processes to increase the body temperature take place:

1. Shivering increases heat production.
2. Sweating is inhibited to decrease heat loss.
3. Vasoconstriction decreases heat loss.

Factors Affecting Body Temperature

1. Age.

Infants are greatly influenced by the temperature of the environment and must be protected from extreme changes. Older people are at risk of hypothermia for a variety of reasons, such as inadequate diet, loss of subcutaneous fat, lack of activity.

2. Diurnal variations.

Body temperatures normally change throughout the day, varying as much as 1.0°C (1.8°F) between the early morning and the late afternoon, and the lowest point is reached during sleep.

3. Exercise.

Hard work or strenuous exercise can increase body temperature to as high as 38.3°C to 40°C (101°F to 104°F).

4. Hormones.

Women usually experience more hormone fluctuations than men. In women, progesterone secretion at the time of ovulation raises body temperature by about 0.5°C (0.5°F to 1.0°F) above basal temperature.

5. Stress.

Stimulation of the sympathetic nervous system can increase the production of epinephrine and norepinephrine, thereby increasing metabolic activity and heat production.

6. Environment.

Extremes in environmental temperatures can affect a person's temperature regulatory systems.

Thermometer:

Is the instrument that used to measure the body temperature it constructed of the bulb and stem.

1. Mercury Thermometer

- Long tip – for oral use.
- Rounded tip – for rectal.



2. Electronic thermometer.



3. Chemical disposable thermometers.



Measurement Units

- + Degrees Fahrenheit (°F)
- + Degrees Celsius (centigrade; °C)

How to Convert Celsius to Fahrenheit

$$^{\circ}\text{F} = 1.8\text{C} + 32$$

Example: Convert body temperature of 37 °C to °F.

$$^{\circ}\text{F} = (1.8 \times 37) + 32$$
$$^{\circ}\text{F} = (66.6) + 32$$
$$^{\circ}\text{F} = 98.6$$

Fahrenheit to Celsius Example

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \div 1.8$$

The body temperature of a cat is 101.5 °F.
Find this temperature in Celsius.

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \div 1.8$$
$$^{\circ}\text{C} = (101.5 - 32) \div 1.8$$
$$^{\circ}\text{C} = 69.5 \div 1.8$$
$$^{\circ}\text{C} = 38.6$$

Methods for measuring body temperature:

1. Orally method.
2. Axillary method.
3. Rectal method.
4. Tympanic.
5. Temporal.

➤ Oral body temperature:

Measuring body temperature by putting thermometer under the tongue (sublingual pocket) for 3-5 minutes.

Note: Wait at least 15 minutes after eating, drinking, or smoking

Procedure: by mouth (orally):

1. Introduce yourself to the patient then explain the procedure to the patient, wash your hands, and provide the privacy.
2. Remove the thermometer from container.
3. Wipe the thermometer with cotton by circle movement.
4. The mercury level should be read 35,5 C.

5. Place the thermometer in mouth under the tongue and ask the patient to close mouth.
6. Leave the thermometer in the mouth usually 3-5 minute.
7. Remove thermometer and wipe with cotton by circle movement and then read it then record reading in client.

Contraindication:

1. Unconscious patients.
2. Infants.
3. Patients who breathe from mouth.
4. Patients have continuous cough.
5. Patients who have disease or surgery in the nose or mouth.
6. Nervousness and psychological patients.

➤ **Axillary method:**

By putting thermometer under the axillary for 10 minutes.

Procedure:

1. Place the patient in seated or lying position.
2. Introduce yourself to the patient then explain the procedure to the patient.
3. Wipe the axilla by tissues to keep the area dry.
4. Place the tip of thermometer in middle of axilla (center of the axilla) with shaft facing forward.
5. Be ensuring that thermometer is contact with skin surface.
6. Document the temperature in the client record after adding 0.5 to the degree.

➤ **Rectal method:**

Check temperature by rectum when you cannot take temperature by mouth or axillary method.

Procedure :

1. Put on clean gloves, explain the procedure to the patient, and provide for client privacy.
2. Patient is positioned on Sims position (left side preferred) .
3. Lubricate on tip of thermometer.
4. Slowly and gently insert the tip into anus for 2 minutes.
(½ inch for infants, 1 inch for adults).
5. Holding the thermometer in place while temperature is taken.
6. Wait 2-3 minutes then remove the thermometer wipe with tissue.
7. Minus 0.5 degree from the degree of checking temperature.
8. Document the temperature in the client record.

➤ **Tympanic temperatures:**

Procedure:

1. Pull the pinna slightly upward and backward for an adult.
2. Point the probe slightly anteriorly, toward the eardrum.
3. Insert the probe slowly using a circular motion until snug.



➤ **Temporal temperatures:**

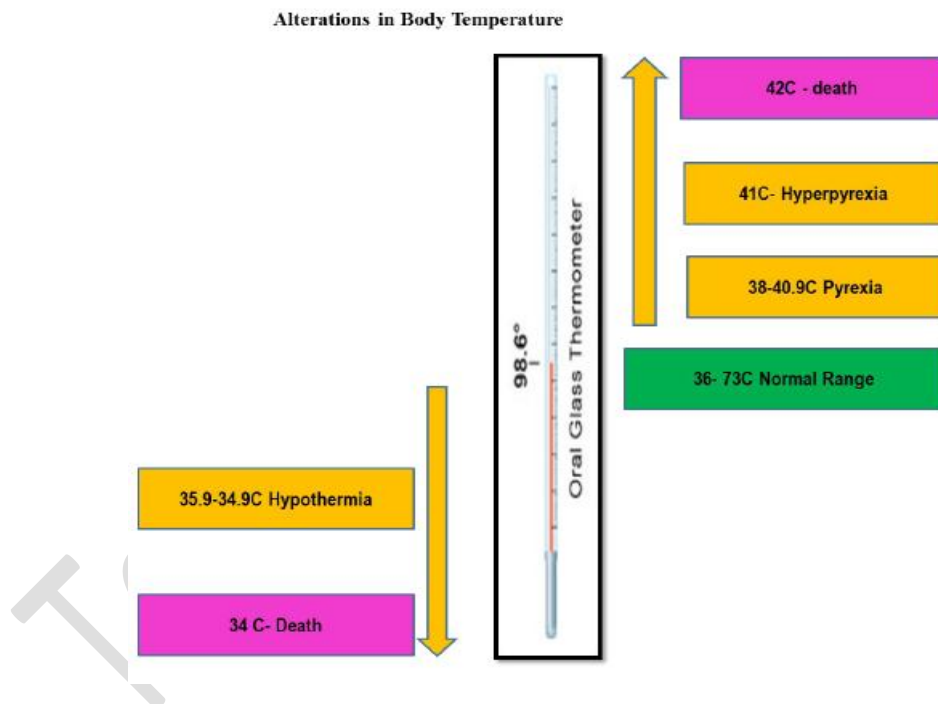
Stroke scanner across forehead, crossing over the temporal artery.



Route	Normal Range °F / °C
Oral	98.6 °F / 37.0 °C
Tympanic	99.6 °F / 37.6 °C
Rectal	99.6 °F / 37.6 °C
Axillary	97.6 °F / 36.6 °C

Alterations in Body Temperature

The normal range for adults is considered to be between **36.5°C and 37.5°C** (96.8°F to 99.5°F). There are two primary alterations in body temperature: pyrexia and hypothermia.



Pyrexia (Fever): The body temperature is above usual range (37.5 C°).

Hyperpyrexia: A very high fever, such as (41°C).

Heat stroke: generally have been exercising in hot weather, have warm, flushed skin, and often do not sweat. They usually have a temperature of 41.1°C (106°F) or higher, and may be delirious, unconscious, or having seizures.

The type of fever:

1. Intermittent fever.
2. Continued fever.

Signs and symptoms of fever:

1. High heart rate.
2. Increase respiratory rate.
3. Flash face and sweating.
4. Back pain.
5. Fatigue.
6. Headache.
7. Nausea and vomiting.
8. Chills and thirst.
9. Delirium.
10. Loss of appetite.

Nursing Interventions for Clients with pyrexia

1. Check the vital signs (especially body temperature) every 10 minute.
2. Remove excess blankets when the client feels warm, but provide extra warmth when the client feels chilled.
3. Cold compress made for patient and Make bathing if necessary.
4. Give good nutrition and fluid to meet the increased metabolic demands and prevent dehydration.
5. Reduced physical activity.
6. Giving anti pyretic drugs (paracetamol, aspegic, etc.....).
7. Provide oral hygiene to keep the mucous membranes moist .

Hypothermia

Is a core body temperature below the lower limit of normal.

Causes

1. Excessive heat loss
2. Inadequate heat production to counteract heat loss
3. Impaired hypothalamic thermoregulation.

Clinical signs of hypothermia

1. Decreased body temperature.
2. Pale, cool, waxy skin.
3. Hypotension.
4. Decrease urine output.
5. Lack of muscle coordination.
6. Disorientation.

Nursing Interventions for Clients with Hypothermia

1. Provide a warm environment.
2. Provide dry clothing.
3. Apply warm blankets.
4. Keep limbs close to body.
5. Cover the client's scalp with a cap or turban.
6. Supply warm oral or intravenous fluids.
7. Apply warming pads.

Pulse:

Definition: It is the expansion of the arterial walls occurring with each ventricular contraction (wave of blood created by contraction of the left ventricle of the heart).

- ✓ **A peripheral pulse** is a pulse located away from the heart, for example, in the foot or wrist.
- ✓ **Apical pulse** is located at the apex of the heart.

Purpose of taking pulse:

- To identify whether the pulse rate is within normal range.
- To determine the pulse volume and whether the pulse rhythm is regular.
- To monitor clients at risk for pulse alterations (e.g. those with a history of heart disease or experiencing cardiac arrhythmias, hemorrhage).
- To evaluate blood perfusion to the extremities.

Factors affecting pulse rate:

1. Sleeping: pulse rate morning lowest than at afternoon.
2. Sex: female is faster about (7 -8) beat / minute than male.

3. Age: infant higher than adult.
4. Body build: body size and build may affect pulse rates.
 - ❖ Thin and long body low pulse.
 - ❖ Obese and short bodyhigh pulse.
5. Other factors are emotion, medication, Phobia, anxiety, activity, digestion of food and hormones, Body temperature.

Notes when taking pulse:

A- Pulse rate:

It is the number of heart beat in minute.

Normal Pulse Rates:

Adults ————— 60 to 100 beats/ minute.

Children ————— 70 to 150 beats/ minute.

Infants ————— 100 to 160 beats/ minute.

Fast = Tachycardia - over 100 in adults

Slow= Bradycardia - under 60 in adults

B- Rhythm of pulse: it means the time interval between heart beats is equal. (Regular or irregular)

C- Volume of pulse:(Quality)

Is the degree of fullness of the artery and reflects the strength of the left ventricular contraction.

- ❖ Strong pulse.
- ❖ Weak pulse.

Site of taking pulse:

1. Temporal artery: passes over the temporal bone of the head, superior (above) and lateral to (away from the midline of) the eye.

2. Carotid artery at the side of the neck where the carotid artery runs between the trachea and the sternocleidomastoid muscle.

Clinical Alert! *Never press both carotids at the same time because this can cause a reflex drop in blood pressure or pulse rate.*

3. Apical pulse: at the apex of the heart.

4. Brachial artery: at the inner aspect of the biceps muscle of the arm or medially in the antecubital space.

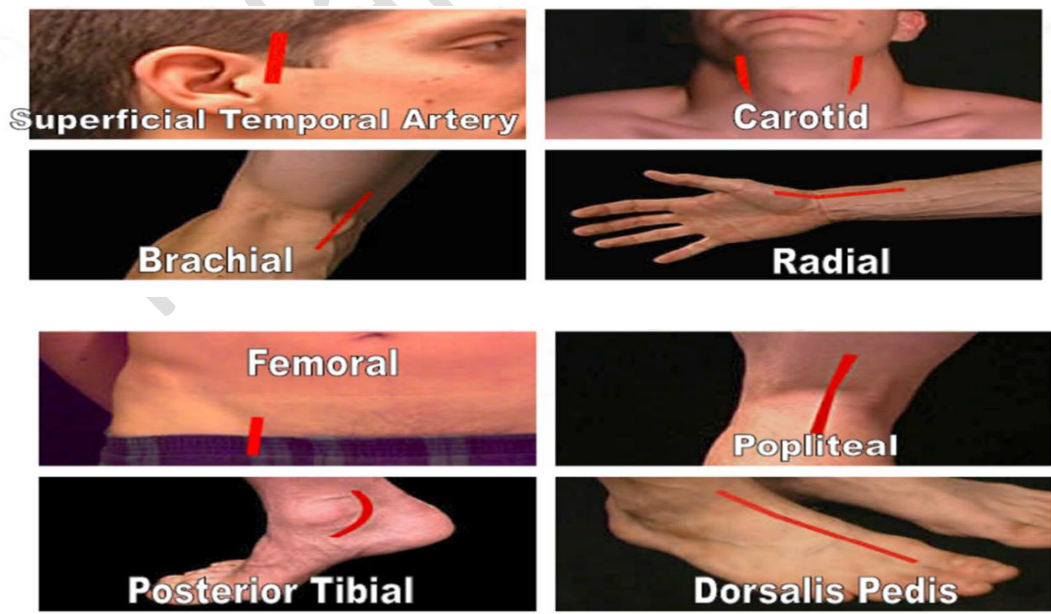
5. Radial artery: runs along the radial bone, on the thumb side of the inner aspect of the wrist.

6. Femoral artery: passes alongside the inguinal ligament.

7. Popliteal artery: the popliteal artery passes behind the knee.

8. Posterior tibial artery: passes behind the medial malleolus.

9. Dorsalis pedis: passes over the bones of the foot.



Procedure of Radial artery:

1. Explain the procedure to the patient, perform hand hygiene, and provide for client privacy.
2. Select the pulse point.
3. Palpate and count the pulse, locate pulse by pressing lightly with index and middle finger pads at the pulse site.
4. Count the number of beats felt in 1 minute.
5. Document the pulse rate, rhythm, and volume.
6. May use stethoscope to listen for apical pulse and count for a full minute use in irregular pulse. The site of apical pulse at the left 5th intercostal space at the midclavicular line.

Respiration:

The exchange of oxygen and carbon dioxide in the body.

- ❖ Respiration: number of times breaths in 1 minute.
- ❖ One breath = one inhalation and one exhalation.
- ❖ The normal adult breath is (12 – 24) time in minute or breath per minute.
- ❖ **External respiration:**

It is process for providing oxygen to the blood , and removal a carbon dioxide from it .

- ❖ **Internal respiration:**

It is process for providing the oxygen present in the blood to the body's cells and removal of carbon dioxide from the tissues to the blood.

Factors Affecting Respirations

1. Exercise (increases metabolism)
2. Stress (readies the body for —fight or flight))
3. Increased environmental temperature
5. Body position also affects the amount of air that can be inhaled.

Purpose the measurement of Respiration:

1. To monitor abnormal respiration and respiratory patterns and identify changes.
2. To monitor respiration before and after of general anesthesia or any medication that influences respiration
3. To monitor clients at risk for respiratory alterations (e.g. fever, pain, anxiety, asthma, respiratory infection, pulmonary edema, chest trauma, brainstem injury).

Assessing Respirations

1. Respiratory Rate (RR):

Observe the movement of client's chest a rise and coming down for a complete minute.

- 1 inhalation + 1 exhalation= 1 respiration.
- Adults 12 to 24 breaths/min.
- Children 15 to 30 breaths/min.
- Infants 25 to 50 breaths/min.

Note: Abnormally slow respirations are referred to as *bradypnea*, and abnormally fast respirations are called *tachypnea*, the absence of breathing is called *Apnea*

Notes in observed respiration:

1. Respiratory rate.
2. Quality (Normal ,shallow, or deep).
3. Nature of Respiration (regular, or irregular).
4. Noisy respiration (Normal ,wheezing ,snoring, crackles).

2. Respiratory rhythm

Refers to the regularity of the expirations and the inspirations. Respiratory rhythm can be described as regular or irregular

3. Respiratory depth:

Is known as the tidal volume, describe as deep or shallow

Procedure:

1. Provide for client privacy.
2. Count the respiratory rate for 1 minute without patient awareness.
3. Observe the deep ,rhythm ,character of respiration.
4. Document the respiratory rate, depth , rhythm and character.

Blood pressure:

The pressure blood is exerted on the arteries walls when the left ventricle of the heart is pushing the blood into the aorta. Because the blood moves in waves, there are two blood pressure measurements. *The systolic pressure* is the pressure of the blood as a result of contraction of the ventricles, that is, the pressure of the height of the blood wave. *The diastolic pressure* is the pressure when the ventricles are at rest.

The difference between the diastolic and the systolic pressures is called the *pulse pressure*. A normal pulse pressure is about 40 mmHg. The pressure blood measured by millimeters of mercury (mm Hg).

Purpose the measurement of Blood pressure:

1. To determine the client's hemodynamics status (e.g. cardiac output: stroke volume of the heart and blood vessels resistance).
2. To identify and monitor change in blood pressure resulting from a disease or medical therapy (e.g. presence of cardiovascular disease, renal disease , circulatory shock, or acute pain ,rapid infusion of fluids or blood products).

Two pressure measurements:

- **Systolic pressure** : It is the maximum of the pressure 100 – 140 mm /Hg.
- **Diastolic pressure** : It is the minimum of the pressure 60 - 90 mm /Hg.

Factors affecting the arterial pressure:

1. Cardiac output.
2. Peripheral resistance.
3. The quantity of blood.
4. The viscosity of blood.
5. The elasticity of vessel walls.
6. Cardiovascular disorders
7. Neurological conditions
8. Kidney and urological disorders
9. Pre eclampsia in pregnant women
10. Psychological factors such as stress, anger, or fear .
11. Various medications

Alterations in blood pressure

- **Hypertension** :High a blood pressure, the Systolic pressure is above 140 mm /Hg. And Diastolic pressure is above 90 mm /Hg.

Category	Systolic BP (mmHg)	Diastolic BP (mmHg)
Normal	120 (110-130)	80 (70-90)
Hypertension, stage 1	130–139	90–99
Hypertension, stage 2	140-159	100-120
Hypertensive crisis	Over than 160	Over than 120

- **Hypotension** :low a blood pressure ,the Systolic pressure is below 100 mm /Hg. And Diastolic pressure is below 60 mm /Hg.
- **Wide pulse pressure**: A pulse pressure greater than 40 mm Hg may be a strong predictor of heart problems (valve regurgitation), especially for older adults.
- **Low pulse pressure**: lower than 40 may mean a patient have poor heart function.

Equipment used in blood pressure measuring :

❖ Blood pressure checked by **sphygmomanometer and stethoscope**.

■ Types of sphygmomanometers:



(Aneroid)



(Electronic)



(Mercury)

Procedure :

1. Explain the procedure to the patient, perform hand hygiene, and provide for client privacy.
2. position the arm must be at the heart level especially when use the mercury sphygmomanometers .
3. Place the deflated cuff and wrap it on patient's arm, apply the cuff to the upper of elbow joint(antecubital area) (2,5)cm .
4. Palpate brachial artery with the finger tips and placing the stethoscope over it.
5. Close the pump valve.
6. Inflate cuff until you no longer hear brachial pulse sound then Continue pumping until the pressure reach to 20 mm Hg.
7. Open cuff valve to let the air escape slowly and hear the first sound,1st beat you hear is systolic pressure then continue to releasing the pressure slowly the last beat you hear is diastolic pressure.
8. Document the result in client record.

❖ **Special considerations:**

1. Can be measuring the blood pressure from patient's thigh if he have contraindication in the arms.
2. Avoid measurement in an arm
 - Injury or blocked artery is present.
 - History of mastectomy on that side.

Oxygen Saturation:

A pulse oximeter is a noninvasive device that estimates a client's arterial blood oxygen saturation (SaO₂) by means of a sensor attached to the client's finger, toe, nose, earlobe, or forehead (or around the hand or foot of a neonate).

The oxygen saturation value is the percent of all hemoglobin binding sites that are occupied by oxygen. Normal oxygen saturation is 95% to 100%, and below 70% is life threatening.

For those suffering from either acute or chronic cardio-pulmonary disorders, **Oxygen Saturation** can help quantify the degree of impairment.



Purpose of measuring Oxygen Saturation:

1. To estimate the arterial blood oxygen saturation.
2. To detect the presence of hypoxemia before visible signs develop.

Factors Affecting Oxygen Saturation Readings

1. **Hemoglobin.** If the hemoglobin is fully saturated with oxygen, the SpO₂ will appear normal even if the total hemoglobin level is low.
2. **Circulation.** The oximeter will not return an accurate reading if the area under the sensor has impaired circulation.
3. **Activity.** Shivering or excessive movement of the sensor site may interfere with accurate readings.
4. **Carbon monoxide poisoning.** Pulse oximeter cannot discriminate between hemoglobin saturated with carbon monoxide versus oxygen

Equipment:

- Nail polish remover as needed
- Alcohol wipe
- Pulse Oximetry

Procedure :

1. Explain the procedure to the patient, perform hand hygiene, and provide for client privacy.
2. Choose a sensor in appropriate size.
3. Clean the site with an alcohol wipe before applying the sensor.
4. It may be necessary to remove a female patient's dark nail polish.
5. Apply the pulse oximetry .
6. Document the oxygen saturation.

Health assessment

Definition: refers to a systematic method of collecting and analysing data for the purpose of planning patient – centered care.

Source of Health Data Collection

1. Patient (primary source).
2. Family member or witness (secondary source).

Component of Health Assessment

1. Health History

A health history consists of subjective data collected during an interview

- A. Information about patients 'current state of health.
- B. Medications takes.
- C. Previous illnesses and surgeries.
- D. Family history.
- E. Review of system.

2. Physical Examination

- ❖ *Signs:* objective data observed, felt, heard, or measured (rash, enlarged lymph nodes, and swelling of an extremity).
- ❖ *Symptoms:* subjective data perceived and reported by the patient (pain, itching, and nausea).
- ❖ *Clinical manifestation:* term used to describe the presenting signs and symptoms experienced by a patient.

A physical examination involves the collecting of objective data (signs). And these objective data are collecting using techniques of the following:

- | | |
|----------------|------------------|
| A. Inspection. | C. Percussion. |
| B. Palpation. | D. Auscultation. |

3. Vital signs.

- | | |
|---------------|--------------------|
| • Temperature | • Respiratory rate |
| • Pulse rate | • Blood pressure |

Documentation of Data

Health assessment data are documented so that the health status at the time of the interaction is recorded

Documentation Data Benefits

1. Complete and descriptive documentation improves the plan of care.
2. Serves as a baseline to evaluate subsequent changes and decisions related to care.
3. Serves as the legal permanent record of the patient's health status at the time of the health care visit.

Health Assessment

Interview

When nurses first meet patients they begin a data base with a health history followed by a physical examination.

Purpose of Health History

Obtain subjective data from patient's so the nurse can create a plan to promote health, prevent disease, resolve acute health problems, and minimize limitation related to chronic health problems.

Phases of the Interview

1. Introduction Phase.

- ✓ The nurse introduce himself or herself and informs the patient about the nurse's role in the patient's care.
- ✓ Address patients by their title (Mr., Mrs., Miss, Ms.) and surname.
- ✓ Avoid substituting their role for their name (e.g., refereeing to the patient a "mom" or "grandpa").
- ✓ The nurse should explain to patients what to expect during the interview and how long the process should take.

2. Discussion Phase.

- ✓ The nurse collects the health history by facilitating a discussion regarding various aspect of the patient's health.
- ✓ The role of the nurse is to facilitate the direction of conversation , ideally the conversation is patient – centered , meaning that patient are free to share their concerns, beliefs , and values in their own words.
- ✓ Variety of communication skills and techniques are used to enhance the conversation and data collection.

3. Summary Phase.

- ✓ Summarize with patients the main points and emphasize data that have implications for health promotion, disease prevention or resolution of their health problems.
- ✓ It allows for clarification of data and provides validation to patients that the nurse has an understanding of their health issues, problems, and concerns.

Communication Skills in interview.

Numerous factors affect the interview and the communication process:

1. Physical setting.
2. Nurse behavior.
3. The type of questions asked.
4. Patient personality and behavior.
5. Nature of information.

The Physical Setting**Special Considerations in conducting Interview**

1. Interview is conducted in a private, quiet, comfortable room where the nurse and patient can sit face to face.
2. Privacy is important when discussing issues that are highly personal.
3. Patient should be physically comfortable during an interview.
4. The nurse and the patient should sit at distance from each other that provides a comfortable flow of conversation.
5. Finally interruption by other individual should be avoided.

The Art of Asking Question

1. Question must be clearly spoken and understood by patients.
2. Define words patient may not understand but do not use so many technical terms that the definitions become confusing.

Type of Question to Ask**1. Open – Ended Question**

Such as: "How have you been feeling"

This broadly stated question encourage a free – flowing open response.

Disadvantages of open – ended question approach involves:

- Patient may be unable to focus on the specific of the question.
- May take excessive time to tell their story.

2. Closed – Ended Question

That require only one or two words to answer. Such as:" Do you become short breath" "Is pain in your stomach sharp"

3. Directive Question

Most often used in reviewing system or evaluating an individual's functional capabilities. Such as:

"Describe the drainage you have had from your nose"

Health History

I. Biographical Data

Collect these data at the first visit and updated as change occurs.

(Name, Gender, Address , Telephone number , and email address, birth day, Race / Ethnicity, Religion, Marital status, Occupation, Contact person, Source of data).

II. Reason for Seeking Health Care. Also called the "Chief Complaint" [CC].

- Is a brief statement of the patient's purpose for requesting the services of a health care provider.

III. History of Present Illness [HIP]

- It's a continuous completion of health problem story details that best accomplished by conducting a symptoms analysis (a systematic way to collect data about the history and status of symptoms).
- (Onset of symptoms, location, duration of symptoms, characteristics , aggravating and alleviating factors, related symptoms, attempts at self – treatment, severity of symptoms).

IV. Past Health History [PHH]

- Medical with drugs history and surgical
- Childhood illness, surgeries, hospitalizations, accidents or injuries, immunization, last examination.

V. Family History

- ✚ Obtain health history for patient blood relatives and children to identify illness of genetic, familial nature that might affected the patient's current or future health (cancer, diabetes mellitus , coronary artery disease, hypertension, kidney disease).

VI. Personal and Psychosocial History

A. Personal Status

- | | |
|--|--|
| <input type="checkbox"/> Occupational history. | <input type="checkbox"/> Cultural / religious practices. |
| <input type="checkbox"/> Current hobbies. | <input type="checkbox"/> Education preparation. |

B. Family and Social Relationships

- | | |
|--|---|
| <input type="checkbox"/> Social interaction with friends. | <input type="checkbox"/> Satisfaction with others. |
| <input type="checkbox"/> Participation in social organization. | <input type="checkbox"/> Person live with patient. |
| | <input type="checkbox"/> Patient role within the family |

C. Diet / Nutrition

- | | |
|---|--|
| <input type="checkbox"/> Dietary restrictions. | <input type="checkbox"/> Patient appetite. |
| <input type="checkbox"/> Recent change in weight. | <input type="checkbox"/> Food intolerances |

D. Mental Health

- Personal stress and sources of stress.
- Feeling of anxiety or nervousness, depression, irritability, or anger.

E. Tobacco, Alcohol, and Drug use

- Obtain specific information about amount, duration, quantity, and substance use.

VII. Review of System

Symptoms listed in the review of system are written in medical terms.

- | | |
|---------------------------|-----------------------------|
| A. General symptoms. | G. Gastrointestinal System. |
| B. Integumentary System. | H. Urinary System. |
| C. Head and Neck. | I. Reproductive System. |
| D. Breast. | J. Musculoskeletal System. |
| E. Respiratory System. | K. Neurological System. |
| F. Cardiovascular System. | |

Basic Element used in protective measure of infection control

1. Hand Hygiene.

Is considered to be the most important action to reduce transmission of infection and is an essential element of standard precautions.

2. Personal protective equipment (gloves, masks, eye protection, face shields and gowns).
3. Equipment and Instrument Care

The nurse should avoid touching equipment contaminated with blood or other body fluids unless gloves are worn.

- ❖ Multiple – use patient equipment that has been soiled with blood or other body fluid should not be reused until it has been adequately cleaned and reprocessed.
- ❖ Single – use items must be disposed of properly after patient use.

Equipment Used During the Examination

- | | |
|----------------------|-----------------------------|
| 1. Gloves& Gown | 10. Ruler and Tape measure. |
| 2. Thermometer | 11. Nasal Speculum. |
| 3. Stethoscope | 12. Tuning Fork. |
| 4. Sphygmomanometer. | 13. Percussion Hammer. |
| 5. Scale. | 14. Goniometer. |
| 6. Snellen Chart. | 15. Skin fold Calipers. |
| 7. Ophthalmoscope. | 16. Vaginal Specula. |
| 8. Otoscope. | 17. Audio scope. |
| 9. Penlight. | 18. Magnification Device. |



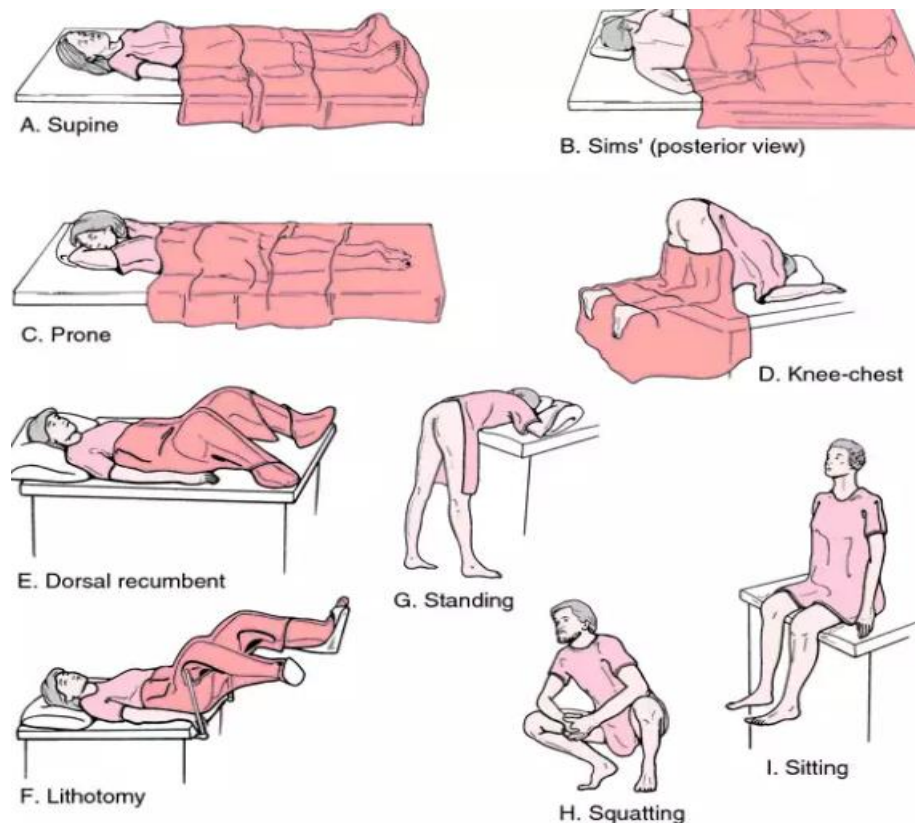


Patient Positioning

The patient may assume a number of positions during the examination.

Type of Positioning and the Main Indications

1. **Sitting Position:** the area to be assessed involves head and neck, back, posterior and anterior thorax and lungs, heart, and upper extremities.
2. **Supine Position:** the area to be assessed include head and neck, anterior thorax and lung, breasts, axilla, heart, abdomen, extremities.
3. **Dorsal Recumbent Position:** the area assessed include head and neck, anterior thorax and lungs, breasts, axilla, heart, abdomen.
4. **Lithotomy Position:** area to be assessed involves female genitalia.
5. **Sims Position:** areas to be assessed include Rectum and Vagina.
6. **Prone Position:** areas to be assessed include musculoskeletal system.
7. **Lateral Recumbent Position:** area of assessment is heart.
8. **Knee – Chest Position:** area of assessment include Rectum.



Techniques of Physical Assessment

Data and Maneuvers used for physical assessment are collected through using four basic assessment techniques:

- | | |
|-----------------|---------------|
| 3. Percussion. | 1. Inspection |
| 4. Auscultation | 2. Palpation |

Inspection

Definition: term refers to visual examination of the body, including body movement and posture.

- ✚ Thoroughly observing the patient with a critical eye is important.
- ✚ By concentrating on the patient, the nurse notices important data.
- ✚ Sometimes the use of equipment facilitates inspection of certain body systems. (e.g., penlight may be used to increase the light on a specific location (looking in a mouth) other instruments such as an otoscope, ophthalmoscope, or vaginal speculum are used to enhance inspection for specific body systems.

Palpation

- ✚ Palpation involves using the hands to feel texture, size, shape, consistency, pulsations, and location of certain parts of the patient's body; and also to identify areas that patient reports as being tender or painful.
- ✚ The nurse's hands must be warm and nails are short to prevent discomfort or injury to the patient.
- ✚ Touch has cultural significance and symbolism, each culture has its own understanding about the uses and meanings of touch.
- ✚ The nurse must tell the patient about this purpose and the need for the touch, and manner/location of touch.
- ✚ The palmar surface of fingers and finger pads are more sensitive for palpation than the fingertips; thus they are better to determine position, texture, size, consistency, masses, fluid, and crepitus.
- ✚ The ulnar surface of the hand extending to the fifth finger is the most sensitive to vibration, whereas the dorsal surface (back) of the hands is more sensitive to temperature.

Types of Palpation

1. Light palpation

Is accomplished by pressing down to a depth of approximately 1 cm and is used to assess skin, pulsations, and tenderness.

2. Deep Palpation

Is accomplished by pressing down to a depth of 4 cm with one or two hands and is used to determine organ size and contour.

3. A bimanual techniques of palpation uses both hands, one anterior and one posterior, to entrap a mass or an organ (such as the uterus, Kidney) between the fingertips to assess size and shape.

Percussion

❖ Indication

1. To evaluate the size, borders, and consistency of internal organs.
2. Detect tenderness.
3. Determine extent of fluid in a body cavity.

❖ Techniques of Percussion

A. Direct Percussion.

Involves striking a finger or hand directly against the body organs, the nurse may use direct percussion technique to evaluate the sinus, or by striking the costo-vertebral angle directly with a fist to assess the kidney.

B. Indirect Percussion

Require both (plexor & pleximeter) hands and is done by different methods, depending on which body system is being assessed.

❖ Tones Produced by Percussion

1. Tympany: which is normally heard over the stomach.
2. Resonance: is heard over healthy lung tissue.
3. Hyper-resonance: is heard over the lung field.
4. Flatness: is heard over bones and muscle.
5. Dullness: is heard over the liver.

Auscultation

Definition: Auscultation involves listening to sound within the body.

Special Precaution in Auscultations

1. Although some sound are audible to the ear (e.g., respiratory stridor, sever wheezing), a stethoscope is usually used to facilitate auscultation.
2. Concentration is required because sounds maybe subtle so closing the eye may improve listening because it reduces distracting visual stimuli.
3. Auscultation is best performed in a quiet room because environmental noise can interfere with hearing sounds.
4. The stethoscope must be placed directly on the skin because clothes obscure or alter sounds.
5. Warm the head of the stethoscope before placing on the patient.
6. The friction of body hair rubbing against the diaphragm of the stethoscope could be mistaken for abnormal lung sound (crackles).
7. Because the stethoscope diaphragm and bell are placed on a patient skin, they must be cleaned between patients to prevent the spread of infection.

Characteristics of Sound Heard by Auscultations

1. Intensity: is the loudness of the sound described as soft, medium, loud.
2. Pitch: is the frequency or number of sound waves generated per sound.
High pitched sound as in breath sound has high frequency, while low pitched sound as cardiac sound has low frequency.
3. Duration: sound vibration (short, medium, or long).
4. Quality: refer to the description of the sounds (hollow, dull, crackles).

General Inspection and Measurement of Vital Signs**General Inspection**

1. Physical Appearance and Hygiene.
Includes a variety of general observation about patient general appearance, age, head, body, skin, and hygiene.
2. Body Structure and Position.
Observation involving body structure include inspecting stature, general impression of nutritional status and body symmetry (body appear similar in size). Also note the patient's position or posture.
3. Body Movement
 - Note the patient moves, walk, gait, symmetric movement.
 - Note for assistive devices for ambulation such as a cane or walker.
 - Note move of all extremities, limitation in range of motion.
 - Observe for presence of involuntary movements such a tremor or tic.

Measurement of Vital Signs**1. Temperature**

- The expected normal temperature ranges from (96.4° to 99.1° F) or (36.8° to 37.2° C).
- Routes of Temperature Measurements

Oral, Temporal Artery, Tympanic Membrane, Axillary, Rectal

2. Heart Rate

B. Pulse characteristics include:

- Rate: number of pulsation felt in 1 min.
 - Rhythm: regularity of pulsation (time between each beat).
- C. Pulse sites: (radial, brachial, carotid arteries, apical, etc.).

3. Respiratory Rate

- A. Assess the respiratory circle (inspiration and expiration)
- B. Normal range (14-24 breathe/m)
- C. Note the abdominal movement in male while chest movement in female.
- D. Patient awareness cause voluntarily to alter the respiratory pattern.

4. Blood Pressure

- A. Measuring by using sphygmomanometer.
- B. Normal range (systolic120-100 Diastolic90-60mmHg).

Assessment of Head and Neck

Subjective and objective Data

The subjective and objective data obtained through assessment of Head and Neck include the following:

1. Neck pain.
2. Headache
3. Dizziness.
4. Spinning.
5. Lightheadedness.
6. Blurred Vision.
7. Loss of consciousness.
8. Facial pain.
9. Enlarge of lymph node.
10. Thyroid enlargement.

Physical Examination for Head and Neck

1. Head

*INSPECTION

1. Size.
2. Shape.
3. Configuration.

Normal Findings

1. Head size and shape vary, especially in accord with ethnicity.
2. Usually the head is symmetric, round, erect, and in midline and appropriately related to body size (normocephalic).
3. No lesions are visible.

Abnormal Findings

1. An abnormally small head is called microcephaly.
2. The skull and facial bones are larger and thicker in acromegaly.
3. Acorn-shaped, enlarged skull bones are seen in Paget's disease of the bone.

❖ Inspect for involuntary movement.

Goals: To find any Involuntary movement of head.

Normal Findings

1. Head should be held still and upright.

Abnormal Findings

1. Neurologic disorders may cause a horizontal jerking movement.
2. An involuntary nodding movement may be seen in patients with aortic insufficiency.
3. Head tilted to one side may indicate unilateral vision or hearing deficiency or shortening of the sternomastoid muscle.

***PALPATION.**

1. Consistency.

Normal Findings

1. The head is normally hard and smooth, without lesions.

Abnormal Findings

1. Lesions or lumps on the head may indicate recent trauma or a sign of cancer.

2. Face.

***INSPECTION**

- | | |
|--------------|--------------------|
| 1. Symmetry. | 4. Expression. |
| 2. Features. | 5. Skin condition. |
| 3. Movement. | |

Normal Findings

1. The face is symmetric with a round, oval, elongated, or square appearance.
No abnormal movements noted.
2. In older clients, facial wrinkles are prominent because subcutaneous fat decreases with age.

Abnormal Findings

1. Asymmetry in front of the earlobes occurs with parotid gland enlargement from an abscess or tumor.
2. Drooping, weakness, or paralysis on one side of the face may result from a stroke (cerebrovascular accident, CVA) and also result from a neurologic condition known as Bell's palsy.
3. A "mask-like" face marks Parkinson's disease.

***PALPATION (Temporal artery)**

1. Pulsation.
2. Constancy.
3. Location.

Normal Findings

1. The temporal artery is elastic and not tender.
2. The strength of the pulsation of the temporal artery may be decreased in the older client.

Abnormal Findings

1. The temporal artery is hard, thick, and tender with inflammation, as seen with temporal arteritis (inflammation of the temporal arteries that may lead to blindness).

***PALPATION (Temporomandibular joint -TMJ).**

1. Jaw movement.
2. Swelling, tenderness, or crepitation with movement.
3. Range of motion.

Normal Findings

1. Normally there is no swelling, tenderness, or crepitation with movement.
2. Mouth opens and closes fully (3 to 6 cm between upper and lower teeth).
Lower jaw moves laterally 1 to 2 cm in each direction.

Abnormal Findings

1. Limited range of motion, swelling, tenderness, or crepitation may indicate TMJ syndrome.

3. Neck

***INSPECTION (Neck).**

1. Position.
2. Symmetry.
3. Lumps or masses.

Normal Findings

1. Neck is symmetric, with head centered and without bulging masses.

Abnormal Findings

1. Swelling, enlarged masses – or nodules – may indicate an enlarged thyroid gland, inflammation of lymph nodes, or a tumor.

***INSPECTION (Cervical vertebrae).**

1. Shape of cervical vertebrae.
2. Swelling.

Normal Findings

1. C7 (vertebrae prominence) is usually visible and palpable.
2. In older clients, cervical curvature may increase because of kyphosis of the spine
3. fat may accumulate around the cervical vertebrae (especially in women).
This is sometimes called a “dowager’s hump.”

Abnormal Findings

1. Prominence or swellings other than the C7 vertebrae may be abnormal.

***INSPECTION (Range of motion).**

1. Range of Motion.
2. Limitation of mobility.

Normal Findings

1. Normally neck movement should be smooth and controlled with 45-degree flexion, 55-degree extension, 40-degree lateral abduction, and 70-degree rotation.
2. Older clients usually have somewhat decreased flexion, extension, lateral bending, and rotation of the neck. This is usually due to arthritis.

Abnormal Findings

1. Muscle spasms, inflammation, or cervical arthritis may cause stiffness, rigidity, and limited mobility of the neck, which may affect daily functioning.
2. A stiff neck is often a late symptom seen in meningitis.

***Palpation (Trachea).**

1. Tracheal Position.
2. Characteristics.

Normal Findings

1. Trachea is midline.

Abnormal Findings

1. The trachea may be pulled to the affected side in cases of large atelectasis, fibrosis or pleural adhesions.
2. The trachea is pushed to the unaffected side in cases of a tumor, enlarged thyroid lobe, pneumothorax, or with an aortic aneurysm.

4. Thyroid Gland***INSPECTION**

1. Movement of the thyroid cartilage.
2. Thyroid gland.

Normal Findings

1. The thyroid cartilage, cricoid cartilage moves upward symmetrically as the client swallows.

Abnormal Findings

1. Asymmetric movement or generalized enlargement of the thyroid gland is considered abnormal.

***Palpation.**

- | | |
|----------------------------|--------------------------|
| 1. Thyroid gland Position. | 3. Thyroid consistency. |
| 2. Thyroid enlargement. | 4. Size of Thyroid lobe. |

Normal Findings

1. Thyroid gland is usually not palpable. However, the isthmus may be palpated in midline. If the thyroid can be palpated, the lobes are smooth, firm, and non - tender.

Abnormal Findings

1. In cases of diffuse enlargement; such as hyperthyroidism, Graves' disease, or an endemic goiter, the thyroid gland may be palpated.
2. Rapid enlargement of a single nodule suggests a malignancy.

***AUSCULTATION**

1. Abnormal pulsation
2. Thyroid gland characteristics

Normal Findings

1. No bruits are auscultated.

Abnormal Findings

1. A soft, blowing, swishing sound auscultated over the thyroid lobes is often heard in hyperthyroidism because of an increase in blood flow through the thyroid arteries.

5. Lymph Nodes of the Head and Neck***PALPATION**

- | | |
|-------------------------|----------------|
| 1. Lymph node location. | 3. Mobility. |
| 2. Size and Shape. | 4. Tenderness. |

Lymph Node Guideline Assessment

1. Preauricular nodes (in front of ear), Postauricular nodes (behind the ears).
2. Occipital nodes (at the posterior base of the skull).
3. Tonsillar nodes at the angle of the mandible on the anterior edge of the sternomastoid muscle.
4. Submandibular nodes located on the medial border of the mandible.
5. Submental nodes, behind the tip of the mandible.
6. Superficial cervical nodes in superficial to the sternomastoid muscle.
7. Posterior cervical nodes in the area posterior to the sternomastoid and anterior to the trapezius in the posterior triangle.
8. Deep cervical chain nodes deeply within and around the sternomastoid muscle.
9. Supraclavicular nodes over the clavicles and feeling deeply between the clavicles and the sternomastoid muscles.

Normal Findings

1. There is no swelling or enlargement and no tenderness is present.

Abnormal Findings

1. Supraclavicular nodes: An enlarged, hard, non-tender node, particularly on the left side, may indicate a metastasis from a malignancy in the abdomen or thorax.

Assessment of Respiratory System

□ Structure and Function

I. Thoracic Cage

1. Sternum lies in the center of the chest anteriorly and is divided into:

- Manubrium.
- The body.
- Xiphoid process

2. Pairs of ribs(12).

3. Thoracic vertebrae (12).

4. Muscles.

5. Cartilage.

II. Ribs and Thoracic Vertebrae

1. Seven pairs articulate with the sternum by way of costal cartilages.

2. Four pairs of ribs (seven through ten)

3. 11th and 12th pairs of ribs are called —floating‖ ribs.

III. Thoracic Cavity

1. Mediastinum (thoracic cavity)

- Trachea
- Bronchi
- Osophagus
- Heart
- Great vessels.

2. Lungs.

- Right lung three lobes
- Left lung contains only two lobes.

3. Pleural Membranes

□ Vertical Reference Lines

A. Anterior chest:

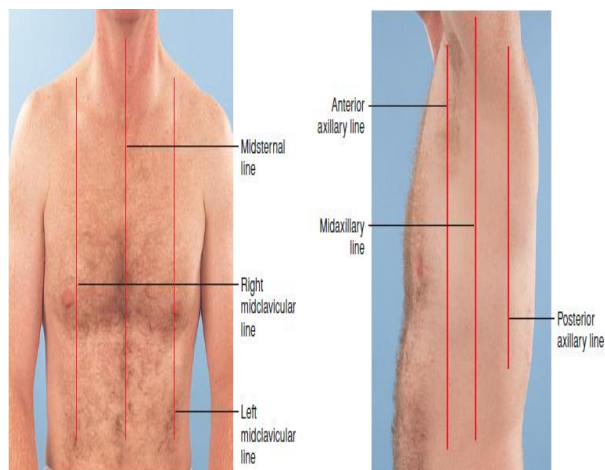
1. Mid sternal line.
2. Right mid – clavicular lines.
3. Left mid – clavicular lines.

B. posterior thorax:

1. Vertebral (Spinal) line
2. Right mid – scapular lines
3. Left mid – scapular lines.

C. lateral aspect of the thorax

1. Mid – axillary line
2. Anterior axillary line
3. posterior axillary line .



Health Assessment**Subjective data (symptoms)**

The subjective and objective data of Respiratory System include the following:

1. Difficulty of Breathing.
2. Chest Pain.
3. Cough.
4. Haemoptysis.
5. Dyspnoea (acute, progressive or paroxysmal).
6. Hoarseness.

□ Preparing the Client for Examination

1. Have the client remove all clothing from the waist up and put on an examination gown or drape.
2. The gown should open down the back, and is used to limit exposure.
3. Examination of a female client's chest may create anxiety because of embarrassment related to breast exposure.
4. Explain that exposure of the entire chest is necessary during some parts of the examination.
5. Make sure that the room temperature is comfortable for the client. (1)
6. Provide privacy for the client.

Health Assessment and Physical Examination of Respiratory System**I. General.****1. INSPECTION****1. Inspect for nasal flaring and pursed lip breathing.**

Goals: To find the variation of nasal flaring and pursed lip breathing according to the following characteristics:

1. Nasal flare and using accessory respiratory muscles

Normal Findings

1. Nasal flaring is not observed.

Abnormal Findings

1. Nasal flaring and using accessory respiratory muscles are seen with labored respirations (especially in children) and is indicative of hypoxia.
2. Pursed lip breathing may be seen in asthma as a physiologic response to help slow down expiration and keep alveoli open longer.

2. Throat

To examine the throat, have the patient open his mouth, stick out his tongue as far as possible, and say "Ah." This should open the pharynx enough to allow you to see the soft palate, uvula, tonsils, and posterior pharynx. Look for redness and exudate— indicators of infection. Also note any unusual breath odors.

3. Observe use of accessory muscles.

Goals: To verify using accessory muscle during breathing.

2. Using accessory muscle

Normal Findings

1. The client does not use accessory (trapezius/ shoulder) muscles to assist breathing.
2. The diaphragm is the major muscle at work. This is evidenced by expansion of the lower chest during inspiration.

Abnormal Findings

1. Client leans forward and uses arms to support weight and lift chest to increase breathing capacity, referred to as the tripod position (Fig. 19-10). This is often seen in COPD.

4. Observe color of face, lips, and chest.

Goals : To find the variation of face , lips and chest color according to the following characteristics :

1. Face ,lips, and chest color.
2. Normal or abnormal color variation.

Normal Findings

1. The client has evenly colored skin tone, without unusual or prominent discoloration.

Abnormal Findings

1. Ruddy to purple complexion may be seen in clients with COPD or CHF as a result of polycythemia.
2. Cyanosis may be seen if client is cold or hypoxic.
3. Cyanosis makes white skin appear blue-tinged, especially in the perioral, nail bed.

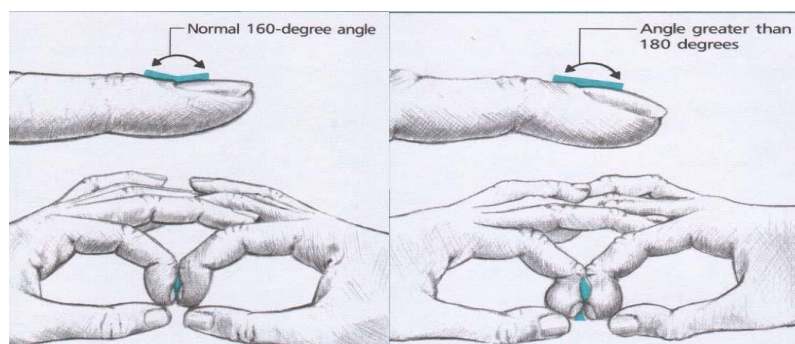
5. Inspect nails for color and shape.

Goals : To find the variation of nails color, shape according to the following characteristics :

1. Nail shape and color.
2. Normal or abnormal color variation.

Normal Findings

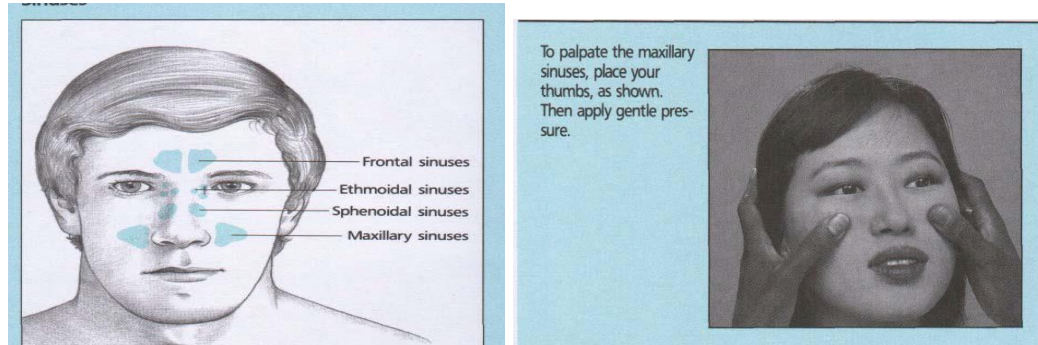
1. Pink tones should be seen in the nail beds.
2. There is normally a 160 – degree angle between the nail base and the skin.



Abnormal Findings

1. Pale or cyanotic nails may indicate hypoxia.
2. Early clubbing (180-degree angle) and late clubbing (greater than a 180-degree angle) can occur from hypoxia.

II. PALPATION

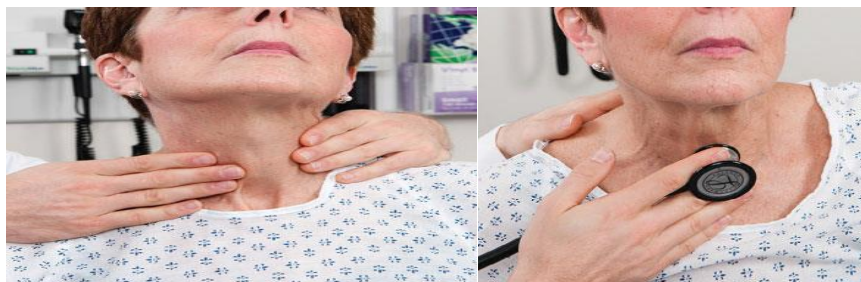


1. Sinuses

You'll be able to examine the frontal and maxillary sinuses, but not the ethmoidal and sphenoidal sinuses. Begin by inspecting for swelling around the eyes, especially over the sinus area. Then palpate the frontal and maxillary sinuses for tenderness and warmth.

2. Thyroid gland

Stand behind the client and ask him to swallow as you palpate the right side of the gland. Reverse the technique to palpate the left lobe of the thyroid and auscultate the thyroid only if you find an enlarged thyroid gland during palpation. Place the bell of the stethoscope over the lateral lobes of the thyroid gland and ask the client to hold his or her breath.



II. Posterior Thorax

A. INSPECTION

1. Inspect configuration.

Goals : To find – out anatomical variation of thorax structure according to the following characteristics :

1. Scapulae Position, symmetry .
2. Shape and configuration of the chest wall

Normal Findings

1. Scapulae are symmetric and nonprotruding.
2. Shoulders and scapulae are at equal horizontal positions.
3. The ratio of anteroposterior to transverse diameter is 1:2.
4. Spinous processes appear straight
5. Thorax appears symmetric.
6. The size of the thorax, which affects pulmonary function, differs by race. Compared with African Americans, Asians and Native Americans, adult Caucasians have a larger thorax and greater lung capacity

Abnormal Findings

1. Spinous processes that deviate laterally in the thoracic area may indicate scoliosis.
2. Kyphosis (an increased curve of thoracic spine) is common in older clients
3. Spinal configurations may have respiratory implications.
4. Barrel chest is condition commonly result of emphysema due to hyperinflation of the lungs.



B. PALPATION

1. Palpate for tenderness and sensation.

Goals : To verify presence of tenderness and other sensation

Normal Findings

1. Client reports no tenderness, pain, or unusual sensations.
2. Temperature should be equal bilaterally.

Abnormal Findings

1. Muscle soreness from exercise or the excessive work of breathing (as in COPD) may be palpated as tenderness.
2. Increased warmth may be related to local infection.

2. Palpate for crepitus.

Goals : To find out any Crackling sensation.

Normal Findings

1. The examiner finds no palpable crepitus.

Abnormal Findings

1. Crepitus can be palpated if air escapes from the lung or other airways into the subcutaneous tissue, as occurs after an open thoracic injury, around a chest tube, or tracheostomy.
2. It also may be palpated in areas of extreme congestion or consolidation.

3. Palpate surface characteristics.

Goals: To verify any abnormal surface according to the following characteristics:

1. Lesions.
2. Unusual masses.

Normal Findings

1. Skin and subcutaneous tissue are free of lesions and masses.

Abnormal Findings

1. A physician or other appropriate professional should evaluate any unusual palpable mass.

4. Palpate for fremitus.

Goals: To assess fremitus according to the following characteristics of vibration:

1. Symmetry
2. Intensity.

Normal Findings

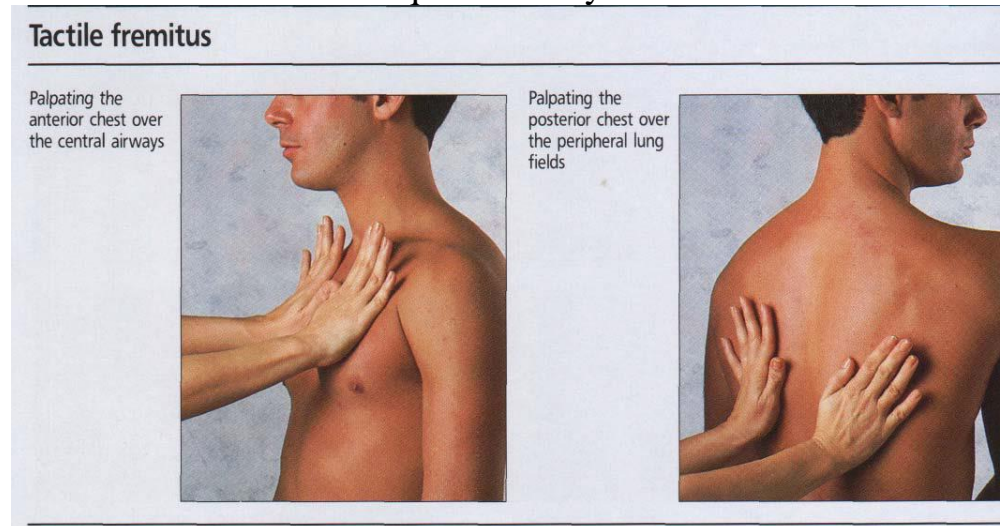
1. Fremitus is symmetric and easily identified in the upper regions of the lungs. If fremitus is not palpable on either side, the client may need to speak louder.
2. A decrease in the intensity of fremitus is normal as the examiner moves toward the base of the lungs.
3. Fremitus should remain symmetric for bilateral positions.

Abnormal Findings

1. Unequal fremitus is usually the result of consolidation (which increases fremitus).
2. bronchial obstruction, air trapping in emphysema, pleural effusion, or pneumothorax (which all decrease fremitus).
3. Diminished fremitus even with a loud spoken voice may indicate an obstruction of the tracheobronchial tree.

Procedure

Place your open palms against the upper portion of the anterior chest, making sure your fingers don't touch the chest. Then ask the patient to repeat "ninety-nine" while you systematically move your palms over the chest from the central airways to each lung's periphery and back. You should feel vibrations of equal intensity on both sides of the chest.



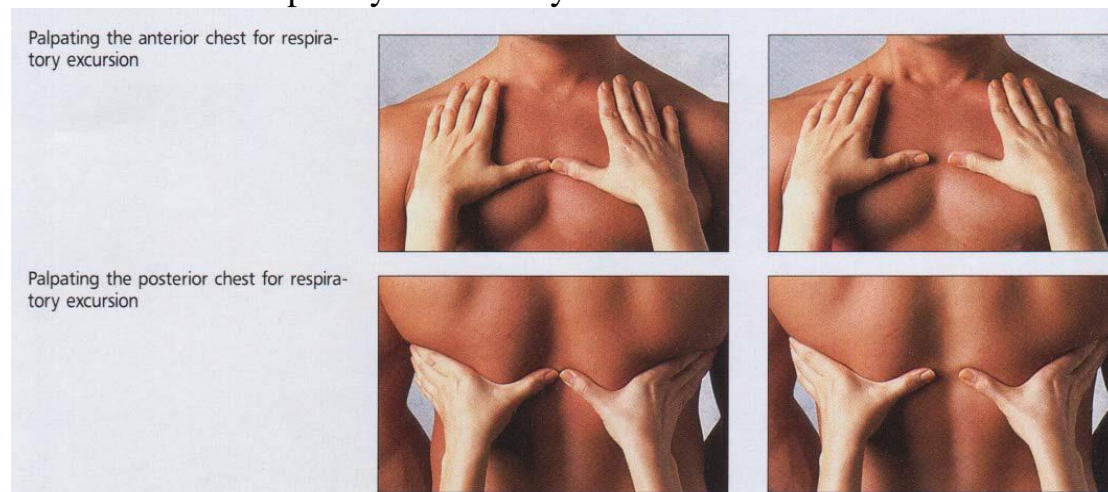
5. Assess chest expansion. (1)

Goals : To find out any variation of chest expansion according to the following characteristics :

1. Symmetric distance
2. Limitation.

Normal Findings

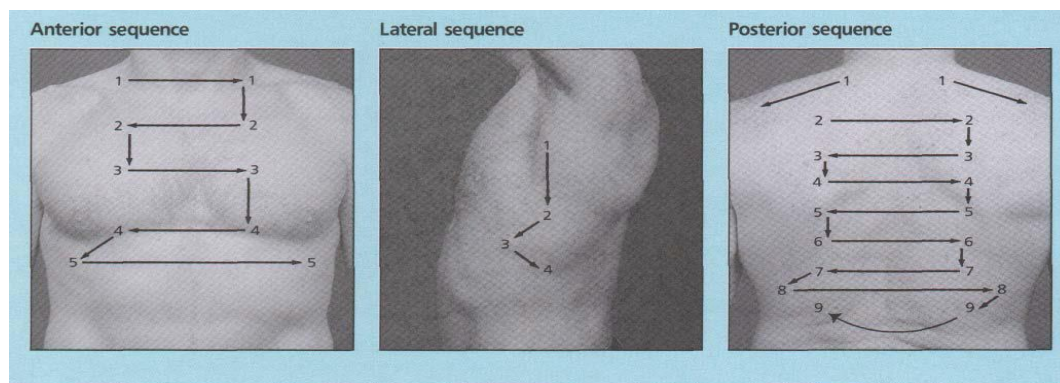
1. When the client takes a deep breath, the examiner's thumbs should move 5 to 10 cm apart symmetrically.



Abnormal Findings

1. Unequal chest expansion can occur with severe atelectasis (collapse or incomplete expansion).
2. Pneumonia.
3. chest trauma.
4. Pneumothorax (air in the pleural space).
5. Decreased chest excursion at the base of the lungs is characteristic of COPD. This is due to decreased diaphragmatic function.

C. PERCUSSION



1. Percuss for Tone.

Goals : To find out any variation of tone according to the following characteristics:

1. Symmetry .
2. Kind of tone.
3. Abnormal variation.

Normal Findings

1. Resonance is the percussion tone elicited over normal lung tissue
2. Percussion elicits flat tones over the scapula.

Abnormal Findings

1. Hyperresonance is elicited in cases of trapped air such as in emphysema or pneumothorax.

2. Percuss for diaphragmatic excursion.

Goals: To find any variation of tone change according to the following criteria:

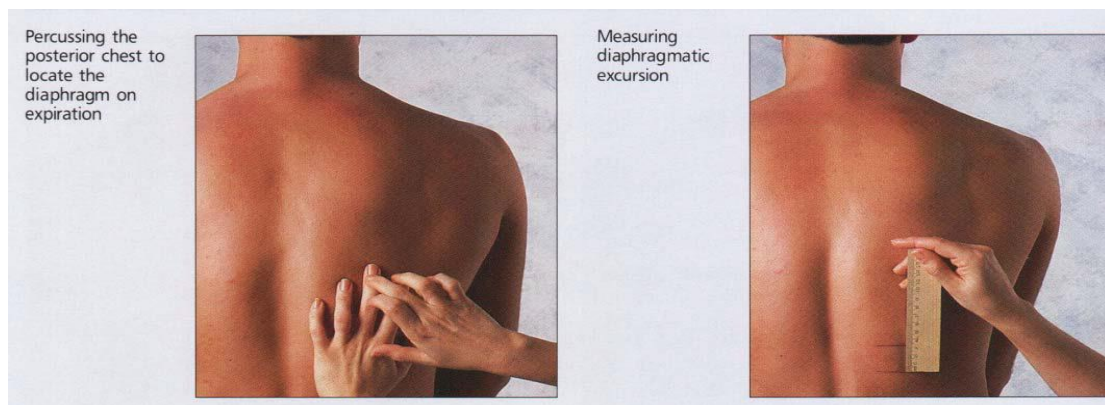
1. Tone changes from resonance to dullness.
2. Distance between the two marks
3. Symmetry

Normal Findings

1. Excursion should be equal bilaterally and measure 3–5 cm in adults.
2. The level of the diaphragm may be higher on the right because of the position of the liver.
3. In well-conditioned clients, excursion can measure up to 7 or 8 cm.

Procedure

Instruct the patient to take a deep breath and hold it. Starting at the lower border of the right scapula, percuss down the posterior chest until you note dullness, indicating the location of the diaphragm. Mark this point. Instruct the patient to take a few normal breaths. Then, ask him to exhale completely and again hold his breath. Next, percuss up to the area of dullness. Mark this point, too. Repeat the entire procedure on the left side of the posterior chest. Finally, using a tape measure or ruler, measure the distance between the two marks on each side of the posterior thorax to determine diaphragmatic excursion. Normal diaphragmatic excursion is (3.2 to 5.7 cm).



Abnormal Findings

1. Dullness is present when fluid or solid tissue replaces air in the lung or pleural space, such as in lobar pneumonia, pleural effusion, or tumor.
2. Diaphragmatic descent may be limited by atelectasis of the lower lobes or by emphysema.
3. Other possible causes for limited descent can be pain or abdominal changes such as extreme ascites, tumors, or pregnancy.

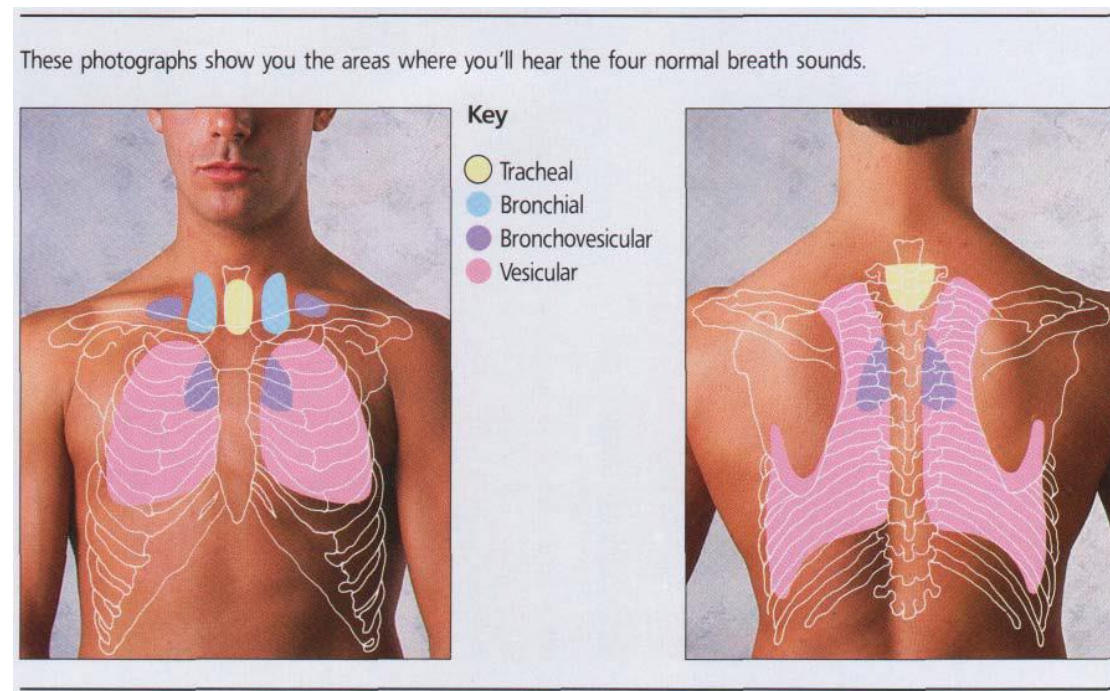
D. AUSCULTATION

1. Auscultate for breath sounds.

Goals: To assess lung sounds, and verify abnormal findings

Normal Findings

1. The normal breath sounds may be auscultated – tracheal, bronchial, bronchovesicular, and vesicular



Abnormal Findings

1. Diminished or absent breath sounds often indicate that little or no air is moving in or out of the lung area being auscultated. This may indicate obstruction within the lungs as a result of secretions, mucus plug, or a foreign object.
2. In emphysema, the hyper inflated nature of the lungs, together with a loss of elasticity of lung tissue, may result in diminished inspiratory breath sounds.
3. Increased (louder) breath sounds often occur when consolidation or compression results in a denser lung area that enhances the transmission of sound.

2. Auscultate for adventitious sounds.

Goals : To verify Adventitious sounds during auscultation according to the following criteria :

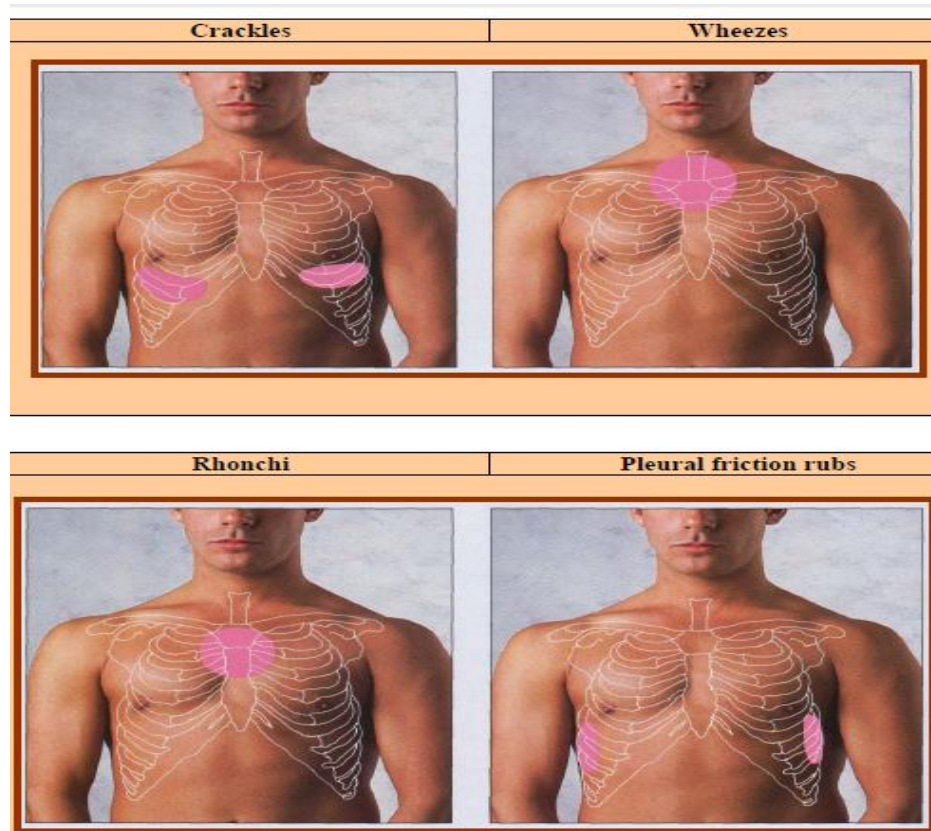
1. location .

Normal Findings

1. No adventitious sounds, such as crackles (discrete and discontinuous sounds) or wheezes (musical and continuous), are auscultated.

Abnormal Findings

1. Adventitious lung sounds, such as crackles and wheezes (formerly called rhonchi) are evident.



3. Auscultate voice sounds.

□ Bronchophony:

Instruct the patient to say "ninety-nine" as you systematically auscultate his chest. Normally, you should hear vocal fremitus as muffled, unclear sounds, loudest medially and softest in the lung periphery. If you hear "ninety-nine" distinctly (a finding known as bronchophony), suspect lung tissue consolidation.

Abnormal Findings

1. The words are easily understood and louder over areas of increased density. This may indicate consolidation from pneumonia, atelectasis, or tumor.

□ Egophony:

Ask the patient to repeat the sound "ee-ee" several times. If you hear it through the stethoscope as "ay-ay," accompanied by a nasal or bleating vocal tone.

Abnormal Findings

1. Over areas of consolidation or compression, the sound is louder and sounds like —A.‖

III. Anterior Thorax

A. INSPECTION

1. Inspect for shape and configuration.

Goals : To find – out anatomical variation of thorax structure according to the following characteristics :

1. Diameter ratio .
2. Symmetry .

Normal Findings

1. The anteroposterior diameter is less than the transverse diameter. The ratio of anteroposterior diameter to the transverse diameter is 1:2.

Abnormal Findings

1. Anteroposterior equals transverse diameter, resulting in a barrel chest. This is often seen in emphysema because of hyperinflation of the lungs.

2. Watch for sternal retractions.

Goals : To verify presence of sternal retraction

Normal Findings

1. Retractions not observed.

Abnormal Findings

1. Sternal retractions are noted, with severely labored breathing.

3. Inspect slope of the ribs.

Goals : To assess the ribs from an anterior and lateral viewpoint for rib slope according to the following

1. Symmetry
2. Costal angle.
3. Chest shape

Normal Findings

1. Ribs slope downward with symmetric intercostal spaces. Costal angle is within 90 degrees.

Abnormal Findings

1. Barrel-chest configuration results in a more horizontal position of the ribs and costal angle of more than 90 degrees. This often results from long-standing emphysema.

4. Observe quality and pattern of respiration.

Goals : To observe the respiration quality and pattern according the following characteristics:

1. Rate.
2. Rhythm.
3. Depth.

Normal Findings

1. Respirations are relaxed, effortless, and quiet. They are of a regular rhythm and normal depth at a rate of 10–20 per minute in adults. (1)
2. Tachypnea and bradypnea may be normal in some clients. (1)

Abnormal Findings

1. Labored and noisy breathing is often seen with severe asthma or chronic bronchitis.

B. PALPATION**1. Palpate for tenderness, sensation, and surface masses.**

Goals : To verify presence of tenderness and other sensation

Normal Findings

1. No tenderness or pain is palpated over the lung area with respirations.

2. Palpate for crepitus.

Goals : To find out any Crackling sensation.

Normal Findings

1. No crepitus is palpated.

Abnormal Findings

1. In areas of extreme congestion or consolidation, crepitus may be palpated, particularly in clients with lung disease.

3. Palpate for any surface masses or lesions.

Goals : To assess for presence of any surface masses or lesions.

Normal Findings

1. No unusual surface masses or lesions are palpated.

Abnormal Findings

1. Surface masses or lesions may indicate cysts or tumors.

4. Palpate for fremitus.

Goals : To assess fremitus according to the following characteristics of vibration :

1. Symmetry
2. Intensity.

Normal Findings

1. Is symmetric and easily identified in the upper regions of the lungs.
2. A decreased intensity of fremitus is expected toward the base of the lungs. However, fremitus should be symmetric bilaterally.

Abnormal Findings

1. Diminished vibrations, even with a loud spoken voice, may indicate an obstruction of the tracheobronchial tree.
2. Clients with emphysema may have considerably decreased fremitus as a result of air trapping.

5. Palpate anterior chest expansion.

Goals : To find out any variation of chest expansion according to the following characteristics :

1. Symmetric distance
2. Limitation.

Normal Findings

1. Thumbs move outward in a symmetric fashion from the midline.

Abnormal Findings

1. Unequal chest expansion can occur with severe atelectasis, pneumonia, chest trauma, pleural effusion, or pneumothorax.
2. Decreased chest excursion at the bases of the lungs is seen with COPD.

C. PERCUSSION

1. Percuss for tone.

Goals : To find out any variation of tone according to the following characteristics:

1. Symmetry .
2. Kind of tone.
3. Abnormal variation

Normal Findings

1. Resonance is the percussion tone elicited over normal lung tissue.

Abnormal Findings

1. Hyperresonance is elicited in cases of trapped air such as in emphysema or pneumothorax.
2. Dullness may characterize areas of increased density such as consolidation, pleural effusion, or tumor.

D. AUSCULTATION

1. Auscultate for anterior breath sounds, adventitious sounds, and voice sounds.

Goals :

1. To assess lung sounds, and verify abnormal findings.
2. To verify Adventitious sounds during auscultation

Assessment of cardio vascular system

Heart and Great Vessels

Heart:

Division

1. Left side (Atria and Ventricles)
2. Right side (Atria and Ventricles).

Location and limits

1. Vertically : left second to the left fifth intercostal space (ICS).
2. Horizontally : from the right edge of the sternum to the left midclavicular line (MCL).

Great vessels:

1. The superior and inferior vena cava
2. The pulmonary artery.
3. The pulmonary veins (two from each lung)
4. The aorta .

Valves

1. Atrioventricular (AV) valves

A. Tricuspid valve (located between the right atrium and the right ventricle).

B. bicuspid (mitral) valve. (located between the left atrium and the left ventricle).

2. Semilunar valves (located at the exit of each ventricle at the beginning of the great vessels).

A. pulmonic valve (located at the entrance of the pulmonary artery).

B. Aortic valve (located at the beginning of the ascending aorta).

Subjective and objective data

The subjective and objective data of Heart and Neck Vessels include the following:

1. Chest Pain
2. Tachycardia and Palpitations
3. Fatigue
4. Dyspnea
5. Dizziness
6. Cough
7. Nocturia.
8. Edema.
9. Heart Burn.
10. Fainting.

Content

I. Neck Vessels

□ Inspection

Goals:

1. To identify jugular venous pulse.
2. To verify normal pulse from other abnormal

Normal Findings

1. The jugular venous pulse is not normally visible with the client sitting upright. This position fully distends the vein, and pulsations may or may not be discernible.

Abnormal Findings

1. Fully distended jugular veins elevated more than 45 degrees indicate increased central venous pressure. that may be the result of right ventricular failure, pulmonary hypertension, pulmonary emboli, or cardiac tamponade.

A. Observe the jugular venous pulse.

To estimate the level of the JVP, learn to find the highest point of oscillation in the internal jugular vein or, alternatively, the point above which the external jugular vein appears collapsed. The JVP is usually measured in vertical distance above the sternal angle (also called the angle of Louis), the bony ridge adjacent to the second rib where the manubrium joins the body of the sternum.

B. Evaluate jugular venous pressure.

Goal :

1. To evaluate jugular vein distention.
2. Evaluate jugular venous pressure

Normal Findings

1. It is normal for the jugular veins to be visible when the client is supine.
2. The jugular vein should not be distended, protrusion, or bulging at 45 degrees or greater.

Abnormal Findings

1. distention, protrusion, or bulging at 45, 60 , and 90 degrees may indicate right – sided hear failure .
2. Clients with obstructive pulmonary disease may have elevated venous pressure only during expiration.
3. An inspiratory increase in venous pressure, called Kussmaul’s sign, may occur in clients with severe constrictive pericarditis.

Procedure

1. Make the patient comfortable. Raise the head slightly on a pillow to relax the SCM muscles.
2. Raise the head of the bed or examining table to about 30°. Turn the patient's head slightly away from the side you are inspecting.
3. Use tangential lighting and examine both sides of the neck. Identify the external jugular vein on each side, then find the internal jugular venous pulsations.
4. If necessary, raise or lower the head of the bed until you can see the oscillation point or meniscus of the internal jugular venous pulsations in the lower half of the neck.
5. Focus on the right internal jugular vein. Look for pulsations in the suprasternal notch, between the attachments of the SCM muscle on the sternum and clavicle, or just posterior to the SCM. Distinguish the pulsations of the internal jugular vein from those of the carotid artery
6. Identify the highest point of pulsation in the right jugular vein. Extend a long rectangular object or card horizontally from this point and a centimeter ruler vertically from the sternal angle, making an exact right angle. Measure the vertical distance in centimeters above the sternal angle where the horizontal object crosses the ruler and add to this distance 5 cm, the distance from the sternal angle to the center of the right atrium. The sum is the JVP.

**□ Auscultation****A. Carotid Artery.****Goals :**

1. To evaluate the carotid arteries in Middle age for cardiovascular disease suspected.
2. To verify the sound in carotid arteries
3. To verify the pulse amplitude.

Normal Findings

1. No blowing or swishing or other sounds are heard.
2. Pulses are equally strong; a 2+ or normal with no variation in strength from beat to beat.
3. Contour is normally smooth and rapid on the upstroke and slower and less abrupt on the down stroke.
4. The strength of the pulse is evaluated in scale from 0 to 4 as follows:

Pulse Amplitude Scale

0 = Absent

1+ = Weak

2+ = Normal

3+ = Increased

4+ = Bounding

Abnormal Findings

1. A bruit, a blowing or swishing sound caused by turbulent blood flow through a narrowed vessel, is indicative of occlusive arterial disease. However, if the artery is more than two – thirds occluded, a bruit may not be heard.
2. Pulse inequality may indicate arterial constriction or occlusion in one carotid.
3. Weak pulse may indicate hypovolemia, shock, or decreased cardiac output.
4. A bounding, firm pulse may indicate hypervolemia or increased cardiac output.
5. Variations in strength from beat to beat or with respiration are abnormal and may indicate a variety of problems.
6. A delayed upstroke may indicate aortic stenosis.

Procedure

Auscultate both the carotid arteries to listen for a bruit, a murmur-like sound arising from turbulent arterial blood flow. Ask the patient to stop breathing for 15 seconds, then listen with the diaphragm of the stethoscope, which generally detects the higher frequency sounds of arterial bruits better than the bell.

 Palpation**A. Carotid arteries.****Goals :**

1. To evaluate condition of carotid artery.
2. Note Amplitude and contour of the pulse, elasticity of the artery or any thrill.

Normal Findings

1. Arteries are elastic and no thrills are noted.

Abnormal Findings

1. Loss of elasticity may indicate arteriosclerosis.
2. Thrills may indicate a narrowing of the artery.

Procedure

Carotid Artery Thrills and Bruits. As you palpate the carotid artery it may vibrations detected, or thrills, like the throat vibrations of a cat when it purrs. Proceed to auscultation.

II. Heart (Precordium) **Inspection****A. Pulsations.****Goals:**

1. Verify the apical impulse location and other abnormal pulsation.

Normal Findings

1. The apical impulse may or may not be visible. If apparent, it would be in the mitral area (left mid – clavicular line, fourth or fifth intercostal space)the apical impulse is result of the left ventricle moving outward during systole.

Abnormal Findings

1. Pulsations, which may also be called heaves or lifts, other than the apical pulsation are considered abnormal and should be evaluated.
2. A heave or lift may occur as the result of an enlarged ventricle from an overload of work.

Procedure

Careful inspection of the anterior chest may reveal the location of the apical impulse or PMI, or less commonly, the ventricular movements of a left-sided S3 or S4. Shine a tangential light across the chest wall over the cardiac apex to make these movements more visible.

 Palpation**A. Apical impulse.****Goals :**

1. Verify the apical impulses location.
2. Distinguish apical impulses amplitude, and duration .

Normal Findings

1. The apical impulse is palpated in the mitral area and may be the size of a nickel (1 – 2) .
2. The duration is brief, lasting through the first two – thirds of systole and often less.
3. In obese clients or clients with large breasts, the apical impulse may not be palpable.
4. In older clients, the apical impulse may be difficult to palpate because of increased anteroposterior chest diameter.

Abnormal Findings

1. The apical impulse may be impossible to palpate in clients with pulmonary emphysema.
2. If apical impulses is larger than 1 – 2 cm, displaced, more forceful, or of longer duration, suspect cardiac enlargement.

Procedure

1. To palpate heaves and lifts, use your palm and/or hold your finger pads flat or obliquely against the chest. Heaves and lifts are sustained impulses that rhythmically lift your fingers, usually produced by an enlarged right or left ventricle or atrium and occasionally by ventricular aneurysms.
2. For thrills, press the ball of your hand (the padded area of your palm near the wrist) firmly on the chest to check for a buzzing or vibratory sensation caused by underlying turbulent flow. If present, auscultate the same area for murmurs. Conversely, once a murmur is detected, it is easier to palpate a thrill in the position that accentuates the murmur, such as the leaning forward position after detecting aortic regurgitation.
3. Palpate impulses from the RV in the right ventricular area, normally at the lower left sternal border and in the sub-xiphoid area.
4. To palpate S1 and S2, using firm pressure, place your right hand on the chest wall. With your left index and middle fingers, palpate the carotid upstroke to identify S1 and S2 just before and just after the upstroke. With practice, you will succeed in palpating S1 and S2. For S3 and S4, apply lighter pressure at the cardiac apex to detect the presence of any extra movements.

 Auscultation**A. heart rate and rhythm and identify S1 and S2.****Goal:**

1. Assess heart rate and rhythm and verify the abnormal regularities

Normal Findings

1. Rate should be 60 – 100 beats per minute, with regular rhythm.

2. A regularly irregular rhythm, such as sinus arrhythmia when the heart rate increases with inspiration and decreases with expiration, may be normal in young adults.

Abnormal Findings

1. Bradycardia (less than 60 beats/ min) or tachycardia (more than 100 beats / min) may result in decreased cardiac output.

2. A pulse deficit (differences between the apical and peripheral / radial pulses) may indicate atrial fibrillation, atrial flutter, premature ventricular contractions, and varying degrees of heart block.

Guideline for Heart Auscultation

1. The examiner should know the 5 traditional areas location of auscultation which include the aortic area, the pulmonic area, Erb's point, the tricuspid area, and the mitral or apical area.

Aortic Area : locate at Second intercostal at the right sternal border – the base of the heart.

Pulmonic Area : locate at Second or third intercostal space at the left sternal border – the base of the heart.

Erb's point : locate at Third to fifth intercostal space at the left sternal border.

Mitral (apical) : locate at Fifth intercostal space near the mid – clavicular line – the apex of the heart.

Tricuspid area : locate at Four or fifth intercostal space at the left lower sternal border.

2. Position yourself on the client's right side.

3. The client should be supine, with the upper trunk elevated 30 degrees.

4. Use the diaphragm of the stethoscope to auscultate all areas of the precordium for high – pitched sounds .

5. Use the bell of the stethoscope to detect (differentiate) low pitched sounds or gallops.

6. Apply the diaphragm firmly to the chest, but apply the bell lightly.

7. Focus on one sound at a time as you auscultate each area of the precordium.



8. Start by listening to the heart's rate and rhythm.

9. Identify the first and second heart sounds, concentrate on each heart sound individually, listen for extra heart sounds, listen for murmurs, and finally listen with the client in different positions.

Procedure

1. Mitral stenosis. Ask the patient to roll into the left lateral decubitus position, which brings the left ventricle closer to the chest wall. Place the bell of your stethoscope lightly on the apical impulse
2. Aortic regurgitation. Ask the patient to sit up, lean forward, exhale completely, and briefly stop breathing after expiration. Pressing the diaphragm of your stethoscope on the chest, listen along the left sternal border and at the apex, pausing periodically so the patient may breathe.

Gastrointestinal system

1. Alimentary canal

- Mouth
- Pharynx
- Esophagus
- Stomach
- Small intestine
- Large intestine

2. Accessory GI organs

▪ Liver

Located in the right upper quadrant (RUQ), the liver is the largest organ in the body.

▪ Gallbladder

The gallbladder lies below the right lobe of the liver.

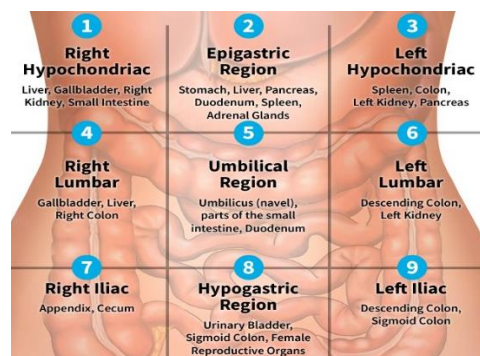
▪ Pancreas

It has both endocrine and exocrine functions. As an endocrine gland, it releases insulin and glucagon and as an exocrine gland, it produces pancreatic juice to the duodenum for use in digestion.

Subjective data

The most common findings of these GI disorders include

1. Dysphagia.
2. Nausea and vomiting.
3. Skin color changes.
4. Distention and protrusion.
5. Abnormal abdominal sounds.
6. Ascites.
7. Abdominal pain.
8. Constipation, and diarrhea.



Abdominal regions

Preparing the Client

Ask the client to empty the bladder before beginning the examination to eliminate bladder distention and interference with an accurate examination. Instruct the client to remove clothes and to put on a gown.

Health Assessment and Physical Examination of Respiratory System

I. General.

INSPECTION

Nutritional status

Goals: To find the variation in Nutritional status

Normal Findings

Normal body weight according to BMI growth chart

$BMI = \text{weight (kg)} / \text{height (M)}^2$

Abnormal Findings

Variation in body weight according to BMI growth chart either underweight or over weight and obesity.

II-Mouth

Goal: To find the variation of mouth mucous membrane color, soft and hard palate shape, Temporomandibular joint (TMJ).

Normal Findings

Pinky mouth mucous membrane, soft and hard palate shape.

Abnormal Findings

1. Ulceration of mucous membrane
2. Bluish (cyanotic) in front of tongue may result from hypoxia.
3. Yellow or brownish teeth.
4. Red, swollen gums that bleed easily are seen in gingivitis, scurvy
5. An opening in the hard palate is known as a cleft palate.

Procedure

1. Begin by inspecting the patient's mouth and jaw for asymmetry and swelling. Can he move his mouth freely?
2. Check his bite and note whether he has a malocclusion.
3. Inspect the patient's lips, noting any abnormal color or texture.
4. Using a penlight, inspect the patient's teeth and gums.
5. Check the TMJ if there are problems

III- Abdomen

When you examine your patient's abdomen, you'll alter the usual sequence of the four assessment techniques. Because percussion and palpation can affect bowel activity and thus bowel sounds, you should always auscultate before percussing and palpating.

Inspection

Normal findings

1. Abdomen is free of lesions or rashes.
2. Umbilicus is midline.
3. Peristaltic waves are not seen, although they may be visible in very thin people.

Abnormal findings

1. Changes in moles including size, color, bleeding moles or petechiae
2. Cullen's sign: A bluish or purple discoloration around the umbilicus (periumbilical ecchymosis) indicates intra-abdominal bleeding.
3. bluish or purplish discoloration on the abdominal flanks.
4. Asymmetry may be seen with organ enlargement, large masses, hernia, or bowel obstruction.



Procedure

Begin by inspecting the patient's entire abdomen. Note its general contour and symmetry as well as any abnormalities of the skin or umbilicus. Note any discoloration, striae (lines or stretch marks), rashes, lesions, dilated veins, or scars.

Auscultation

Goal: auscultate for bowel sounds.

Note: You should establish a regular sequence that you use every time you listen for bowel sounds. For instance, start in the RUQ and move clockwise. By using the same sequence every time, you'll ensure a thorough assessment.

Auscultation for bowel sounds

Normal findings

1. bowel sound may occur about 5 to 34 times each minute

Abnormal findings

1. Absent bowel sounds may be associated with peritonitis or paralytic ileus.
2. High-pitched tinkling and rushes of high-pitched sounds with abdominal cramping usually indicate obstruction.

Procedure

1. Place the diaphragm of the stethoscope on the RUQ and listen for sounds of air and fluid moving through the bowel. Note the character and frequency of the sounds you hear. If you don't hear bowel sounds right away, be sure to listen for at least 2 minutes.
2. Normal bowel sounds are best described as soft bubbling or gurgling noises with no discernible pattern. They may last from less than 1 second to several seconds and may occur about 5 to 34 times each minute.

PERCUSSION

Goal: Use percussion to check the size and location of your patient's abdominal organs and to detect excessive amounts of fluid and air in the abdomen.

Note:

1. Don't use percussion (or palpation) on a patient who may have an abdominal aortic aneurysm or a patient who has had an abdominal organ transplant.
2. Percuss cautiously in a patient who may have appendicitis.
3. Start in the RUQ and move clockwise.
4. If your patient has abdominal pain, however, percuss the painful quadrant last.

Procedure

1. Lightly percuss over the abdomen, identifying areas of tympany and dullness. You'll hear tympany when you percuss over a patient's air-filled stomach or intestine. You'll hear dullness over the liver and spleen.
2. A normal spleen may produce a small area of dullness in the left midaxillary line at about the level of the 10th rib.
3. To assess for splenic enlargement, ask the patient to inhale deeply. Then percuss along the 9th and 10th left intercostal spaces. A change from tympany to dullness as you percuss may indicate splenic enlargement

Palpation

Goal: To assess size of the internal organs and to find out any masses

Procedure

1. Start with the RUQ and move clockwise.
2. However, if the patient complains of pain in one quadrant, palpate that one last.
3. As you palpate, check for organ location, masses, muscle resistance, and areas of tenderness.
4. Begin with light palpation.
5. Be careful not to mistake a normal finding for a mass during abdominal palpation.
6. The uterus, which you may palpate in the lower abdomen at the midline.

Assess for Ascites

Goal: To find out presence of abdominal edema (ascites)

Normal findings

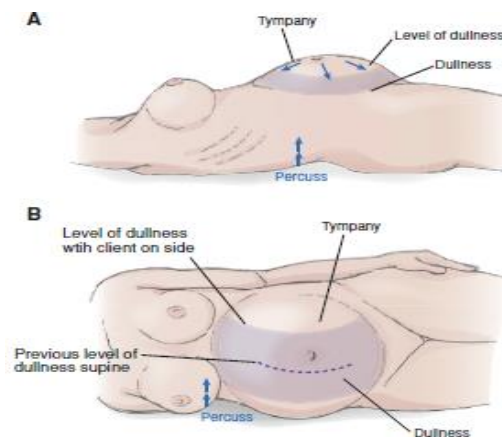
Normally there is no presence of abdominal edema (ascites)

Abnormal findings

Ascites often is a sign of severe liver disease due to portal hypertension (high pressure in the blood vessels of the liver and low albumin levels (

Procedure

1. In supine position. Percuss the flanks from the bed upward toward the umbilicus. Note the change from dullness to tympany and mark this point. Now help the client turn onto the side. Percuss the abdomen from the bed upward. Mark the level where dullness changes to tympany



2. Perform the fluid wave test. The client should remain supine. You will need assistance with this test. Ask the client or an assistant to place the ulnar side of the hand and the lateral side of the forearm firmly along the midline of the abdomen. Firmly place the palmar surface of your fingers and hand against one side of the client's abdomen. Use your other hand to tap the opposite side of the abdominal wall.



Assess for rebound tenderness

Goal: To assess the appendicitis (inflammation of appendix)

Normal findings

No rebound tenderness is present.

Procedure

1. Press your fingertips deeply and gently into the patient's abdomen at McBurney's point. Then quickly withdraw your fingertips. If the patient feels pain when the tissue springs back, you've detected rebound tenderness.
2. Assess for psoas sign. Ask the client to lie on the left side. Hyperextend the right leg of the client.
3. Assess for obturator sign. Support the client's right knee and ankle. Flex the hip and knee, and rotate the leg internally and externally



Neurologic System

Central Nervous System

A. Brain

- ✓ Brain stem – medulla, pons, midbrain
- ✓ Diencephalon – thalamus & hypothalamus
- ✓ Cerebellum
- ✓ Cerebrum

B. Spine

Meninges: Meninges are the three coverings around the brain & spine.

- dura mater is the most outer layer.
- arachnoid mater is the middle layer (web-like attachments).
- pia mater is very thin, and covers the entire brain.

Cerebrospinal fluid: nourishes brain and spinal cord, flows through the subarachnoid space, between the arachnoid mater and the pia mater

Regions of the Brain

- **Cerebellum** – coordination of movement.
- **Brainstem** – medulla, pons, and midbrain (involuntary responses).
- **Hypothalamus**– regulate activities internal organs, controlling the pituitary gland and its hormones, and regulating sleep, appetite, and temperature.

Peripheral Nervous System

❖ Cranial nerves

- a. 12 pair
- b. Attached to undersurface of brain

❖ Spinal nerves

- a. 31 pair
- b. Attached to spinal cord
- c. They are named for the region of the spine from which they exit: 8 cervical, 12 thoracic, 5 lumbar, 5 sacral, and 1 coccygeal.

❖ Somatic Nervous System (voluntary)

- a. Relays information from skin, sense organs & muscles to CNS
- b. Brings responses back to muscles for responses

❖ Autonomic Nervous System (involuntary)

- a. Regulates bodies involuntary responses
- b. Relays information to internal organs

Glasgow Coma Scale

The Glasgow Coma evaluate a patient's level of consciousness. A total score of 15 indicates that he is alert; oriented to person, place, and time; and can follow simple commands. A comatose patient will score 7 points or less. A score of 3 indicates deep coma and a poor prognosis.

Test	Reaction	Score
Eye-opening response	Open spontaneously	4
	Open to verbal command	3
	Open to pain	2
	No response	1
verbal response	Oriented and converses	5
	Disoriented and converses	4
	Uses inappropriate words	3
	Makes incomprehensible sounds	2
	No response	1
Motor response	Obeys verbal command	6
	Localizes painful stimulus	5
	Flexion — withdrawal	4
	Flexion — abnormal (decorticate rigidity)	3
	Extension (decerebrate rigidity)	2
	No response	1

Cranial nerves

I- Olfactory nerve

Ask the client to close his eyes. Use at least two common substances with recognizable odors, such as coffee, cloves, under the patient's nostril and ask him to identify the odor.

II- Optic nerve

Test the optic nerve, CN II, by assessing visual acuity and retina by using the ophthalmoscope, examine the optic fundi for indications of arteriosclerotic small vessel disease and diabetic or hypertensive retinopathy.

Visual acuity

Use the standard Snellen chart at a distance of (6 m). Ask the patient to read the smallest line possible, first using both eyes and then using each eye individually with the other eye covered. When measuring visual acuity, the first number you report will always be 20, meaning that vision was tested at 6m.

III- Oculomotor, trochlear, and abducens nerves

Usually, you'll test these three nerves —CN III, CN IV, and CN VI together. Begin by evaluating extraocular eye movement and visual field because all three of these nerves control these movements.

IV-Trigeminal nerve.

1. Sensory component

- After the patient closes his eyes, lightly apply the tip of a safety pin to the back of his hand and ask him if he feels a sharp sensation
- Next, test the patient's corneal reflex by using cotton on eye edge.
- Next, test for patient taste by using cotton-tipped applicators dipped in water, salt, sugar. Ideally, the patient should identify the taste "salty," "sweet," "sour," and "bitter."

2. Motor component

palpate the temporal and the masseter muscles.

V- Acoustic nerve

✓ Watch-tick test

Hold a ticking watch at the patient's ear and slowly move it away. Note the distance at which he can no longer hear the ticking.

✓ Whisper-check test

Ask the patient to cover the ear you're not testing. Then stand 1' to 2' (0.3 to 0.6 m) away where he can't see you and whisper a common two-syllable word. If the patient can't hear you, move closer and repeat the word.

✓ Weber's test

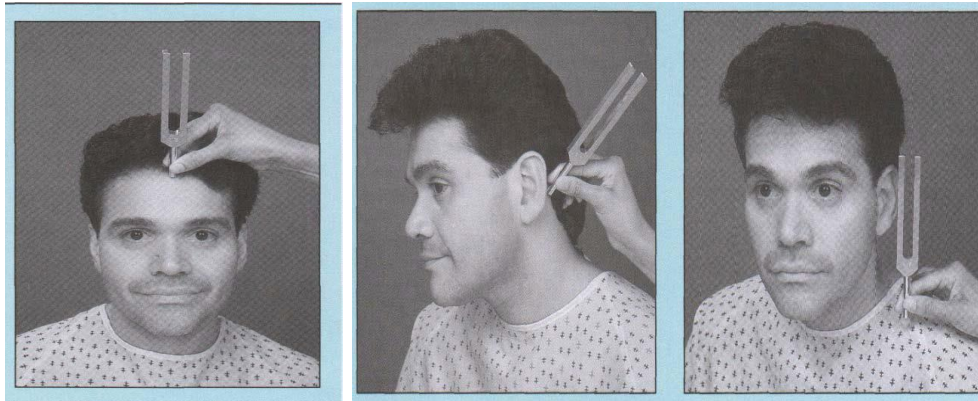
Lightly strike tuning fork against your hand and place it on the patient's forehead at the midline or on the top of his head.

Normal findings

If the patient hears the tone equally well in both ears, record this normal finding as a negative Weber's test.

Abnormal findings

If he hears the tone better in one ear, tone actually sounds louder in the ear with more hearing loss because the bone conducts the tone to this ear. Because the unaffected ear picks up other sounds, it doesn't hear the tone as clearly.



✓ Rinne test

To perform the test, strike the tuning fork against your hand and then place it over the mastoid process. Ask the patient to tell you when the tone stops. Note the time in seconds. Immediately, move the vibrating tuning fork to the opening of the ear without touching the ear. Ask the patient if he can hear the tone. If he can, have him tell you when it stops. Normally, the patient will hear the air-conducted tone twice as long as the bone-conducted tone. If the patient has a conductive hearing loss, he'll hear the bone-conducted tone as long as or longer than the air-conducted tone.

VI-Glossopharyngeal and vagus nerves

Begin by listening to the patient's voice for dysphonia. Next, check the gag reflex by touching the tip of the tongue blade against the posterior pharynx. Then ask the patient to say "ah" and note whether the soft palate and uvula rise symmetrically and if the uvula is at the midline.

VII-Facial nerve

Observe the patient's face for symmetry. Compare the lower eyelids and check for drooping. Are the nasolabial folds symmetrical? Can the patient shed tears and salivate? Ask the patient to raise his eyebrows, smile, frown, puff out his cheeks, and wrinkle his forehead.

VIII-Accessory nerve

Innervates the sternocleidomastoid, so check the shoulder muscle strength

IX- Hypoglossal nerve

That controls tongue movements involved in swallowing and speech. Test this nerve by asking the patient to stick out his tongue and noting whether it's at the midline. Next, test tongue strength by asking the patient to lift his tongue against the resistance you apply with a tongue blade.

Sensory system

Your examination of the patient's sensory system includes testing his ability to feel (pain and light touch, vibratory sense, position sense, and discriminative sensations).

1. Pain

Ask the patient to close his eyes, and then touch the major dermatomes of the trunk and limbs with the tip of a pin and ask him to indicate whether he feels a sharp or a dull sensation.

2. Light touch

To test for light-touch perception, touch the major dermatomes with a wisp of cotton and ask him to indicate whether he feels.

3. Vibratory sense

Apply a tuning fork over certain bony prominences. First, ask the patient to close his eyes. Then, strike the tines of the tuning fork against your hand and apply the base of the vibrating fork to the interphalangeal joint of the patient's great toe. Ask the patient what he feels.

4. Position sense

Ask the patient to close his eyes, and then grasp the sides of his index finger. Move the finger up or down and ask the patient to tell you the direction in which you moved the finger.

5. Discriminative sensations

Begin by evaluating stereognosis, the ability to discriminate shape, size, weight, texture. Ask the patient to close his eyes and open his hand. Then place a small, common object, such as a coin or key, in his palm and ask him to identify it. Then trace a large number on his palm using the eraser of a pencil. Ask him to identify the number.

Motor system

Assessing the motor system includes (inspecting the muscles, testing muscle tone, and testing muscle strength).

Arms

1. Test shoulder girdle strength

Instruct the patient to extend his arms with his palms up and to maintain this position for 30 seconds. If he has shoulder girdle weakness in one arm, he may be unable to lift it. Or he may be unable to lift it as high as

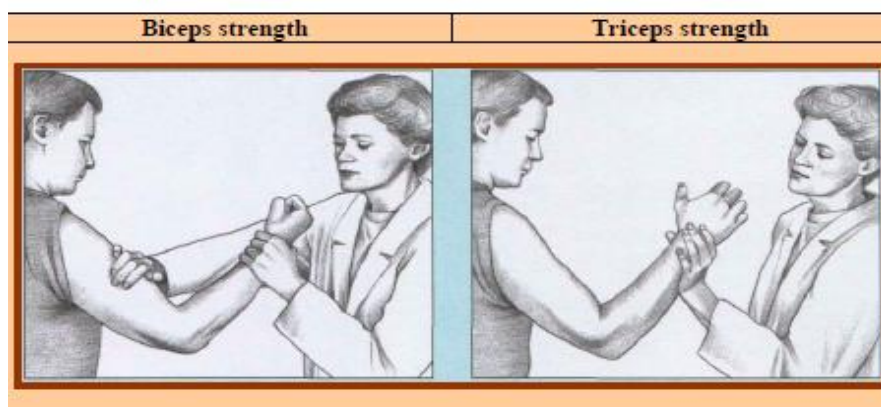
he can lift the other arm. If he is able to maintain his arms outstretched, further test his strength by placing your hands on his forearms and pressing down as he resists.

2. Test biceps and triceps strength

Ask the patient to hold his arm up in front of him with his elbow flexed and to maintain this position while you try to move his arm. Test biceps strength by pulling down on the flexor surface of his forearm as he resists.

3. Test triceps strength

pushing against the extensor surfaces of his forearms as he tries to straighten his arms.



4. Test wrist flexion

Ask the patient to flex his wrist against your resistance.

5. Test wrist extension

Ask him to extend his wrist as you push down.

6. Test handgrip, finger abduction, and thumb opposition in the same way.

✚ Legs

1. Test quadriceps strength.

Ask him to lift his legs as you press down on his anterior thighs.

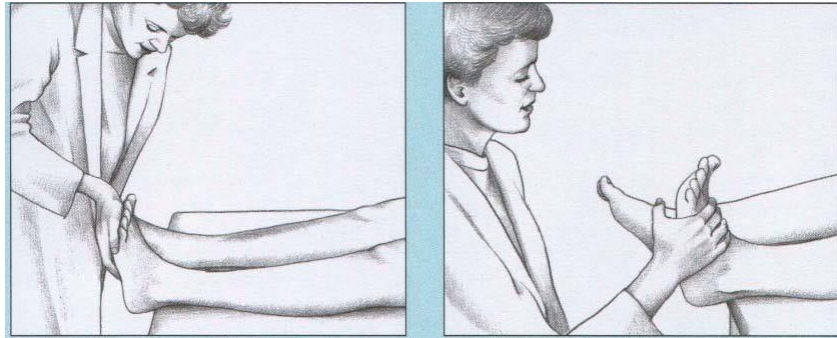
Next, ask him to flex his legs at the knees and put his feet flat on the bed.

2. Test lower leg strength.

Try to pull his lower leg forward as he resists. Then try to push his lower leg backward as he tries to extend his knee.

3. Test ankle strength.

Asking the patient to push his foot down (plantar flex-his foot).



Plantar flexion

Dorsiflexion

Cerebellar testing

To assess the patient's cerebellar function, evaluate the (whole-body coordination and extremity coordination).

Whole-body coordination

1. Evaluating the patient walks

Observe the patient as he walks across the room, turns, and walks back and note any imbalance or abnormalities in his gait. He should be able to maintain his posture, movements should be smooth and rhythmic, without hesitation or jerkiness.

2. Heel to toe walks

Ask the patient to walk heel to toe and observe his balance. Although he may be slightly unsteady, he should be able to walk forward and maintain his balance.

3. Perform the Romberg test.

Ask the patient to stand with his feet together, his eyes open, and arms at his side. Observe his balance, and then ask him to close his eyes. Note whether he loses his balance or sways. If he falls to one side, the Romberg test is positive.

Extremity coordination.

1. point-to-point movements.

Have the patient sit about 2' (0.6 m) away from you. Hold your index finger up, and ask him to touch the tip of his index finger to the tip of yours and then to touch his nose. Now, move your finger and ask him to repeat the maneuver. Gradually, have him increase his speed as you repeat the test.

2. Heel to shin

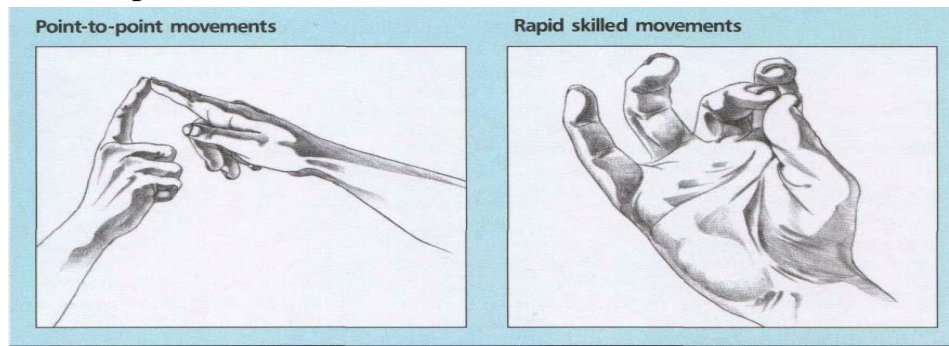
Ask the patient to touch the heel of his right foot to his left shin and to run his heel down his shin. Then have him repeat the maneuver with his left foot.

3. Rapid skilled and rapid alternating movements.

Ask the patient to touch the thumb of his right hand to his right index finger and then to each of his remaining fingers. Then instruct him to increase his speed. Observe his movements for smoothness and accuracy.

4. Rapid alternating movements

Have the patient sit and place his palms down on his thighs. Now, tell him to turn his palms first up and then down. Instruct him to gradually increase his speed.



Reflexes

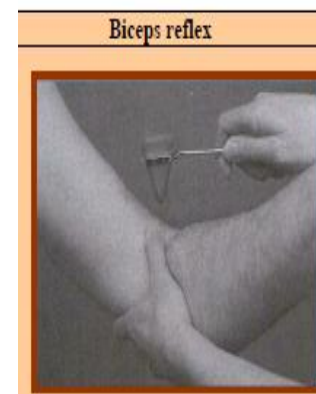
Evaluating your patient's reflexes includes (testing deep tendon and superficial reflexes, and primitive reflexes).

Deep tendon reflexes

The knee or elbow should be flexed at a 45-degree angle. Then distract the patient by instruct him to clench his teeth then tap the tendon lightly but firmly with the reflex hammer.

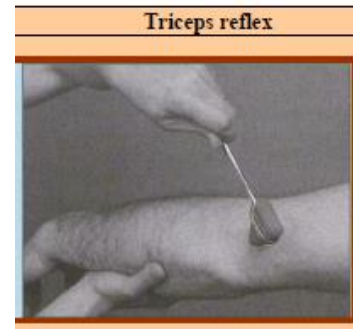
1. Biceps reflex

Position the patient's arm so his elbow is flexed at a 45-degree angle and his arm is relaxed. Place your thumb or index finger over the biceps tendon and your remaining fingers loosely over the triceps muscle. Strike your thumb or index finger with the pointed tip of the reflex hammer, and watch and feel for contraction of the biceps muscle and flexion of the forearm.



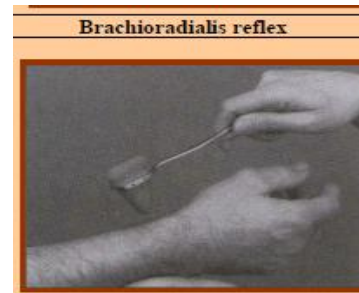
2. Triceps reflex

Have the patient abduct his arm and place his forearm across his chest. Strike the triceps tendon about 2" (5 cm) above the olecranon process on the extensor surface of the upper arm. Watch for contraction of the triceps muscle and extension of the forearm.



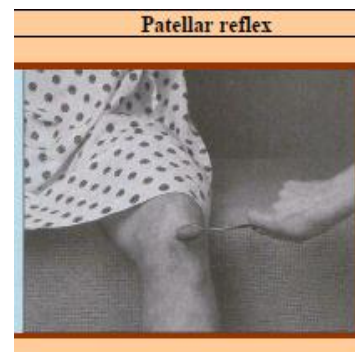
3. Brachioradialis reflex

Instruct the patient to rest the ulnar surface of his hand on his knee and to partially flex his elbow. With the tip of the hammer, strike the radius about 2" proximal to the radial styloid. Watch for supination of the hand and flexion of the forearm at the elbow.



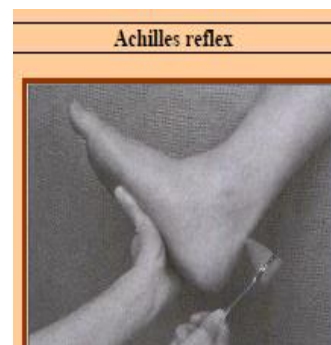
4. Patellar reflex

Have the patient sit on the side of the bed with his legs dangling freely. If he can't sit up, flex his knee at a 45-degree angle and place your nondominant hand behind it for support. Strike the patellar tendon just below the patella, and look for contraction of the quadriceps muscle in the anterior thigh and for extension of leg.



5. Achilles reflex

Slightly flex the foot and support the plantar surface. Using the pointed end of the reflex hammer, strike the Achilles tendon. Watch for plantar flexion of the foot at the ankle.



Superficial reflexes

These reflexes include the (plantar, cremasteric, and abdominal reflexes).

1. Plantar reflex

Using an applicator stick, a tongue blade, or a key, slowly stroke the lateral side of the patient's sole from the heel to the great toe. The normal response is plantar flexion of the toes. In patients with CVA, the Babinski's reflex, an abnormal response, is elicited. The patient responds to the stimulus by dorsiflexion of his great toe.

2. Cremasteric reflex

With a male patient, use an applicator stick to lightly stimulate the inner thigh. Watch for contraction of the cremaster muscle in the scrotum and prompt elevation of the testicle on the side of the stimulus.

3. Abdominal reflex

Place the patient in the supine position. Using the tip of the reflex hammer, or a key, briskly stroke both sides of the abdomen above and below the umbilicus, watch for abdominal muscle contraction and movement of the umbilicus toward the stimulus.

- **Health Promotion is** a process that fosters people's ability to improve their own health by increasing their control of its determining factors.
- **Health promotion is** more than educating people to change their behavior; it also involves public policy formation, development of environments that support health, and promotion of community action to create conditions conducive to good health
- **Health protection** consists of those behaviors in which one engages with the specific intent to prevent disease, to detect disease in the early stages, or to maximize health within the constraints of disease. Immunizations and cervical cancer screening are examples of health protection activities.

The Need for Health Promotion

- Health promotion is an “economic necessity”

Determinants of Health:

1. *Biology* is an individual's genetic makeup, family history, and any physical and mental health problems developed in the course of life.
 - Aging, diet, physical activity, smoking, stress, alcohol or drug abuse, injury, violence, or a toxic or infectious agent may produce illness or disability, changing an individual's biology.
2. *Behaviors* are the individual's responses to internal stimuli and external conditions.
 - Behaviors interact with biology in a common relationship, as one may influence the other. If a person chooses behaviors such as alcohol abuse or smoking, his or her biology may be changed as a result (e.g., liver cirrhosis, chronic obstructive pulmonary disease [COPD]).
 - One's biology may affect behavior; if a person has hypertension or diabetes, he or she may choose to begin an exercise regimen and to eat more healthfully.
3. *Social environment* includes interactions and relationships with family, friends, coworkers, and others in the community.

- The social environment has a great impact on the health of individuals, groups, and communities, yet it is complex in nature because of differing cultures and practices.
4. *Physical environment* is what is experienced with the senses—what is smelled, seen, touched, heard, and tasted.
 - The physical environment can affect health negatively or positively. If there are toxic or infectious substances in the environment, this is certainly a negative influence on health. If the environment is clean with areas to recreate and play, this is a good influence on health.
 5. *Policies and interventions* can have a profound effect on the health of individuals, groups, and communities.
 - Positive effects such as policies against smoking in public places, seatbelt and child restraint laws, litter ordinances, and enhanced health care promote health.
 6. *Expansion* of access to quality health care is essential to decrease health disparities and to improve the quality of life and the quantity of years of healthy life.

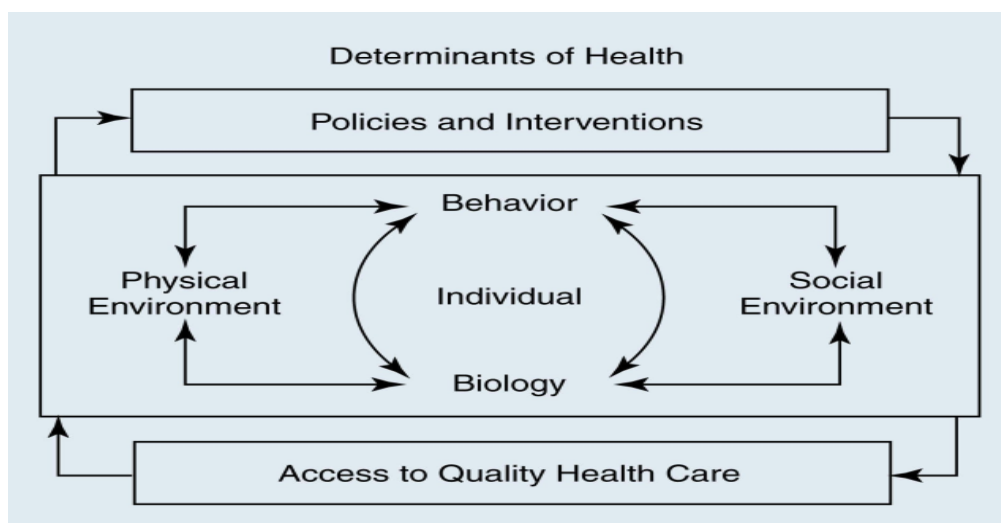


FIG.1 The relationship among the determinants of health

Theories in Health Promotion

- Health promotion activities are broad in scope and in setting.

- Community health nurses and their clients engage in health promotion activities in workplace settings, schools, clinics, and communities.
- The theories that are used most in health promotion are very diverse to accommodate the variety of settings, clients, and activities in community health.
- A working knowledge of theory is important in understanding why people act as they do and why they may or may not follow advice given to them by medical professionals and in helping clients progress from knowledge to behavior change.

The Precaution Adoption Process Model

- The Precaution Adoption Process model is a stage model that describes stages in decisions to adopt or not adopt a health-related behavior (whether or not to take a specific precautionary action).
- In stage 1, the person is unaware of the health-related issue and the need to adopt any particular health-related behavior.
- In stage 2, one is aware of the issue but is unengaged by it and is not considering any action.
- In stage 3, the person is deciding whether or not to act. He or she has considered the possibility of action but has not yet made a decision whether or not to adopt the behavior.
- Stage 3 may be followed by either stage 4 or stage 5.
- In stage 4, the person has decided not to act.
- Conversely, in stage 5, the person has decided to act but has not yet taken action.
- People in stages 4 and 5 are more resistant to persuasion than those in stage 3 who have not yet made a decision.
- Persons in stage 5 who have decided to adopt the behavior proceed to stage 6, in which they act to engage in the behavior, and hopefully to stage 7, in which the behavior becomes a routine part of their lifestyle.
- This process explaining the adoption or nonadoption of the health-related behavior of exercise is depicted in Figure 2.

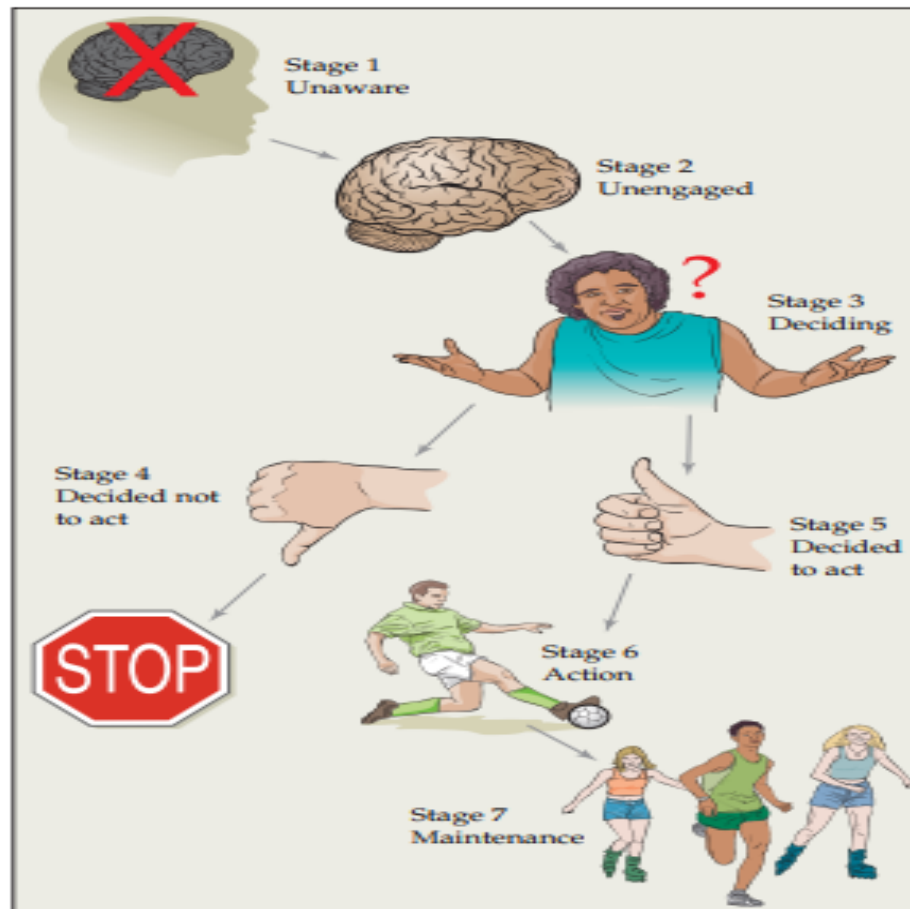


FIG. 2 Stages of Adoption of exercise Behavior

The Theories of Reasoned Action and Planned Behavior

- The **Theory of Reasoned Action**, developed by Ajzen and Fishbein, is based on two types of beliefs: behavioral beliefs and normative beliefs.
- **Behavioral beliefs** reflect a person's attitudes toward the expected consequences of the behavior. For example, if you expect that exercise will result in a more desirable figure, and if you value that more desirable shape, you are likely to value, and engage in, exercise.
- **Normative beliefs** relate to subjective norms influenced by others. In the theory, the intention to act is based on one's perceptions of others' attitudes toward the behavior and the value placed on others' judgments
- According to the related **Theory of Planned behavior**, action is also influenced by **perceptions of one's ability to control behavior**. Behavioral beliefs, normative beliefs, and control beliefs all combine to result in

behavioral intention, which is the precursor to actual behavior as depicted in Figure 1.

- For example, if you want to quit smoking (behavioral belief) and perceive that significant others in your life want you to quit (normative belief), but you think stopping smoking will be too difficult (control belief), you will probably not attempt to quit even though your own attitudes and those of people who matter to you support quitting.

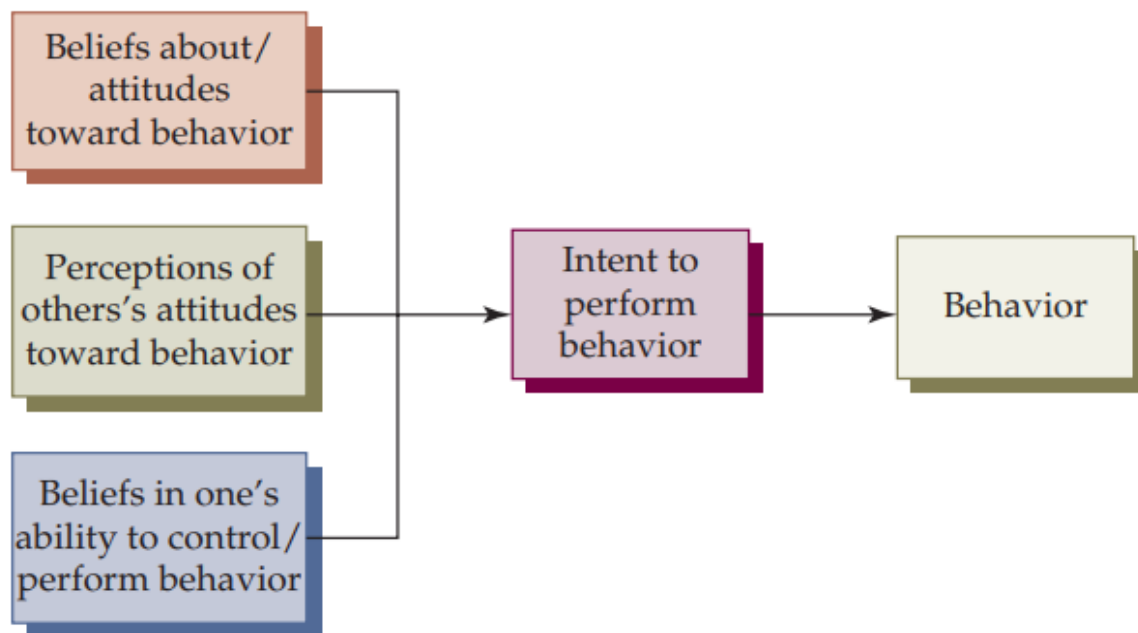


Figure 1: Elements of the Theories of Reasoned Action and Planned Behavior

The Health Belief Model

- The Health Belief Model was developed by Becker, Rosenstock, and their colleagues several years ago and has been widely used in research and program development related to health promoting behaviors.
- Elements of the model include:
 - Individual perceptions of susceptibility and severity,
 - modifying factors (demographic, sociopsychologic, and structural or environmental variables),
 - perceptions of benefits and barriers to action, and cues to action.
- In the model, health-promotive action is based on four basic premises or beliefs.
- First, one believes that one is susceptible to, or at risk for, a particular health problem.

- Second, one believes that the health problem can have serious consequences.
- Third, one believes that the problem can be prevented and
- fourth, that the benefits of action outweigh the costs or barriers
- An additional element, self-efficacy, was added to the model after 1988. *Self-efficacy* is the belief that one is capable of the behavior desired or of achieving change.
- As an example, you may believe that, never having had chickenpox as a child, you are susceptible to chickenpox (perceived susceptibility).
- You also believe that chickenpox may cause serious consequences (perceived severity).
- This perception is confirmed when one of your classmates is hospitalized with complications of chickenpox (cue to action).
- In addition, you know that varicella immunization will virtually eliminate your risk of developing chickenpox (perceived benefit to action).
- Even though you know the possibility of an adverse reaction to the vaccine exists and you have to skip lunch to visit the student health center (perceived costs), you decide the benefits outweigh the barriers, and you get immunized.
- Elements of the Health Belief Model are depicted in Figure 2

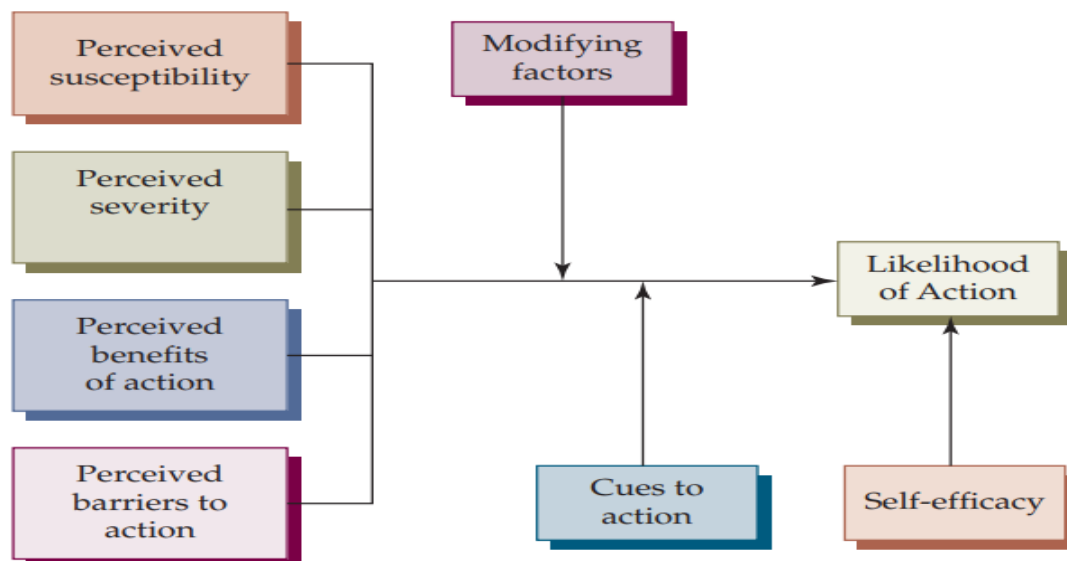


Figure 2: Elements of the Health Belief Model

Pender's Health Promotion Model

- Nola Pender has developed a nursing model that directs nursing intervention for health promotion.
- **Pender Health Promotion Models theory** suggests that good health is not just the absence of any health ailment or disease, it is much beyond that.
- Good health implies a general and holistic state of well-being, healthy actions of an individual and a balanced, fulfilling way of life.
- In the Health Promotion Model, behavior is influenced by individual characteristics and behavior-specific cognitions and affect (emotion) that result in a commitment to action.
- Commitment to action results in actual behavior but may be modified by competing demands and preferences.
- Individual characteristics include personal biological, psychological, and sociocultural factors that are relevant to the behavior involved.
- Prior behavior in this area is another individual characteristic that influences health-promoting behavior. For example, a client who was physically active prior to pregnancy will be more likely to engage in exercise after delivery than one who was not.
- Behavior-specific cognitions and attitudes include the perceived benefits of and barriers to health-promoting activity as well as one's perceived self-efficacy. For example, the community that does not perceive itself as able to cope with the problem of inadequate housing will probably not take any action to resolve the problem.
- Activity-related affect or feeling states related to the behavior, to oneself, or to the situation are also important in motivating health-promoting behavior.
- Interpersonal and situational influences are additional factors related to cognition and affect that influence behavior. For example, if family members support weight loss, a client is more likely to stick to a diet. Conversely, low income, a situational influence, might adversely affect the client's weight loss options. Individual characteristics and behavior-specific cognitions and affect may lead to a commitment to health-promoting activity.
- Commitment includes both the intention to act and a specific plan of action. Commitment to action should lead to performance of the actual health-promoting behavior unless there is interference from competing demands and preferences. For example, the client's intention to diet may be subverted

by a family member's serious illness and the need to eat in fastfood restaurants near the hospital.

- Elements of Pender's model are depicted in Figure 3.

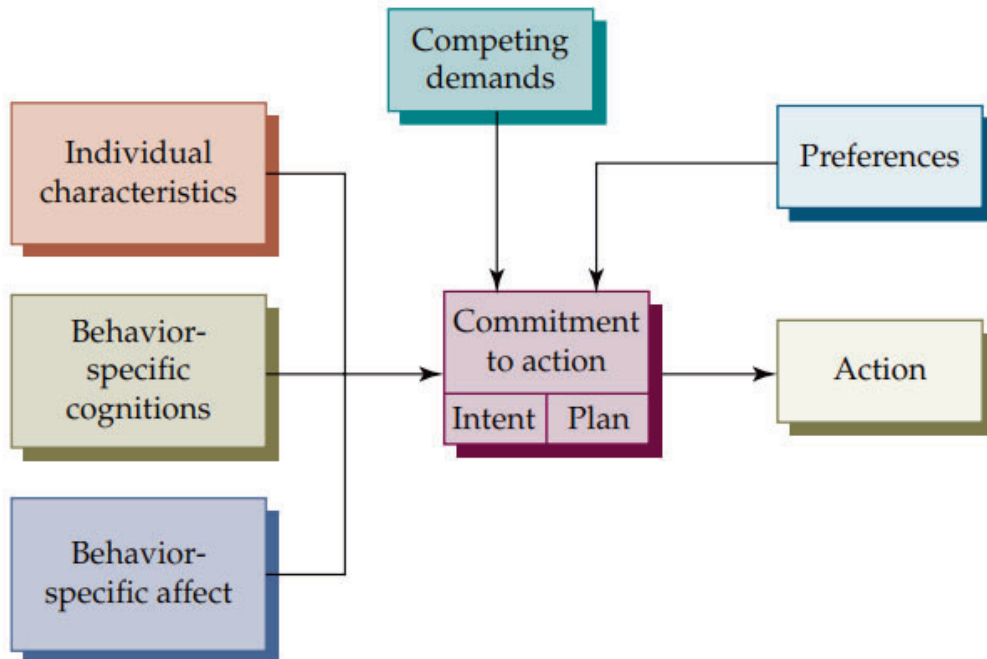


Figure 1: Elements of Pender's Health Promotion Model

O'Donnell model

- Health Promotion is the art and science of helping people discover the synergies between their core passions and optimal health, enhancing their motivation to strive for optimal health, and supporting them in changing their lifestyle to move toward a state of optimal health.
- **Optimal health** is a dynamic balance of physical, emotional, social, spiritual, and intellectual health.
- **Lifestyle change** can be facilitated through a combination of learning experiences that enhance awareness, increase motivation, and build skills and, most important, through the creation of opportunities that open access to environments that make positive health practices the easiest choice.



Figure 1: Elements of O'Donnell model

- **Physical:** Fitness. Nutrition. Medical self-care. Control of substance abuse.
- **Emotional:** Care for emotional crisis. Stress Management
- **Social:** Communities. Families. Friends
- **Intellectual:** Educational. Achievement. Career development
- **Spiritual:** Love. Hope. Charity.

Factors Influencing Health Promotion

- In executing their role in health promotion, nurses must consider a number of important factors that may influence the health promotion situation.
- Four major influences on health promotion will be considered here: fatalism, readiness for change, health literacy, and the attitudes of health professionals toward health promotion.

1. Fatalism.

- Fatalism is defined as the belief that one's fate is fixed and that personal efforts can do little to affect that fate.
- Fatalistic beliefs have often been found to be associated with lower rates of participation in health promotion, prevention, and screening activities.
- Such beliefs have also been linked to an external locus of control orientation.
- The concept of **locus of control** relates to one's perceptions that one's life and circumstances are primarily under one's personal control (internal locus of control) or under the control of fate or of powerful others (external locus of control).
- **Functions of fatalism:**
 1. stress relief: A somewhat fatalistic attitude of "what will be, will be" can promote acceptance of the future without undue worry thereby relieving stress.
 2. uncertainty management: fatalistic beliefs can help to address the unpredictability and uncertainty associated with disease.
 3. face saving: fatalism may serve a face-saving function in the presence of existing disease avoiding guilt or blame for the development of an illness.

2. Readiness for Change.

- Involvement in health-promoting behaviors often requires a change, either on the part of the individual client or the population.
- However, people only engage in change when they are good are ready to do so. The smoker, for example, must be ready to quit smoking.
- Until the individual or the group is ready for change, change to more healthful behaviors will not occur.

The Transtheoretical Model

- The Transtheoretical Model of Change proposes that readiness for change occurs in a series of stages.
 1. First stage: **precontemplation stage** in which one is not even thinking of making a change or aware of the need for change.
 2. Second stage: **contemplation stage**, one is considering change and plans to take action within 6 months.

3. Third stage: **preparation** for the change.
4. Fourth stage: or **action** stage, one engages in the new behavior,
5. Five stage: the **maintenance** stage, one integrates the behavior into one's usual routine.

3. Health Literacy.

- **Literacy** is defined as “a person’s ability to read, write, speak, and solve problems at levels needed to function in society”
- **Health literacy** is defined as the extent to which an individual is able to obtain, process, and understand health-related information in order to make informed decisions about health issues.
- A health literate person is able to use health information “generatively” to make decisions in unfamiliar situations.
- Poor health literacy, on the other hand, is associated with emergency department use, hospitalization, poor self-reported health, and increased mortality.
- Limited health literacy also affects people’s ability to search for health-related information, adopt healthy behaviors, and act on health alerts to take appropriate action.

4. Health Professionals’ Attitudes to Health Promotion.

- Lack of time and reliance on written materials can lead to poor care and ineffective health promotion, particularly among population groups with low literacy levels.

Strategies for Health Promotion

- Population health nurses use a variety of strategies to foster health promotion at the population level.
- Four particular strategies will be discussed here: health education; social marketing, branding, and tailoring; legislation; and the use of community health workers (CHWs).
- **Health education** provides the information and skills required to make effective health-related decisions.
- **Social marketing and the related concepts of branding and tailoring** emphasize enhancing people's motivation to act and reflects the view of personal agency. Motivating people to actually take advantage of opportunities for physical activity present in the community exemplifies social marketing.
- **Legislative action**, on the other hand, may mandate health promotion activities, such as motorcycle helmet use, or create conditions conducive to health promotion.
- Finally, the use of **community health workers** to promote healthy behavior within the population capitalizes on the influence of trusted members of the community.
- Often a combination of strategies is most effective in achieving health promotion objectives.



Figure1: Social marketing promotes health-related messages.

Health Education

- Health education it is the first health promotion strategy.
- **Health education** is a participatory learning process that enables people to make informed decisions about health.
- The World Health Organization defined **health education** as the use of learning experiences to improve people's knowledge or change their attitudes for the purpose of fostering health.

- The primary purpose of health education is to assist clients in making health-related decisions.
- Health education may equip clients to make any of three types of health-related decisions: decisions about self-care, decisions about the use of health resources, and decisions about societal health issues.

Domains of health learning.

- Different types of learning may be required to facilitate health-promotive action.
- A **learning domain** is the category or type of learning desired as a result of the health education encounter.
- The classic taxonomy of learning domains included the cognitive, affective, psychomotor, and perceptual domains.
- The **cognitive domain** encompasses intellectual skills related to factual information and its application.
- In the **affective domain**, the focus of learning is on attitudes and values.
- Emphasis in the **psychomotor domain** is on the learning of physical manipulative skills.
- Finally, in the **perceptual domain**, emphasis is on learning to perceive and extract information from stimuli.

Assessing Health Education Needs

- The health education process begins with an assessment of the audience, their health education needs, and the learning environment.
- When the client is a population group, the first task in assessment is to identify the target audience.
- Selection of the target audience may be based on level of need, resources available, or probability of success.
- Assessment then proceeds to identifying characteristics of the audience that influence the learning situation.
- The assessment can be conducted in terms of the determinants of health in the population health nursing model, addressing biological, psychological, environmental, sociocultural, behavioral, and health system factors that influence the health education situation.

Biological Consideration

- Biological considerations influence both the **learning needs and the learning capabilities** of individual clients or populations.
- Ageing and Maturation:
 - To learn effectively, clients may need to have reached a certain level of physical or psychological maturation.
 - For example, small children who have not yet developed abilities for abstract thought will need concrete examples of concepts to be learned. Similarly, a child who still has poorly developed eye–hand coordination will have difficulty learning insulin injection techniques, so teaching will most likely involve parents as well. At the other end of the age spectrum, changes associated with aging may lead to sensory impairment that influences learning among older populations.
 - Age or maturation level also affects the client’s need for education. For instance, preschool children do not need information about menstruation, but preadolescent girls do.
- Physiologic function
 - Assessing aspects of physiologic function in the population may reveal special needs for health education or impediments to learning. For example, a high prevalence of diabetes in the population suggests a need for diabetes prevention or self-care education, whereas high incidence rates for sexually transmitted diseases among adolescents indicate other needs for prevention education.
 - Inadequate physiologic function can also give rise to impediments to learning. For example, the presence of physical disabilities may require specialized approaches to health education. Pain, another biophysical factor, may also impede learning.

Psychological Determinants

- Psychological determinants can profoundly influence **willingness and ability to learn.**
- Attitudes
 - Attitudes toward health and health behaviors can either enhance or detract from the motivation to learn. Among clients attending a series

of parenting classes, for example, those parents who attend only because of a court mandate related to child abuse usually benefit less than those who attend because they perceive a need for help.

- Beliefs
 - Fatalistic beliefs discussed earlier may also influence motivation to learn and to act on health-related information.
- Psychological factors
 - Psychological factors such as stress and anxiety can also impede learning, even for those who are motivated to learn.
 - Population health nurses can limit the negative effects of psychological determinants by actions designed to decrease stress and anxiety. For example, the nurse can create a climate in which clients do not feel threatened and in which the nurse educator is seen as a source of support rather than a threat.
 - The nurse who has children and who teaches parenting classes for abusive parents might create such a climate by beginning the first session with a description of the frustration the nurse sometimes feels as a parent.

Environmental Factors

- Environmental factors should also be considered in terms of their effects on learning.
- Is there adequate lighting for the tasks to be accomplished? Is there too much noise? Will clients be distracted by other activities occurring in the learning environment? During a home visit, for example, the nurse might ask that the television be turned off before attempting to educate a hypertensive client about his or her medication.
- Environmental factors may also give rise to the need for health education. For example, population groups affected by natural disasters may need education on how to purify their drinking water to prevent communicable diseases.
- Similarly, health education efforts might be targeted to persons with chronic respiratory conditions in areas with significant air pollution.

Sociocultural Determinants

- Sociocultural determinants are particularly influential in **shaping attitudes about health and health-related behaviors**.
- Examples and attitudes of those around us influence our willingness to engage in self-care behaviors in addition to affecting our attitudes to health issues at the societal level.
- Sociocultural factors also influence **one's exposure to health-related information**.
- Education
 - People with lower education levels are less likely than those with more formal education to have been exposed to prior health education.
 - The education level of the population and of specific target audiences essentially influences the nurse's choice of teaching strategies and content to be presented.
 - Health literacy, is another example of a sociocultural factor that influences the health education situation.
- Cultural influences
 - Cultural influences on health education with population groups include typical communication styles, concepts of time and personal space, values, and perceptions of environmental control.
 - Client life roles and role expectations, which are culturally defined, are other factors that may affect interest in health education and motivation to learn.
 - When content is perceived to be relevant to the roles one is expected to fulfill, one's motivation to learn is likely to be high.
 - Roles may also influence one's ability to attend to health messages. For example, if members of the audience are responsible for the care of children, they are unlikely to be able to attend educational presentations unless child care is arranged.
 - Culture may also influence the effectiveness of health education in terms of the trust placed in health professionals.
 - Many culturally diverse audiences may distrust health professionals as a result of past experiences or cultural misunderstandings.

- Language
 - Language is a particularly important sociocultural consideration in health education initiatives.
 - Research has indicated that non-English-speakers are less likely than their English-speaking counterparts to have a regular source of health care and to receive preventive care and may be at higher risk for medical error.
- Occupation
 - Occupation is another social factor that can give rise to health education needs. Trash collectors, for example, might require education related to body mechanics and techniques for lifting heavy objects, whereas nurses require information about how to handle contaminated needles and other equipment.

Behavioral factors

- Behavioral factors also **influence needs for health education**. For example, the extent of obesity suggests the need for intensive dietary education.
- Similarly, smokers may need help with smoking cessation and education on alternative ways to meet needs satisfied by smoking. As another example, sexually active clients may need education regarding contraceptives and safe sexual practices.

Health System Determinants

- Preventive and therapeutic recommendations related to health system determinants may precipitate **a need for health education**. For example, clients may need to be educated on the correct use of medications or how to keep a sprained ankle immobilized to promote healing.
- Elements of the health care regimen may also influence clients' abilities to learn. For example, pain medication may make a client drowsy and inhibit **the ability to learn material presented**.
- The degree of emphasis placed on health promotion and health education by health care providers and providers' expertise in using the health education process are other health system determinants that influence clients' **health-related knowledge and attitudes**.

Planning and implementing health education programs

- In the context of health education, planning involves determination of the:
 - Topic to be addressed,
 - Content to be covered,
 - Teaching strategies to be employed, and
 - Mechanisms to assess learning.
- Elements of the planning process include:
 - Prioritizing learning needs,
 - Developing goals and objectives, and
 - Selecting content and teaching/learning strategies.

Prioritizing learning needs.

- a learning needs assessment will indicate several areas of need, not all of which can be addressed in a single health education effort.
- Two approach for prioritizing learning needs:
 - Approach 1: Determining the relative effects of behaviors and risk factors present in the population and the benefits to be achieved by changing them.
 - Approach 2: The ease with which contributing factors can be changed. For example, members of the population may not use seat belts, get too little exercise, and fail to obtain periodic mammograms. A change to using seat belts would result in the most immediate and dramatic benefit to the community and be the easiest of the three behaviors to change. For these reasons, the population health nurse might first begin with health education efforts in this area.
- Members of the community can help determine priorities, ensuring that topics of greatest interest and relevance to the target audience are addressed.

Developing goals and objectives.

- Goal identification involves specifying the broad purpose of the health education encounter.
- Objectives describe specific outcomes to be achieved as a result of the health education encounter.
- An educational objective might be that parents are able to correctly describe the number of servings of each element of the food pyramid required by an elementary school student.

- Criteria of objectives (SMART)
 - S: Specific
 - M: Measurable
 - A: Achievable
 - R: Realistic
 - T: time bound

Selecting content and teaching strategies.

Selecting content

- The content selected for inclusion in a health education program will depend on its relevance to the target population.
- Audiences are more likely to attend to information that they perceive as highly relevant to their own situations.
- One must be selective in planning the content because no audience needs or wishes to learn everything about a particular topic that the health educator may know.
- Going back to the general principles discussed earlier, an effective educator chooses the content that is most relevant to the target audience.

Selection of teaching strategies

- **Selection of teaching strategies** will depend on a number of factors, including:
 - Characteristics of the audience
 - The content and objectives to be achieved
 - Program budget
 - Time available
 - Cultural appropriateness, and
 - The environment for health education.
- In educating individual clients, health education messages may make use of tailored or customized communication based on the needs and characteristics of an individual learner or target audience.

Principles of learning.

- A number of principles of learning have been identified that apply to health education as well as to other forms of learning encounters.
- These principles can be grouped as general principles of learning and principles related to the health education message and its delivery.

General Principles of Learning

- Effective learning is based on an assessment of learning needs and readiness to learn.
- Teachers and learners must be accountable for achieving desired learning outcomes.
- Learning should occur in a safe environment in which mistakes have minimal consequences.
- Effective learning involves active participation in the learning encounter and incorporation of multiple sensory modalities.
- Learning is incremental and new learning should be associated with and integrated into prior learning.
- Learning is reinforced by repetition that occurs in circumstances that maintain interest and attention.
- Retention of learning is reinforced by recency and frequency of use as well as by positive and negative feedback.
- Learning is social and occurs best in interactions with others.
- Learning is influenced by emotions and requires trust. Time will be required to develop trust with disenfranchised groups before effective learning can occur.
- Culturally diverse teams should develop health education programs for culturally diverse audiences. Curriculum development should acknowledge and incorporate the distinct culturally specific history of the target audience.

Delivery-Related Principles of Learning

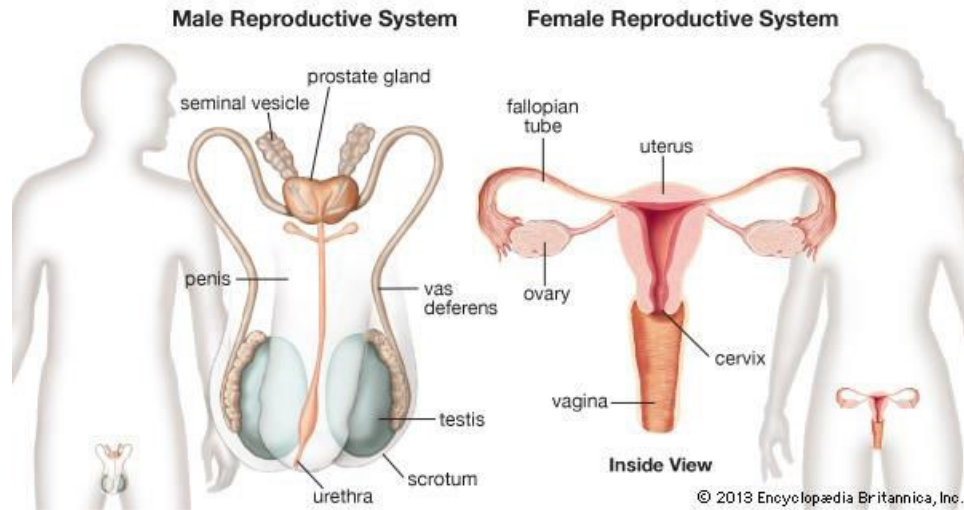
- Information should be linked to existing knowledge.
- Information should be presented in fun and interactive ways to promote integration of concepts.
- Modes of presentation should allow sufficient time for group members to assimilate and interact with it.

- Messages should be presented in clear, simple language, and should avoid professional jargon.
- Materials should generally be developed at grade levels one to two grades below the highest grade completed in school and should employ short sentences and simple, one- and two-syllable words.
- Information should be reinforced and repeated as needed, using illustrations as appropriate.
- Written materials should use large type fonts and a mix of upper- and lowercase letters and should employ ample white space to prevent readers from being overwhelmed by content.
- Information in written materials should be bulleted when possible.
- Multiple approaches should be used to assess understanding of Content (e.g., questioning, demonstration, etc.).

Message-Related Principles of Learning

- Messages personalized to the audience will be more effective than global or generalized messages suitable for mass dissemination.
- Health education messages should include content most relevant to the target audience, rather than trying to cover all of the related information.
- The message should highlight important concepts relevant to the audience.

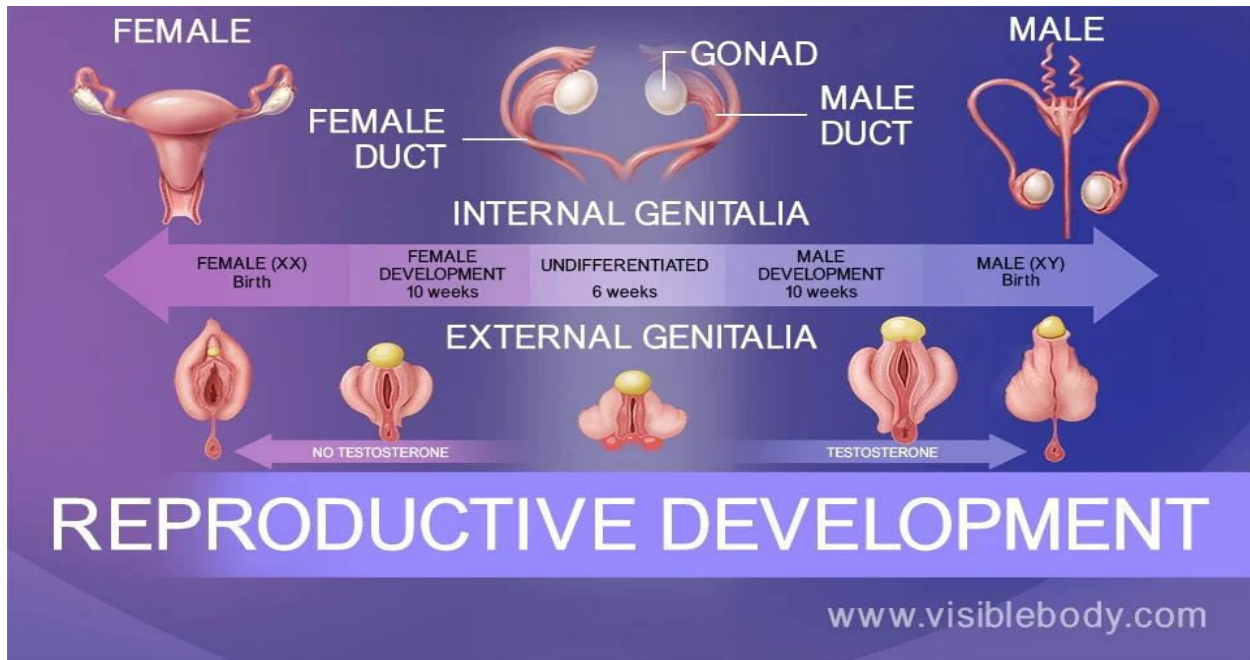
Anatomy and Physiology of the Reproductive System



- The reproductive system consists of organs that function in the production of offspring. The female reproductive system produces the female reproductive cells (the eggs, or ova) and contains an organ (uterus) in which development of the fetus takes place
- The male reproductive system produces the male reproductive cells (the sperm) and contains an organ (penis) that deposits the sperm within the female.
- Nurses need to have a thorough understanding of the anatomy and physiology of the male and female reproductive systems:
 - To be able to assess the health of these systems
 - To promote reproductive system health
 - To care for conditions that might affect the reproductive organs, and
 - To provide client teaching concerning the reproductive system.

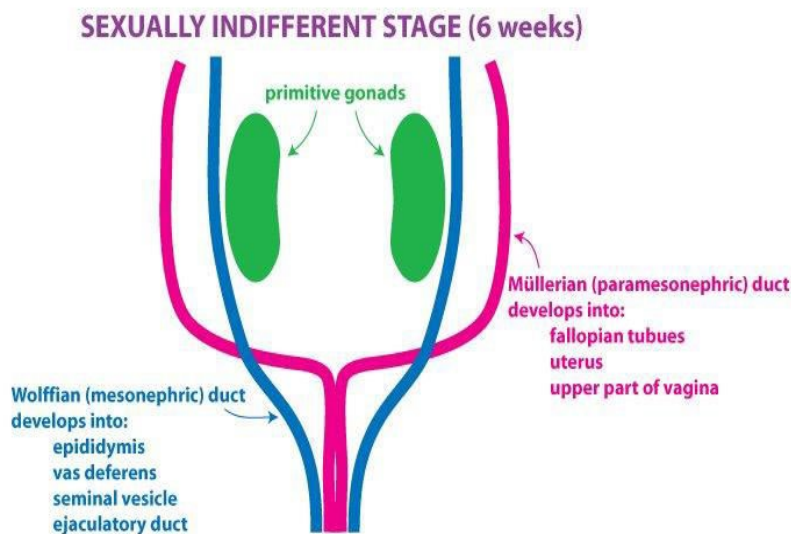
Reproductive Development

- Reproductive development and change begin at the moment of conception and continue throughout life.



INTRAUTERINE DEVELOPMENT

- The sex of an individual is determined at the moment of conception by the chromosome information supplied by the particular ovum and sperm that joined to create the new life.
- <https://www.youtube.com/watch?v=VKQLtgBWQ9Q>
- <https://www.youtube.com/watch?v=3vUeM4gydAU>



Role of Androgen in Male

- The androgens function as paracrine hormones required by the Sertoli cells to support sperm production. They are also required for the masculinization of the developing male fetus (including penis and scrotum formation)
 - Spermatogenesis
 - Inhibition of fat deposition
 - Muscle mass
 - Brain: Androgen levels have been implicated in the regulation of human aggression and libido.

Role of Androgen in female

- In girls, testosterone influences the enlargement of the labia majora and clitoris and the formation of axillary and pubic hair. This development of pubic and axillary hair because of androgen stimulation is termed adrenarche.

Secondary Sex Characteristics in Girls:

1. Growth spurt
2. Increase in the transverse diameter of the pelvis
3. Breast development
4. Growth of pubic hair
5. Onset of menstruation
6. Growth of axillary hair
7. Vaginal secretions

Secondary Sex Characteristics in Boys:

1. Increase in weight
2. Growth of testes
3. Growth of face, axillary, and pubic hair
4. Voice changes
5. Penile growth
6. Increase in height
7. Spermatogenesis (production of sperm)

Reproductive System

- Human reproduction is a complex and fascinating process. The male and female reproductive systems functioning together produce a new life.

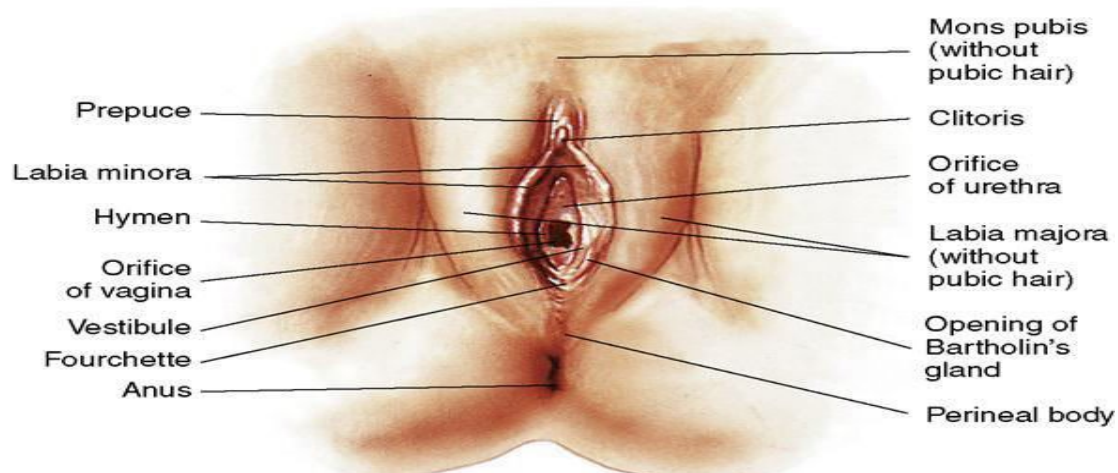
FEMALE REPRODUCTIVE ANATOMY AND PHYSIOLOGY

The female reproductive system is composed of both

- External reproductive organs.
- Internal reproductive organs.

External Female Reproductive Organs (Figure 1)

- The external female reproductive organs collectively are called the vulva (which means “covering” in Latin).
- The vulva serves to protect the urethral and vaginal openings and is highly sensitive to touch to increase the female’s pleasure during sexual arousal.
- The structures that make up the vulva include:
 - The mons pubis,
 - The labia majora and minora,
 - The clitoris and prepuce,
 - The structures within the vestibule, and
 - The perineum.



External Female Reproductive Organs

Mons Pubis

- The mons pubis is the elevated, rounded fleshy prominence over the symphysis pubis.
- The skin of this fatty tissue is covered with public hair after puberty.
- The mons pubis protects the symphysis pubis during sexual intercourse.

Labia

- **The labia majora** (large lips), which are relatively large and fleshy, are comparable to the scrotum in males.
 - The labia majora contain sweat and sebaceous (oilsecreting) glands; after puberty, they are covered with hair. Their function is to protect the vaginal opening.
- **The labia minora** (small lips) are the delicate hairless inner folds of skin; they can be very small or up to 5cm wide.
 - They lie just inside the labia majora and surround the openings to the vagina and urethra.
 - The labia minora grow down from the anterior inner part of the labia majora on each side.
 - They are highly vascular and abundant in nerve supply.
 - They lubricate the vulva, swell in response to stimulation, and are highly sensitive.

Clitoris and Prepuce

- The clitoris is a small, cylindrical mass of erectile tissue and nerves.
- It is located at the anterior junction of the labia minora.
- There are folds above and below the clitoris.
- The joining of the folds above the clitoris forms the prepuce, a hood-like covering over the clitoris; the junction below the clitoris forms the frenulum.

Take Note! The hood-like covering over the clitoris is the site for female circumcision, which is still practiced in some countries by some cultures.

- rich supply of blood vessels gives the clitoris a pink color.
- Like the penis, the clitoris is very sensitive to touch, stimulation, and temperature and can become erect.
- It's the most erotically sensitive part of the genitalia for most females.
- Its function is sexual stimulation.

Vestibule

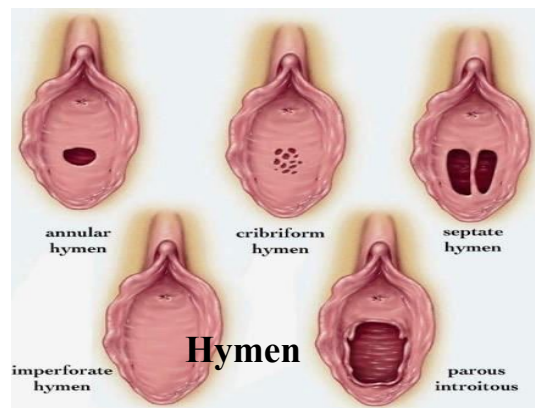
- The vestibule is an oval area enclosed by the labia minora laterally.

- It is inside the labia minora and outside of the hymen and is perforated by six openings.
- Opening into the vestibule are the urethra from the urinary bladder, the vagina, and two sets of glands.
- The opening to the vagina is called the introitus, and the half-moon-shaped area behind the opening is called the fourchette.
- Through tiny ducts beside the introitus, **Bartholin's glands**, when stimulated, secrete mucus that supplies lubrication for intercourse.
- **Skene's glands** are located on either side of the opening to the urethra. They secrete a small amount of mucus to keep the opening moist and lubricated for the passage of urine.

The Hymen

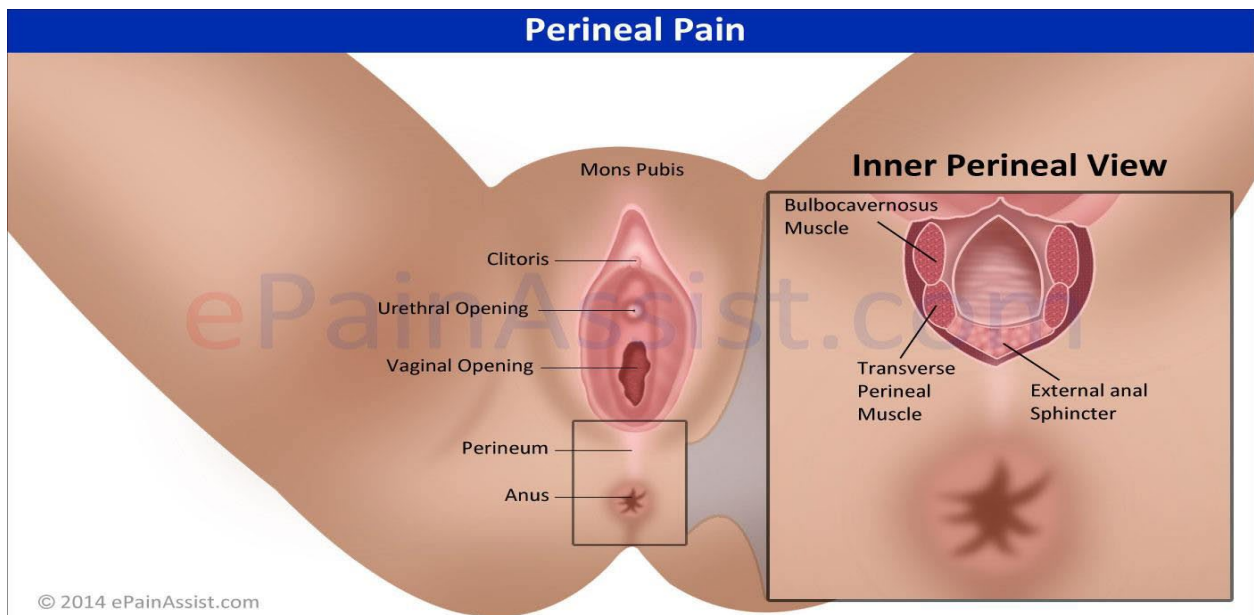
- The vaginal opening is surrounded by the hymen (maidenhead).
- The hymen is a tough, elastic, perforated, mucosa-covered tissue across the vaginal introitus.
- In a virgin, the hymen may completely cover the opening, but it usually encircles the opening like a tight ring.
- Because the degree of tightness varies among women, the hymen may tear at the first attempt at intercourse, or it may be so soft and pliable that no tearing occurs.
- In a woman who is not a virgin, the hymen usually appears as small tags of tissue surrounding the vaginal opening, but the presence or absence of the hymen can neither confirm nor rule out sexual experience.

Take Note! Heavy physical exertion, use of tampons, or injury to the area can alter the appearance of the hymen in girls and women who have not been sexually active.



Perineum

- The perineum is the most posterior part of the external female reproductive organs.
- This external region is located between the vulva and the anus.
- It is made up of skin, muscle, and fascia.
- The perineum can become lacerated or incised during childbirth and may need to be repaired with sutures.
- Incising the perineum area to provide more space for the presenting part is called an episiotomy.
- Although still a common obstetric procedure, the use of episiotomy has decreased during the past 25 years. The procedure should be applied selectively rather than routinely. An episiotomy can add to postpartum discomfort and perineal trauma and can lead to fecal incontinence.



Perineum

Internal Female Reproductive Organs (Figure 2)

- The internal female reproductive organs consist of the vagina, uterus, fallopian tubes, and ovaries.
- These structures develop and function according to specific hormonal influences that affect fertility and childbearing.

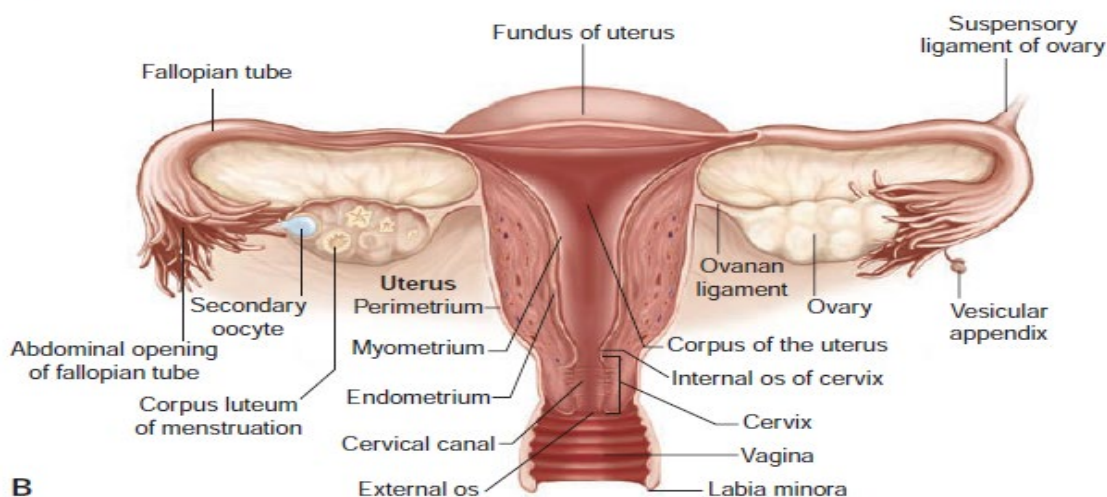


Figure 2 The internal female reproductive organs.: Anterior view.

Vagina

- The vagina is a highly distensible canal situated in front of the rectum and behind the bladder.
- It is a tubular, fibromuscular organ lined with mucous membrane that lies in a series of transverse folds called rugae.
- The rugae allow for extreme dilation of the canal during labor and birth.
- The vagina is a canal that connects the external genitals to the uterus.
- It receives the penis and the sperm ejaculated during sexual intercourse, and it serves as an exit passageway for menstrual blood and for the fetus during childbirth.
- The front and back walls normally touch each other so that there is no space in the vagina except when it is opened (e.g., during a pelvic examination or intercourse).
- In the adult, the vaginal cavity is 7.5 to 10 cm long.
- Muscles that control its diameter surround the lower third of the vagina.
- The upper two thirds of the vagina lies above these muscles and can be stretched easily.
- The vagina has an acidic environment, which protects it against ascending infections. Antibiotic therapy, douching, perineal hygiene sprays, and deodorants upset the acid balance within the vaginal environment and can predispose women to infections.

Uterus

- The uterus is a pear-shaped muscular organ at the top of the vagina.
- It lies behind the bladder and in front of the rectum and is anchored in position by eight ligaments, although it is not firmly attached or adherent to any part of the skeleton.
- A full bladder tilts the uterus backward; a distended rectum tilts it forward.
- The uterus alters its position by gravity or with change of posture, and is the size and shape of an inverted pear.
- It is the site of menstruation, implantation of a fertilized ovum, development of the fetus during pregnancy, and labor.
- Before the first pregnancy, it measures approximately 7.5cm long, 5cm wide, and 2.5cm thick. After a pregnancy, the uterus remains larger than before the pregnancy. After menopause, it becomes smaller and atrophies.

The uterine wall:

- The uterine wall is relatively thick and composed of three layers: the endometrium (innermost layer), the myometrium (muscular middle layer), and the perimetrium (outer serosal layer that covers the body of the uterus).
- The endometrium is the mucosal layer that lines the uterine cavity in nonpregnant women. It varies in thickness from 0.5 to 5 mm and has an abundant supply of glands and blood vessels.
- The myometrium makes up the major portion of the uterus and is composed of smooth muscle linked by connective tissue with numerous elastic fibers. During pregnancy, the upper myometrium undergoes marked hypertrophy, but there is limited change in the cervical muscle content.

Anatomic subdivisions of the uterus

- Anatomic subdivisions of the uterus include:
 - The convex portion above the uterine tubes (the fundus)
 - The central portion (the corpus or body) between the fundus and the cervix; and
 - The cervix, or neck, which opens into the vagina.

1. The Cervix

- The cervix, the lower part of the uterus, opens into the vagina and has a channel that allows sperm to enter the uterus and menstrual discharge to exit.
- It is composed of fibrous connective tissue. During a pelvic examination, the part of the cervix that protrudes into the upper end of the vagina can be visualized.
- Like the vagina, this part of the cervix is covered by mucosa, which is smooth, firm, and doughnut-shaped, with a visible central opening called the external os.
- Before childbirth, the external cervical os is a small, regular, oval opening.
- After childbirth, the opening is converted into a transverse slit that resembles lips.
- Except during menstruation or ovulation, the cervix is usually a good barrier against bacteria. The cervix has an alkaline environment, which protects the sperm from the acidic environment in the vagina.
- The canal or channel of the cervix is lined with mucus-secreting glands. This mucus is thick and impenetrable to sperm until just before the ovaries release an egg (ovulation).
- At ovulation, the consistency of the mucus changes so that sperm can swim through it, allowing fertilization. At the same time, the mucus-secreting glands of the cervix actually become able to store live sperm for 2 or 3 days. These sperm can later move up through the corpus and into the fallopian tubes to fertilize the egg; thus, intercourse 1 or 2 days before ovulation can lead to pregnancy.
- Because some women do not ovulate consistently, pregnancy can occur at varying times after the last menstrual period.
- The channel in the cervix is too narrow for the fetus to pass through during pregnancy, but during labor, it stretches to let the newborn through.

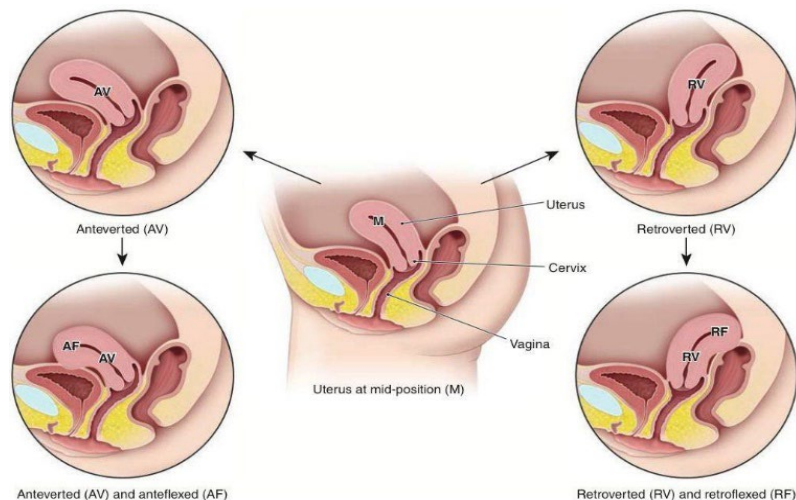
2. The Corpus

- The corpus, or the main body of the uterus, is a highly muscular organ that enlarges to hold the fetus during pregnancy.
- The inner lining of the corpus (endometrium) undergoes cyclic changes as a result of the changing levels of hormones secreted by the ovaries: it is

thickest during the part of the menstrual cycle in which a fertilized egg would be expected to enter the uterus and is thinnest just after menstruation.

Uterine position :Five positions are possible

- Anteflexed
- Anterior (anteverted)
- Midposition
- Posterior (retroverted)
- Retroflexed



uterine positions

Fallopian Tubes

The fallopian tubes also called uterine tubes or oviducts, extend laterally from the uterus, one to each ovary. They vary in length from 8 to 13.5 cm.

Each tube has four sections:

1. **The interstitial portion** extends into the uterine cavity and lies within the wall of the uterus.
2. **The isthmus** is a narrow area near the uterus.
3. **The ampulla** is the wider area of the tube and is the usual site of fertilization.
4. **The infundibulum** is the funnel-like enlarged distal end of the tube.

Fingerlike projections from the infundibulum, called **fimbriae**, hover over each ovary and “capture” the ovum (egg) as it is released by the ovary at ovulation.

The four functions of the fallopian tubes are to provide the following:

1. A passageway in which sperm meet the ovum.
2. The site of fertilization (usually the outer one-third of the tube).
3. A safe, nourishing environment for the ovum or zygote (fertilized ovum).
4. The means of transporting the ovum or zygote to the corpus of the uterus.

Ovaries

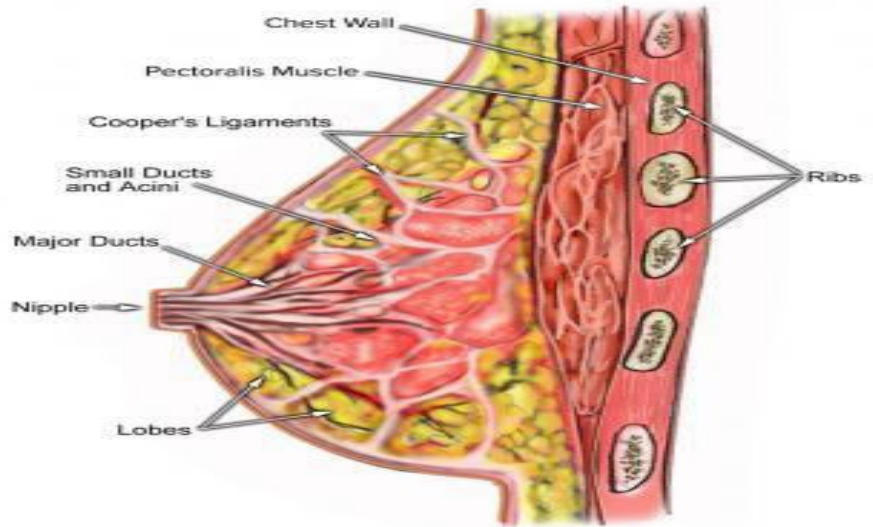
- The ovaries are a set of paired glands resembling unshelled almonds that are set in the pelvic cavity below and to either side of the umbilicus.

- They are usually pearl colored and oblong.
- They are homologous to the testes. Each ovary weighs from 2 to 5 g and is about 4 cm long, 2 cm wide, and 1 cm thick.
- The ovaries are not attached to the fallopian tubes but are suspended nearby from several ligaments, which help hold them in position.
- The development and the release of the ovum and the secretion of the hormones estrogen and progesterone are the two primary functions of the ovary.

Breasts

- The two mammary glands, or breasts, are accessory organs of the female reproductive system that are specialized to secrete milk following pregnancy.
- They overlie the pectoralis major muscles and extend from the second to the sixth ribs and from the sternum to the axilla.
- Each breast has a nipple located near the tip, which is surrounded by a circular area of pigmented skin called the areola.
- Each breast is composed of approximately 9 lobes (the number can range between 4 and 18), which contain glands (alveolar) and a duct (lactiferous) that leads to the nipple and opens to the outside. The lobes are separated by dense connective and adipose tissues, which also help support the weight of the breasts.
- During pregnancy, placental estrogen and progesterone stimulate the development of the mammary glands. Because of this hormonal activity, the breasts may double in size during pregnancy. At the same time, glandular tissue replaces the adipose tissue of the breasts.
- Following childbirth and the expulsion of the placenta, levels of placental hormones (progesterone and lactogen) fall rapidly, and the action of prolactin (milk-producing hormone) is no longer inhibited.
- Prolactin stimulates the production of milk within a few days after childbirth, but in the interim, dark yellow fluid called colostrum is secreted.
- Colostrum contains more minerals and protein, but less sugar and fat, than mature breast milk. Colostrum secretion may continue for approximately a week after childbirth, with gradual conversion to mature milk.

- Colostrum is rich in maternal antibodies, especially immunoglobulin A (IgA), which offers protection for the newborn against enteric pathogens.



The Breast

Pelvic Types

- The four basic types are gynecoid, android, anthropoid, and platypelloid.

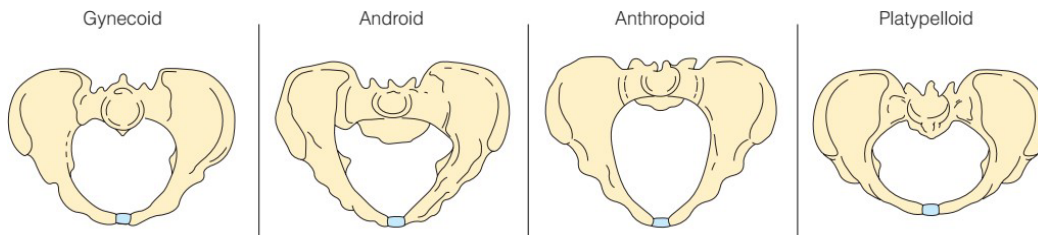
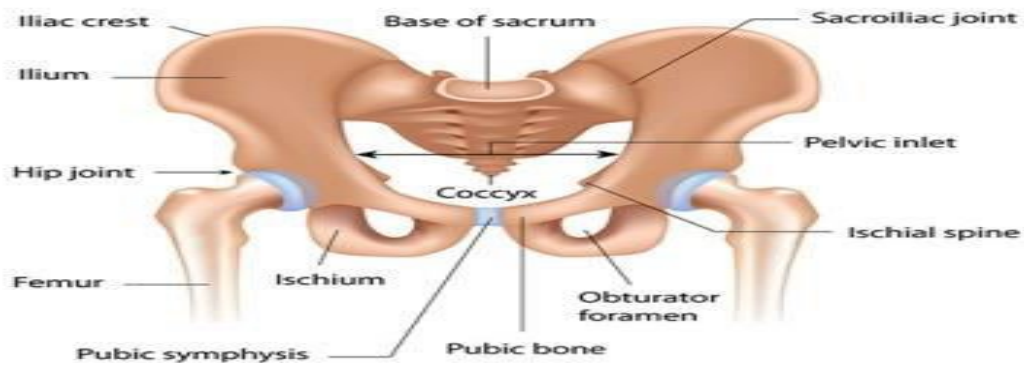
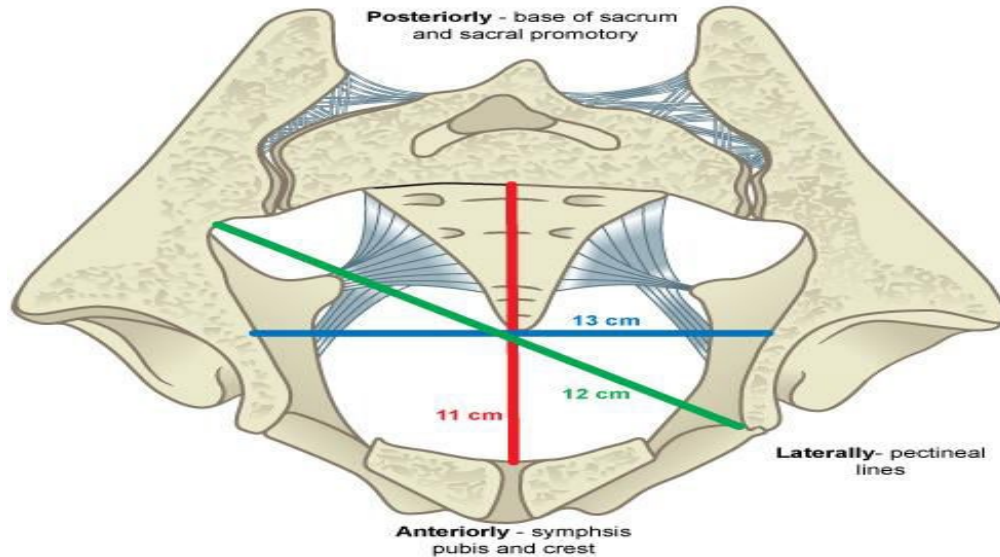


Figure 4: Pelvic Types

The Pelvic Girdle

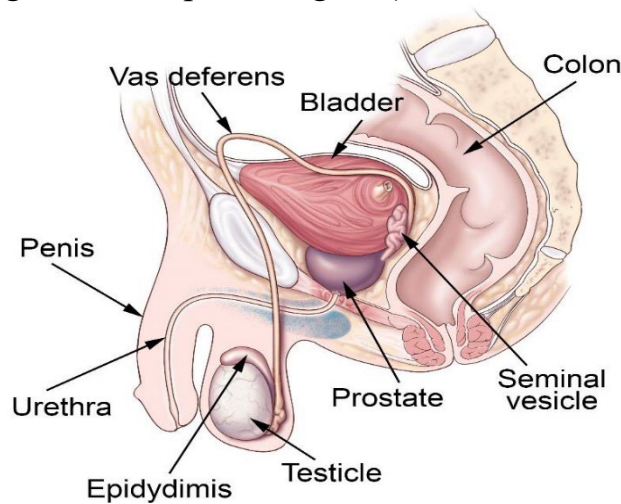




Pelvic Measurement

MALE REPRODUCTIVE ANATOMY AND PHYSIOLOGY (Figure 5)

- The male reproductive system, like that of the female, consists of those organs that facilitate reproduction.
- The male organs are specialized to produce and maintain the male sex cells, or sperm; to transport them, along with supporting fluids, to the female reproductive system; and to secrete the male hormone testosterone.
- The organs of the male reproductive system include the penis, scrotum, two testes (where sperm cells and testosterone are made), and accessory organs (epididymis, vas deferens, seminal vesicles, ejaculatory duct, urethra, bulbourethral glands, and prostate gland).



Male reproductive organs

External Male Reproductive Organs

- The penis and the scrotum form the external genitalia in the male

Penis

- The penis is the organ for copulation and serves as the outlet for both sperm and urine. The skin of the penis is thin, with no hairs.
- The prepuce (foreskin) is a circular fold of skin that extends over the glans unless it is removed by circumcision shortly after birth. The urinary meatus, located at the tip of the penis, serves as the external opening to the urethra.
- The penis is composed mostly of erectile tissue.
- Most of the body of the penis consists of three cylindrical spaces (sinuses) of erectile tissue.
- The two larger ones, the corpora cavernosa, are side by side. The third sinus, the corpus spongiosum, surrounds the urethra.
- Erection results when nerve impulses from the autonomic nervous system dilate the arteries of the penis, allowing arterial blood to flow into the erectile tissues of the organ.

Scrotum

- The scrotum is the thin-skinned sac that surrounds and protects the testes.
- The scrotum also acts as a climate control system for the testes, because they need to be slightly cooler than body temperature to allow normal sperm development.
- The cremaster muscles in the scrotal wall relax or contract to allow the testes to hang farther from the body to cool or to be pulled closer to the body for warmth or protection.
- A medial septum divides the scrotum into two chambers, each of which encloses a testis.

Internal Male Reproductive Organs

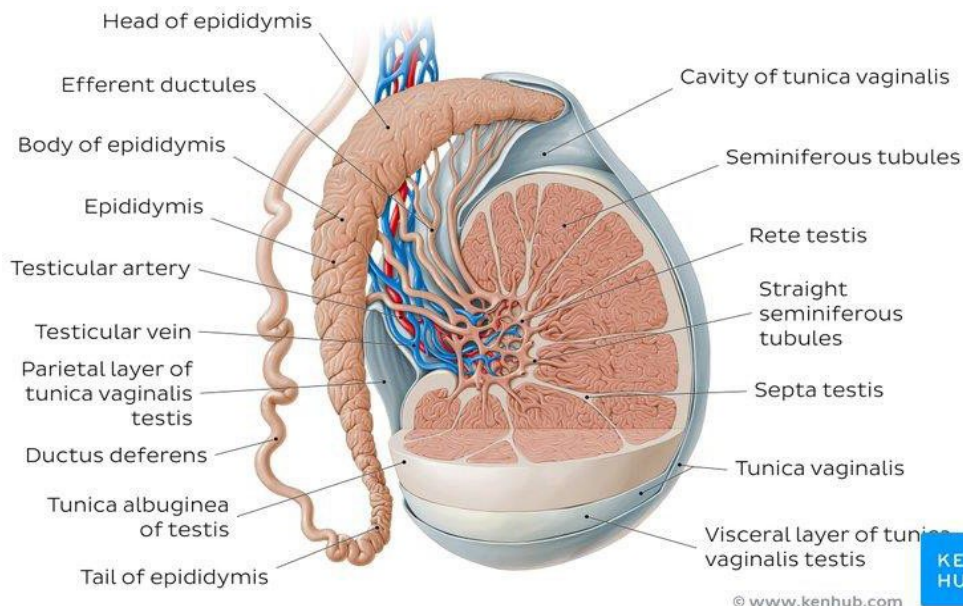
- The internal structures include the testes, the ductal system, and accessory glands.

Testes

- The testes are oval bodies in the size of large olives that lie in the scrotum; usually, the left testis hangs a little lower than the right one.
- The testes have two functions: producing sperm and synthesizing testosterone (the primary male sex hormone).
- Sperm is produced in the seminiferous tubules of the testes.
- Similar to the female reproductive system, the anterior pituitary releases the gonadotropins, FSH and LH. These hormones stimulate the testes to produce testosterone, which assists in maintaining spermatogenesis, increases sperm production by the seminiferous tubules, and stimulates production of seminal fluid.

Testosterone Functions:

1. Increases muscle mass and strength.
2. Promotes growth of long bones.
3. Increases basal metabolic rate.
4. Enhances production of red blood cells.
5. Produces enlargement of vocal cords.
6. Affects the distribution of body hair.



The Ductal System

- **The epididymis**, which lies against the testes, is a coiled tube almost 20 feet long. It collects sperm from the testes and provides the space and environment for sperm to mature
- **The vas deferens** is a cord-like duct that transports sperm from the epididymis.
- One such duct travels from each testis up to the back of the prostate and enters the urethra to form the ejaculatory ducts.
- Other structures, such as blood vessels and nerves, also travel along with each vas deferens and together form the spermatic cord.
- The urethra is the terminal duct of the reproductive and urinary systems, serving as a passageway for semen (fluid containing sperm) and urine.
- It passes through the prostate gland and the penis and opens to the outside.

Accessory Glands

- **The seminal vesicles**, which produce nutrient seminal fluid, and the prostate gland, which produces alkaline prostatic fluid, are both connected to the ejaculatory duct leading into the urethra.
- The paired seminal vesicles are convoluted pouch-like structures lying posterior to, and at the base of, the urinary bladder in front of the rectum.
- They secrete an alkaline fluid that contains fructose and prostaglandins.
- The fructose supplies energy to the sperm on its journey to meet the ovum, and the prostaglandins assist in sperm mobility.
- The prostate gland lies just under the bladder in the pelvis and surrounds the middle portion of the urethra. Usually the size of a walnut, this gland enlarges with age.
- **The prostate and the seminal vesicles** above it produce fluid that nourishes the sperm.
- This fluid provides most of the volume of semen, the secretion in which sperm are expelled during ejaculation.
- Other fluid that makes up the semen comes from the **vas deferens and from mucous glands** in the head of the penis.
- **The bulbourethral glands** (Cowper's glands) are two small structures about the size of peas, located inferior to the prostate gland.

- They are composed of several tubes whose epithelial linings secrete a mucus-like fluid.
- It is released in response to sexual stimulation and lubricates the head of the penis in preparation for sexual intercourse.
- Their existence is said to be constant, but they gradually diminish in size with advancing age.

Physiology of Onset of Puberty (figure 6)

- The term puberty refers to the developmental period between childhood and attainment of adult sexual characteristics and functioning.
- The age at onset and progress of puberty vary widely, physical changes overlap, and the sequence of events can vary from person to person.
- Puberty is initiated by the maturation of the hypothalamic-pituitary-gonad complex (the gonadostat) and input from the central nervous system. The process, which begins during fetal life, is sequential and complex.
- The central nervous system releases a neurotransmitter that stimulates the hypothalamus to synthesize and release gonadotropin-releasing hormone (GnRH).
- GnRH is transmitted to the anterior pituitary, where it causes the synthesis and secretion of the gonadotropins follicle-stimulating hormone (FSH) and luteinizing hormone (LH).
- These hormones stimulate specific structures in the gonads to secrete steroid hormones (estrogen, progesterone, or testosterone).
- The rise in pituitary hormone production increases hypothalamus activity.
- Elevated steroid hormone levels stimulate the central nervous system and pituitary gland to inhibit hormone production.
- Androgens and estrogens influence the development of secondary sex characteristics.
- FSH and LH stimulate the processes of spermatogenesis and maturation of ova.

The Female Reproductive Cycle (figure 7)

- The female reproductive cycle (FRC) is composed of the ovarian cycle, during which ovulation occurs, and the uterine (menstrual) cycle, during which menstruation occurs.
- These two cycles take place simultaneously.

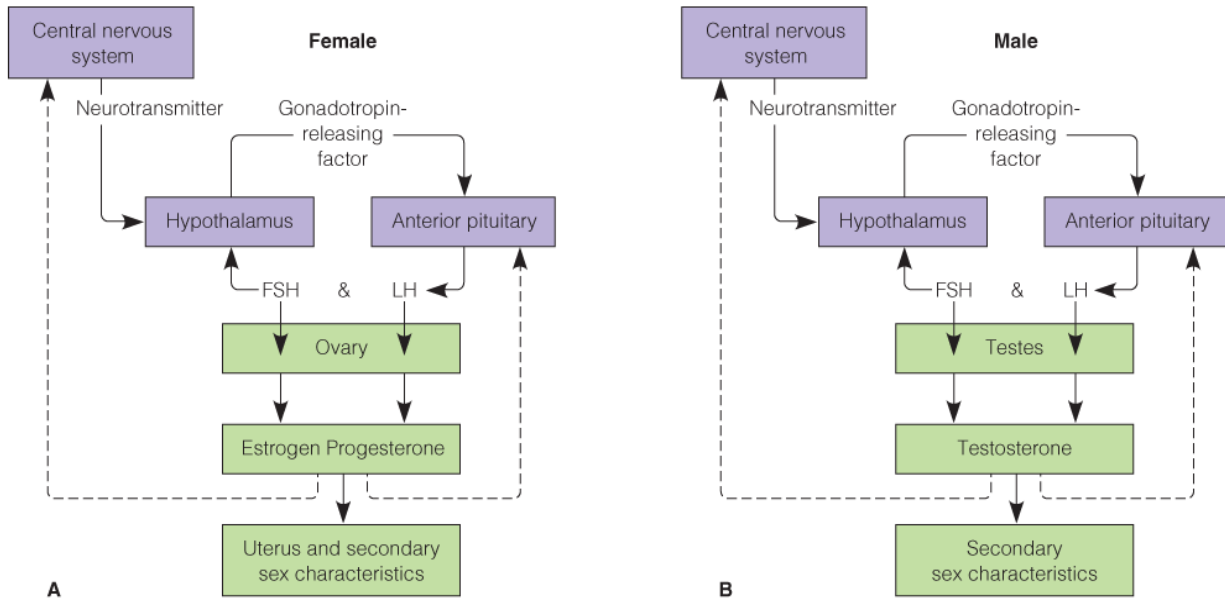


Figure 6: Physiologic changes leading to onset of puberty. A, In females, and B, in males. Solid lines illustrate stimulation of hormone production, and broken lines illustrate inhibition.

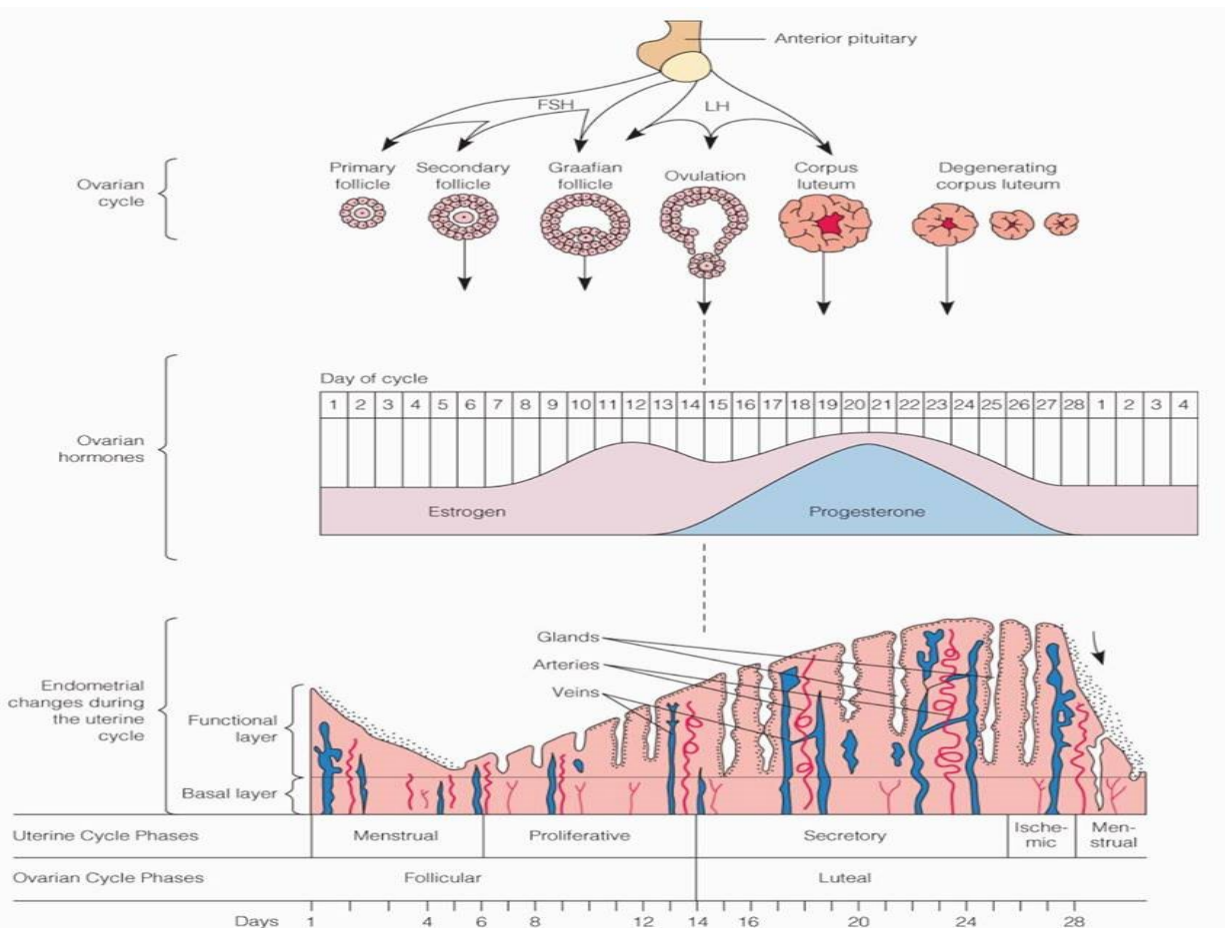


Figure 7: Female reproductive cycle: interrelationships of hormones with the four phases of the uterine cycle and the two phases of the ovarian cycle in an ideal 28-day cycle.

Effects of Female Hormones

- After menarche (the 1st menstrual period occurs between age of 9-17 years), a woman undergoes a cyclic pattern of ovulation and menstruation for a period of 30 to 40 years.
- Menstruation is an orderly process under neurohormonal control.
- Each month multiple oocytes mature, with one rupturing from the ovary, and entering the fallopian tube.
- The ovary, vagina, uterus, and fallopian tubes are major target organs for female hormones.
- The ovaries produce mature gametes and secrete hormones.
- Ovarian hormones include estrogen, progesterone, and testosterone.
- The ovary is sensitive to follicle-stimulating hormone (FSH) and luteinizing hormone (LH).
- The uterus is sensitive to estrogen and progesterone.
- The relative proportion of these hormones to each other controls the events of both ovarian and menstrual cycles.

Estrogens:

- Estrogens are hormones that are associated with characteristics contributing to “femaleness.” The major estrogenic effects are primarily the result of three classic estrogens: estrone, β -estradiol, and estriol. The major estrogen is β -estradiol.
- Estrogens functions:
 1. The development of the female secondary sex characteristics:
 - breast development (including breast alveolar lobule growth and duct development),
 - growth of body hair,
 - widening of the hips, and
 - deposits of tissue (fat) in the buttocks and mons pubis.
 2. The maturation of the ovarian follicles
 3. Proliferation of endometrial mucosa following menstruation.
 4. Increase the size and weight of the uterus to increase because of increased glycogen, amino acids, electrolytes, and water
 5. Increase Blood supply to the uterus.

6. Under the influence of estrogens, myometrial contractility increases in both the uterus and the fallopian tubes, and uterine sensitivity to oxytocin increases.
 7. Estrogens inhibit FSH production and stimulate LH production.
- The amount of estrogens is greatest during the proliferative (follicular or estrogenic) phase of the menstrual cycle.

Progesterone:

- Is secreted by the corpus luteum and is found in greatest amounts during the secretory (luteal or progesterational) phase of the menstrual cycle.
- Progesterone is often called the **hormone of pregnancy** because its effects on the uterus allow pregnancy to be maintained. Under the influence of progesterone:
 1. Vaginal epithelium proliferates.
 2. Cervix secretes thick, viscous mucus.
 3. Breast glandular tissue increases in size and complexity.
 4. Breasts prepare for lactation.
 5. Temperature rise of about 0.5 to 1.0°F (0.3 to 0.6°C) accompanies ovulation and persists throughout the secretory phase of the menstrual cycle.

Prostaglandins

- Prostaglandins (PGs) are oxygenated fatty acids that are produced by the cells of the endometrium and are also classified as hormones.
- Prostaglandins have varied action in the body. The two primary types of prostaglandins are groups E and F.
 - PGE relaxes smooth muscles and is a potent vasodilator;
 - PGF is a potent vasoconstrictor and increases the contractility of muscles and arteries.

Neurohormonal Basis of the Female Reproductive Cycle

- The female reproductive cycle is controlled by complex interactions between the nervous and endocrine systems and their target tissues.
- The hypothalamus secretes gonadotropin-releasing hormone (GnRH) to the pituitary gland in response to signals received from the central nervous system.
- In response to GnRH, the anterior pituitary secretes the gonadotropic hormones FSH and LH

- FSH is primarily responsible for the maturation of the ovarian follicle.
- As the follicle matures, it secretes increasing amounts of estrogen, which enhance the development of the follicle. (This estrogen is also responsible for the rebuilding/proliferation phase of the endometrium after it is shed during menstruation.)
- Final maturation of the follicle cannot come about without the action of LH.
- The anterior pituitary's production of LH increases 6- to 10-fold as the follicle matures.
- The peak production of LH can precede ovulation by as much as 12 to 24 hours.
- LH is also responsible for "luteinizing" the increase in production of progesterone by the granulosa cells of the follicle.
- As a result, estrogen production is reduced and progesterone secretion continues. Thus estrogen levels fall a day before ovulation.
- Ovulation takes place following the very rapid growth of the follicle, as the sustained high level of estrogen diminishes and progesterone secretion begins.
- The ruptured follicle undergoes rapid change, complete luteinization is accomplished, and the mass of cells becomes the corpus luteum.
- The lutein cells secrete large amounts of progesterone with smaller amounts of estradiol. (Concurrently, the excessive amounts of progesterone are responsible for the secretory phase of the uterine cycle.)
- On day 7 or 8 following ovulation, the corpus luteum begins to involute, losing its secretory function.
- The production of both progesterone and estrogen is severely diminished.
- The anterior pituitary responds with increasingly large amounts of FSH; a few days later LH production begins. As a result, new follicles become responsive to another ovarian cycle and begin maturing.
- **Table 1: The ovarian cycles**

Phase	Days	Events
Follicular phase	Days 1–14	<ul style="list-style-type: none"> • Primordial follicle matures under influence of FSH and LH up to the time of ovulation.
Luteal phase	Days 15–28	<ul style="list-style-type: none"> • Ovum leaves follicle; • corpus luteum develops under LH influence and produces high levels of progesterone and low levels of estrogen.

Table 2: The Uterine (menstrual) cycle

Phase	Days	Events
Menstrual phase	Days 1–6	<ul style="list-style-type: none"> • Estrogen levels are low. • Cervical mucus is scant, viscous, and opaque. • Endometrium is shed.
Proliferative phase	Days 7–14	<ul style="list-style-type: none"> • Endometrium and myometrium thickness increases. • Estrogen peaks just before ovulation. • Cervical mucus at ovulation: <ul style="list-style-type: none"> • Is clear, thin, watery, alkaline • Is more favorable to sperm; shows ferning pattern and has increased elasticity on microscopic exam
Secretory phase	Days 15–26	<ul style="list-style-type: none"> • Estrogen drops sharply, and progesterone dominates. • Vascularity of entire uterus increases. • Tissue glycogen increases, and the uterus is made ready for implantation.
Ischemic phase	Days 27–28	<ul style="list-style-type: none"> • Both estrogen and progesterone levels drop. • Spiral arteries undergo vasoconstriction. • Endometrium becomes pale; blood vessels rupture. • Blood escapes into uterine stromal cells, gets ready to be shed.

Menopause:

- The female climacteric is a transitional phase which occurs at the end of reproductive years.
- Fall in estrogen secretion causes many physiological changes.
- The menstrual cycle & menstruation become irregular & infrequent.
- Complete cessation of menstruation is known as menopause.
- Hot flushes, night sweats, palpitation & anxiety can occur.
- Breasts & genital organs are atrophy.
- Psychological symptoms like anxiety, irritability, fatigue, loss of concentration can occur.

Pregnancy and fetal development:

List common terms used to describe the fetus at various stages in this growth:

- **Ovum** From ovulation to fertilization
- **Zygote** From fertilization to implantation
- **Embryo** From implantation until 5 to 8 weeks
- **Fetus** From 8 weeks until term
- **Conceptus** Developing embryo or fetus and placental structures throughout pregnancy
- **Age of viability** The earliest age at which fetuses could survive if they were born at that time, generally accepted as 24 weeks, or fetuses weighing more than 400 g.

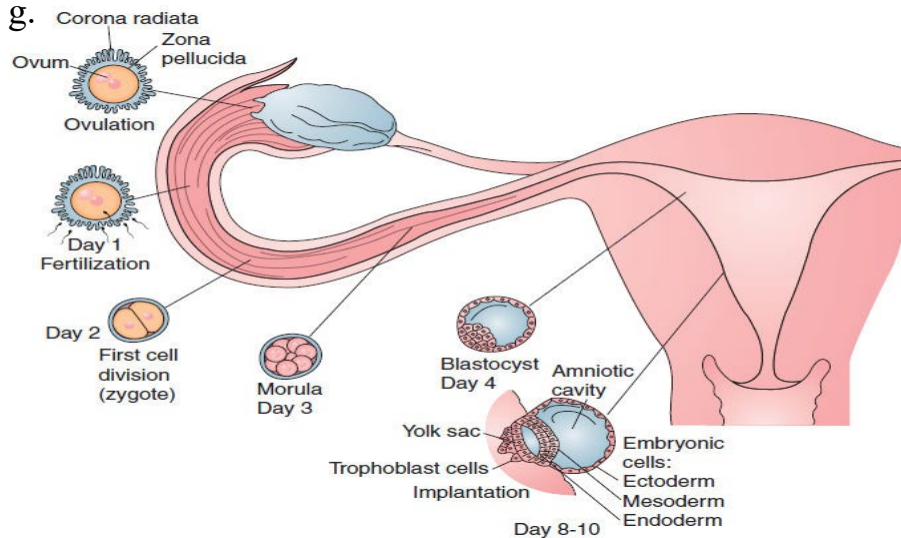


Figure (1) Ovulation, fertilization, and implantation

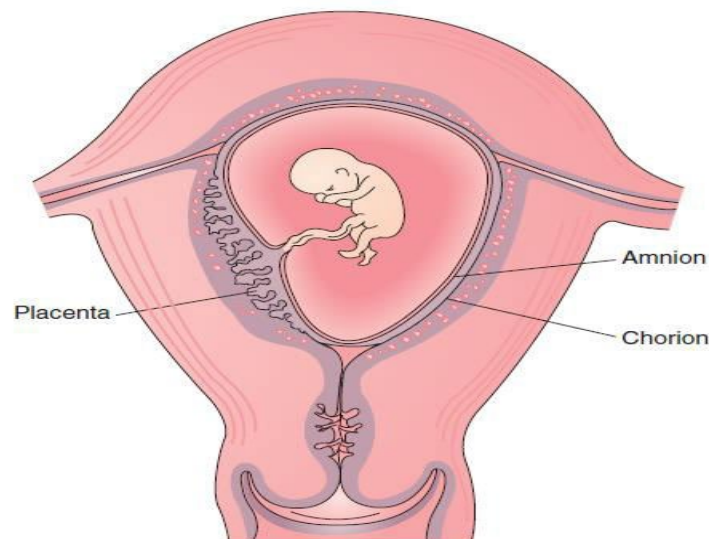


Figure (2) Embryo lying within amniotic sac.

Cellular Division and Gametogenesis

- Each human begins life as a single cell called a fertilized ovum, or zygote.
- The division of a cell begins in its nucleus, which contains the gene-bearing chromosomes.
- This single cell reproduces itself, and in turn, each resulting cell also reproduces itself in a continuing process.
- The new cells are similar to the cells from which they came.
- Cells are reproduced by either mitosis or meiosis, two different but related processes.

Comparison between mitosis and meiosis:

Mitosis	Meiosis
Purpose: <ul style="list-style-type: none"> • Produces cells for growth and tissue repair. • Cell division characteristic of all somatic cells. 	Purpose <ul style="list-style-type: none"> • Produces reproductive cells (gametes). • Reduction of chromosome number by half (from diploid [46] to haploid [23]), so that when fertilization occurs the normal diploid number is restored. • Introduces genetic variability.
Cell Division: <ul style="list-style-type: none"> • One-stage cell division 	Cell Division: <ul style="list-style-type: none"> • Two-stage reduction
Number of Daughter Cells <ul style="list-style-type: none"> • Two daughter cells identical to the mother cell, each with the diploid number (46 chromosomes) 	Number of Daughter Cells <ul style="list-style-type: none"> • Four daughter cells, each containing one half the number of chromosomes of the mother cell, or 23 chromosomes. • Nonidentical to original cell.

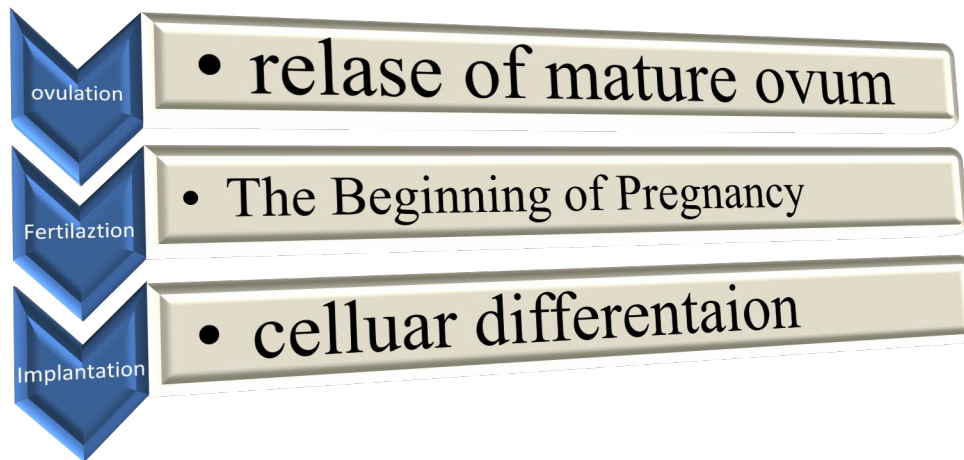
Gametogenesis

- Meiosis occurs during gametogenesis, the process by which germ cells, or gametes (ovum and sperm), are produced.
- These cells contain only half the genetic material of a typical body cell.
- Each gamete must have only the haploid number (23) of chromosomes so that when the female gamete (egg or ovum) and the male gamete (sperm or spermatozoon) unite to form the zygote (fertilized ovum), the normal human diploid number of chromosomes (46)—half from the mother and half from the father—is reestablished.

Oogenesis and Spermatogenesis

- The process of mitosis in the sperm is called spermatogenesis, and in the ovum, it is called oogenesis.
- During meiosis, the number of chromosomes in each cell is reduced by half, to 23 chromosomes per cell, each including only one sex chromosome.
- This is called the haploid number of chromosomes.
- At the moment of fertilization (when the sperm and the ovum unite), the new cell contains 23 chromosomes from the sperm and 23 chromosomes from the ovum, thus returning to the diploid number of chromosomes (46); traits are therefore inherited from both the mother and the father. The formation of gametes by this type of cell division is called gametogenesis.

Stages of Fetal Development



Fertilization

- Fertilization occurs when a sperm penetrates an ovum and unites with it, restoring the total number of chromosomes to 46.
- It normally occurs in the outer third of the fallopian tube, near the ovary.
- The sperm pass through the cervix and the uterus and into the fallopian tubes by means of their tails' flagellar (whiplike) activity and can reach the fallopian tubes within 5 minutes after coitus.
- The time during which fertilization can occur is brief because of the short life span of mature gametes. The ovum is estimated to survive for up to 24 hours after ovulation.
- The sperm remains capable of fertilizing the ovum for up to 5 days after being ejaculated into the area of the cervix

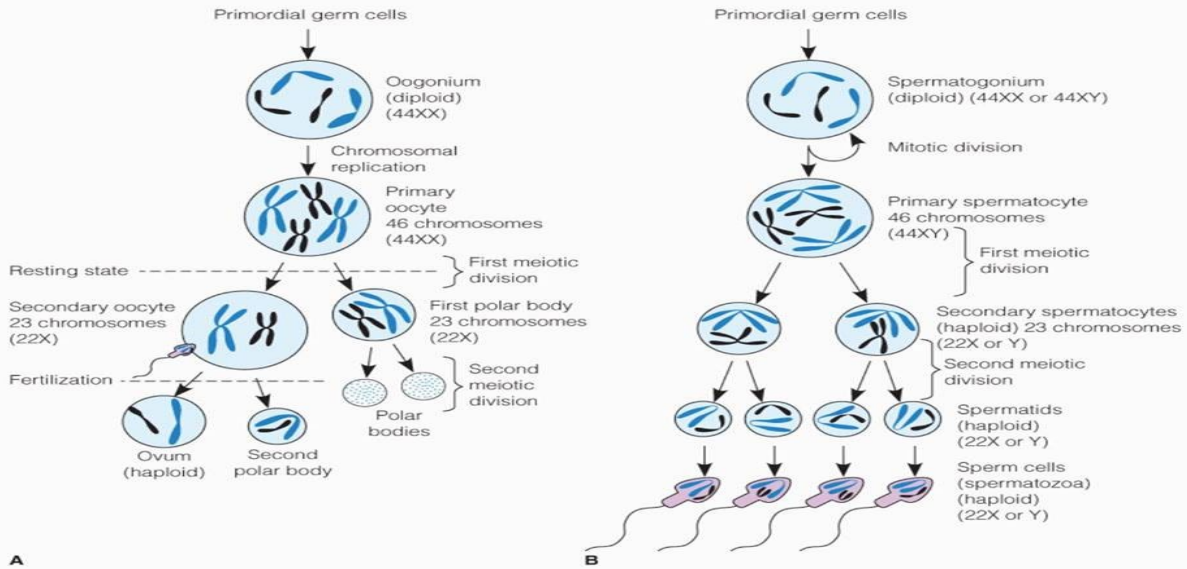


Figure 3 Result of gametogenesis. Gametogenesis involves meiosis within the ovary and testis. A, During meiosis each oogonium produces a single haploid ovum once some cytoplasm moves into the polar bodies. B, Each spermatogonium produces four haploid spermatozoa.

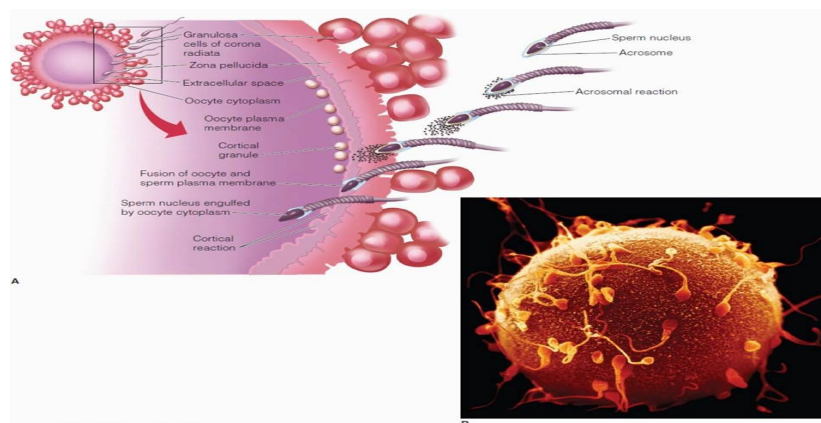


Figure 4: Sperm penetration of an ovum. A, The sequential steps of oocyte penetration by a sperm are depicted moving from top to bottom. B, Scanning electron micrograph of a human sperm surrounding a human ovum (750×). The smaller spherical cells are granulosa cells of the corona radiata.

Sex determination

- The sex of human offspring is determined at fertilization. The ovum always contributes an X chromosome (gamete), whereas the sperm can carry an X or a Y chromosome (gamete). When a sperm carrying the X chromosome fertilizes the X-bearing ovum, a female offspring (XX) result.

Fetal Development

Fetal development during pregnancy is measured in the number of weeks after fertilization. The duration of pregnancy is about 40 weeks from the time of fertilization.

The three stages of fetal development during pregnancy are:

1. Preembryonic stage: fertilization through the second week
2. Embryonic stage: end of the second week through the eighth week
3. Fetal stage: end of the eighth week until birth

Fetal circulation is a significant aspect of fetal development that spans all three stages.

Cellular Multiplication: The Tubal transport of the zygote

- The zygote is the cell formed by the union of the sperm and the ovum, and it is transported through the fallopian tube and into the uterus.
- Fertilization normally occurs in the outer third of the fallopian tube.
- During transport through the fallopian tube, the zygote undergoes rapid mitotic division or cleavage.
- Cleavage begins with two cells, which subdivide into four and then eight cells to form the blastomere.
- The size of the zygote does not increase; rather, the individual cells become smaller as they divide and eventually form a solid ball called the morula.
- The morula enters the uterus on the third day and floats there for another 2 to 4 days. The cells form a cavity, and two distinct layers evolve.
- The inner layer is a solid mass of cells called the blastocyst, which develops into the embryo and the embryonic membranes.
- The outer layer of cells, called the trophoblast, develops into an embryonic membrane, the chorion.

Implantation of the zygote

- The zygote usually implants in the upper section of the posterior uterine wall.
- The cells burrow into the prepared lining of the uterus, called the endometrium.
- The endometrium is now called the decidua; the area under the blastocyst is called the decidua basalis and gives rise to the maternal part of the placenta.

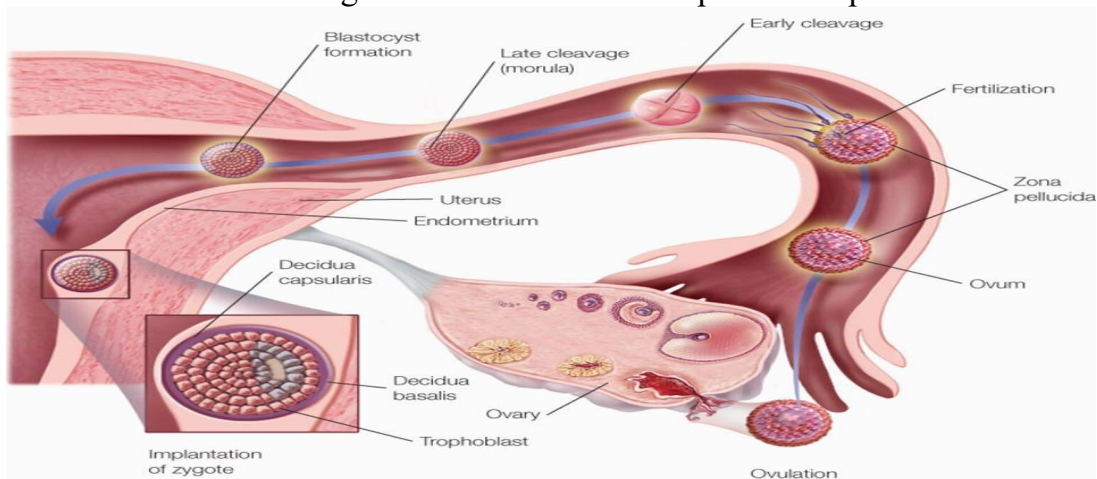


Figure 5: Changes in fertilized ovum from conception to implantation. During ovulation, the ovum leaves the ovary and enters the fallopian tube. Fertilization generally occurs in the outer third of the fallopian tube.

EMBRYONIC AND FETAL STRUCTURES

The Decidua

The endometrium after implantation termed the decidua. The decidua has three separate areas:

1. Decidua basalis, the part of the endometrium that lies directly under the embryo.
2. Decidua capsularis, the portion of the endometrium that stretches or encapsulates the surface of the trophoblast.
3. Decidua vera, the remaining portion of the uterine lining.

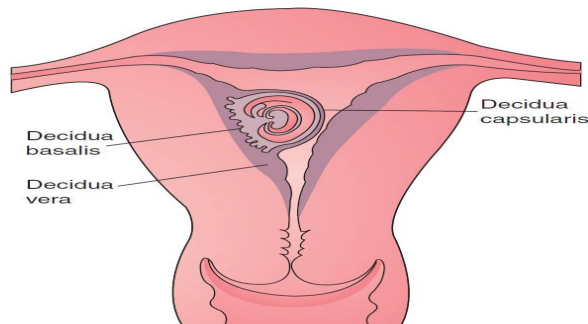
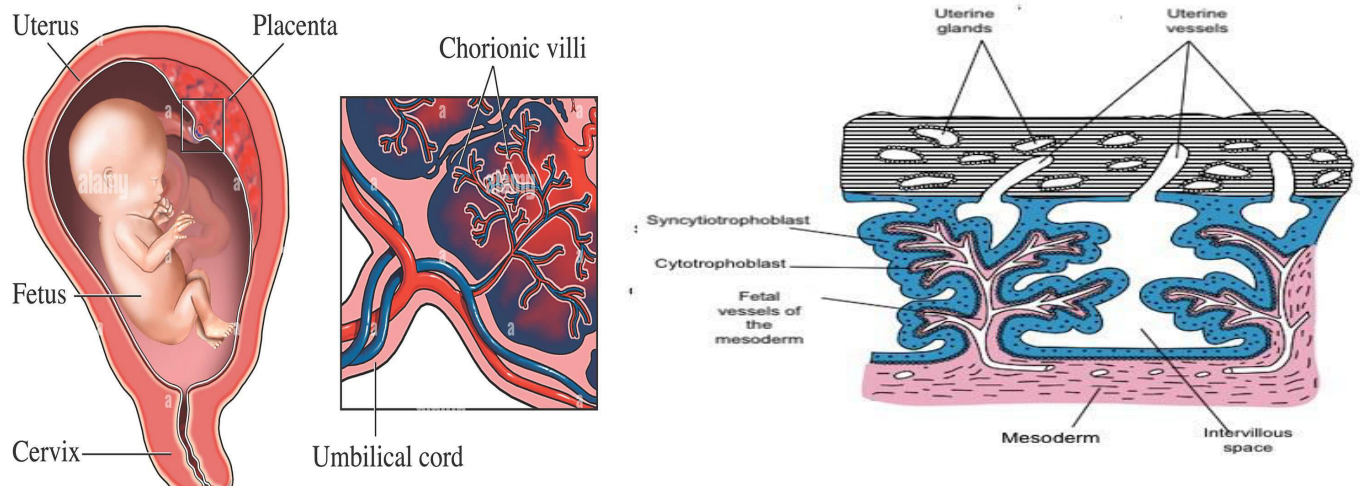


Figure (6) The three separated areas of Decidua

Chorionic Villi

- Once implantation is complete, the trophoblastic layer of cells of the blastocyst begins to mature rapidly. As early as the 11th or 12th day, miniature villi that resemble probing fingers, termed chorionic villi, reach out from the single layer of cells into the uterine endometrium to begin formation of the placenta. At term, almost 200 such villi will have formed.
- A double layer of trophoblast cells surrounds these. The outer of the two covering layers is the syncytiotrophoblast, or the syncytial layer. This layer of cells produces various placental hormones, such as hCG, human placental lactogen [hPL], estrogen, and progesterone.



Cellular Differentiation

- After implantation the cells begin to differentiate and develop special functions. Specifically, the following structures will develop:
 - The primary germ layers appear.
 - The embryonic membranes:
 - The chorion,
 - The amnion
 - The yolk sac
 - Accessory structures of pregnancy (the umbilical cord and the placenta)

The embryonic membranes (Chorion and the Amnion)

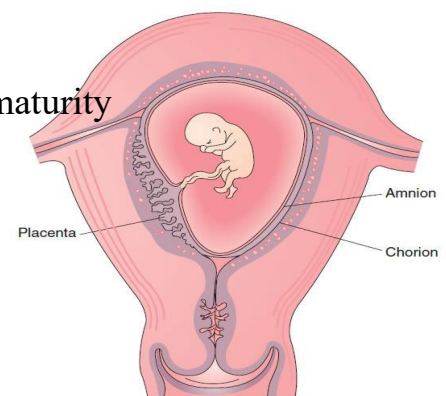
- The embryonic membranes begin to form at the time of implantation (Figure 4).
- These membranes protect and support the embryo as it grows and develops inside the uterus.
- **The chorion**
 - The first and outermost membrane to form is the chorion. This thick membrane develops from the trophoblast and has many finger-like projections called chorionic villi on its surface.
 - As the pregnancy progresses, the chorionic villi begin to degenerate, except for those just under the embryo, which grow and branch into depressions in the uterine wall, forming the fetal portion of the placenta.
- **The amnion**
 - The second membrane to form, the amnion, originates from the ectoderm, a primary germ layer, during the early stages of embryonic development.
 - The amnion is a thin protective membrane that contains amniotic fluid.
 - The space between the membrane and the embryo is the amniotic cavity.
 - These two slightly adherent membranes form the fluid-filled amniotic sac, also called the bag of waters (BOW), which protects the floating embryo.

Amniotic Fluid

- Amniotic fluid is slightly alkaline with a pH of about 7.2. and contains albumin, uric acid, creatinine, lecithin, sphingomyelin, bilirubin, vernix, leukocytes, epithelial cells, enzymes, and fine hair called lanugo.
- The amount of amniotic fluid at 10 weeks is about 30 mL, and it increases to 210 mL at 16 weeks. After 28 weeks, the amniotic fluid volume ranges from 800 to 1200 mL.
- Amniotic fluid is constantly being newly formed and reabsorbed by the amniotic membrane, so it never becomes stagnant.
- Even if the amniotic membranes rupture before birth and the bulk of amniotic fluid is lost, some will always surround the fetus in utero, because new fluid is constantly formed.
- The amniotic fluid volume changes little until 39 weeks, after which it decreases dramatically.
- As the pregnancy continues, the fetus influences the volume of amniotic fluid by swallowing the fluid and by excreting lung fluid and urine into the amniotic fluid.
- Abnormal variations in amniotic fluid volume are oligohydramnios (less than 400 mL of amniotic fluid) and hydramnios (more than 2000 mL). Hydramnios is also called polyhydramnios.

The primary functions of amniotic fluid are to:

1. Act as a cushion to protect the embryo against mechanical injury
2. Help control the embryo's temperature (relies on the mother to release heat)
3. Permit symmetric external growth and development of the embryo
4. Prevent adherence of the embryo-fetus to the amnion (decreases chance of amniotic band syndrome) to allow freedom of movement so that the embryo-fetus can change position (flexion and extension), thus aiding in musculoskeletal development
5. Allow the umbilical cord to be relatively free of compression
6. Act as an extension of fetal extracellular space (hydronic babies have increased amniotic fluid)
7. Act as a wedge during labor
8. Provide fluid for analysis to determine fetal health and maturity



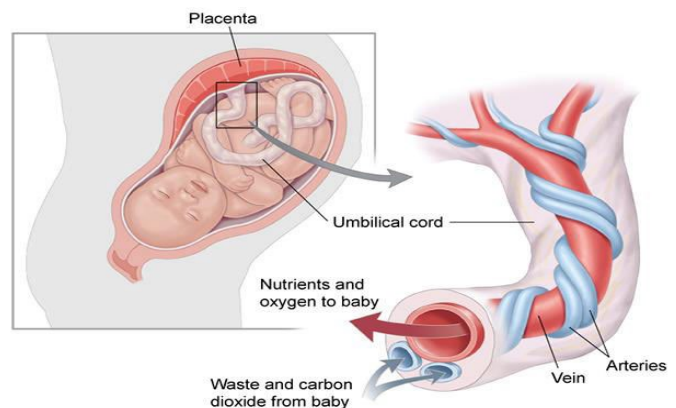
Yolk Sac

- In humans, the yolk sac is small and functions early in embryonic life.
- It develops as a second cavity in the blastocyst on about day 8 or 9 after conception.
- It forms primitive red blood cells during the first 6 weeks of development until the embryo's liver takes over the process.
- As the embryo develops, the yolk sac is incorporated into the umbilical cord, where it can be seen as a degenerated structure after birth.

Accessory structures of pregnancy (the umbilical cord and the placenta)

Umbilical Cord

- The umbilical cord is formed from the fetal membranes (amnion and chorion) and provides a circulatory pathway that connects the embryo to the chorionic villi of the placenta. Its function is to transport oxygen and nutrients to the fetus from the placenta and to return waste products from the fetus to the placenta.
- It is about 53 cm (21 in) in length at term and about 2 cm (3/4 in) thick. The bulk of the cord is a gelatinous mucopolysaccharide called Wharton's jelly, which gives the cord body and prevents pressure on the vein and arteries that pass through it. The outer surface is covered with amniotic membrane.
- The cord includes 3 vessels (one large vein and two smaller arteries).
- The umbilical cord has no sensory or motor innervation, so cutting the cord after birth is not painful.
- The cord can attach itself to the placenta in various sites. Central insertion into the placenta is considered normal.
- Umbilical cords appear to be twisted or spiraled, which is most likely caused by fetal movement.

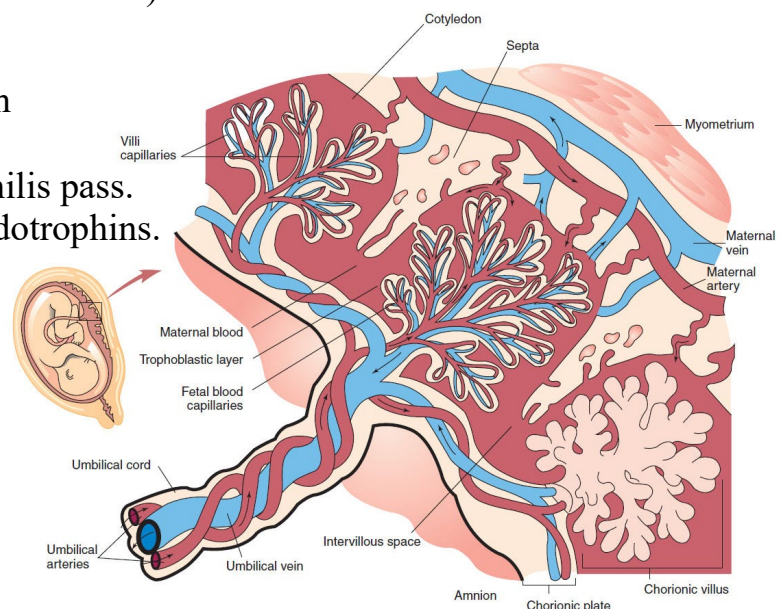


Development and Functions of the Placenta

- The placenta arises out of the continuing growth of trophoblast tissue. Its growth parallels that of the fetus, growing from a few identifiable cells at the beginning of pregnancy to an organ 15 to 20 cm in diameter and 2 to 3 cm in depth, covering about half the surface area of the internal uterus at term.
- will serve as the fetal lungs, kidneys, and digestive tract in utero, begins growth in early pregnancy in coordination with embryo growth.
- The placenta is the means of metabolic and nutrient exchange between the embryonic and maternal circulations.
- Placental development and circulation do not begin until the third week of embryonic development.
- The placenta develops at the site where the embryo attaches to the uterine wall.
- Expansion of the placenta continues until about 20 weeks, when it covers approximately one half of the internal surface of the uterus.
- After 20 weeks' gestation, the placenta becomes thicker but not wider.
- At 40 weeks' gestation, the placenta is about 15 to 20 cm in diameter and 2.5 to 3.0 cm in thickness. At that time, it weighs about 400 to 600 g).
- The placenta has two parts: the maternal and fetal portions.
- The maternal portion consists of the decidua basalis and its circulation. Its surface is red and fleshlike (often called Dirty Duncan).
- The fetal portion consists of the chorionic villi and their circulation. The fetal surface of the placenta is covered by the amnion, which gives it a shiny, gray appearance (often called Shiny Schultz).

Placental Functions

1. Gas exchange → respiratory system
2. Excretory system
3. Barrier: Rubella, spirochete of syphilis pass.
4. Hormone secretion like HCG gonadotrophins.



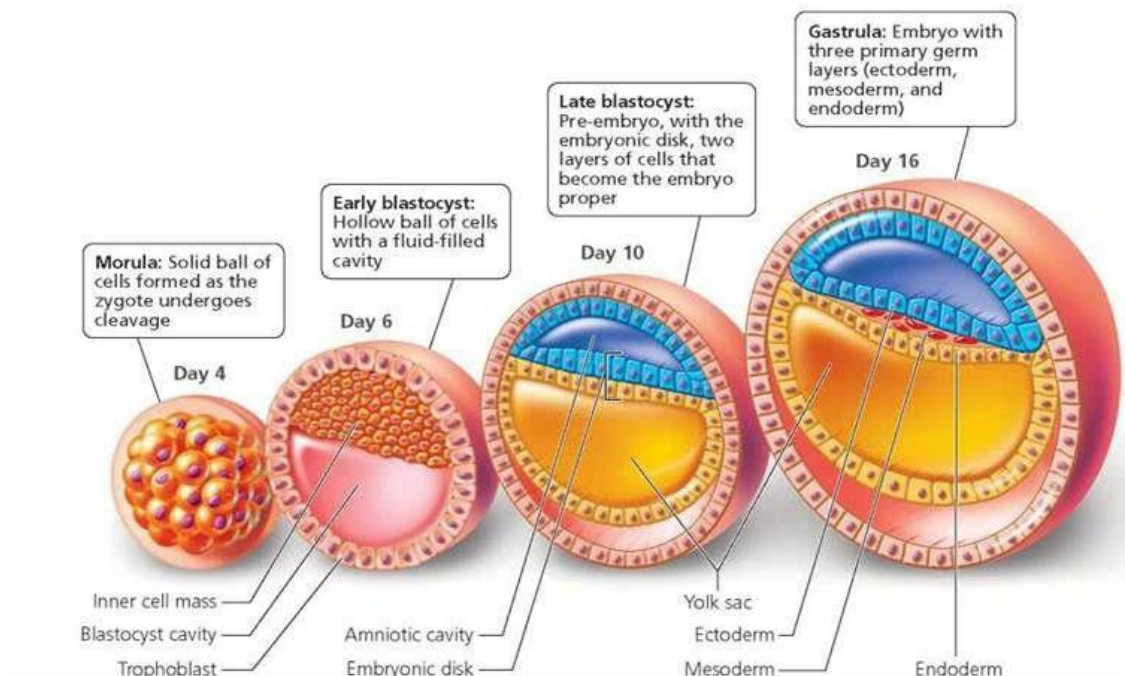
Twins

- Twins may be either fraternal or identical.
- If twins are fraternal (nonidentical), they are dizygotic, which means they arise from two separate ova fertilized by two separate spermatozoa.
 - There are two placentas, two chorions, and two amnions; however, the placentas sometimes fuse and look as if they are one.
 - Despite their birth relationship, fraternal twins are no more similar to each other than they would be to siblings born singly.
 - They may be of the same or different sex.
- Identical, or monozygotic, twins develop from a single fertilized ovum.
 - They are of the same sex and have the same phenotype (appearance).
 - Identical twins usually have a common placenta.
 - Monozygosity is not affected by environment, race, physical characteristics, or fertility

Origin and Development of Organ Systems

Primary Germ Layers

- At the time of implantation (About the 10th to 14th day after conception), a blastocyst already has differentiated to a point at which two separate cavities appear in the inner structure: (1) a large one, the amniotic cavity, which is lined with a distinctive layer of cells, the ectoderm, and (2) a smaller cavity, the yolk sac, which is lined with endoderm cells.



- The heartbeat may be heard with a Doppler instrument as early as the 10th to 12th week of pregnancy. The heart rate of a fetus is affected by oxygen level, activity, and circulating blood volume, just as in adult life.

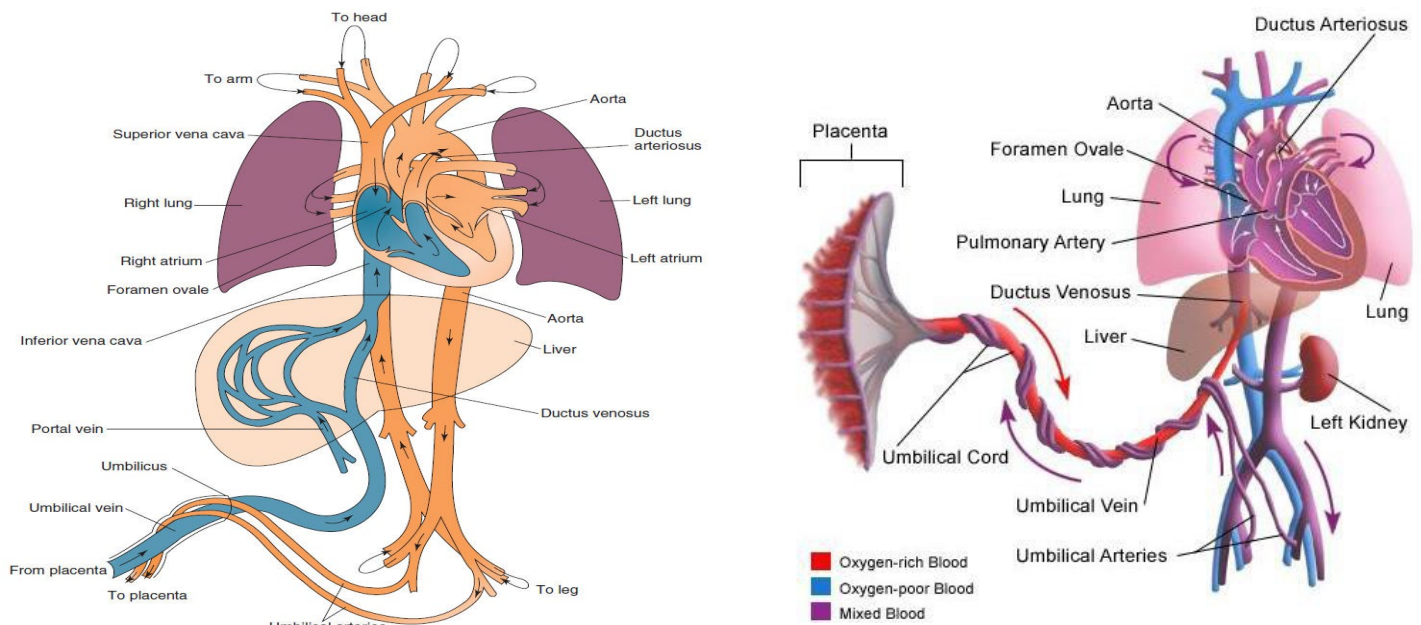
<https://www.youtube.com/watch?v= 5OvgQW6FG4>

There are three fetal circulatory shunts:

1. **Ductus venosus:** diverts some blood away from the liver as it returns from the placenta.
2. **Foramen ovale:** diverts most blood from the right atrium directly to the left atrium, rather than circulating it to the lungs.
3. **Ductus arteriosus:** diverts most blood from the pulmonary artery into the aorta.

Fetal circulation

After the fourth week of gestation, circulation of blood through the placenta to the fetus is well established. Because the fetus does not breathe, and the liver does not have to process most waste products.



Circulation before birth

- Oxygenated blood enters the fetal body through the umbilical vein. About half of the blood goes to the liver, with the remainder entering the inferior vena cava through the ductus venosus.
- Blood in the inferior vena cava enters the right atrium, where most passes directly into the left atrium through the foramen ovale.
- A small amount of blood is pumped to the lungs by the right ventricle. The rest of the blood from the right ventricle joins the blood from the left ventricle through the ductus arteriosus.

- After circulating through the fetal body, blood containing waste products is returned to the placenta through the umbilical arteries.

Circulation after birth

- Fetal shunts are not needed following birth after the infant breathes and blood is circulated to the lungs.
- The foramen ovale closes because pressure in the right side of the heart falls as the lungs become fully inflated, and there is now little resistance to blood flow.
- The infant's blood oxygen level rises, causing the ductus arteriosus to constrict. The ductus venosus closes when the flow from the umbilical cord stops

Fetal Hemoglobin

- Fetal hemoglobin differs from adult hemoglobin in several ways. It has a different composition (two alpha and two gamma chains, compared with two alpha and two beta chains of adult hemoglobin). It is also more concentrated and has greater oxygen affinity, two features that increase its efficiency.

Respiratory System

- At the third week of intrauterine life, the respiratory and digestive tracts exist as a single tube. Like all body tubes, initially this form as a solid structure, which then **canalizes** (hollows out). By the end of the **fourth week**, a septum begins to divide the esophagus from the trachea. At the same time, lung buds appear on the trachea.
- **Surfactant**, a phospholipid substance, is formed and excreted by the alveolar cells at about the **24th week** of pregnancy. This decreases alveolar surface tension on expiration, preventing alveolar collapse and improving the infant's ability to maintain respirations in the outside environment.

Nervous System

- Like the circulatory system, the nervous system begins to develop extremely early in pregnancy. During the **third and fourth** weeks of intrauterine life, possibly before the woman even realizes she is pregnant, active formation of the nervous system and sense organs has already begun.
- All parts of the brain form in utero, although **none are completely mature** at birth. Growth proceeds rapidly during the **first year** and continues at high levels **until 5 or 6 years** of age. Spinal cord disorders such as meningocele (herniation of the meninges) may occur because of lack of folic acid (contained in green leafy vegetables and pregnancy vitamins).

Endocrine System

As soon as endocrine organs mature in intrauterine life, function begins.

1. The adrenal glands supply a precursor necessary for estrogen synthesis by the placenta.

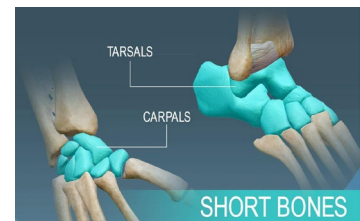
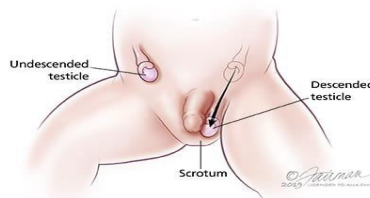
2. The pancreas produces insulin needed by the fetus
3. The thyroid and parathyroid glands play vital roles in fetal metabolic function and calcium balance.

Digestive System

- The digestive tract separates from the respiratory tract at about the **fourth week** of intrauterine life and, after that, begins to grow extremely rapidly. Initially solid, the tract **canalizes** (hollows out) to become patent. Later, the endothelial cells of the gastrointestinal tract proliferate extensively, occluding the lumen once more, and the tract must **canalize again**. Atresia (blockage) or stenosis can develop if either the first or second canalization does not occur.
- **Meconium**, a collection of cellular wastes, bile, fats, mucoproteins, mucopolysaccharides, and portions of the vernix caseosa, the lubricating substance that forms on the fetal skin, accumulates in the intestines as early as the **16th** week. Meconium is **sticky** in consistency and appears **black or dark green** (obtaining its color from bile pigment).

Musculoskeletal System

- During the **first 2 weeks** of fetal life, **cartilage** provide position and support. **Ossification** of this cartilage into bone begins at about the **12th wk**. Ossification continues all through fetal life and actually **until adulthood**. Carpals, tarsals, and sternal bones generally **do not ossify** until birth is imminent.
- A fetus can be seen to move on an **ultrasound** as early as the **11th week**, although the woman usually does not feel this movement until almost 20 wks.



Reproductive System

- A child's sex is determined at the moment of conception by a spermatozoon carrying an X or a Y chromosome and can be ascertained as early as 8 weeks by chromosomal analysis.
- At about the sixth week of life, the gonads (ovaries or testes) form. If testes form, testosterone is secreted, apparently influencing the sexually neutral genital duct to form other male organs.
- In the absence of testosterone secretion, female organs will form. The testes first form in the abdominal cavity and do not descend into the scrotal sac

until the 34th to 38th week. Because of this, many male preterm infants are born with undescended testes.

Urinary System

- Although rudimentary kidneys are present as early as the end of the fourth week of intrauterine life, the presence of kidneys does not appear to be essential for life before birth because the placenta clears the fetus of waste products. Urine is formed by the 12th week and is excreted into the amniotic fluid by the 16th week of gestation. At term, fetal urine is being excreted at the rate of 500 mL/day.







Integumentary System

- The skin of a fetus appears thin and almost translucent until subcutaneous fat begins to be deposited at about 36 weeks. Skin is covered by soft downy hairs (lanugo) that serve as insulation to preserve warmth in utero and a cream cheese–like substance, vernix caseosa, which is important for lubrication and for keeping the skin from macerating in utero.

Immune System

- Immunoglobulin G (IgG) maternal antibodies cross the placenta into the fetus as early as the 20th week and certainly by the 24th week of intrauterine life to give a fetus temporary passive immunity against diseases for which the mother has antibodies. A fetus is capable of active antibody production late in pregnancy.
- Generally, this is not necessary, however, because antibodies are manufactured only after stimulation by an invading antigen, and antigens rarely invade the intrauterine space. Because IgA and IgM antibodies cannot cross the placenta, their presence in a newborn is proof that the fetus has been exposed to a disease.

Trimesters of Pregnancy

TRIMESTER	MONTH	WEEK	
 <p>1st</p>	one	1 - 4	 <p>1st trimester</p>
	two	5 - 8	
	three	9 - 13	
 <p>2nd</p>	four	14 - 17	 <p>2nd trimester</p>
	five	18 - 22	
	six	23 - 27	
 <p>3rd</p>	seven	28 - 31	 <p>3rd trimester</p>
	eight	32 - 35	
	nine	36 - 40	

Milestones of Fetal Growth and Development

<https://www.youtube.com/watch?v=EhUOkTPW7L0>

End of 4th Gestational Week

- Length: 0.75–1 cm
- Weight: 400 mg
- The spinal cord is formed and fused at the midpoint.
- The head folds forward and becomes prominent, representing about one-third of the entire structure.
- The back is bent so that the head almost touches the tip of the tail.
- The rudimentary heart appears as a prominent bulge on the anterior surface.



End of 8th Gestational Week

- Length: 2.5 cm (1 in)
- Weight: 20 g
- Organogenesis is complete.
- The heart, with a septum and valves, is beating rhythmically.
- Arms and legs have developed.
- External genitalia are forming, but sex is not yet distinguishable by simple observation.
- The primitive tail is regressing.
- The abdomen bulges forward because the fetal intestine is growing so rapidly.
- An ultrasound shows a gestational sac, diagnostic of pregnancy.



End of 12th Gestational Week

- Length: 7–8 cm
- Weight: 45 g
- Nail beds are forming on fingers and toes.
- Spontaneous movements are possible.
- Some reflexes are present.
- Bone ossification centers begin to form.
- Tooth buds are present.
- Sex is distinguishable by outward appearance.
- Urine secretion begins but may not yet be evident in amniotic fluid.
- The heartbeat is audible through Doppler technology.



End of 16th Gestational Week

- Length: 10–17 cm
- Weight: 55–120 g
- Fetal heartbeat is audible by an ordinary stethoscope.
- Lanugo is well formed.
- Liver and pancreas are functioning.
- Fetus actively swallows amniotic fluid; urine is present in amniotic fluid.
- Sex can be determined by ultrasound.



End of 20th Gestational Week

- Length: 25 cm
- Weight: 223 g
- Spontaneous fetal movements can be sensed by the mother.
- The hair forms on the head.
- Meconium is present in the upper intestine.
- Brown fat, a special fat that will aid in temperature regulation at birth
- Vernix caseosa begins to form and cover the skin.
- Passive antibody transfer from mother to fetus begins.
- Definite sleeping and activity patterns are distinguishable



End of 24th Gestational Week

- Length: 28–36 cm
- Weight: 550 g
- Meconium is present as far as the rectum.
- Active production of lung surfactant begins.
- Eyebrows and eyelashes become well defined.
- Eyelids, previously fused since the 12th week, now open.
- Pupils are capable of reacting to light.
- When fetuses reach 24 weeks, or 601 g, they have achieved a practical low-end age of viability (earliest age at which fetuses could survive if born at that time).
- Hearing can be demonstrated by response to sudden sound.



End of 28th Gestational Week

- Length: 35–38 cm
- Weight: 1200 g
- Lung alveoli begin to mature, and surfactant can be demonstrated in amniotic fluid.
- Testes begin to descend into the scrotal sac from the lower abdominal cavity.
- The blood vessels of the retina are formed but thin and extremely susceptible to damage from high oxygen concentrations.



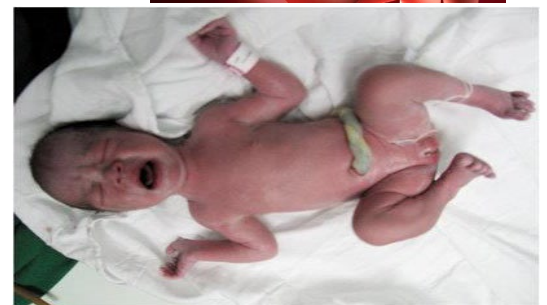
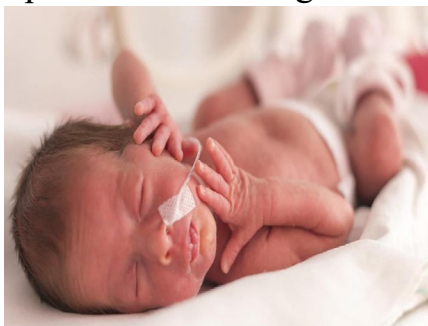


End of 32th Gestational Week

- Length: 38–43 cm
- Weight: 1600 g
- Subcutaneous fat begins to be deposited
- Fetus responds by movement to sounds outside the mother’s body.
- Iron stores, which provide iron for the time during which the neonate will ingest only milk after birth.
- Fingernails grow to reach the end of fingertips.

End of 36th Gestational Week

- Length: 42–48 cm
- Weight: 1800–2700 g (5–6 lb)
- Body stores of glycogen, iron, carbohydrate, and calcium are deposited.
- Additional amounts of subcutaneous fat are deposited.
- Sole of the foot has only one or two crisscross creases, compared with the full crisscross at term.
- Amount of lanugo begins to diminish.
- Most babies turn into a vertex (head down) presentation during this month.



End of 40th Gestational Week

- Length: 48–52 cm
- Weight: 3000 g (7–7.5 lb)
- Fetus kicks actively, hard enough to cause the mother considerable discomfort.
- Fetal hemoglobin begins its conversion to adult hemoglobin.
- Vernix caseosa is fully formed.
- Fingernails extend over the fingertips.
- Creases on the soles of the feet cover at least two thirds of the surface.

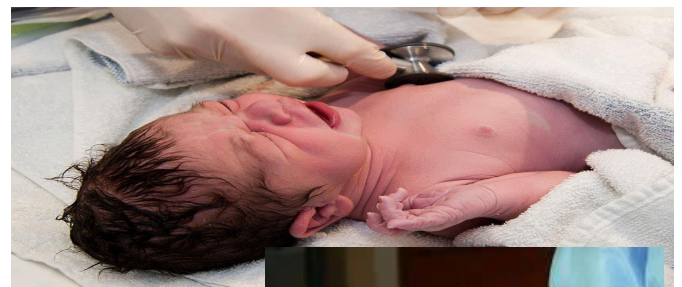


FIGURE 9.7 Human embryos at different stages of life: (A) implantation in uterus 7–8 days after conception. (B) Embryo at 32 days. (C) At 37 days. (D) At 41 days. (E) Between 12 and 15 weeks. (From Petit Format/Nestle/Science Source/Photo Researchers.)



Psychological Changes in Pregnancy

- **First Trimester:** Accepting the pregnancy Woman and partner both spend time recovering from shock of learning they are pregnant and concentrate on what it feels like to be pregnant. A common reaction is ambivalence, or feeling both pleased and not pleased about the pregnancy.
- **Second Trimester:** Accepting the baby Woman and partner move through emotions such as narcissism and introversion as they concentrate on what it will feel like to be a parent. Roleplaying and increased dreaming are common.

- Third Trimester: Preparing for the baby and end of pregnancy Woman and partner prepare clothing and sleeping arrangements for the baby but also grow impatient with pregnancy as they ready themselves for birth.

Events That Could Contribute to Difficulty Accepting a Pregnancy

Multiple pregnancy	Fetal developmental abnormality	Less than 1 year after a previous Pregnancy	Relocation during pregnancy
Economic reasons	Role reversal	Job loss	Marital infidelity
Illness in self, husband, or a relative	Loss of a significant other	Complications of pregnancy such as severe hypertension	Having friends or relatives who have had children born with health disorders
Series of devaluing experiences (e.g., failure in school or work)	History of previous miscarriages, fertility problems, traumatic births	Previous fetal or neonatal loss	History of rape, incest, or domestic violence

Emotional Responses to Pregnancy

1. Grief
2. Narcissism (Self-centeredness)
3. Introversion or extroversion
4. Body image (the way woman's body appears to herself) and body boundary (a zone of separation woman perceive between herself and objects or other people)
5. Couvade syndrome (somatic experiences of father during pregnancy simulating those of the pregnant mother)
6. Stress
7. Mood swings
8. Changes in sexual desire.

Pregnancy

- **Pregnancy** is a normal life event that involves considerable physical and psychological adjustments for the mother.
- A pregnancy is divided into three trimesters of 13 weeks each.
- Within each trimester, numerous adaptations take place that facilitate the growth of the fetus.
- The most obvious are physical changes to accommodate the growing fetus, but pregnant women also undergo psychological changes as they prepare for parenthood.

Signs and symptoms of pregnancy

- Traditionally, signs, and symptoms of pregnancy have been grouped into the following categories: **presumptive, probable, and positive**.
- The only signs that can determine pregnancy with 100% accuracy are positive signs.

BOX 11.1

SIGNS AND SYMPTOMS OF PREGNANCY

Presumptive (Time of Occurrence)	Probable (Time of Occurrence)	Positive (Time of Occurrence)
Fatigue (12 wks)	Braxton Hicks contractions (16–28 wks)	Ultrasound verification of embryo or fetus (4–6 wks)
Breast tenderness (3–4 wks)	Positive pregnancy test (4–12 wks)	Fetal movement felt by experienced clinician (20 wks)
Nausea and vomiting (4–14 wks)	Abdominal enlargement (14 wks)	Auscultation of fetal heart tones via Doppler (10–12 wks)
Amenorrhea (4 wks)	Ballotement (16–28 wks)	
Urinary frequency (6–12 wks)	Goodell's sign (5 wks)	
Hyperpigmentation of the skin (16 wks)	Chadwick's sign (6–8 wks)	
Fetal movements (quickening; 16–20 wks)	Hegar's sign (6–12 wks)	
Uterine enlargement (7–12 wks)		
Breast enlargement (6 wks)		

Subjective (Presumptive) Signs: are the symptoms that woman experiences and reports

1. **Absence of menstruation.**
2. **Nausea and vomiting:** occur frequently during the first trimester and may be the result of elevated human chorionic gonadotropin (hCG) levels and changed carbohydrate metabolism. Because these symptoms often occur in the early part of the day, they are commonly referred to as morning sickness.

3. **Fatigue** may be noted within a few weeks after the first missed menstrual period and may persist throughout the first trimester.
4. **Breast Change and tenderness:** Changes in the breasts are frequently noted in early pregnancy. These changes include tenderness and tingling sensations, increased pigmentation of the areola and nipple, and changes in Montgomery's glands. The veins also become more visible and form a bluish pattern beneath the skin.
5. **Urinary frequency** is experienced during the first trimester as the enlarging uterus presses on the bladder.
6. **Quickening**, or the mother's perception of fetal movement, occurs about 18 to 20 weeks after the last menstrual period in a woman pregnant for the first time but may occur as early as 16 weeks in a woman who has been pregnant before. Quickening is a fluttering sensation in the abdomen that gradually increases in intensity and frequency.

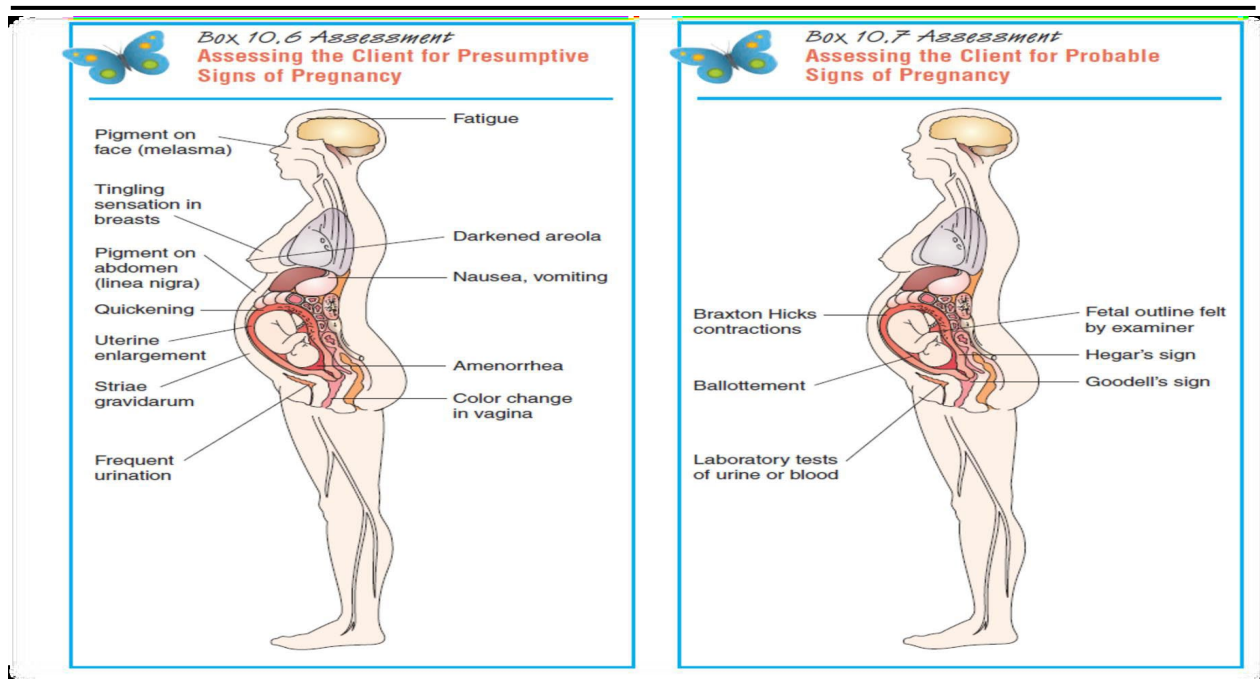
Objective (Probable) Signs

- Probable signs of pregnancy are those that can be detected on physical examination by a health care professional.
- Common probable signs of pregnancy include:
 1. **Changes in the pelvic organs**
 - Hegar's sign: softening of the lower uterine segment or isthmus,
 - Goodell's sign: softening of the cervix
 - Chadwick's sign: a bluish-purple coloration of the vaginal mucosa and cervix
 2. **Changes in the shape and size of the uterus**
 3. **Abdominal enlargement,**
 4. **Uterine souffle:** may be heard when the examiner auscultates the abdomen over the uterus. It is a soft, blowing sound that occurs at the same rate as the maternal pulse and is caused by the increased uterine blood flow and blood pulsating through the placenta.
 5. It is sometimes confused with the **funic souffle**, a soft, blowing sound of blood pulsating through the umbilical cord. The funic souffle occurs at the same rate as the fetal heart rate.
 6. **Skin pigmentation** are common in pregnancy. The nipples and areola may darken, and the linea nigra may develop. Facial melasma (chloasma) may become noticeable, and striae may appear.

7. **Evidence on ultrasound of gestational sac**
8. **Braxton Hicks contractions:** can be palpated most commonly after 28 weeks. They are then often called false labor.
9. **Ballottement** (the examiner pushes against the woman's cervix during a pelvic examination and feels a rebound from the floating fetus).
10. **Serum pregnancy test (Positive pregnancy tests)**
 - are also considered a probable sign of pregnancy. Human chorionic gonadotropin (hCG) is detectable in the serum of approximately 5% of clients 8 days after conception and in more than 98% of clients by day 11.
 - For these tests, hCG is measured in international units. In the nonpregnant woman, no units are detectable because there are no trophoblast cells producing hCG. In the pregnant woman, trace amounts of hCG appear in the serum as early as 24 to 48 hours after implantation. They reach a measurable level (about 50 mIU/mL) 7 to 9 days after conception. Levels peak at about 100 mIU/mL between the 60th and 80th day of gestation. After that point, the concentration of hCG declines again so that, at term.
 - **Home Pregnancy Tests:** Reacts with hCG. A woman dips a strip into her stream of urine. A color change on the strip denotes pregnancy. Home tests can detect as little as 35 mIU/mL of hCG. They take 3 to 5 minutes to perform. Women wait until the day of the missed menstrual period to test. Advise any woman who thinks she might be pregnant but gets a negative result from a home pregnancy test to repeat the test 1 week later if she is still experiencing amenorrhea.

Positive Signs

- The positive signs of pregnancy confirm that a fetus is growing in the uterus.
 1. **Visualizing the fetus by ultrasound** examination confirms a pregnancy. The gestational sac can be observed by 4 to 5 weeks gestation. Fetal parts and fetal heart movement can be seen as early as 8 weeks gestation. More recently ultrasound using a vaginal probe has been used to detect a gestational sac as early as 10 days after implantation.
 2. **Palpating for fetal movements:** is actively palpable by a trained examiner after about week 20 of pregnancy.
 3. **Hearing a fetal heartbeat.** can be detected with an electronic Doppler device as early as weeks 10 to 12. The heartbeat can be detected with a fetoscope by weeks 17 to 20.



Physiologic adaptations during pregnancy

- Every system of a woman's body changes during pregnancy to accommodate the needs of the growing fetus, and these changes occur with startling rapidity.
- Physiologic changes that occur during pregnancy can be categorized as local (confined to the reproductive organs) or systemic (affecting the entire body). Both symptoms (subjective findings) and signs (objective findings) of the physiologic changes of pregnancy are used to diagnose and mark the progress of pregnancy
- The physical changes of pregnancy can be uncomfortable, although every woman reacts uniquely.

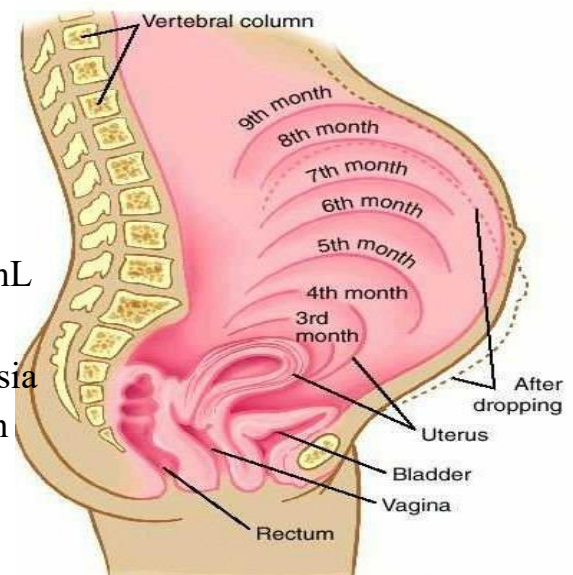
Reproductive System Adaptations

- Significant changes occur throughout the woman's body during pregnancy to accommodate the growing human being within her.
- Many have a protective role for maternal homeostasis and are essential to meet the demands of both the mother and the fetus.
- Many adaptations are reversible after the woman gives birth, but some persist for life.

Uterus:

- Length increases from 6.5 to 32 cm.

- Depth increases from 2.5 to 22 cm.
- Width expands from 4 to 24 cm.
- Weight increases from 50 to 1000 g.
- Uterine wall thickens increases from about 1- 2 cm to about 0.5 cm thick.
- The volume of the uterus increases from about 2 mL to more than 1000 mL.
- Uterine growth occurs as a result of both hyperplasia and hypertrophy of the myometrial cells (estrogen effect).
- Increased strength and elasticity allow uterus to contract and expel fetus during birth.
- Size and number of blood vessels and lymphatics increase.



Cervix

- Increases in mass, water content, and vascularization
- Changes from a relatively rigid to a soft, distensible structure that allows the fetus to be expelled
- Under the influence of progesterone, a thick mucus plug is formed, which blocks the cervical os and protects the developing fetus from bacterial invasion.

Vagina

- Increased vascularity because of estrogen influences, resulting in pelvic congestion and hypertrophy
- Increased thickness of mucosa, along with an increase in vaginal secretions to prevent bacterial infections; secretions are usually thick, white, and acidic.

Ovaries

- A major function of the ovaries (Corpus luteum) is to secrete progesterone for the first 6 to 7 weeks of pregnancy. After that, the placenta takes over the production of progesterone.
- Increased blood supply to the ovaries causes them to enlarge until approximately the 12th to 14th week of gestation.
- The maturation of new follicles is blocked.

- The ovaries cease ovum production.

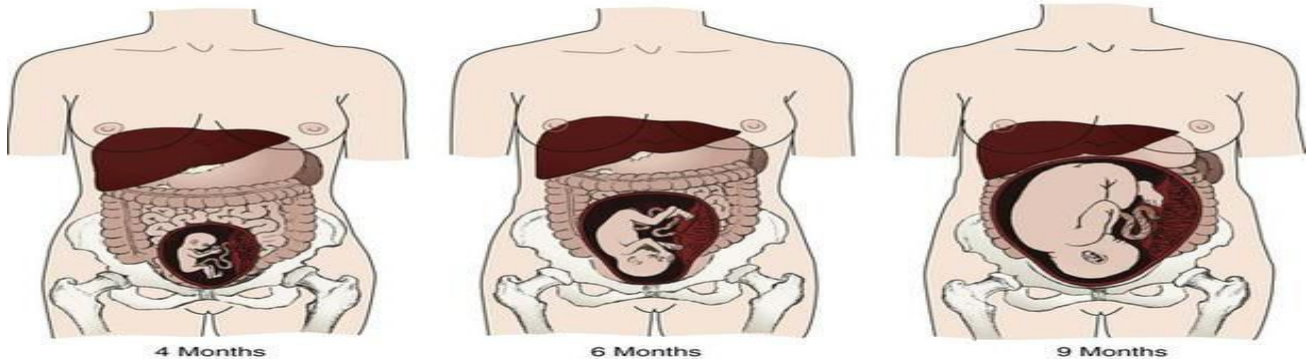
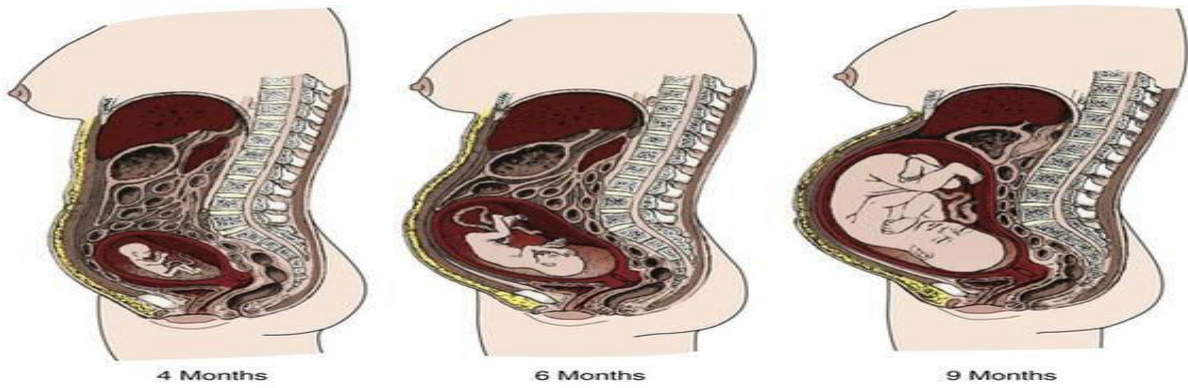
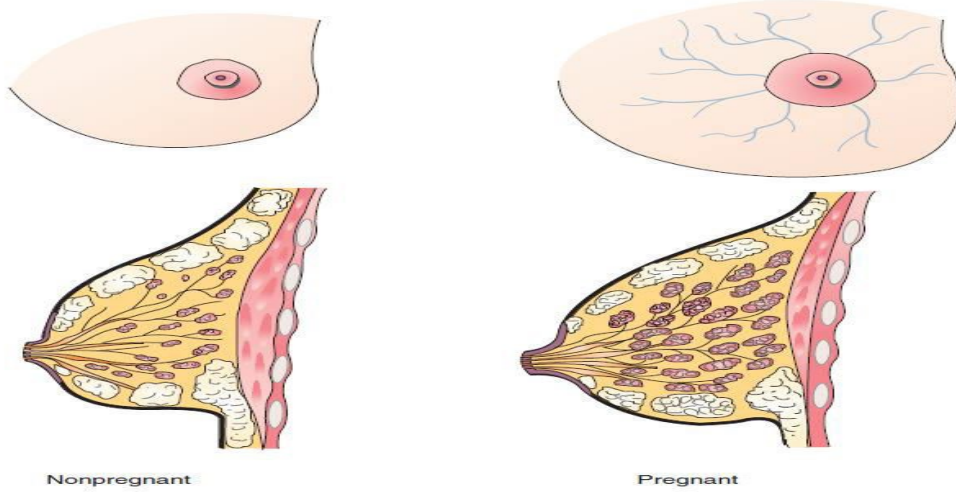
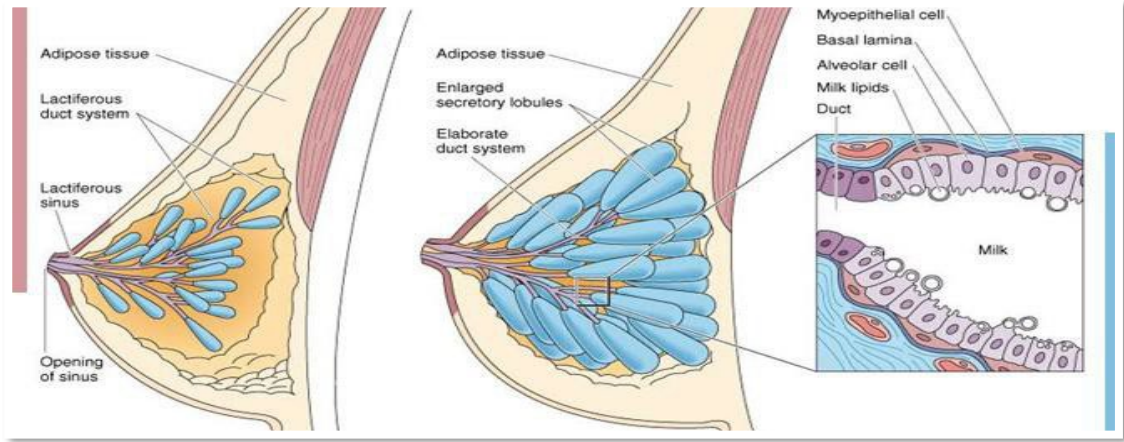
Breasts

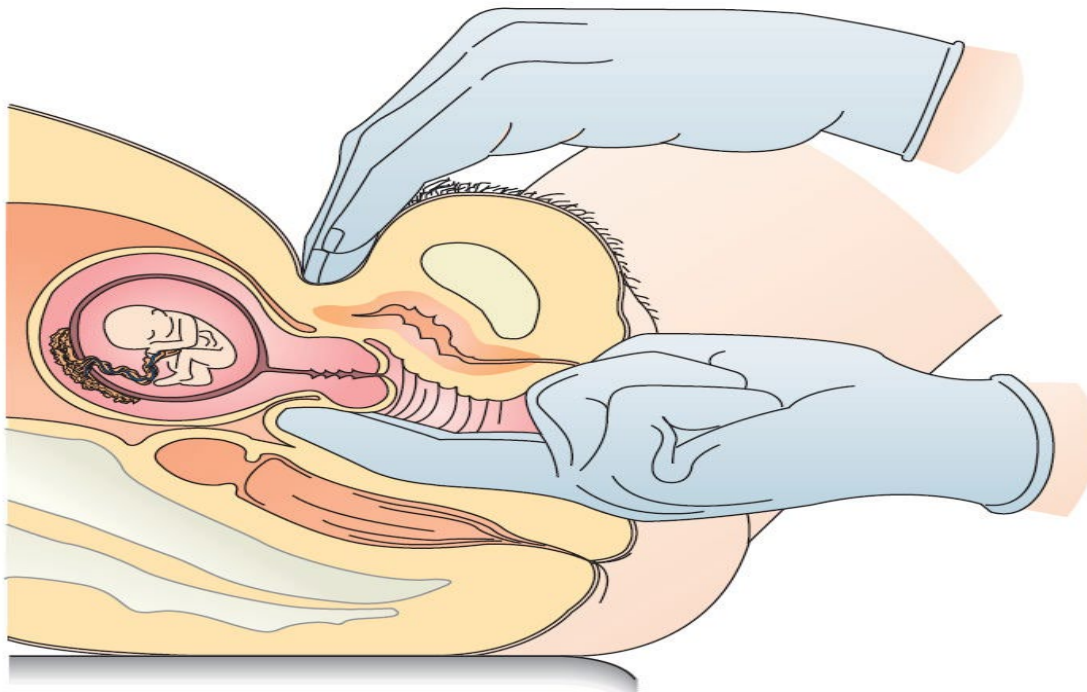
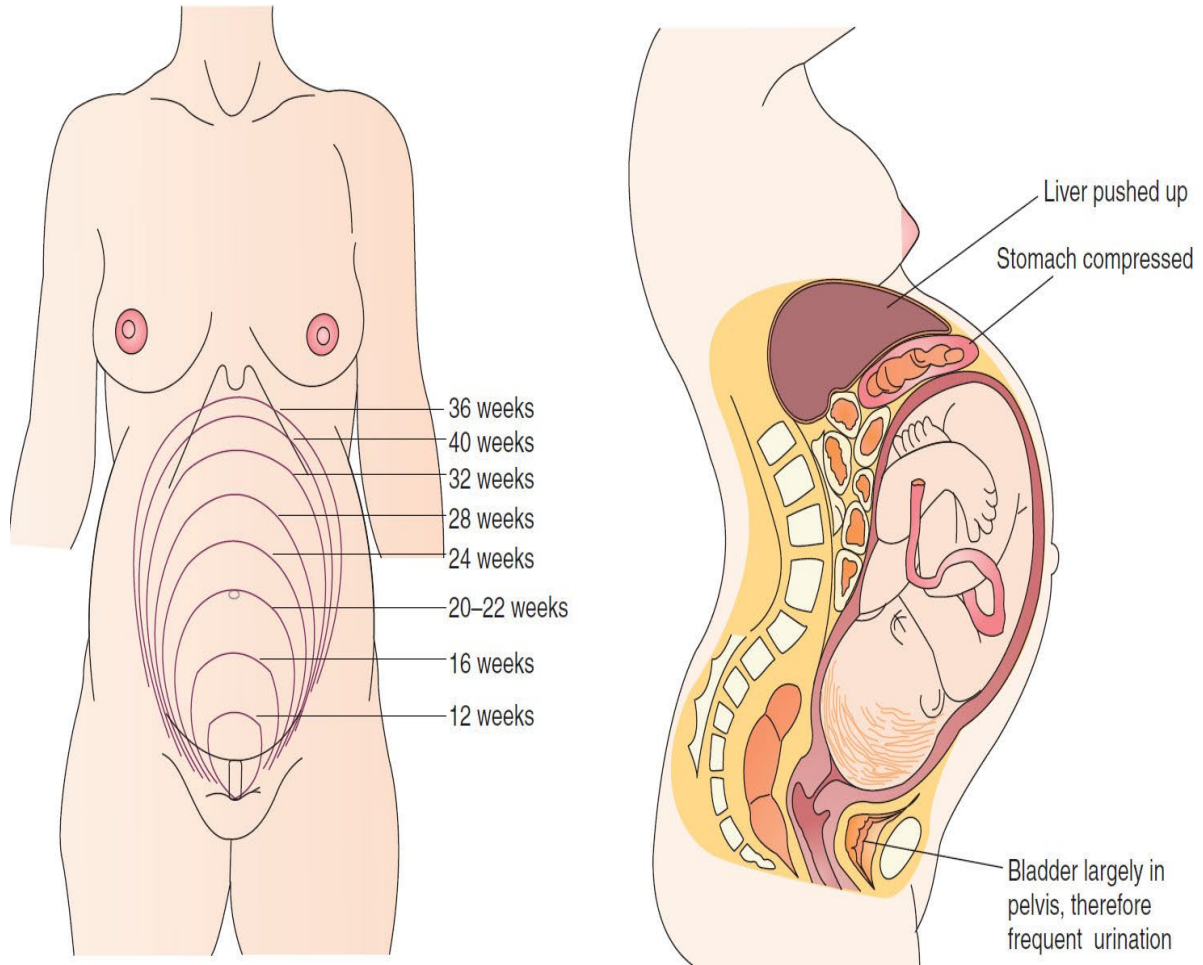
Breast changes occur because of the increasing effects of estrogen and progesterone.

- Breast size increases, and breasts may be tender.
- Nipples become more pronounced.
- The areolae become darker in color.
- Superficial veins become prominent.
- Hypertrophy of Montgomery's follicles occurs.
- Colostrum may leak from the breast (in late trimester).

Changes of Reproductive System During Pregnancy

Uterus	<ul style="list-style-type: none"> • Uterine blood flow increases • Ballottement • Braxton hicks contractions • Amenorrhea
Cervix	Goodell's sign <ul style="list-style-type: none"> • Mucous plug (operculum) • Consistency change
Ovaries •	Ovulation stops
Vagina	<ul style="list-style-type: none"> • Hypertrophic and enriched with glycogen • Chadwick's sign • Leukorrhoea • Vaginal PH is more acidic (4-5) • Lactobacillus acidophilus
Breasts	<ul style="list-style-type: none"> • Size increases • The areola of the nipple darkens • Nipples become more erectile • Montgomery's tubercles • Blue network • Striae gravidarum • Colostrum





General Body Systems Adaptation to Pregnancy

Gastrointestinal system

- *Mouth and pharynx:* **Gums** become hyperemic, swollen, and friable and tend to bleed easily. **Ptyalism** (excessive secretion of saliva) may occur because of increasing levels of estrogen.
- *Esophagus:* Decreased lower esophageal sphincter pressure and tone, which increases the risk of developing **heartburn**
- *Stomach:* Decreased tone and mobility with delayed gastric emptying time, which increases the risk of gastroesophageal **reflux, nausea and vomiting**.
- *Intestines:* Decreased intestinal tone motility with increased transit time, which increases risk of **constipation and flatulence**
- *Gallbladder:* Decreased tone and motility, which may increase risk of **gallstone formation**
- **Hemorrhoids** may occur because of increased venous pressure.

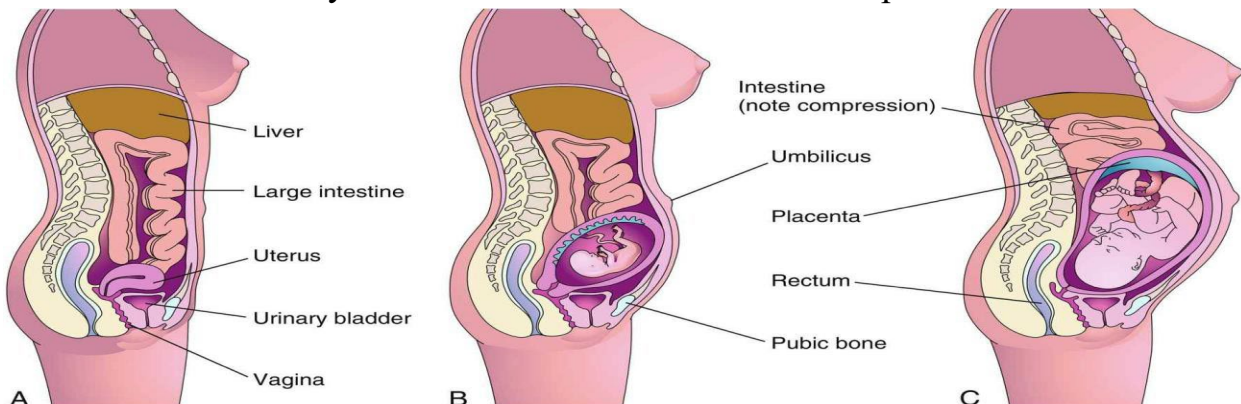


FIG. 4.6 Compression of abdominal contents as uterus enlarges. The nonpregnant state (A) shows the relationship of the uterus to the abdominal contents. As the uterus enlarges at 20 weeks gestation (B) and 30 weeks gestation (C), the abdominal contents are displaced and compressed. (From Moore KL, Persaud TVN, Torchia MG: *The developing human: clinically oriented embryology*, ed 10, Philadelphia, 2016, Saunders.)

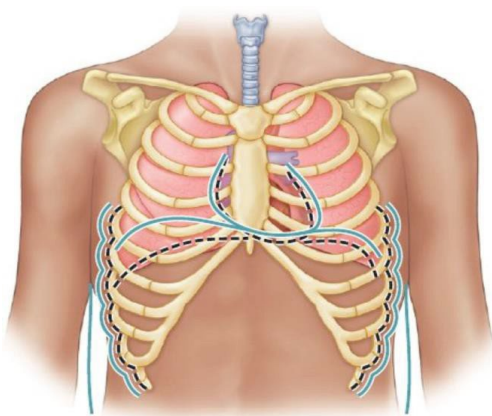
Cardiovascular system

- *Blood volume:* Marked increase in plasma (50%) and RBCs (25–33%) compared to nonpregnant values. Causes hemodilution, which is reflected in a lower hematocrit and hemoglobin (**Physiological anemia**).
- *Heart size increases and the heart is elevated* slightly upward and to the left because of displacement of the diaphragm as the uterus enlarges.
- When the pregnant woman lies supine, the enlarging uterus may press on the aorta and vena cava, thus reducing blood flow to the right atrium, lowering

blood pressure, and causing dizziness, pallor, and clamminess, this condition is called **vena caval syndrome** or **aortocaval compression**.

- Cardiac output and heart rate: CO increases from 30% to 50% over the nonpregnant rate by the 32nd week of pregnancy. The increase in CO is associated with an increase in venous return and greater right ventricular output, especially in the left lateral position. Heart rate increases by 10–15 bpm between 14 and 20 wks of gestation, and this increase persists to term.
- Blood pressure: Diastolic pressure decreases typically 10–15 mm Hg to reach its lowest point by mid-pregnancy; it then gradually returns to nonpregnant baseline values by term.
- *Blood components*: The number of RBCs increases throughout pregnancy to a level 25–33% higher than nonpregnant values. Both fibrin and plasma fibrinogen levels increase, along with various blood-clotting factors. These factors make pregnancy a hypercoagulable state.

Assessment Factor	Prepregnancy	Pregnancy
Cardiac output		25% to 50% increase
Heart rate (bpm)	70–80	80–90
Plasma volume (mL)	2600	3600
Blood volume (mL)	4000	5250
Red blood cell mass (mm ³)	4.2 million	4.65 million
Leukocytes (mm ³)	7000	20,500
Total protein (g/dL)	7.0	5.5–6.0
Fibrinogen (mg/dL)	300	450
Blood pressure		Decreases in second trimester, at prepregnancy level in third trimester



Changes in the outlines of the heart, lungs, and thoracic cage

———— pregnant, - - - - - nonpregnant

Cardiovascular Changes

Blood volume	<ul style="list-style-type: none"> • Increased by at least 30% (possibly as much as 50%) • Pseudoanemia
Iron	<ul style="list-style-type: none"> • Increased need of about 800 mg, Absorption may be impaired • HGB of less than 11 g/100 mL or a hematocrit value below 33% in the 1st or 3rd trimester. • HGB less than 10.5 g/dL (hematocrit 32%) in the 2nd trimester is considered true anemia • Need for folic acid increased Megalohemoglobinemia
Heart	<ul style="list-style-type: none"> • The heart is shifted to a more transverse position in the chest cavity • Heart murmurs
Blood pressure	• Blood pressure actually decreases slightly during the second trimester
Peripheral Blood Flow	<ul style="list-style-type: none"> • Edema and varicosities of the vulva, rectum, and legs • Supine Hypotension Syndrome
Blood Constitution	<ul style="list-style-type: none"> • Fibrinogen, increases as much as 50% • Clotting factors and the platelet count also increased

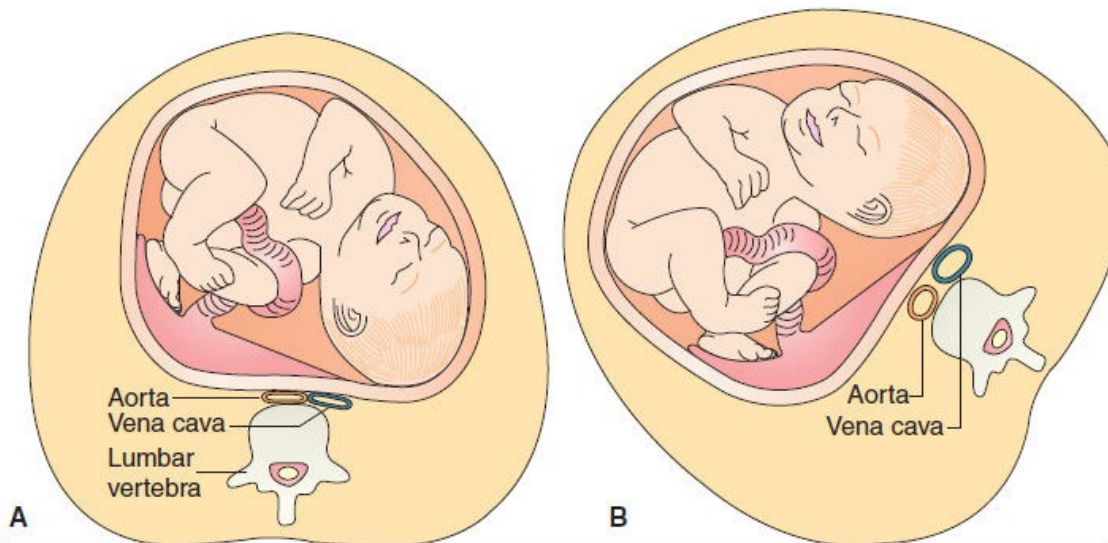


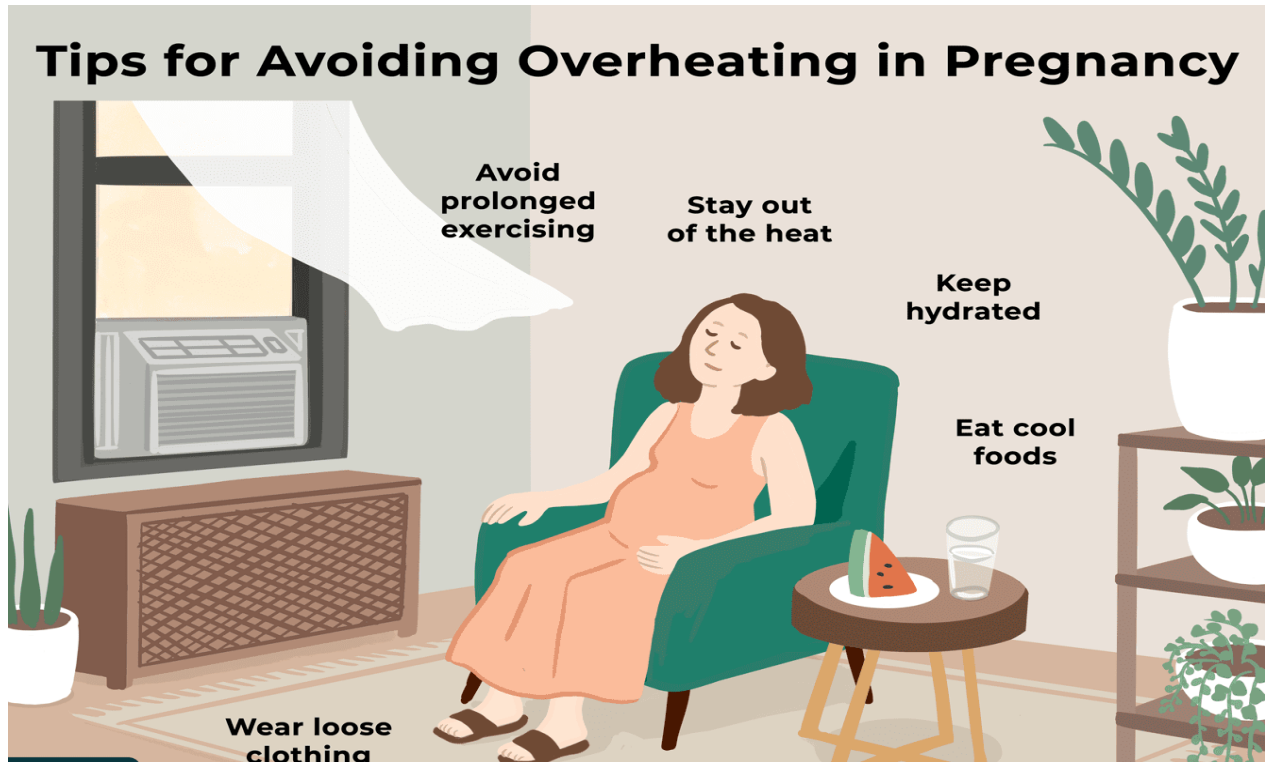
FIGURE 10.8 Supine hypotension can occur if a pregnant woman lies on her back. (A) The weight of the uterus compresses the vena cava, trapping blood in the lower extremities. (B) If a woman turns on her side, pressure is lifted off of the vena cava.

Respiratory system

- Enlargement of the uterus shifts the diaphragm up to 4 cm above its usual position. As muscles and cartilage in the thoracic region relax, the chest broadens, with the conversion from abdominal breathing to thoracic breathing.
- This leads to a 50% increase in air volume per minute. Tidal volume, or the volume of air inhaled, increases gradually by 30–40% (from 500 to 700 mL) as the pregnancy progresses.
- Oxygen consumption increases by approximately 15% to 20%.
- Diaphragm is elevated because of the enlarged uterus.
- Shortness of breath may be experienced

Variable	Change
Vital capacity	No change
Tidal volume	Increased by 30% to 40%
Respiratory rate	Increased by 1–2/min
Residual volume	Decreased by 20%
Plasma P_{CO_2}	Decreased to about 27–32 mm Hg
Plasma pH	Increased to 7.40–7.45
Plasma P_{O_2}	Increased to 104–108 mm Hg
Respiratory minute volume	Increased by 40%
Expiratory reserve	Decreased by 20%

Temperature

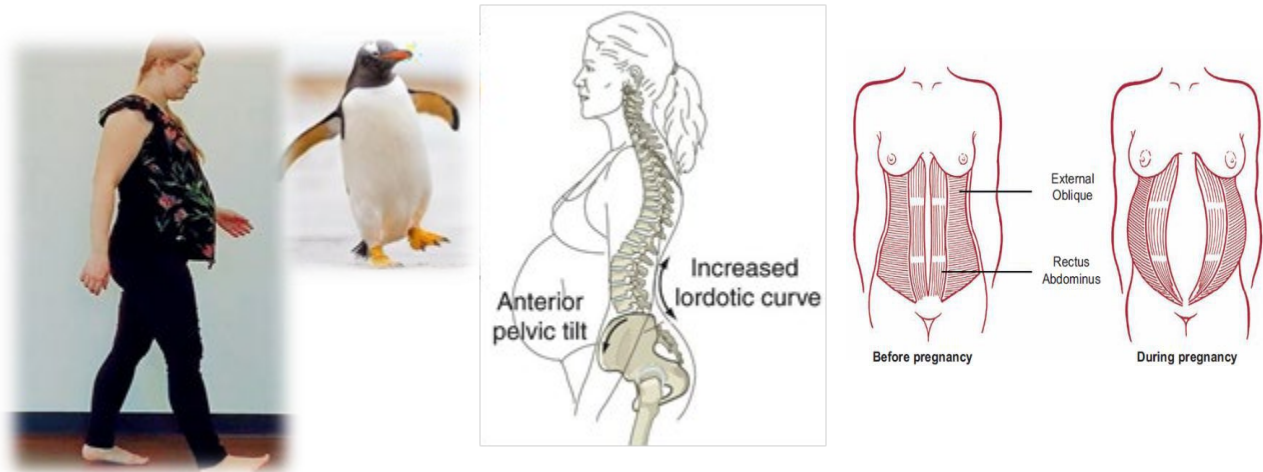


Renal/urinary system

- The renal pelvis becomes dilated. The ureters (especially the right ureter) elongate, widen, and become more curved above the pelvic rim.
- Bladder tone decreases and bladder capacity doubles by term.
- glomerular filtration rate GFR increases 40–60% during pregnancy.
- Blood flow to the kidneys increases by 50–80% as a result of the increase in cardiac output.
- Frequency of urination increases in the first and third trimesters because of increased bladder sensitivity and pressure of the enlarging uterus on the bladder.
- **UTI CAUSES During Pregnancy:** Smooth muscle wall of the ureters develops to hyperplasia, hypertrophy, and muscle tone relaxation. So ureters elongate, tortuous, and form single or double curves. Because of these changes, a large volume of urine is held in the pelvis and ureters, so urine flow is slowed which leads to urinary stasis or stagnation. This is an excellent media for the growth of microorganism also the urine of the pregnant women contains more nutrients as glucose, and elevated PH more alkaline which makes pregnant women more susceptible to UTI.

Musculoskeletal system

- Calcium and phosphorus needs are increased during pregnancy, because the fetal skeleton must be built.
- Excessive mobility of the joints can cause discomfort. A wide separation of the symphysis pubis, as much as 3 to 4 mm by 32 weeks of pregnancy, may occur. This makes women walk with difficulty because of pain.
- Distention of the abdomen with growth of the fetus tilts the pelvis forward, shifting the center of gravity. The woman compensates by developing an increased curvature (lordosis) of the spine.
- Relaxation and increased mobility of joints occur because of the hormone's progesterone and relaxin, which lead to the characteristic “waddle gait” that pregnant women demonstrate toward term.



Integumentary system

- Some changes occur because the levels of melanocyte-stimulating hormone increase as a result of an increase in estrogen and progesterone levels; these changes include the following:
 - Increased pigmentation
 - Dark streak down the midline of the abdomen (linea nigra)
 - Chloasma (mask of pregnancy)—a blotchy brownish hyperpigmentation, over the forehead, cheeks, and nose
- Reddish purple stretch marks (striae gravidarum) on the abdomen, breasts, thighs, and upper arms
- Vascular spider nevi may occur on the neck, chest, face, arms, and legs.
- Rate of hair growth may increase.



linea nigra



Striae gravidarum



Melasma

Endocrine system

- Basal **metabolic rate increases** and metabolic function increases.
- The **anterior lobe** of the **pituitary gland enlarges** and produces serum **prolactin**
 - needed for the lactation process.
- The **posterior lobe** of the pituitary gland produces **oxytocin**, which stimulates uterine contractions.
- The **thyroid enlarges slightly**, and **thyroid activity increases**. The **parathyroid increases in size**.
- **Aldosterone levels gradually increase**.
- **Water retention is increased**, which can contribute to weight gain.

Gland	Change	Effect
Thyroid gland	Slight enlargement Increased thyroid hormone production	Increased basal metabolism rate Increased oxygen consumption
Parathyroid gland	Slight enlargement Increased parathyroid hormone production	Better utilization of calcium and vitamin D
Pancreas	Early in pregnancy, decreased insulin production because of heavy fetal demand for glucose After first trimester, increased insulin production because of insulin antagonist properties of estrogen, progesterone, and human placental lactogen	Additional glucose is available for fetal growth
Pituitary gland	FSH and LH decrease Prolactin increases Melanocyte-stimulating hormone increases Human growth hormone increases	Anovulation Breasts prepared for lactation Increased skin pigment Aids fetal growth
Placenta	Estrogen and progesterone produced Relaxin increased Human placental lactogen	Uterine and breast enlargement, fat deposits Increased blood coagulation, sodium and water retention Softening of cervix and collagen of joints Increases glucose available for fetus Decreases utilization of protein for energy, increasing availability for fetal growth

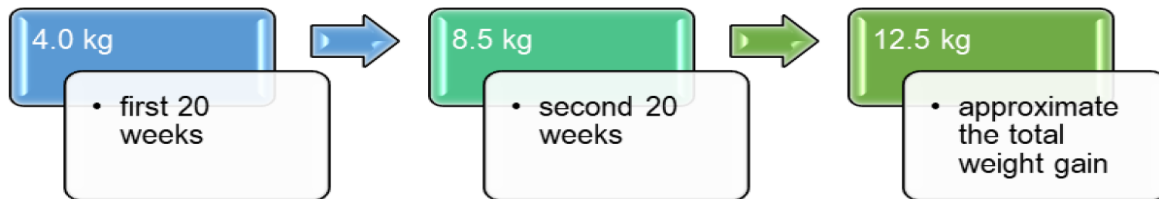
Hormonal Changes in Pregnancy

Hormone		Functions
Estrogen	↑	Increase uterine muscle mass Increase blood flow to uterus Prepare breasts for lactation
Progesterone	↑	Relax venous walls Inhibit uterine contractions
Human chorionic gonadotropin (hCG)	↑	Stimulate estrogen/progesterone production
Relaxin	↑	Discourage uterine contraction Remodeling of collagen
Prolactin	↑	Maturation of breast ducts/alveoli Stimulate lactation
Human placental lactogen	↑	Insulin antagonist Allow adequate glucose for fetal demand

Immune system

- A general enhancement of innate immunity (inflammatory response and phagocytosis) and suppression of adaptive immunity (protective response to a specific foreign antigen) take place during pregnancy.
- These immunologic alterations help prevent the mother’s immune system from rejecting the fetus (foreign body), increase her risk of developing certain infections, and influence the course of chronic disorders such as autoimmune diseases.

Weight changes during pregnancy



Breasts	Fat	Placenta	Fetus	Amniotic fluid	Uterus	Blood volume	Extracellular fluid	Total
0.4kg	3.5kg	0.6kg	3.4kg	0.6kg	1.0kg	1.5kg	1.5kg	12.5kg

Prenatal Care

Prenatal care

This includes:

1. Medical & nursing care
2. Taking history
3. Physical exam.
4. Obstetrical exam.
5. Nutrition during pregnancy
6. General hygiene during pregnancy
7. Minor discomforts during pregnancy
8. Preparation for labor & delivery

Antenatal care: is important for:

1. Maintaining mother in best possible health condition
2. Detecting complications earlier
3. Maternal education: for diet, general health, vaccination, psychological support

1st visit called booking. This includes the followings:

1. History taking
2. General exam.
3. Obstetric exam. → scheduled visits
4. Investigations → GUE, Hb%, Blood group & Rh

Maintaining general health of pregnant lady:

1. Rest, sleep (10 hrs.)
2. Exercise
3. Breast care
4. Cloths (wide, clean)
5. Shoes (low heeled)
6. Teeth care
7. Avoid drug abuse
8. Diet intake (adequate, frequent, carbohydrates)
9. Psychological support for labor
10. Piles: nursing care by pushing them upward with use of lubricants & ice bag (vasoconstriction)
11. Vaginal douches: nurse advise the mother for washing clothes, deodorant spray is contraindicated, vaginal douching is limited
12. Smoking: cause Intrauterine growth retardation (IUGR), low birth weight (LBW) infants & prematurity, stillbirth, placenta Previa → nurse should discuss hazards of smoking

13. Alcohol: lead to fetal –alcohol syndrome. Nurse advises the mother to stop taking alcohol

History taking:

- The nurse should receive mother in pleasant manner, good relationship, able to answer all questions

It includes:

1. Identifying data: name, age, race, occupation, religion
2. Chief complaint: what makes the patient come to the clinic & duration
3. History of present illness: details of chief complaints
4. Medical and Surgical History: Chronic conditions can affect the outcome of the pregnancy and should be investigated. Infections, surgical procedures, and trauma may complicate the pregnancy or childbirth and should be documented.

The history includes the following:

- Childhood diseases and immunizations
 - Chronic illnesses (onset and treatment) such as asthma, ear disease, hypertension, diabetes, renal disease, and lupus
 - Previous illnesses, surgical procedures, and injuries (particularly of the pelvis and back)
 - Previous infections such as hepatitis, STDs, tuberculosis, and presence of group B Streptococcus
 - History of and treatment for anemia, including any previous blood transfusions
 - Bladder and bowel function (problems or changes)
 - Amount of caffeine and alcohol consumed each day
 - Tobacco uses in any form (number of years and daily amount)
 - Complementary or alternative therapies used
 - Appetite, general nutrition, history of eating disorders
 - Contact with pets, particularly cats (increased risk for infections such as toxoplasmosis)
 - Allergies and drug sensitivities
 - Occupation and related risk factors
5. **Family history:** D.M, HT, respiratory or renal, thyroid disorders, bleeding disorders, hepatitis, epilepsy tuberculosis. In addition, it may reveal information about patterns of genetic or congenital anomalies
 6. **Social history:** habits, living accommodations

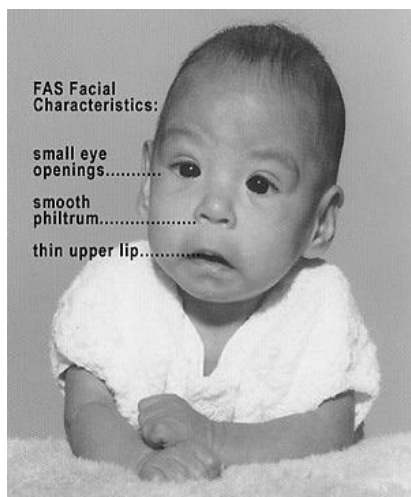
7. **Review of systems:** respiratory, cardiac, GIT, genitourinary, neurological
8. **Obstetric History:** The obstetric history provides essential information about previous pregnancies and may alert the health care provider to possible problems in the present pregnancy. Components of this history include the following: Gravida, para, abortions (spontaneous or elective termination of pregnancies before the 20th week of gestation; spontaneous abortion is frequently called miscarriage), and living children
 - Length of previous gestations
 - Weight of infants at birth
 - Labor experiences, type of deliveries, locations of births, and names of providers
 - Types of anesthesia and any difficulties with anesthesia during childbirths or previous surgeries
 - Maternal complications such as hypertension, diabetes, infection, bleeding, or psychologic complications
 - Infant complications
 - Methods of infant feeding used in the past and currently planned
9. **Gynecological history:** gynecological infection, operations, contraceptive use, A detailed history of contraceptive method is important.
10. **Menstrual history:** menarche, regular, amount of blood loss, dysmenorrhea, LMP, Duration of period, Length of the cycle

General examination / physical exam.

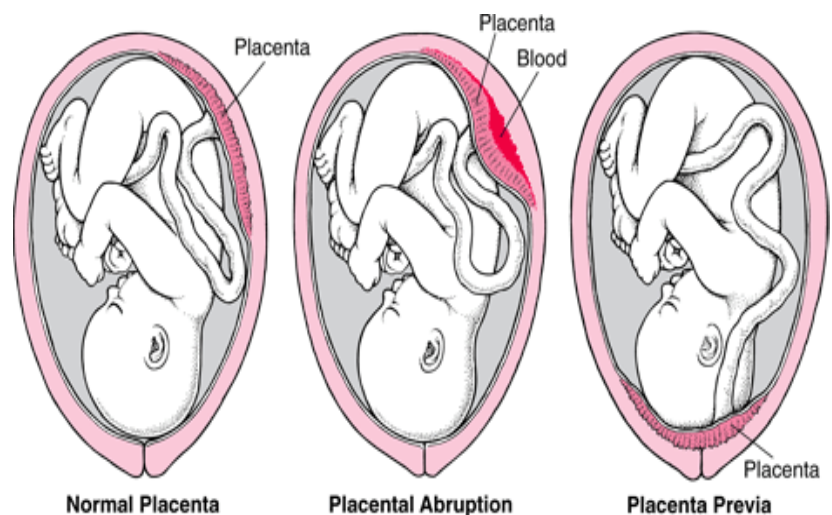
1. Vital signs: Blood pressure, Temp., PR, Respiratory rate, height, wt. lymph nodes, goiter, teeth, throat, breast, skin, signs of infection or disorders
2. Abdomen exam.: fundal height, fundal grips, lateral grip, pelvic grip
3. Pelvic exam.: bimanual exam. for confirming pregnancy, any infection, adequacy of pelvic cavity
4. Diagnose high risk pregnancy
5. Investigations: Hb%, Bd. group & Rh, GUE
6. Subsequent visits → scheduled as follows:
 - a- Conception to 28 weeks → every 4 weeks
 - b- 29 to 36 weeks → every 2 weeks
 - c- 37 weeks to birth → weekly

Danger Signs in Pregnancy

The woman should report the following -danger signs in -pregnancy immediately:	
Danger Sign	Possible cause
Sudden gush of fluid from vagina	Premature rupture of membranes
Vaginal bleeding	Abruptio placentae, placenta previa
	Lesions of cervix or vagina
Abdominal pain	Premature labor, abruptio placentae
Temperature above 101.0°F (38.3°C) and chills	Infection
Dizziness, blurring of vision, double vision, spots before eyes	Hypertension, preeclampsia
Persistent vomiting	Hyperemesis gravidarum
Severe headache	Hypertension, preeclampsia
Edema of hands, face, legs, and feet	Preeclampsia
Muscular irritability, convulsions	Preeclampsia, eclampsia
Epigastric pain	Preeclampsia, ischemia in major abdominal vessel
Oliguria	Renal impairment, decreased fluid intake
Dysuria	Urinary tract infection
Absence of fetal movement	Maternal medication, obesity, fetal death



Fetal Alcohol Syndrome



Nutrition during pregnancy:

- Studies show direct relationship between maternal diet & pregnancy outcome. Bad nutrition leads to difficulties in pregnancy, labor & delivery: ↑ perinatal mortality, LBW, ↑ infant morbidity

Possible effects of poor nutrition on reproductive cycle:

1. Infertility
2. abortion, stillbirth, neonatal death
3. PET, eclampsia
4. placental abnormalities
5. LBW babies
6. slow postpartum recovery
7. difficulties in lactation

Nutritional assessment:

1. Assess dietary intake: nurse ask for amount of food intake, type, method of preparation
2. Assess nutritional status: by:
 - a- measuring height & wt. (BMI) to identify under wt. mother
 - b- doing investigations Hb%, S. level of folic acid used as indicator
 - c- Sometime, do total S. protein, Albumin, S. vit. B12

Nutritional risk factors:

1. < 17 years old: need ↑ nutrition for her body & her fetus
Adolescent woman had LBW, ↑ perinatal mortality, prematurity
Older woman may also need additional nutrition
2. Obstetric history: high parity, Pre-eclampsia (PE), gestational diabetes, anemia, antepartum hemorrhage (APH), prematurity, neonatal Death
3. Pregnancy complications: anemia, D.M, PET
4. Medical history
5. Maternal wt.
 - a- low pre pregnant wt. → 10% under standard wt. for height have LBW, premature, ↑ morbidity & mortality
 - b- obesity → 20% over standard wt. for height have HT, DM &

Minor discomforts during pregnancy:**1. Morning sickness:**

- Nausea & vomiting in 1st 6-12 week. (↑ HCG, Progesterone)
- Hyperemesis gravidarum: exaggerated morning sickness

Management of Morning sickness:

- exclude other causes (pyelonephritis, intestinal obstruction, infective hepatitis, cerebral tumor), occur in multiple pregnancies & hydatidiform mole.
- Check for wt. gain & urinary output, vital signs.
- Eating dry crackers before arising
- Avoiding brushing teeth immediately after arising
- Eating small, frequent, low-fat meals during the day
- Drinking liquids between meals rather than at meals
- Avoiding fried foods and spicy foods
- Treatment: by reassurance, giving antiemetics (Meclizine 25 mg, Cyclizing 50 mg or Promethazine 25 mg TDS), I.V fluid with sedative & sometime vit. B12 (10 mg) supplement.

2. Heartburn:

- Occurs in the second and third trimesters
- Results from increased progesterone levels, decreased gastrointestinal motility, esophageal reflux, and displacement of the stomach by the enlarging uterus

Interventions

- Eating small, frequent meals: Avoiding fatty and spicy foods, eat solid carbohydrates
- Sitting upright for 30 minutes after a meal
- Drinking milk, fluid, and water between meals
- Coffee & smoking prohibited
- Performing tailor-sitting exercises
- Consulting with the HCP about the use of antacids

3. Flatulence: eating small well masticated food. Avoid gas forming food (beans)**4. Constipation**

- Usually occurs in the second and third trimesters
- Results from an increase in progesterone production, decreased intestinal motility, displacement of the intestines, pressure of the uterus, and taking iron supplements

Interventions

- Eating high-fiber foods such as whole grains, fruits, and vegetables
- Drinking no less than 2000 mL per day
- Exercising regularly, such as a daily 20- minute walk
- Consulting with the HCP about interventions such as the use of stool softeners, laxatives, or enemas

5. **Frequency of urination:** due to uterine pressure in 1st trimester & engaged head in 3rd trimester.

Management and interventions:

- Exclude UTI.
- Drinking no less than 2000 mL of fluid during the day
- Limiting fluid intake in the evening
- Voiding at regular intervals
- Sleeping side-lying at night
- Wearing perineal pads, if necessary
- Performing Kegel exercises

6. Backache:

- Usually occurs in the second and third trimesters
- Caused by an exaggerated lumbosacral curve resulting from an enlarged uterus (changing woman posture in relation to growing uterus. Shoulders pushed backward, abdomen protruded, relaxation of sacroiliac joints, in addition to postural changes cause backache).
- Risk for falls; teach to move about slowly
- **Nurse advice:**
 - a- advise her to have good posture (Using correct posture and body mechanics)
 - b- sit, stand & lie in posture that minimize the hollow of the lower back
 - c- sitting posture with pillow support to back
 - d- bending using knees & not back
 - e- Obtaining rest
 - f- Wearing low-heeled, comfortable, and supportive shoes
 - g- Performing pelvic tilt (rock) exercises and conscious relaxation exercises
 - h- Sleeping on a firm mattress

7. **Dyspnea** (Shortness of breath): Can occur in the second and third trimesters from pressure on diaphragm from the enlarged uterus

Interventions

- Taking frequent rest periods
- Sitting and sleeping with the head elevated or on the side
- Avoiding overexertion
- differentiate it from Heart failure where the onset is acute.

8. **Varicosity:**

- Usually occur in the second and third trimesters
- Result from weakening walls of the veins or valves and venous congestion due to progesterone, pressure of uterus on pelvic veins.

Interventions

- Wearing supportive elastic stockings or support hose
- Elevating the feet when sitting
- Avoiding long periods of standing or sitting
- Moving about while standing to improve circulation
- Avoiding leg crossing
- prevent constipation
- Avoiding constricting articles of clothing such as knee-high stockings
- Thrombophlebitis is rare, but it may occur.
 - a. Teaching leg exercises
 - b. Avoiding airline travel

9. **Hemorrhoids**

- Usually occur in the second and third trimesters
- Result from increased venous pressure and constipation

Interventions

- Soaking in a warm sitz bath
- Sitting on a soft pillow
- Eating high-fiber foods and drinking sufficient fluids to avoid constipation
- Increasing exercise, such as walking
- Applying ointments, suppositories, or compresses as prescribed by the HCP
- Put ice bag, use lubricants

10. **Cramps:** painful spasm of muscles of legs. Commonly occur in later months of pregnancy due to pressure effect of uterus on nerves or due to ↓ calcium.

Interventions

- Immediate relief is by force toes upward & press on knee to straighten the leg, elevate legs, keep them warm, warm both before sleeping, massage with hot pads.
- Getting regular exercise, especially walking
- Dorsiflexing the foot of the affected leg
- Increasing calcium intake

11. **Edema:** physiological edema, especially in hot weather.

- Treated by elevating legs, rest, provide high salt diet, eating high protein, avoid tight clothing. Exclude PET.

12. Ankle edema

1. Usually occurs in the second and third trimesters
2. Results from vasodilation, venous stasis, and increased venous pressure below the uterus

Interventions

- Elevating the legs at least twice a day and when resting
- Sleeping in a side-lying position
- Wearing supportive stockings or support hose
- Avoiding sitting or standing in 1 position for long periods

13. **Vaginal discharge:** physiological ↑ secretion.

- Can occur in the first through the third trimesters
- Caused by hypertrophy and thickening of the vaginal mucosa and increased mucus production

Interventions

- a. Using proper cleansing and hygiene techniques
- b. Wearing cotton underwear
- c. Avoiding douching
- d. Consulting the HCP if infection is suspected
 - if yellow discharge → gonorrhoea, trichomonas vaginalis
itching occurs, burning sensation, urinary signs → treated by giving flagyl 200 mg TDS for 10 days.
 - if white, cheese like discharge → candida albicans → treated by sodium bicarbonate, antifungal drugs.

Preparation of pregnant lady for labor & delivery:

1. Education during antenatal care. Explain what will happen
2. Psychological support
3. Advise to have bath, clean cloths
4. Evacuate the bowel, catheterization for urination
5. Clean vagina by shaving hair
6. Measuring vital signs frequently
7. Checking her investigations
8. Thorough exam. (general & obstetrical exam.)
9. Position in the theatre, isolation of the patient
10. Detect signs & symptoms of maternal & fetal distress

“PREGNANCY COMPLICATIONS”

HEMORRHAGIC CONDITIONS OF EARLY PREGNANCY

- Vaginal bleeding during pregnancy (Ante partum Hemorrhage) is always a deviation from the normal, may occur at any point during pregnancy, and is always frightening.
- The three most common causes of hemorrhage during the first half of pregnancy are abortion, ectopic pregnancy, and gestational trophoblastic disease.

Abortion:

- Abortion is the expulsion of a fetus from the uterus before it has reached the stage of viability (in human beings, usually about the 20th week of gestation)

Spontaneous Abortion:

- Spontaneous abortion is a termination of pregnancy without action taken by the woman or another person.

Incidence and Etiology.

- Determining the exact incidence of spontaneous abortion is difficult because many unrecognized losses occur in early pregnancy, but it averages approximately 18% to 31% with any pregnancy.
- Most pregnancies (50% to 70%) are lost during the first trimester; many of these may occur before implantation or during the first month after the last menstrual period.

Causes:

First trimester (12 weeks)

- 1- Chromosomal abnormalities (50 %-60%) Anembryonic (no embryo) causing a spontaneous abortion
- 2- maternal infections such as syphilis, listeriosis, toxoplasmosis, brucellosis, rubella, cytomegalic virus,
- 3- maternal endocrine disorders such as hypothyroidism, diabetes, and decreased progesterone.
- 4- Anatomic defects of the uterus, uterine septum, or cervical incompetence may contribute to pregnancy loss at any gestational age

- 5- Finally, heavy alcohol consumption and heavy smoking may play a role in spontaneous abortion
- 6- Teratogen drugs and radiation (cancer chemotherapy)

Pathophysiology:

- the pathophysiology of spontaneous abortion differs according to the cause in most cases embryonic death occurs, which results in loss of human chorionic gonadotropin (HCG) and decreased progesterone and estrogen levels. the uterine deciduas is then sloughed off (vaginal bleeding) and usually expels the embryo/fetus.

Classification:

- Spontaneous abortions are subdivided into the following categories so that they can be differentiated clinically
- 1- Threatened abortion:
 - Unexplained bleeding, cramping, or backache indicate that the fetus may be in jeopardy, bleeding persists for days the cervix is closed it may be followed by partial or complete expulsion of pregnancy, or it may resolve without threatening the fetus these will continue to term other will end by missed abortion.
 - 2- Inevitable Abortion Clinical Manifestations.
 - Abortion is usually inevitable (i.e., it cannot be stopped) when membranes rupture and the cervix dilates. Rupture of membranes generally is experienced as a loss of fluid from the vagina and subsequent uterine contractions and active bleeding. Incomplete evacuation of the products of conception can result in excessive bleeding or infection.
 - 3- Incomplete Abortion Clinical Manifestations.
 - Incomplete abortion occurs when some but not all of the products of conception are expelled from the uterus. The major manifestations are active uterine bleeding and severe abdominal cramping. The cervix is open, and some fetal and/or placental tissues are passed
 - 4- Complete Abortion Clinical Manifestations.
 - Complete abortion occurs when all products of conception are expelled from the uterus. After the passage of all products of conception, uterine contractions and bleeding subside and the cervix closes. The uterus feels smaller than the length of gestation would suggest. The symptoms

of pregnancy are no longer present, and the pregnancy test becomes negative as hormone levels fall.

5- Missed abortion:

- The fetus dies in utero but is not expelled uterine growth ceases, breast changes regress and the women may report brownish vaginal discharge. the cervix is closed on history, pelvic examination, and drop in (HCG) levels or a negative pregnancy test and may be confirmed by ultrasound if necessary. If the fetus is retained beyond 4 weeks, fetal autolysis (break down of cells or tissue) results in the release of thromboplastin, and disseminated intravascular coagulation (DIC) may develop

6- Recurrent or habitual abortion:

- Abortion occurs consecutively in three or more pregnancies.

Causes:

- the primary causes of recurrent abortion are believed to be
 - 1- Genetic or chromosomal abnormalities and anomalies of the reproductive tract, such as a uterus with two horns or an incompetent cervix
 - 2- Additional causes include an inadequate luteal phase with insufficient secretion of progesterone
 - 3- Systemic diseases such as systemic lupus erythematosus and diabetes mellitus have been implicated in recurrent abortions.
 - 4- Reproductive infections and some sexually transmitted diseases (STDs) are also associated with recurrent abortions

7- Septic abortion:

The presence of infection septic abortion is less common since the availability of legal abortion. may occur with prolonged, unrecognized rupture of the membranes, pregnancy with an intrauterine device (IUD) in utero, or pregnancy attempts by inadequately prepared individuals to terminate a pregnancy.



Threatened abortion
Vaginal bleeding occurs.



Inevitable abortion
Membranes rupture, and cervix dilates.



Incomplete abortion
Some products of conception have been expelled, but some remain.

Management of abortion:

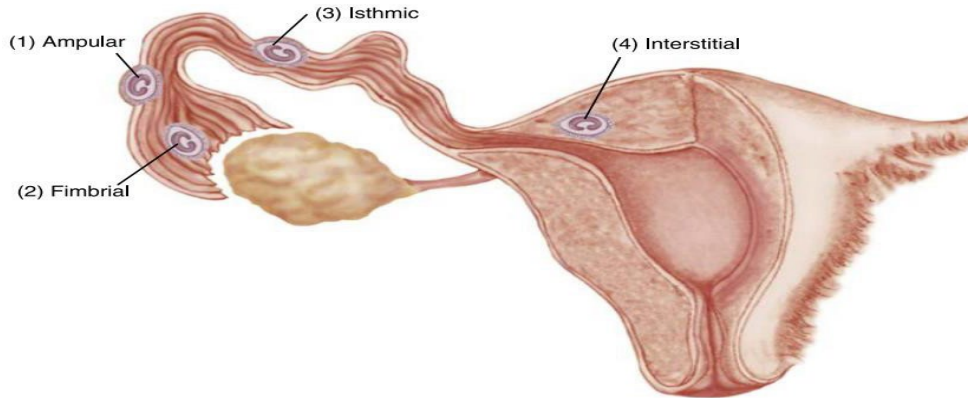
- 1- bed rest.
- 2- sedation.
- 3- For incomplete abortion curettage before 14 wks. of gestation but after 14 wks. of pregnancy we do induction of abortion by giving pit (oxytocin) drips.
- 4- Anti-biotic to prevent infection.
- 5- RH-ve women give immunoglobulin after abortion.

Nursing care:

- 1- Monitor blood pressure and pulse frequently.
- 2- Observe women for indications of shock, such as pallor, clammy skin, perspiration, dyspnea, or restlessness.
- 3- Count and weigh pads to assess the amount of bleeding over a given time period, save any tissue or clots expelled.
- 4- If pregnancy is 12 weeks gestation or beyond, assess fetal heart tones with a Doppler.
- 5- Prepare for intravenous (IV) therapy. there may be standing orders to start IV therapy on bleeding clients.
- 6- Prepare equipment for the examination and have oxygen therapy available.
- 7- Collect and organize all data, onset of bleeding episode, and laboratory studies (Hb, Rh, hormonal assays).
- 8- Obtain an order to type and cross-match for blood if there is evidence of significant blood loss.
- 9- Assess the coping mechanisms and support systems of women in crisis
- 10- Give emotional support to enhance her coping abilities by continuous, sustained presence, by a clear explanation of procedures, and by communicating her status to her family, most important, prepare the woman for possible fetal loss Assess her expressions of anger, denial, guilt, depression, or self-blame
- 11- Assess the family's response to the situation

Ectopic Pregnancy:

- Ectopic pregnancy is an implantation of a fertilized ovum in an area outside the uterine cavity. Although implantation can occur in the abdomen or cervix, 97% of ectopic pregnancies occur in the fallopian tube. shows the common sites of ectopic implantation.



Sites of Tubal Ectopic Pregnancy. Numbers indicate the order of prevalence.
Causes:

- 1- Additional causes of ectopic pregnancy are delayed or premature ovulation, with the tendency of the fertilized ovum to implant before arrival in the uterus, and altered tubal motility in response to changes in estrogen and progesterone levels that occur with conception.
- 2- Previous pelvic or tubal surgery
- 3- Endometriosis
- 4- Previous ectopic pregnancy
- 5- Presence of an intrauterine device (IUD)
- 6- Congenital anomalies of the tube
- 7- Use of ovulation –inducing drugs
- 8- infertility
- 9- Smoking
- 10- Advanced maternal age(25-34)

PATHOPHYSIOLOGY of ectopic pregnancy.

- The mechanisms responsible for ectopic implantation are unknown. The four main possibilities are an anatomic obstruction to the passage of the zygote, an abnormal concept, abnormalities in the mechanisms responsible for tubal motility, and trans peritoneal migration of the zygote.

Clinical Manifestations:

The classic signs of ectopic pregnancy include the following:

- 1- Missed menstrual period
- 2- Positive pregnancy test
- 3- lower Abdominal pain
- 4- Vaginal “spotting” (6-8 weeks) dark red or brown

- 5- shock
- 6- blood in peritoneal cavity
- 7- dizziness and faintness
- 8- blueness around the umbilicus hematoperitoneum (indicated intra-abdominal ruptured)

Diagnosis:

- 1- A careful assessment of menstrual history, particularly the last menstrual period (LMP)
- 2- Careful pelvic exam to identify any abnormal pelvic masses and tenderness
- 3- Laboratory testing (pregnancy test)
- 4- Physical examination
- 5- Ultrasonography. Transvaginal ultrasound
- 6- Laparoscopy (examination of the peritoneal cavity)

Management:

- 1- Surgical management: **salpingostomy** for the unruptured fallopian tube, to preserve the tube—an important consideration for the woman wanting to preserve her future fertility. **Salpingectomy** for the ruptured fallopian tube, this surgery (A laparotomy with a removal of the tube) is necessary as a result of possible uncontrolled hemorrhage.
- 2- Medical by methotrexate in case of early diagnosis when un ruptured mass is less than 4 cm

Nursing care:

- 1- checking vital signs and laboratory test, take sample of blood send for Hb, blood group and Rh and cross match she must inform the doctor who will be responsible
- 2- Nursing care focuses on prevention or early identification of hypovolemic shock, pain control, and psychological support for the woman who experiences ectopic pregnancy.
- 3- Nurses administer ordered analgesics and evaluate their effectiveness so pain can be adequately controlled.
- 4- Nurse administers Rh immune globulin to Rho(D)-negative women
- 5- After operation, nurse must be alert for the sign of infection and intra-abdominal bleeding follow – up. Hcg levels are essential to confirm that all trophoblastic tissue was removed

Risk factors

Some things that make women more likely to have an ectopic pregnancy are:

- Previous ectopic pregnancy.
- Inflammation or infection. Sexually transmitted infections, such as gonorrhea or chlamydia, can cause inflammation in the tubes and other nearby organs, and increase your risk of an ectopic pregnancy.
- Fertility treatments. Some research suggests that women who have in vitro fertilization (IVF) or similar treatments are more likely to have an ectopic pregnancy. Infertility itself may also raise your risk.
- Tubal surgery. Surgery to correct a closed or damaged fallopian tube can increase the risk of an ectopic pregnancy.
- Choice of birth control. The chance of getting pregnant while using an intrauterine device (IUD) is rare. However, if women get pregnant with an IUD in place, it's more likely to be ectopic.
- Tubal ligation, a permanent method of birth control commonly known as "having tubes tied," also raises the risk, if women become pregnant after this procedure.
- Smoking. Cigarette smoking just before you get pregnant can increase the risk of an ectopic pregnancy. The more you smoke, the greater the risk

Complication of ectopic pregnancy:

- 1- sever blood loss
- 2- residual trophoblastic tissues which cause infection and adhesion future infertility

Gestational Trophoblastic Disease (Hydatidiform Mole)

- Hydatidiform mole is one form of the gestational trophoblastic disease, which occurs when trophoblasts (peripheral cells that attach the fertilized ovum to the uterine wall) develop abnormally.
- The placenta does not develop normally and, if a fetus is present, there will be a fatal chromosome defect.
- Gestational trophoblastic disease is characterized by proliferation and edema of the chorionic villi.
- The fluid-filled villi form grapelike clusters of tissue that can rapidly grow large enough to fill the uterus to the size of an advanced pregnancy.
- The mole may be complete, with no fetus present, or partial, in which fetal tissue or membranes are present

Type of hydatid form

Hydatid formals subdivide into

- 1- complete hydatid form. is thought to occur when the ovum is fertilized by a sperm that duplicates its own chromosomes and the maternal chromosomes in the ovum are inactivated, a complete mole that is composed only of enlarged villi but contains no fetal tissue or membranes.
- 2- partial mole, the maternal contribution is usually present, but the paternal contribution is doubled, and therefore the karyotype is triploid (69,XXY or 69,XYY). If a fetus is identified with the partial mole, it is grossly abnormal because of the abnormal chromosomal composition. a partial mole that includes some fetal tissue and membranes

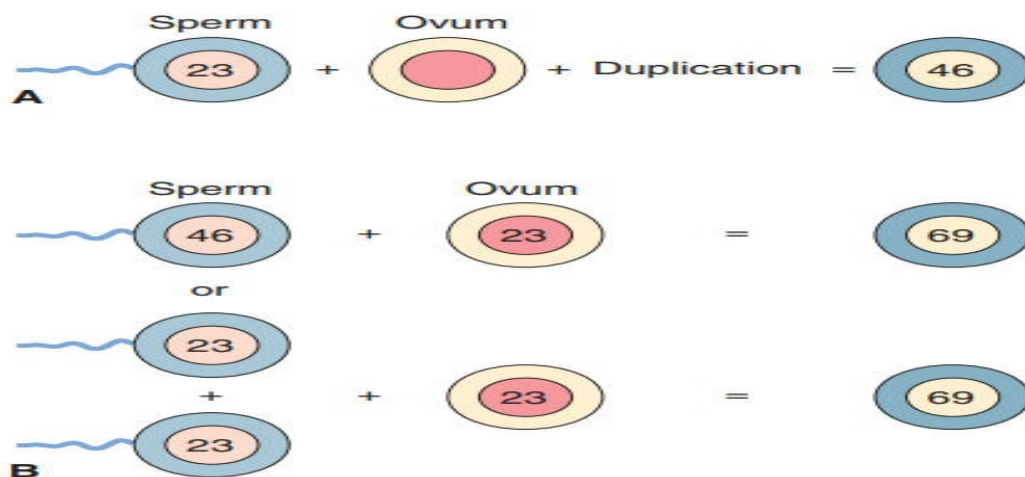


FIGURE 21.4 Formation of gestational trophoblastic disease (hydatidiform mole). (A) Complete mole. (B) Partial mole.

Pathophysiology.

- A hydatidiform mole is a pregnancy/concept in which the placenta contains grapelike vesicles (small sacs) that are usually visible to the naked eye. The vesicles arise by distention of the chorionic villi by fluid. When inspected under the microscope, hyperplasia of the trophoblastic tissue is noted.

Clinical manifestations

- 1- Vaginal bleeding is almost universal with molar pregnancies and may occur as early as the fourth week or as late as the second trimester. It is often brownish like prune juice due to liquefaction of the uterine clot but it may be bright red.
- 2- Anemia occurs frequently due to the loss of blood
- 3- hydropic vesicles may be passed and if so, are diagnosed with a partial mole the vesicles are often smaller and may not be noticed by the women

- 4- Uterine enlargement greater than expected for gestational age is a classic sign. Enlargement is due to the proliferating trophoblastic tissue and to a large amount of clotted blood
- 5- Absence of fetal heart sounds in the presence of other signs of pregnancy is a classic sign of molar pregnancy
- 6- Markedly elevated serum HCG may be present due to continued secretion by the proliferating trophoblastic tissue.
- 7- Very low levels of maternal serum fetoprotein are found.
- 8- Hyperemesis gravidarum may occur, probably as a result of the high levels of HCG.
- 9- pre-eclampsia may be seen, especially in the molar pregnancy continues into the second trimester.
- 10- Rarely, hyperthyroidism results from production of thyrotropin by molar tissue. It produced thyrotoxicosis.

Diagnosis:

- 1- Ultrasound.
- 2- High level of HCG.
- 3- Chest X-ray will be done to exclude metastasis to the lung.

Management:

Management of molar pregnancy is based on three principles

- 1- diagnosis of the mole.
- 2- evacuation of the uterus.
- 3- monitoring of HCG levels.

Evacuation:

- Done by suction of uterus and tissue will be sent for histopathology if patient has completed her family we do immediate hysterectomy. It will decrease the chance of malignancy

Follow – up of serum HCG level:

- Women will have spontaneous regression of HCG levels by 15 weeks after evacuation during this time
- Do pregnancy test every week but if it becomes negative we do HCG maintain every month till another 12 weeks

- Pelvic examination every two weeks and then every 3 month where HCG level is be negative
- Avoid pregnancy for one year after pregnancy test is be negative

Chest –X- Ray:

- To exclude lung metastasis if level of HCG is increasing by detection it is level in blood or pregnancy test remain +Ve and by result of tissue from pregnancy is mean Choriocarcinoma, we started chemotherapy gestational trophoblast is 100% curable in women with out metastasis or this with metastasis whose initial HCG level are less than 40.000 m /u/ml

Nursing care:

- 1- Assess sign and symptom.
- 2- In from the women about probable procedure and the need for follow up of HCG.
- 3- Discuss of pregnancy at the time of follow up might ask the ability to detect a trophoblastic tumor.
- 4- Psychological management about feeling related to loss her pregnancy and fear of developing cancer

Complication of hydatid for mole:

- 1- Anemia
- 2- Hyperthyroidism
- 3- Infection. usually seen with late diagnosis and spontaneous abortion of the mole
- 4- Disseminated intravenous coagulation (DIC)
- 5- Trophoblastic embolization of the lung, usually seen after molar evacuation of a significantly enlarged uterus (this creates a cardio respiratory emergency)
- 6- Ovarian cysts, which may be small or large enough to displace the uterus

Incompetent Cervix:**A. Description**

- Incompetent cervix refers to premature dilation of the cervix, which occurs most often in the fourth or fifth month of pregnancy and is associated with structural or functional defects of the cervix.

- Treatment involves surgical placement of a cervical cerclage.

B. clinical manifestations

1. Vaginal bleeding
2. Fetal membranes visible through the cervix

C. nursing care:

1. Provide bed rest, hydration, and tocolysis, as prescribed, to inhibit uterine contractions.
2. Prepare for cervical cerclage (at 10 to 14 weeks of gestation), in which a band of fascia or non-absorbable ribbon is placed around the cervix beneath the mucosa to constrict the internal os.
3. After cervical cerclage, the client is told to refrain from intercourse and to avoid prolonged standing and heavy lifting.
4. The cervical cerclage is removed at 37 weeks of gestation or left in place and a cesarean birth is performed; if removed, cerclage must be repeated with each successive pregnancy.
5. After placement of the cervical cerclage, monitor for contractions, rupture of the membranes, and signs of infection.
6. Instruct the client to report to the HCP immediately any post procedure vaginal bleeding or increased uterine contractions.

HEMORRHAGIC CONDITIONS OF LATE PREGNANCY

- After 20 weeks of pregnancy, the two major causes of hemorrhage are the disorders of the placenta called placenta previa and placental abruption. Placental abruption may be further complicated by disseminated intravascular coagulation (DIC)

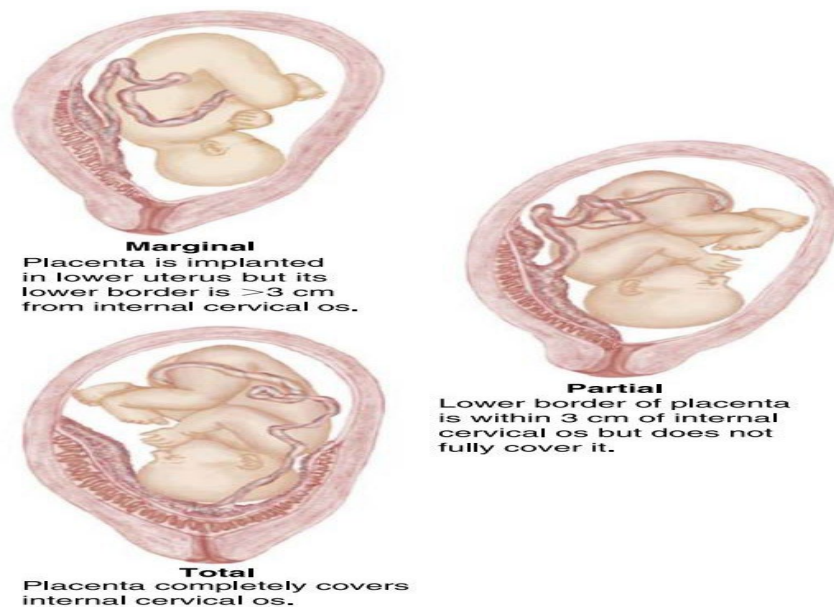
Placenta Previa:

- Placenta previa is an implantation of the placenta in the lower uterus. As a result, the placenta is closer to the internal cervical os than to the presenting part (usually the head) of the fetus. The three classifications of placenta previa (total, partial, and marginal) depend on how much of the internal cervical os is covered by the placenta

Classification

Placenta previa is classified in three degrees:

1. Marginal (sometimes called low-lying)—The placenta is implanted in the lower uterus, but its lower border is more than 3 cm from the internal cervical os.
2. Partial—The lower border of the placenta is within 3 cm of the internal cervical os but does not completely cover the os.
3. Total—The placenta completely covers the internal cervical os.



Incidence and Causes:

- The average incidence of placenta previa is 1 in 200 births

The causes of placenta previa is unknown but factors associated with placenta previa are

- 1- Multi parity (because large placenta area associated with these pregnancies).
- 2- Increase age (older women more than 35 -40 years of age).
- 3- Previous caesarean birth (myometrial scar).
- 4- Current use of cocaine and cigarette Smoking.
- 5- Recent spontaneous or induced abortion.

- 6- large placenta (genetic predisposition) area associated with uterine scarring and endometrial damage.
- 7- previous C.S and curettage in the past for miscarriage or induced abortion are risk factors for placenta previa because both result in endometrial damage and uterine scarring.

Pathophysiology:

- Placenta previa is initiated by implantation of the embryo (embryonic plate) in the lower (caudad) uterus. With placental attachment and growth, the cervical os may become covered by the developing placenta.

signs and symptoms:

1. Sudden onset of painless, bright red vaginal bleeding occurs in the last half of pregnancy.
2. Uterus is soft, relaxed, and nontender.
3. Fundal height may be more than expected for gestational age

Diagnosis:

- 1- signs and symptoms.
- 2- Ultrasound: placenta is located over or very near internal os.

Dependent on:

- a- gestational age.
- b- Amount of hemorrhage.
- If bleeding occur at early gestation we can prolong pregnancy by recent until the fetus is be viable we admit the pt.
 - 1- A bed rest with bathroom privileges only as long as the woman is not bleeding.
 - 2- No vaginal examinations.
 - 3- Monitoring blood loss, pain, and uterine contraction .
 - 4- Evaluation of FHR with external monitor.
 - 5- Monitoring of maternal vital signs.
 - 6- Complete laboratory evaluation hemoglobin, hematocrit, Rh factor, and urinalysis.
 - 7- Administration of intravenous fluid lactated Ringers solution with drip rate monitored.

- 8- Availability of two units of cross- matched blood for possible transfusion.
- 9- Administration of betamethasone to facilitate lung maturity.
 - a- If frequency, recurrent, or profuse bleeding persists or if fetal well- being appears threatened, a caesarian birth needs to be performed

Fetal Complications:

- 1- prematurity.
- 2- Asphyxia.

Material complication:

- 1- severe hemorrhage.
- 2- Embolism.
- 3- Endometritis.

Abruptio placenta:

- Premature separation of the placenta from the uterine wall after the twentieth week of gestation and before the fetus is delivered
- The incidence of abruptio placenta is 1 in 226 births but accounts for 15% of perinatal deaths.

Pathophysiology.

- Placental abruption; is where a part or all of the placenta separates from the wall of the uterus prematurely. Abruption is thought to occur following a rupture of the maternal vessels within the basal layer of the endometrium.
- Blood accumulates and splits the placental attachment from the basal layer

Causes of abruptio placenta. Maternal causes:

- 1- hypertension 44%.
- 2- maternal trauma 2-10 % (abdominal trauma).
- 3- Cigarette smoking (cause vascular disruption in the placenta bed).
- 4- Alcohol consumption.
- 5- Short umbilical cord.
- 6- Multi gravid status.
- 7- Increases maternal age.
- 8- Presence of fibroids.

- 9- Over distension of the uterus. e.g., twins, poly hydromanious.
- 10- Pre-term labor
- 11- Pre mature rupture membranes and history of previous premature separation of placenta.

Classification (Type)

- Classification of abruption placent is based on the extent of separation. Premature separation of the placenta may be divided into three types:

1- marginal:

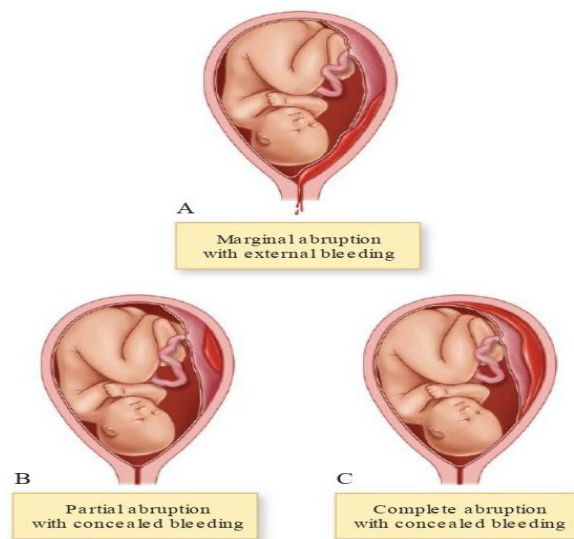
- the blood passes between the fetal membrane and the uterine wall and escapes vaginally. Separation beings at the periphery of the placenta, this marginal Sinus rupture may or may not become more severe.

2- central:

- the placenta separation centrally, and the blood is trapped between the placenta and the uterine wall in concealed bleeding.

3- complete:

- massive vaginal bleeding is seen in the presence of almost fatal separation.



Types of abruption placentae.

Signs and Symptoms:

Dark red vaginal bleeding. If the bleeding is high in the uterus or is minimal, there can be an absence of visible blood.

- 1- Uterine pain or tenderness or both

- 2- Uterine rigidity
- 3- Severe abdominal pain
- 4- Signs of fetal distress
- 5- Signs of maternal shock if bleeding is excessive

Management:

- 1- diagnosis is confirmed by ultrasound.
- 2- Put intravenous fluid (lacted Ringe's) and blood replacement.
- 3- Delivered the fetus as soon as possible.
- 4- Coagulation test is performed to rule or the DIC (Disseminated Intravascular Coagulate).
- 5- Cesarean birth is necessary in the face of severe hemorrhage to allow an immediate hysterectomy to save both woman and fetus.
- 6- central venous pressure (CVP) monitoring may be needed to evaluate intravenous fluid replacement.
- 7- (CVP) should be used to assess for hypovolemia.
- 8- Elevated (CVP) may indicate fluids over load and pulmonary edema.

Nursing Care:

The nursing care of bleeding in 3rd trimester:

- 1- take good history amount of bleeding , nature of vaginal bleeding.
- 2- Associated pain.
- 3- Maternal vital signs.
- 4- Fetal heart rate.
- 5- Uterine tone.
- 6- Send sample of blood for Hb, platelets, means corpus luteum volume, blood group and RH.
- 7- Put folly's catheter (check urine output).
- 8- Put fetal heart monitor (Doppler).
- 9- Electronic monitoring of the uterine contractions and resting tone between contractions provides information regarding labor pattern and effectiveness of oxytocin induction.
- 10- Psychological supports.

Complication:

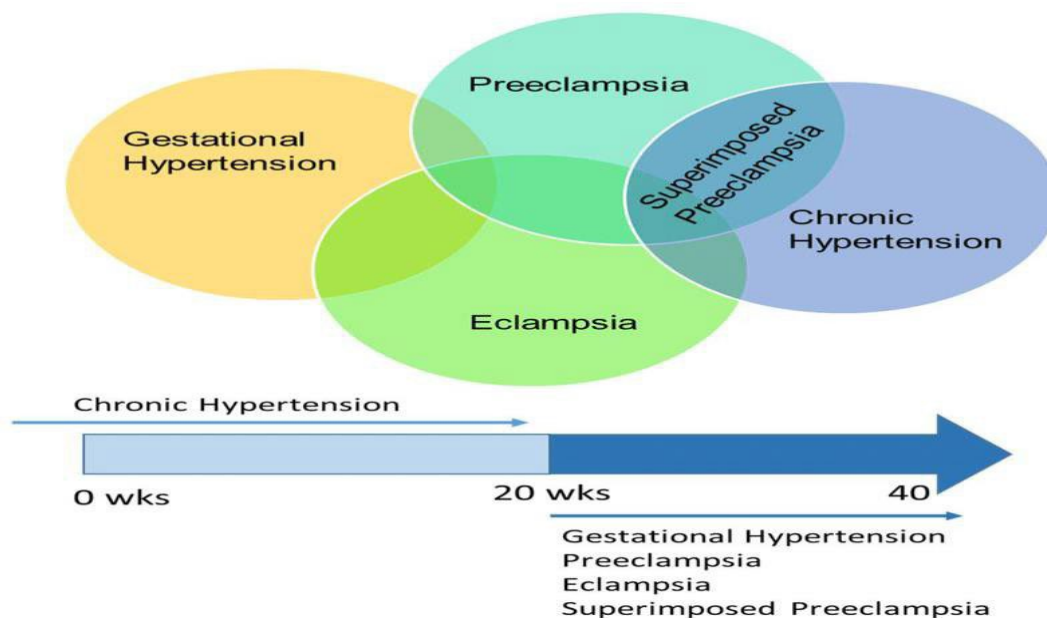
Maternal Risk	Fetal- Neonatal Risk
a- shock	a- preterm birth
b- cardiac or renal failure	b- perinatal mortality 20-30 %
c- postpartum hemorrhage	c- Intrauterine asphyxia
d- DIC (Disseminated Intravascular Coagulation)	d- Anemia
	e- Neurology defects 1 st years cerebral palsy
	f- irreversible brain damage 50 % fetal death

"Care of the Woman with a Hypertensive Disorder"

- Hypertension (High blood pressure) is the most common medical disorder in pregnancy.
- Hypertensive disorders of pregnancy include a spectrum of severity ranging from a mild elevation of blood pressure to severe preeclampsia and hemolysis.
- The incidence of hypertension among pregnant women ranges from 12% to 22%.

Classification of Hypertension in Pregnancy Women

1. Preeclampsia-eclampsia
2. Chronic hypertension
3. Gestational hypertension
4. Chronic hypertension with superimposed preeclampsia



1- Preeclampsia-eclampsia:

- Preeclampsia: occurs in 5% to 8% of all pregnancies
- Preeclampsia defined as an increase in blood pressure that occurs after 20 weeks gestation with proteinuria (protein in the urine) in a woman who had a normal blood pressure before pregnancy.
- Edema is no longer included in the definition because it is a common feature in normal pregnancy.

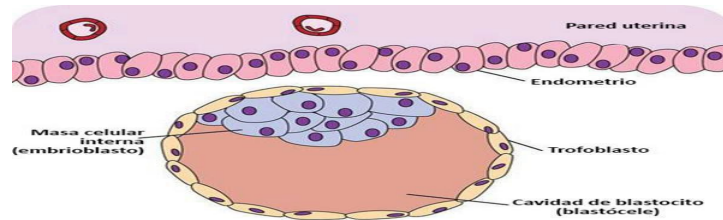
Pathophysiology of preeclampsia

- Preeclampsia has been called a 'Disease of Theories' because the true mechanisms behind the pathogenesis are unknown.
- (Genetic, immunological, maternal vascular disease)

Change in Normal Pregnancy:

1. Fetal trophoblastic invade walls of spiral arteries of myometrium.

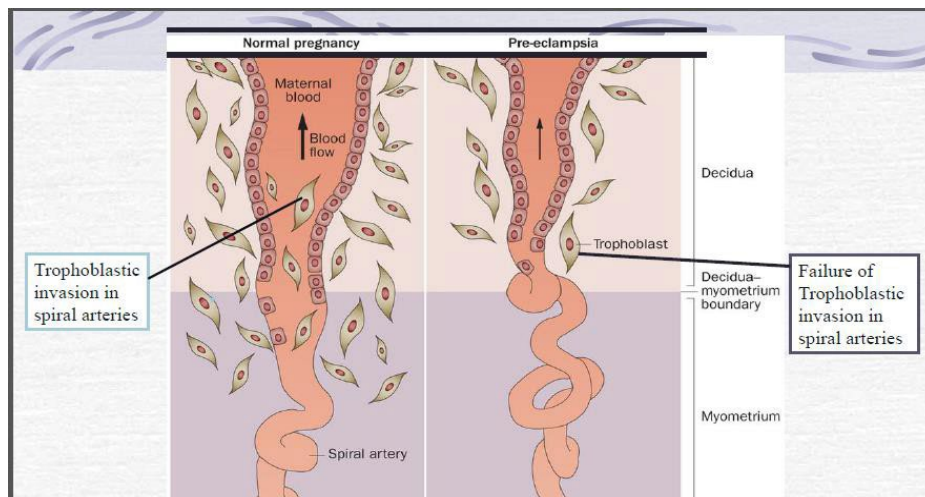
Trophoblastic



2. Remodeling of spiral artery begins about 5-6 weeks and continues until around 20-22 weeks
3. This allows blood supply to uterus to increase from 10-15 mls to 600-800 mls per minute to meet placental blood flow requirements at term.
4. Prostacyclin: a vasodilatation produced by endothelial cells, decrease blood pressure, prevents platelet aggregation, and promotes uterine blood flow
5. Thromboxane: produced by platelets, causes vasoconstrictor and stimulator of platelet aggregation

In pre-eclampsia, this process is DEFECTIVE:

1. Failure of trophoblastic invasion in spiral arteries of myometrium → ↓uteroplacenta perfusion → IUGR& Oligohdrannios.
2. Failure to Remodel the spiral arteries
3. Vascular endothelial cell damage
4. Imbalance of prostacyclin and thromboxane (> thromboxane, < prostacyclin)



Pre-eclampsia divided into Mild and Sever

A- Mild Pre-eclampsia:

1. Increase in Bp (140/90mm Hg) after 20 weeks gestation
2. Presence of (+) proteinuria ≥ 300 mg/24 hr
3. Oedema :generalized edema or rapid weight gain. Puff face, hands, ankles and lower legs).

B- Sever Pre-eclampsia: may develop Suddenly

1. BP of 160/110 or higher.
2. Proteinuria \geq 5g/L in 24 hr
3. Oliguria: urine output < 500ml/24hr
4. Visual disturbances, scotomata (a blind spots) or blurred vision, retinal edema
5. Pulmonary edema
6. Epigastric pain
7. Impaired liver function
8. Thrombocytopenia.
9. Headache, Nausea and vomiting

Risk factors of preeclampsia

1. First pregnancy
2. Previous preeclamptic pregnancy
3. Obesity, Body mass index (BMI) of 35 or more.
4. Family history of preeclampsia, Poor nutrition
5. Age more than 35 years or less than 19 years
6. Multi-fetal pregnancy (e.g., twins)
7. Chronic hypertension and renal disease
8. History of Diabetes mellitus type I and II

laboratory test for preeclampsia

1. HB% to Detects hemoconcentration
2. Clotting factors & platelet concentration----- Thrombocytopenia
3. Urine for protein, Proteinuria confirms preeclampsia, kidney function.
4. Liver function test.

In additional to Ultrasound assessment of:

1. fetal size;
2. amniotic fluid volume

Complication of preeclampsia**A- Maternal complication**

1. Antepartum hemorrhage, Abruptio placentae
2. Central nervous system: Headache ,eclamptic seizure
3. Increase Intraocular pressure causes retinal detachment.
4. Acute tubular necrosis result from under-perfusion of the kidney(renal failure)
5. Thrombocytopenia
6. Stroke
7. HELLP syndrom

B- Fetal complication:

1. Small for gestational age, Intrauterine growth restriction, low birth weight
2. Oligohydramnios
3. Prematurity labor

4. Stillbirth
5. Perinatal mortality

Nursing care:

1. Regular visiting ANC.
2. Bed rest and a quiet environment to improve circulation to the heart and uterus.
3. Drink 8-10 glass of water daily.
4. Diet, low sodium diet, high-fiber foods.
5. Monitoring blood pressure daily (every 4_6 hr)&daily weighting to check edema
6. Monitoring intake _ output and give fluid and electrolyte.
7. Ask the patient to count fetal movement(kick count) and take ultersound at least every 3 to 4 weeks for determine fetal growth.
8. Measure amount of protein in urine and other laboratory test
9. Take anticonvulsants (magnesium sulfat, in sever preeclampsia)
10. Anti-hypertensives (in sever preeclampsia).
11. Corticosteroids (Betamethasone or dexamethasone for women whose fetus has an immature lung)
12. Education the patient about signs and symptoms of preeclampsia and Contact the home health nurse if any of the following occurs: (Increase in blood pressure, Protein present in urine, sudden weight gain , Burning when urinating, Decrease in fetal activity or movement, Headache, Dizziness or visual disturbances, epigastric pain, Decreased urination and Nausea and vomiting).

Eclampsia

- Eclampsia : is the occurrence of a seizure in a women with preeclampsia, who has no other cause for seizure.
- It considered a complication of sever preeclampsia
- Eclamptic seizures are generalized and start with facial twitching. The body then becomes rigid, in a state of tonic muscular contraction.
- The clonic phase of the seizure involves alternating contraction and relaxation of all body muscles.

Eclampsia Signs and symptoms

1. Bp 160/110 mm Hg,
2. Marked proteinuria,
3. Severe headache
4. Generalized edema
5. epigastric pain
6. Visual disturbances,
7. Convulsion or coma, may occur before the onset of labor, or early in the postpartum period

Complication of Eclampsia Maternal-Fetal complication:

1. Antepartum hemorrhage.
2. Jaundice, HELLP syndrome.
3. Come
4. Cerebral hemorrhage
5. Renal failure
6. Fetal death
7. Premature delivery

Nursing Care of Eclampsia:

1. The airway should be maintained (clear airway) and oxygen administered during the seizure to resuscitated the mother and fetus.
2. Suction equipment must be readily available to remove secretions from her mouth.
3. Check the vital signs. (Bp every 1-4 hr and Temp. every 4 hr)
4. Magnesium sulfate is administered IV to prevent further seizures.
5. Hypertension is controlled with antihypertensive medication
6. Assess fetal heart rate. Also assess the client for uterine contractions
7. Check vaginal bleeding every 15 minutes which may present with abruption placenta
8. Frequent auscultation of maternal lungs is required.
9. Foley catheter is inserted to assess intake and output, monitor hourly.
10. Urine protein: protein in urine/24hr.
11. Check edema (legs, hands, face, eyelids, feet), and weight daily.

HELLP syndrome

- HELLP syndrome: It is a life-threatening obstetric complication. In pregnant women with severe preeclampsia-eclampsia, It is occurs in the last trimester of pregnancy. The cause of HELLP syndrome is unknown.

A syndrome featuring a combination of:

- H → for hemolysis (destruction of red blood cells).
- EL → for elevated liver enzymes (which indicate liver damage)
- LP → for low platelet count. (less than 100,000 cell/mm³)

Signs and symptoms:

- fatigue; fluid retention and excess weight gain; headache; nausea and vomiting; pain in the upper right of the abdomen and jaundice result from liver impairment; blurry vision

Treatment for HELLP syndrome

1. Magnesium sulfate is used prophylactically prevent seizures.
2. Antihypertensives are given to control blood pressure.
3. Blood component therapy- packed red blood cells, or platelets—is transfused for anemia.
4. Betamethasone or dexamethasone can be given to stimulate lung maturation in the preterm fetus

2- Chronic hypertension

- When the blood pressure is 140/90 or higher before pregnancy or before 20 weeks of gestation.

Complication of chronic hypertension:

- Maternal complication :/
About 25% of women with chronic hypertension develop preeclampsia during pregnancy , accidental hemorrhage (abruption placenta)
- Fetal complication: Intrauterine growth retardation, Preterm labor, Fetal hypoxia.

3- Gestational Hypertension also called Transient Hypertension.

- Exists when transient elevation of blood pressure (140/90 mm Hg) occur for the first time after mid pregnancy without proteinuria, after 20 weeks' gestation and resolving by 12 weeks' postpartum.
- If the blood pressure elevation persists after 12 weeks postpartum, the woman is diagnosed with chronic hypertension

4- Chronic hypertension with superimposed preeclampsia

- This condition occurs in women who have been diagnosed with chronic high blood pressure before pregnancy, but then develop worsening high blood pressure and protein in the urine, or edema

Hypertension Disorders with pregnancy (Summary)

- Preeclampsia: hypertension, protein in urine after 20 weeks of gestation.
- Eclampsia: preeclampsia, Seizures
- Gestational hypertension: hypertension after 20 weeks of gestation
- Chronic hypertension: hypertension before 20 weeks of gestation.
- Superimposed preeclampsia: Chronic hypertension and preeclampsia

COMPARISON CHART 19.2		PREECLAMPSIA VERSUS ECLAMPSIA	
	Mild Preeclampsia	Severe Preeclampsia	Eclampsia
Blood pressure	>140/90 mm Hg after 20 weeks' gestation	>160/110 mm Hg	>160/110 mm Hg
Proteinuria	300 mg/24 hr or greater than 1+ protein on a random dipstick urine sample	>500 mg/24 hr; greater than 3+ on random dipstick urine sample	Marked proteinuria
Seizures/coma	No	No	Yes
Hyperreflexia	No	Yes	Yes
Other signs and symptoms	Mild facial or hand edema Weight gain	Headache Oliguria Blurred vision, scotomata (blind spots) Pulmonary edema Thrombocytopenia (platelet count <100,000 platelets/mm ³) Cerebral disturbances Epigastric or RUQ pain HELLP	Severe headache Generalized edema RUQ or epigastric pain Visual disturbances Cerebral hemorrhage Renal failure HELLP

Diabetes mellitus in Pregnancy

- **DIABETES MELLITUS** The most common medical complication of pregnancy:
- **Diabetes Mellitus** is describing a metabolic disorder characterized by high levels of sugar in blood (hyperglycemia) caused by deficiency of insulin or resistance to insulin or both (hyperglycemia, glycosuria and microangiopathy).

TYPES OF DIABETES MELLITUS

Type 1: Insulin dependent diabetes mellitus

- Absolute Insulin deficiency (caused by an autoimmune destruction of the beta cells of the pancreas).

Type 2: Non-insulin dependent diabetes mellitus (Insulin resistance)

- Insulin resistance Combined with inability of B-cells to produce appropriate quantities of insulin

Gestational diabetes mellitus (GDM):

- Occurs in pregnant women who have never had diabetes before, blood glucose levels become high during pregnancy. Gestational diabetes affects about 18% of all pregnant women

GESTATIONAL DIABETES

- Normal pregnancy is diabetogenic: Due to placental anti insulin hormones (progesterone, cortisol, Human placental lactogen, estrogen) and insulinase enzyme
- **GESTATIONAL DIABETES:** it's a condition in which women without previously diagnosed diabetic exhibit high blood glucose levels in pregnancy.
- The placenta supplies a growing fetus with nutrients, and also produces a variety of hormones to maintain the pregnancy. Some of these hormones (estrogen, cortisol, and human placental lactogen) can have a blocking effect on insulin. This is called contra-insulin effect, which usually begins **about 20 to 24 weeks** into the pregnancy.
- During the second half of pregnancy, levels of placental hormones rise sharply. These hormones, particularly estrogen, progesterone, and human placental lactogen (HPL), create resistance to insulin in maternal cells. This resistance allows an abundant supply of glucose to be available in the mother's blood for transport to the fetus. Leave the woman with insufficient insulin and cause hyperglycemia.

SIGNS & SYMPTOM S OF GESTATIONAL DIABETES:

1. Polyuria (excessive urination)
2. Polyphagia (excessive hunger and eating)
3. Polydipsia (excessive thirst)
4. Dry mouth, Weight loss
5. Glucose in urine, UTI
6. Blurred vision
7. Headache, Fatigue
8. Elevated serum glucose
9. Greater than normal abdominal circumference, polyhydramnios

RISK FACTORS OF GESTATIONAL DIABETES

1. Family history of diabetes
2. Age 35 years or older.
3. Obesity
4. Previous pregnancy with gestational diabetes.
5. Previous infant weight more than 4 kg (macrocosmic baby)
6. Previous (stillbirth, or congenital anomalies)
7. Presence of glycosuria
8. Hypertension before pregnancy or in early pregnancy.
9. Polycystic ovarian syndrome (PCOS)

Complication**1- Maternal**

1. Polyhydramnios,
2. Premature membrane rupture, Preterm labor
3. Difficult labor, cesarean birth
4. Vaginal tearing, instrumental deliveries
5. Gestational hypertension.
6. Urinary tract infections resulting from excess glucose in the urine (glucosuria), which promotes bacterial growth
7. Chronic monilial vaginitis, due to glucosuria, which promotes growth of yeast
8. Ketoacidosis
9. DM later life

2- Fetal and Neonatal

1. Congenital anomaly
2. Macrosomia resulting from hyperinsulinemia.
3. Birth trauma due to increased size of fetus.
4. Intrauterine growth restriction, Stillbirth

5. Polycythemia due to excessive red blood cell (RBC) production in response to hypoxia
6. Hyperbilirubinemia due to excessive RBC breakdown.
7. Neonatal hypoglycemia resulting from ongoing hyperinsulinemia after the placenta is removed

DIAGNOSIS & SCREENING OF GDM

- The American College of Obstetricians and Gynecologists (ACOG) currently recommend : first prenatal visit and additional screening of all high-risk pregnant women again **at 24 to 28 weeks**

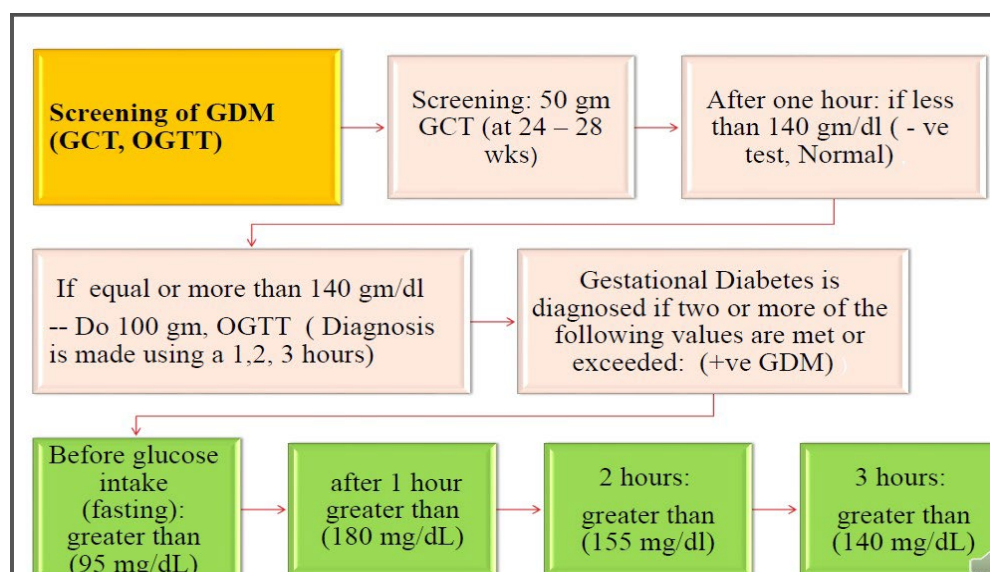
1- Clinically

A →→→→ High risk of DM (+ve family history, obesity,..)

B →→→→ Sign and Symptoms (polyuria, polyphagia, polydipsia , weight loss ,.....)

2- Screening of GDM

Glucose Challenge Test (GCT) is administered between 24 and 28 weeks of gestation. Fasting is not necessary for a GCT, and the woman is not required to follow any pretest dietary instructions. The woman should ingest 50 gm of oral glucose solution. A blood sample is taken 1 hour later. If the blood glucose concentration is 140 mg/ dL or greater, a 3-hour oral glucose tolerance test (OGTT) is recommended. After a fasting plasma glucose level is determined, the woman should ingest 100 gm of oral glucose solution. Plasma glucose levels are then determined at 1, 2, and 3 hours. A diagnosis of GDM is made if two or more of the values meet or exceed the threshold: (Fasting, <95 mg/dL), (1 hour <180 mg/dL) (2 hours, <155 mg/dL) (3 hours, <140 mg/dL)



3- HbA1c

- For follow-up for past 3 months (glycosylated hemoglobin (HbA1C) level (*a measurement of the average glucose levels during the past 3 months*)). A glycosylated hemoglobin level if :
 - 1- less than or equal 5.7% indicates Good control;
 - 2- A value of 5.7-6.4 % indicates Pre-diabetics.
 - 3- a value of 8% indicates Diabetics

4- U/S for Macrosomia, polyhydramnios.**Treatment of DM and GDM**

- Women with diabetes need comprehensive prenatal care.
- The primary goals of care are to maintain glycemic control and minimize the risks of the disease on the fetus.

Key aspects of treatment include:

1. Nutritional management, eating healthy diet
2. Exercise,
3. Taking insulin,
4. Monitoring of blood glucose levels,
5. Close maternal and fetal surveillance

Delivery: Depends on Glycemic Control:

1. Good control →→→→ till 40 wks.
2. Mild uncontrolled →→→→ terminate at 37 wks.
3. Severe uncontrolled cases →→→→ terminate before 37 wks after giving steroids for lung maturity.
4. C/S is done when Macrocosmic baby.

NURSING CARE

1. Encourage to regular prenatal visit.
2. Obtain a fingerstick to monitor blood glucose level and give themselves insulin (technique, frequency, dose)
3. Daily Fetal kick count. Document them and report any decrease in activity, do U/S for assess well-being (fetal growth, activity, amniotic fluid volume)
4. Encourage the client to drink 8-10 glasses of water each day to prevent bladder infection.
5. Urine check for protein (may indicate the need for further evaluation for preeclampsia)
6. Avoid weight loss and dieting during pregnancy.

7. Teach the client about S&S of hypo/hyperglycemia
 8. Avoid (cake, candy), which raise blood glucose levels
 9. During labor, woman with pre-gestational or gestational diabetes (Monitor blood glucose levels every 1 to 2 hours, monitor fetal heart rate, assess maternal vital signs every hour, assess urine output with an indwelling catheter.)
 10. Encourage the women to participate in an exercise program that includes at least three sessions lasting longer than 15 minutes per week. Exercise may lessen the need for insulin or dosage adjustments.
 11. After birth, monitor blood glucose levels every 2 to 4 hours for the first 48 hours to determine the woman's insulin need and continue intravenous fluid administration as ordered. Encourage breast-feeding to assist in maintain good glucose control
-

Anemia during pregnancy

- **Anemia and pregnancy** Commonest medical disorder during pregnancy
- *Anemia* is defined decrease in the number of red blood cell, is measured by hematocrit (Hct), or a decrease in the concentration of hemoglobin (Hgb), this results in reduced capacity of the blood to carry oxygen to the vital organs of the mother and fetus.
- Hemoglobin less than 12 gm/dl in non-pregnant women, and less than 11 gm/dl in pregnant women

Types of Anemia:

1. Physiological. This is because the plasma volume expansion is greater than red blood cell (RBC) mass increase which causes hemodilution, (++ plasma > + RBCs)
2. Iron deficiency anemia (Nutritional) COMMONEST.
3. Folic acid. & Vit B12 deficiency (Megaloblastic anemia)
4. Hemorrhagic (bleeding in early, late pregnancy & PPH)
5. Thalassemia, sickle cell anemia (Hereditary)
6. Hemolytic anemia (RBC are destroyed faster than they can be made)

Anemia during pregnancy is considered:

1. **Mild:** hemoglobin concentration is 10.0 - 10.9 gm/dl,
2. **Moderate:** hemoglobin concentration is 7.0 - 9.9 gm/dl
3. **Severe:** hemoglobin concentration is 4-7.0 gm/dl
4. **Very sever** (less than 4gm/dl).

Iron Deficiency Anemia

- Dietary iron is needed to synthesize hemoglobin. Because hemoglobin is necessary to transport oxygen, a deficiency of iron may affect the body's transport of oxygen. Without enough iron, the body can't produce enough hemoglobin.
- Approximately 200mg of iron will be conserved because of the functional amenorrhea of pregnancy.

- Pregnant women need approximately 1000 mg more iron intake during pregnancy.
 - ✓ * 300- 400 mg of iron transferred to the fetus.
 - ✓ *500 mg is needed for the increased RBC mass.
 - ✓ *100 mg is needed for the placenta
 - ✓ *280 mg is needed to replace the 1 mg of iron lost daily through feces, urine, and sweat

Etiology Iron Deficiency Anemia during Pregnancy

1. Decrease intake of iron(poor diet, morning sickness).
2. Lack of vitamin C and proteins.
3. Decreased gastric acidity and use of Antacids.
4. Multiple pregnancy.
5. Hemorrhage with pregnancy.

Signs and symptoms

Pallor, tiredness, fatigue, dyspnea, anorexia, nausea, vomiting, lack of concentration, headaches, brittle nails.

Risks of iron deficiency anemia:

*****Maternal**

1. Labor dystocia
2. Post-partum hemorrhage
3. Puerperal sepsis , poor wound healing
4. HB lower than 6 gm\dl will cause cardiac failure

*****Fetal**

1. low birth weight
2. Still birth
3. IUGR (Intrauterine growth restriction)
4. Premature delivery

Prevention

- Iron supplements are commonly used to meet the need of pregnancy and maintain iron stores, taking 27 mg of iron orally daily.
- Prevented Iron deficiency anemia, the dosage increased to 60-120 mg/day
- Vitamin C may be enhance absorption of iron.
- Eat an iron-rich diet

Treatment

- Mild (10.0 - 10.9 g/dl) : oral iron
- Moderate (7.0 - 9.9 g/dl) :parenteral iron
- Severe (4-7 gm/dl) , Very sever (< 4gm/dl): blood or packed RBCs

TEACHING FOR THE WOMAN WITH IRON DEFICIENCY ANEMIA

- 1- Take your prenatal vitamin daily; if you miss a dose, take it as soon as you remember.
- 2- For best absorption, take iron supplements between meals.
- 3- Avoid taking iron supplements with coffee, tea, chocolate, milk.
- 4- Eat foods rich in iron, such as :Meats, green leafy vegetables, legumes, dried fruits, whole grains, Peanut butter, whole-wheat fortified breads and cereals
- 5- The women is taught to take iron tablets with vitamin C to increase absorption.
- 6- Increase your exercise, fluids, and high-fiber foods to reduce constipation.
- 7- Instruct the woman about adverse effects, which are predominantly gastrointestinal and include gastric discomfort, nausea, vomiting, anorexia, diarrhea, metallic taste, and constipation.

Folic acid deficiency Anemia

- Folic acid is necessary red blood cell and neural tube formation. Maternal needs for folic acid double during pregnancy in response to the demand for greater production of erythrocytes and fetal and placental growth.
- Folic acid deficiency is characterized by Low levels of folic acid can cause megaloblastic anemia. With this condition, red blood cells are larger than normal, and are fewer in number They are also oval-shaped, not round. Sometimes these red blood cells don't live as long as normal red blood.
- Folic acid deficiency Anemia An inadequate intake of folic acid has been associated with:
 1. Neural tube defects (spina bifida, anecephaly and meningomyelocele) in baby.
 2. Cleft lip, cleft palate
 3. Intrauterine growth restriction
 4. Megaloblastic anemia

Prophylactic measures:

- Supplement (0.4 gm) of folic acid orally per day are recommended for all women of childbearing and during pregnancy.

Treatment: oral 5mg folic acid per day

- **(Nursing Care)** The nurse can help the pregnant women avoid folate deficiency by teaching her food sources of folic and cooking methods for reserving folic acid. The best sources are fresh leaf green, vegetables, poultry, legumes Fruits like lemons, bananas, and melon

"Labor"

Labor usually begins between 38 weeks and 42 weeks of gestation, when the fetus is mature and ready for birth.

Physiology of labor

1. Possible causes of labor onset

- progesterone is produced by the placenta relaxes uterine smooth muscle by interfering with conduction of impulses from one cell to the next. for this reason, the uterus is usually without coordinated contractions during pregnancy biochemical changes toward the end of gestation result in decreased availability of progesterone to myometrial cells.

2. prostaglandin hypothesis

- the amnion and decidua are the focus of research on the source of prostaglandin once prostaglandin is produced, stimuli for its synthesis may include rising levels of estrogen decreased availability of progesterone, increased levels of oxytocin or response to oxytocin

3. corticotropin-releasing hormone hypothesis

- corticotropin-releasing hormone (CRH) is also a focus for researchers its possible onset of labor is suggested by the fact that CRH concentration increases throughout pregnancy with a sharp increase at term. Also, there is an increase in plasma CRH prior to preterm labor, and CRH levels are elevated in multiple pregnancies

Premonitory signs of labor

1. Lightening or dropping: Is also known as engagement and occurs when the fetus descends into the pelvis about 2 weeks before birth; lightening or dropping is most noticeable in first pregnancies
2. The vaginal mucosa is congested, and vaginal discharge increases.
3. Brownish or blood-tinged cervical mucus is passed
4. Cervix ripens, becomes soft and partly effaced, and may begin to dilate.
5. Braxton – Hicks contractions: - contractions that occur irregularly and intermittently throughout pregnancy; they may become uncomfortable and produce false labor
6. Rupture of membranes: - occurs before the onset of labor in

approximately 12 % of clients; labor begins within 24 hrs for about 80 % of these clients

7. Burst of energy. the client may experience a sudden burst of energy before the onset of labor; commonly manifested by house-cleaning activities

Factors that affecting the process of labour:

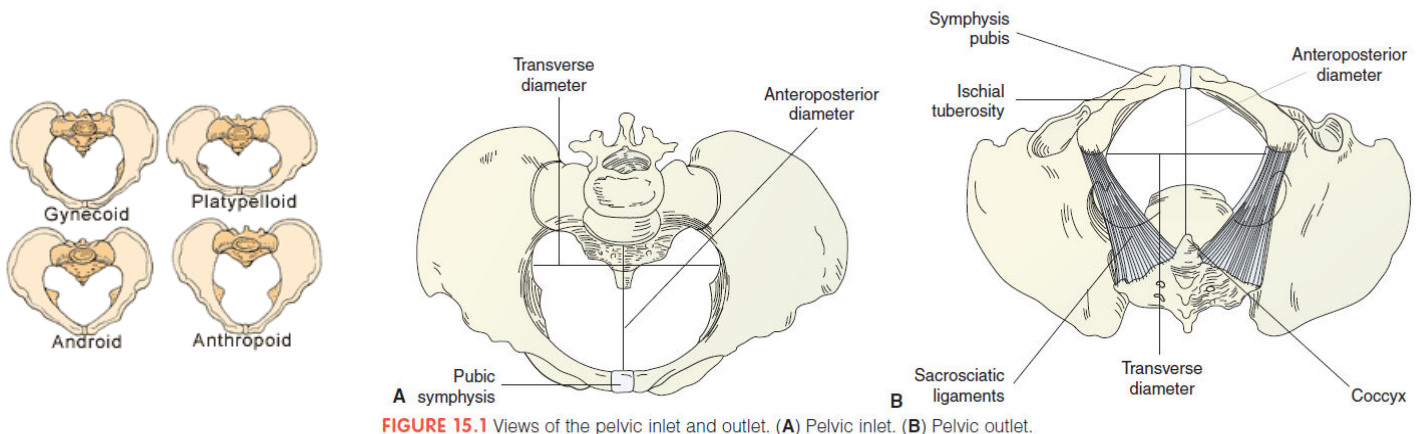
- Four major factors (4 P's) interact during normal childbirth; the 4 P's are interrelated and depend on each other for a safe birth and are Powers, Passageway, Passenger, and Psyche.

A. Powers: Uterine contractions

- Forces acting to expel the fetus
- Effacement: Shortening and thinning of the cervix during the first stage of labor
- Dilation: Enlargement of cervical os and cervical canal during the first stage of labor
- Pushing efforts of mother during the second stage

B. Passageway:

- The passage Passage (birth canal): refers to the route a fetus must travel from the uterus through the cervix and vagina to the external perineum
- The mother's rigid bony pelvis and the soft tissues of the cervix, pelvic floor, vagina, and introitus (external opening to the vagina)



- The adequacy of the pelvic size: the diagonal conjugate (the anteroposterior diameter of the inlet) and the transverse diameter of the outlet. At the pelvic inlet, the anteroposterior diameter is the narrowest diameter; at the outlet, the transverse diameter is the narrowest

C. Passenger: The fetus, membranes, and placenta

- The passenger is the fetus. The body part of the fetus that has the widest diameter is the head
- a. Structure of the Fetal Skull The cranium, the uppermost portion of the skull, is composed of eight bones. The four superior bones—the frontal (two fused bones), the two parietals, and the occipital are the bones that are important in childbirth. The other four bones of the skull (sphenoid, ethmoid, and two temporal bones) lie at the base of the cranium so are of little significance in childbirth because they are never presenting parts. The chin, referred to by its Latin name mentum, can be a presenting part.

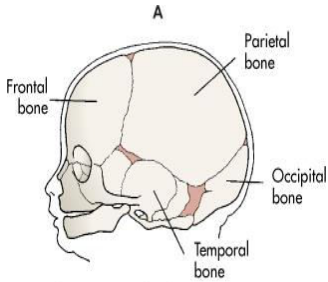


Fig. 18-1A Fetal head at term. Bones.
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- b. Sutures – The suture lines are important in birth because, as membranous interspaces, they allow the cranial bones to move and overlap, molding or diminishing the size of the skull so that it can pass through the birth canal more readily.

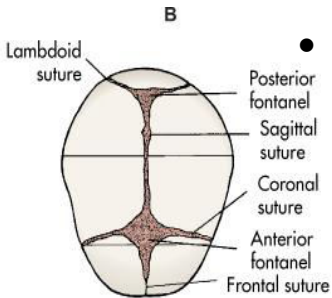


Fig. 18-1B Fetal head at term. Sutures and fontanelles.
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- 1.) Sagittal suture – connects 2 parietal bones
 - 2.) Coronal suture – connect frontal & 2 parietal bone
 - 3.) Lambdoidal suture – connects occipital & 2 parietal bone
- Significant membrane-covered spaces called the fontanelles.
 - The anterior fontanelle (sometimes referred to as the bregma)
 - ✓ lies at the junction of the coronal and sagittal sutures.
 - ✓ is diamond shaped.
 - ✓ Its anteroposterior diameter measures approximately 3 to 4 cm; its transverse diameter, 2 to 3 cm.
 - ✓ It closes when the infant is 12 to 18 months of age.
 - The posterior fontanelle
 - ✓ lies at the junction of the lambdoidal and sagittal sutures
 - ✓ is triangular shaped.
 - ✓ It is smaller than the anterior fontanelle, measuring approximately 2 cm across its widest part.
 - ✓ it closes when an infant is about 2 months of age.
 - Fontanelle spaces compress during birth to aid in molding of the fetal head. Their presence can be assessed manually through the cervix after the cervix has dilated during labor. Palpating for them during a pelvic

examination helps to establish the position of the fetal head and whether it is in a favorable position for birth. The space between the two fontanelles is referred to as the vertex. The area over the frontal bone is referred to as the sinciput. The area over the occipital bone is referred to as the occiput

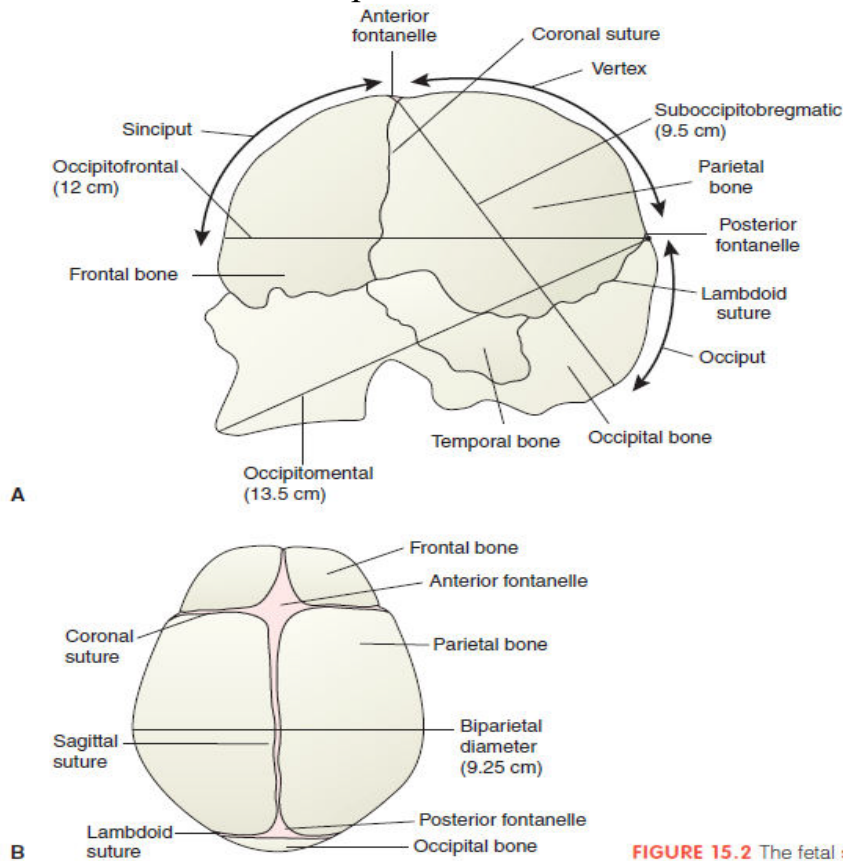


FIGURE 15.2 The fetal skull. (A) Lateral view. (B) Vertex view.

- **Molding**

- Molding is a change in the shape of the fetal skull produced by the force of uterine contractions pressing the vertex of the head against the notyet-dilated cervix.
- facilitates passage through the rigid pelvis. Molding is commonly seen in infants just after birth.

D. Psyche: A woman's emotional structure that can determine her entire response to labor and influence physiological and psychological functioning; the mother may experience anxiety or fear.

Mechanical influence

1- fetal presentation:

- Portion of the fetus that enters the pelvic inlet first
- Presentation: part of the fetus that is lowest in the pelvic inlet first
- Three main fetal presentation:
 1. The cephalic (head): 95% of the term newborn
 2. The breech (pelvis): 3% of term births
 3. The shoulder (scapula): 2% of term births.
- cephalic presentation: The four types of cephalic presentation (vertex, brow, face, and mentum) are described in Table 15.2.
- The vertex is the ideal presenting part, because the skull bones are capable of effectively molding to accommodate the cervix. This may actually aid in cervical dilatation and prevents complications such as a prolapsed cord (i.e., a portion of the cord passing between the presenting part and the cervix and entering the vagina before the fetus

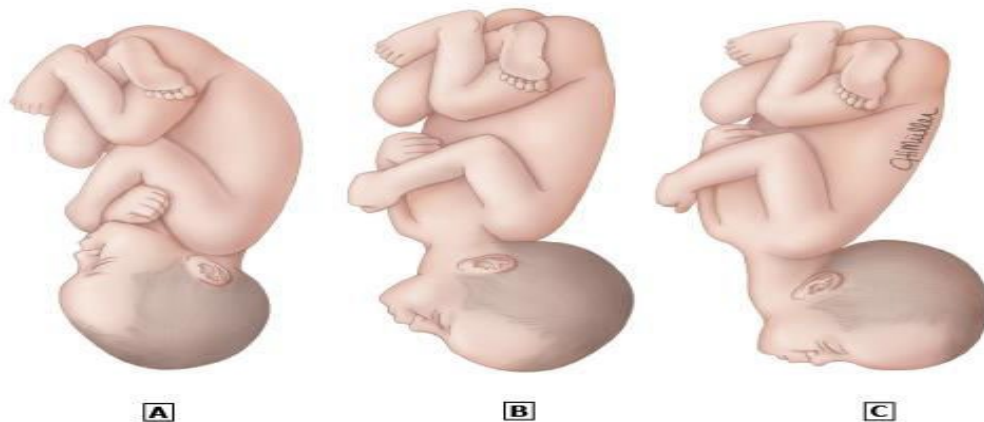
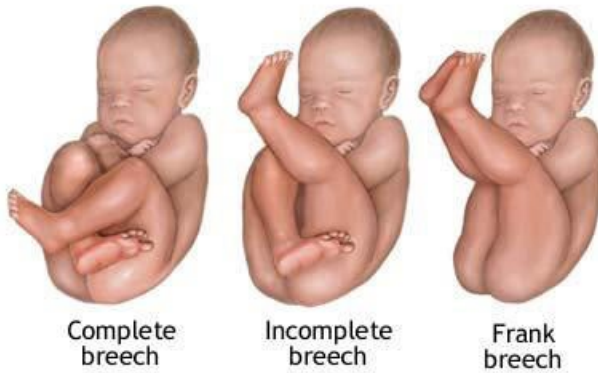


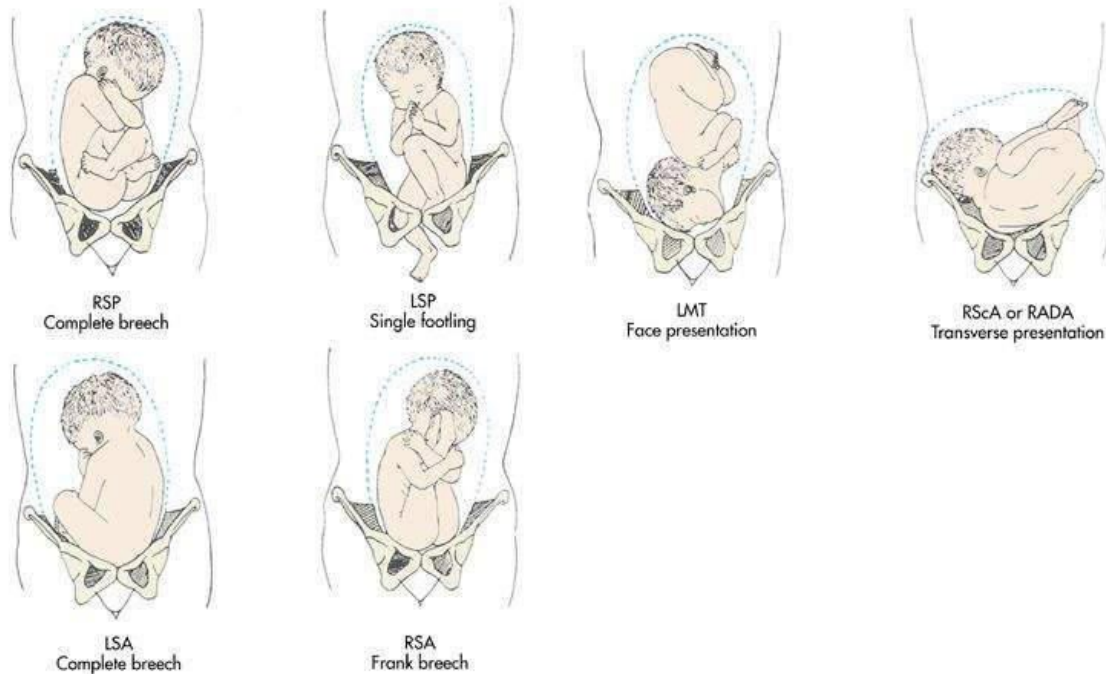
TABLE 15.2 * Types of Cephalic Presentation

Type	Lie	Attitude	Description
Vertex	Longitudinal	Good (full flexion)	The head is sharply flexed, making the parietal bones or the space between the fontanelles (the vertex) the presenting part. This is the most common presentation and allows the suboccipitobregmatic diameter to present to the cervix.
Brow	Longitudinal	Moderate (military)	Because the head is only moderately flexed, the brow or sinciput becomes the presenting part.
Face	Longitudinal	Poor	The fetus has extended the head to make the face the presenting part. From this position, extreme edema and distortion of the face may occur.
Mentum	Longitudinal	Very poor	The presenting diameter is so wide that birth may be impossible. The fetus has completely hyperextended the head to present the chin. The widest diameter (occipitontal) is presenting. As a rule, a fetus cannot enter the pelvis in this presentation.

Variations of the breech presentation



ADAM.



(From Novak, J.C., Broom, B.L. [1995]. *Ingalls & Salerno's maternal and child health nursing*. [8th ed.]. St. Louis: Mosby.)

- **Shoulder Presentation.** In a transverse lie, a fetus lies horizontally in the pelvis so that the longest fetal axis is perpendicular to that of the mother. The presenting part is usually one of the shoulders (acromion process), an iliac crest, a hand, or an elbow

2- fetal position: Relationship of assigned area of the presenting part or landmark to the maternal pelvis

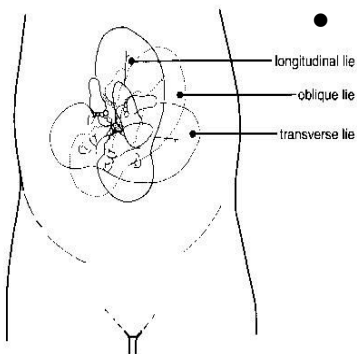
- Position is the relationship of the presenting part to a specific quadrant of a woman's pelvis; the maternal pelvis is divided into four quadrants

according to the mother's right and left:

- a) right anterior
 - b) left anterior
 - c) right posterior
 - d) left posterior.
- Four parts of a fetus have been chosen as landmarks to describe the relationship of the presenting part to one of the pelvic quadrants.
 - a) In a vertex presentation, the occiput is the chosen point;
 - b) in a face presentation, it is the chin (mentum)
 - c) in a breech presentation, it is the sacrum
 - d) in a shoulder presentation, it is the scapula or the acromion process.
 - Position is indicated by an abbreviation of three letters.
 - The middle letter denotes the fetal landmark
 - ✓ (O for occiput, M for mentum or chin, Sa for sacrum, and A for acromion process).
 - ✓ The first letter defines whether the landmark is pointing to the mother's right (R) or left (L).
 - ✓ The last letter defines whether the landmark points anteriorly (A), posteriorly (P), or transversely (T).
 - ✓ If the occiput of a fetus points to the left anterior quadrant in a vertex position, for example, this is a left occipitoanterior (LOA) position.
 - ✓ If the occiput points to the right posterior quadrant, the position is right occipitoposterior (ROP).
 - ✓ LOA is the most common fetal position, and right occipitoanterior (ROA) the second most frequent.

3- fetal lie:

- Relationship of the spine of the fetus to the spine of the mother
- **Lie** is the relationship between the long (cephalocaudal) axis of the fetal body and the long (cephalocaudal) axis of a woman's body; in other words, whether the fetus is lying in a horizontal (transverse) or a vertical (longitudinal) position. Approximately 99% of fetuses assume a longitudinal lie (with their long axis parallel to the long axis of the woman). Longitudinal lies are further classified as cephalic, which



means the head will be the first part to contact the cervix, or breech, with the breech, or buttocks, as the first portion to contact the cervix.

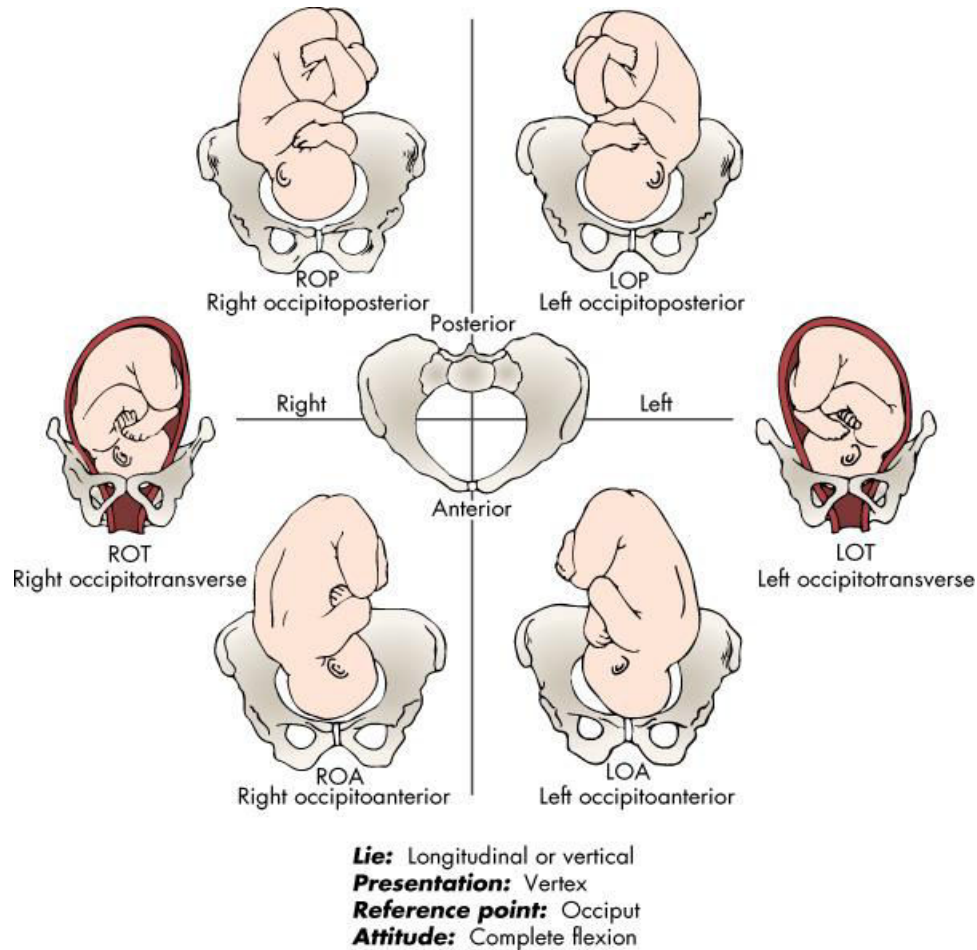


Fig. 18-2 Fetal vertex (occiput) presentations in relation to front, back, or side of maternal pelvis.
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4- fetal attitude:



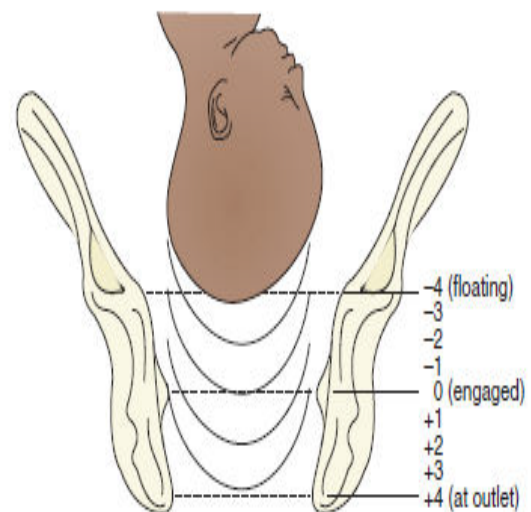
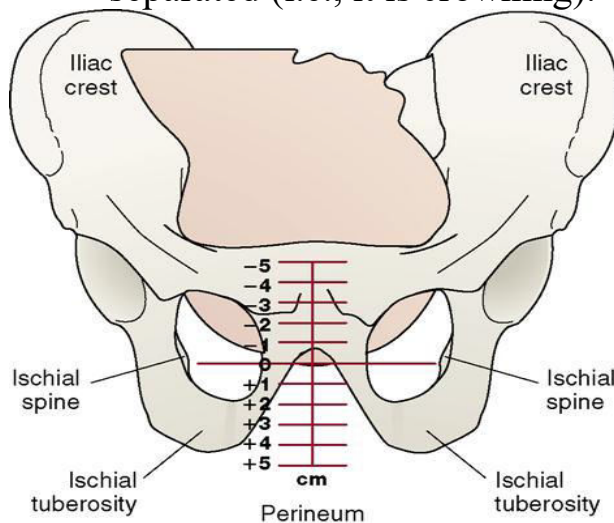
- Describes the degree of flexion a fetus assumes during labor or the relation of the fetal parts to each other.
- A fetus in good attitude is in complete flexion: the spinal column is bowed forward, the head is flexed forward so much that the chin touches the sternum, the arms are flexed and folded on the chest, the thighs are flexed onto the abdomen.
- This normal “fetal position” is advantageous for birth because it helps a fetus present the smallest anteroposterior diameter of the skull to the pelvic

Engagement

- Engagement refers to the settling of the presenting part of a fetus far enough into the pelvis to be at the level of the ischial spines, a midpoint of the pelvis. Descent to this point means that the widest part of the fetus (the biparietal diameter in a cephalic presentation; the intertrochanteric diameter in a breech presentation) has passed through the pelvic inlet or the pelvic inlet has been proved adequate for birth.
- In a primipara, nonengagement of the head at the beginning of labor indicates a possible complication, such as an abnormal presentation or position, abnormality of the fetal head, or cephalopelvic disproportion.
- In multiparas, engagement may or may not be present at the beginning of labor.
- A presenting part that is not engaged is said to be “floating.”

Station.

- **Station** refers to the relationship of the presenting part of a fetus to the level of the ischial spines
- When the presenting fetal part is at the level of the ischial spines, it is at a 0 station.
- If the presenting part is above the spines, the distance is measured and described as minus stations, which range from 1 to 4 cm. (synonymous with engagement).
- If the presenting part is below the ischial spines, the distance is stated as plus stations (1 to 4 cm). At a 3 or 4 station, the presenting part is at the perineum and can be seen if the vulva is separated (i.e., it is crowning).



Stages of labour and birth

- The first stage begins with the beginning of true labor and ends when the cervix is completely dilated at 10 cm. the second stage begins with complete dilatation and ends with the birth of the infant the third stage begins with the birth of the infant and ends with the expulsion of the placenta.

First stage***Latent phase**

- The latent phase begins with the onset of regular contractions as the cervix begins to dilate 0-3 cm it also effaces 40% although little or no fetal descent is evident.
- For a woman in her first labor (nullipara) the latent phase averages 8 hrs but should not exceed 20 hr .
- The latent phase in multiparas averages 5 hrs but should not exceed 14 hrs uterine contractions become established during the latent phase and increase infrequency, duration and intensity.
- They may start as mild contractions lasting 30 to 40 seconds with a frequency of 5- 10 minutes in the early or latent phase

***Active phase**

- When the woman enters the early active phase her anxiety tends to increase as she senses the intensification of contractions and pain she begins to fear a loss of control and may use a variety of coping mechanism , some women exhibit decreased ability to cope and a sense of helplessness women who have support persons family and available may experience greater satisfaction and less anxiety than those without 4 to 7 cm , cervical dilate fetal descent is progressive the cervical dilatation should be at least 1.2 cm per hour in nulliparas and 1.5 cm per hour in multiparas .the may start as moderate contractions lasting 40-60seconds with frequency every 2-3 min and effacement 80% in the early or latent phase of the first stage of labor contractions are usually mild the woman feels able to cope with the discomfort although she may be anxious , she is able to recognize and express those feelings of anxiety

***Transition phase**

- The transition phase is the last part of the first stage when the woman enters the transition phase she may demonstrate significant anxiety, she becomes

acutely aware of the increasing force and intensity of the contractions, she may become rest –less frequently changing position. cervical dilatation slows as it progresses from 8 to 10 cm and the rate of fetal descent increases

- The average rate of descent is at least 1 cm per hour in nulliparas and 2 cm per hour in multiparas.
- They may start as moderate contractions lasting 60-90 seconds with frequency every 1-2 min and effacement 80- 100%.

Differences between true and false labor

True labor	False labor
Contraction are regular intervals	Contractions are irregular
Intervals between contractions gradually shorten	Usually, no change
Contractions increase in duration and intensity	Usually, no change
Discomfort begins in back and radiates a round to abdomen	Discomfort is usually in abdomen
Intensity usually increases with walking	Walking has no effect on or lessens contractions
Cervical dilatation and effacement are progressive	No change
Contractions do not decrease with rest or warm tub bath	Rest and warm tub baths lessen contractions
There is show (mucous or blood)	No show
Uterin palpation (firm uterin)	Soft uterin

Nursing care in first stage of labor

- make the women and her family feel welcome and comfortable
- women's antenatal records is reviewed to discover any a abnormalities
- take good history
- check vital signs
- abdominal examination: check presentation, position of the fetus, frequency and length of contraction
- check fetal heart rate every 1/2 hr in 1st stage normal rate is between 120 - 160 beat / minute by fetal stethoscope or Doppler monitor.

- rehydration by intravenous route is better
- encourage patient to pass urine and sample send for examination and for presence of sugar, protein
- Full bladder should be emptied by catheter
- Encourage to take warm both
- Use partogram
- Vaginal examination every 3- 4 hrs
- Breath control during contraction and relax between contraction
- Sedative or analgesia are given to encourage rest between contraction

Second stage:

- The second stage of labor begins when the cervix is completely dilated (10 cm) and ends with birth of the infant
- The second stage is typically completed within 2 hr after the cervix becomes fully dilated for primigravida (multiparas) average 15 minutes

Assessment:

1. Cervical dilation is complete.
2. Progress of labor is measured by descent of fetal head through the birth canal (change in fetal station).
3. Uterine contractions occur every 2 to 3 minutes, lasting 60 to 75 seconds, and are of strong intensity.
4. Increase in bloody show occurs.
5. Mother feels urge to bear down; assist mother in pushing efforts

Mechanisms of labor

- **Descent:**

Descent is thought to occur because of the four forces

A- the pressure of the amniotic fluid

B- direct pressure of the fundus of the uterus on the breech of the fetus

C- contraction of the abdominal muscles

D- extension and straightening of the fetal body the head enters the inlet in the occiput transverse or oblique position because the pelvic inlet is widest from side to side the sagittal suture is an equal distance from the maternal symphysis pubis and sacral promontory

- **flexion:**

- flexion occurs as the fetal head descends and meets resistance from the soft

tissues of the pelvis, the musculature of the pelvic floor , and the cervix , as a result of the resistance , the fetal chin flexes downward on to the chest

- **Internal rotation:**

- The fetal head must rotate to fit the diameter of the pelvic cavity , which is widest in the antero posterior diameter As the occiput of the fetal head meets resistance from the levator ani muscles and their fascia, the occiput rotates from left to right , and the sagittal suture aligns the antero posterior pelvic diameter .

- **Extension:**

- The resistances of the pelvic floor and the mechanical movement of the vulva opening anteriorly and for ward assist with extension of the fetal head as it passes under the symphysis pubis with this positional change the occiput then brow and face emerge from the vagina.

- **Restitution:**

- The Shoulders of the infant enters the pelvis obliquely and remain oblique when the head rotates to the anteroposterion diameter through internal rotation – because of this rotation the neck becomes twisted once the head emerges and is free of pelvic resistance the neek untwists, turning the head to one side (restitution) and aligns with the position of the back in the birth canal.

- **External rotation:**

- As the shoulders rotate to the anteroposterior position in the pelvis the head is turned father to one side external rotation

- **Expulsion:**

- After the external rotation and through expulsive efforts of the laboring women, the anterior shoulder meets the under surface of the symphysis pubis and slips under it as lateral flexion of the shoulder and head occurs the anterior shoulder is born before the posterior shoulder the body follows quickly

Nursing care in thesecond stage of labor

- 1- mother will be on her back
- 2- the second stage of labor is recognized by a change in the character of the contraction become more powerful expulsive and will be adesine to bear down and secondary forus now come to action, the diaphragm is fixed, the

patient hold her breath and abdominal muscle contract was ask patient to push down.

- 3- Record and report as before monitor fetal heart rate every five minute
- 4- Monitor maternal blood pressure
- 5- Instruct support person in delivery room as head is descend deep to pelvic floor it will bulging of the perineum
- 6- After ruptured of the membrane we must do to exclude and prolaps
- 7- If head is descent ask patient not to push but to take deep breath to prevent perinal tear
- 8- Delivery in a sterile and antiseptic procedure
- 9- Episiotomy is done is necessary
- 10- After delivery of the head a finger is inserted to felt weather a loop of cord is around neck
- 11- The mouth and pharynx are sucked clean with mucous extractor in neonate the cord should not clamped until the child has cried vigoosuly and pulsation in the cord has creased if it is clamped immediately the baby is deprived a bout 50 ml of blood which would be drawn out of placenta by expansion of lung it is best to keep the baby at the same level as the placenta or a little below it clamp of the umbilical and will be 1-2 cm from the umbilical and the end is cut end of umbilical is examined for two arteries and one vein .

Four Stages of Labor

First Stage	Second Stage	Third Stage	Fourth Stage
Effacement and dilation of cervix	Expulsion of fetus	Separation of placenta	Physical recovery
Three stages– latent, active, and transition	Pushing stage Latent phase– known as “laboring down” Active phase– pushing	Expulsion of placenta	1–4 hr after expulsion of placenta
Mother is talkative and eager in latent phase, becoming tired, restless, and anxious as labor intensifies and contractions become stronger	Mother has intense concentration on pushing with contractions; may fall asleep between contractions	Mother is relieved after birth of newborn; mother is usually very tired	Mother is tired, but is eager to become acquainted with her newborn

“Third stage of labor” This includes:

Placental separation & expulsion:

1. Nursing care during the immediate postpartum period (4th stage)
2. Lacerations of the birth canal

3. Episiotomy & repair
4. Bleeding during the 3rd stage of labor

Placental separation & expulsion:

- At the end of 2nd stage of delivery (delivery of fetus) , the woman should be monitored for signs & symptoms of placental separation . The woman feels abdominal pain (uterine contraction) & fullness of vagina. The signs of placental separation include:
 1. change in the shape of the uterus
 2. vaginal bleeding
 3. lengthening of umbilical cord
 4. on PV exam.: fullness of vagina by the separated placenta

Two methods are used in separation of placenta:

1. Active method
2. Passive method

Active method:

- In this method , immediately after delivery of anterior shoulder of baby , one ampoule of Methergin (Ergometrine) given I.V & immediately after delivery of the fetus , the placenta should be delivered . This method used in patient with previous history of postpartum hemorrhage.

Passive method :

- In this method , the placenta let to be separated spontaneously & signs & symptoms of placental separation should be monitored . By Brandt-Andrew's method, the placenta should be expelled from the uterus . This is by putting the left hand on the uterus at suprapubic area & catching the umbilical cord (by clamp) by Rt. Hand , then gentle traction on the cord is done by Rt.
- Hand & pushing the uterus upward & backward by Lt. hand . This method prevents uterine inversion .
- Retained placenta should be taken – out in the theatre under G.A with preparation of pint blood . If placenta is percreta , hysterectomy may be indicated .
- Passive method last 15-30 minutes to be completed.

Nursing care during the immediate postpartum period :(fourth stage)

- 4th stage of labor refers to the 1-4 hours immediately after delivery.
- This critical period is very important because risky complications can occur

in this time e.g., postpartum hemorrhage, pulmonary embolism, myocardial infarction, shock due to hematoma in the broad ligament or in vulva, or shock due to severe bleeding from lacerated birth canal (cervical tear).

- The role of the nurse in the immediate postpartal period include the following:
 1. checking regularly the vital signs to detect early the signs of shock
 2. checking the general condition of the patient
 3. checking uterine contraction to roll-out uterine atony which considered the main cause of postpartum hemorrhage
 4. sending the patient for Hb% & GUE after labor to detect anemic state of woman & if she had UTI to be treated earlier
 5. checking any vulval hematoma especially in patient with vulval varicosity or patient having episiotomy
 6. encourage the patient to pass urine, because urine retention can occur especially in patient with episiotomy & this may precipitate postpartum hemorrhage
 7. encourage the woman to take soft diet rich in carbohydrates to compensate the lost energy during labor, except in patient with C/S when she is on I.V fluid
 8. encourage the mother to breast-fed her baby as early as possible. This is enhancing the uterus to contract & prevent postpartum bleeding
 9. pay attention to any vaginal pack to be removed within 24 hours. If this pack left for more than 24-48 hours infection can occur & septicemia with death can take place

Lacerations of the birth canal:

1. laceration of cervix:

minor lacerations occur frequently but not cause symptoms. Extensive laceration occurs in forceps delivery with incomplete cervical dilatation, or in rapid delivery of head in breech presentation. Scar of cervix from previous injury may tear.

Clinically: vaginal bleeding during & after 3rd stage Management:

1. anesthetize the patient
2. insert wide speculum

3. hold the anterior & posterior lips by sponge forceps
 4. suture the tear by catgut antibiotic is given to prevent infection
- 2. Laceration of perineum & vagina: Laceration of 3 stages:**
- 1st degree:** tear involve the anterior part of perineum & related posterior wall of vagina
- 2nd degree:** tear involve perineum up to external anal sphincter, with corresponding tear in vagina
- 3rd degree:** tear involve anal sphincter & extend about 2 cm up the anal canal If this tear not repaired, it will end with incontinence, therefore careful Examination of vagina & perineum after delivery is necessary.

Management:**For 1st & 2nd degree:**

- Repair of the tear urgently is done Prevent any infection by complete repair under aseptic condition with giving antibiotics Repair is done under pudendal block or G.A or local anesthesia by 1% lignocaine

For 3rd degree:

- Repair should be done immediately after delivery. If repair not done , rectal incontinence will be the complication
- Wash the perineum with soap & water & then dried.
- Patient may have urine retention therefore catheterization is needed
- If the bowel not acted by 4th day, glycerine suppository may be used
- If wound infected, remove perineal stitches to permit drainage & giving antibiotics

Episiotomy:

It is an incision in the perineum to enlarge the introitus.

Indications:

1. when perineum threaten to tear: indicated in primigravida.
2. when there is delay in delivery
3. forceps delivery
4. breech delivery: to reduce risk of intracranial hemorrhage
5. fetal distress: when fetal distress at 2nd stage of delivery
6. prolapsed cord
7. premature labor: episiotomy routinely done to prevent intracranial injury

Procedure:

- do episiotomy under pudendal block or G.A or local anesthesia by infiltration with 10 ml of lignocaine 1%.
- incision done when head distending the perineum
- avoid cutting anal sphincter

Management:

- suture episiotomy in layers
- don't leave any space between layers to prevent hematoma
- remove stitches after 5 days
- daily bathing is advised
- keep the wound dry
- antibiotic is given when there is a risk of infection
- analgesia is given when there is discomfort

Bleeding during the 3rd stage of labor:

3rd stage of labor lasts from birth of baby till expulsion of placenta. Placental separation is indicated by the following signs:

- firmly contracted fundus
- change of uterus from discoid to globular ovoid shape
- sudden gush of dark blood from introitus
- apparent lengthening of umbilical cord as placenta descends
- there is vaginal fullness (the placenta) on vaginal or rectal exam.
- skin to skin contact between mother & newborn with nipple stimulation & gravity help in spontaneous separation of placenta.
- The major risk for woman during 3rd stage of labor is PPH. After delivery of placenta, the nurse should observe woman for signs of excessive blood loss including altered vital signs, pallor, restlessness, decrease urine output & altered level of consciousness.
- The risk of amniotic fluid emboli or pulmonary embolism should be noticed. After delivery of placenta, the nurse should assess the uterine contraction & exclude uterine atony. Also check for perineal or vulval laceration & any bleeding from these areas. Also, early detection of cervical tear should be done. Vulval hematoma can be managed conservatively if the size of hematoma < 5 cm.
- Retained placenta may happen in 3rd stage & this is managed under G.A by

manual removal of placenta & if bleeding still profuse, hysterectomy may indicate.

- Management of uterine atony is urgent & need uterine massage, emptying bladder, giving oxytocic drugs by I.V drip, replace fluid & blood lost, packing of uterus under G.A. Methergin is given when there is no contraindication for it. Prophylactic antibiotics should be given to prevent endometritis.

"Complication of Labor or Birth"

An overview

Although labor often proceeds without any deviation from the normal, many potential complications can occur.

A difficult labor

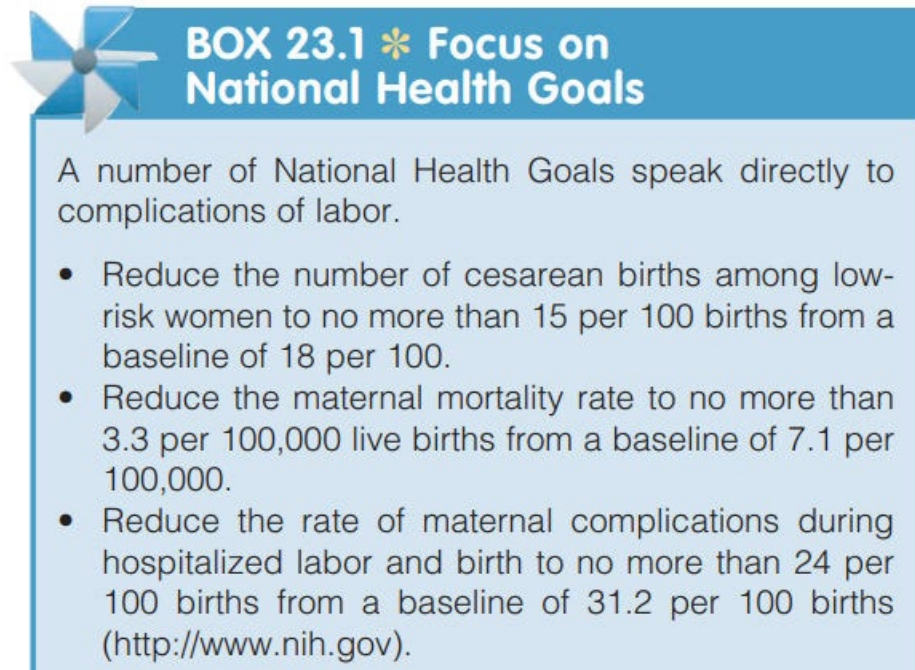
Dystocia—can arise from any of the four main components of the labor process: (a) the power (uterine contractions)

(b) the passenger (the fetus)

(c) the passageway (the birth canal)

(d) the psyche (the woman's and family's perception of the event)

National Health Goals related to attempts to decrease maternal complications and prevent infant injury are shown in Box 23.1.



BOX 23.1 * Focus on National Health Goals

A number of National Health Goals speak directly to complications of labor.

- Reduce the number of cesarean births among low-risk women to no more than 15 per 100 births from a baseline of 18 per 100.
- Reduce the maternal mortality rate to no more than 3.3 per 100,000 live births from a baseline of 7.1 per 100,000.
- Reduce the rate of maternal complications during hospitalized labor and birth to no more than 24 per 100 births from a baseline of 31.2 per 100 births (<http://www.nih.gov>).

Complications with the power (the force of labor)

- Inertia is a sluggishness of contractions,
- This dysfunction can occur at any point in labor, but it is generally classified as:
 1. primary (occurring at the onset of labor)
 2. secondary (occurring later in labor).
- The risk of maternal postpartal infection, hemorrhage, and infant mortality is higher in women who have prolonged labor than in those who do not.
- Prolonged labor appears to result from several factors. It is most likely to

occur if a fetus is large. Hypotonic, hypertonic, and uncoordinated contractions all play additional roles

- Ineffective Uterine Force. Uterine contractions are the basic force moving the fetus through the birth canal. They occur because of the interplay of
-
- When they become abnormal or ineffective, ineffective labor occurs.

the contractile enzyme adenosine triphosphate

influence of major electrolytes such as calcium, sodium, and potassium

specific contractile proteins (actin and myosin),

epinephrine and norepinephrine

oxytocin (a posterior pituitary hormone)

estrogen, progesterone, and prostaglandins

Hypotonic Contractions

the number of contractions is unusually low or infrequent (not more than two or three occurring in a 10-minute period), the strength of contractions does not rise above 10 mmHg, occur during the active phase of labor.

Causes:

1. They may occur after the administration of analgesia, especially
2. if bowel or bladder distention prevents descent
3. may occur in a uterus that is overstretched by multiple gestations, a larger-than-usual single fetus, hydramnios, or in a grand multiparity.

Risk factors

1. increase the length of labor
2. cause the uterus to not contract as effectively during the postpartal period because of exhaustion, increasing a woman's chance for postpartal hemorrhage.

Hypertonic contractions

- Hypertonic contractions are marked by an increase in resting tone to more than 15 mmHg.
- Contractions are irregular and more frequent, but ineffective in dilating and effacing the cervix.
- Usually occurs in latent phase of first stage of labor
- More frequent in primigravida woman

Risk for mother and fetus:

- lack of relaxation between contractions may not allow optimal uterine artery



BOX 15.10 * Focus on Pharmacology

Oxytocin (Pitocin)

Action: A synthetic form of the hormone produced by the hypothalamus and stored in the posterior pituitary. An oxytocic, it stimulates the uterus to contract to control postpartum hemorrhage (Karch, 2009).

Pregnancy Category: X

Dosage: Add 10–40 units to 1000 mL of a nonhydrating intravenous solution, or administer 10 units intramuscularly after delivery of the placenta.

Possible Adverse Effects: Hypertension, excessive uterine contractility.

Nursing Implications

- Do not administer after delivery of the placenta until the physician or nurse-midwife approves the drug's use.
- Monitor the woman for blood pressure, because hypertension can occur.

filling; this could lead to fetal anoxia

- Fetal distress (Poor blood flow from placenta)
- Maternal distress (Physically exhausted, Emotionally discouraged)
- A uterine and fetal external monitor should be applied for at least 15 minutes to check the resting phase of the contractions and that the fetal pattern is not showing a late deceleration.
- Cesarean birth would be necessary if there is late deceleration, an abnormally long first stage of labor or lack of progress with pushing.
- Explain to the woman and her partner that although the contractions are very strong, they are ineffective and are not achieving cervical dilatation.

Uncoordinated Contractions

may occur so closely together such as one on top of another and then a long period without any, it may be difficult for a woman to rest between contractions or to use breathing exercises with contractions.

- Applying a fetal and a uterine external monitor and assessing the rate, pattern, resting tone, and fetal response to contractions for at least 15 minutes
- Oxytocin administration may be helpful in uncoordinated labor to stimulate a more effective and consistent pattern of contractions

Dysfunctional Labor and Associated Stages of Labor

- **Dysfunction at the First Stage of Labor**
 - **Prolonged Latent Phase**

TABLE 23.2 * Lengths of Phases and Stages of Normal Labor in Hours

Phase	Nullipara		Multipara	
	Average	Upper Normal	Average	Upper Normal
Latent phase	8.6	20.0	5.3	14.0
Active phase	5.8	12.0	2.5	6.0
Second stage	1	1.5	0.25	—*

- **A protracted active phase is usually associated with**
 - cephalopelvic disproportion (CPD)
 - or fetal malposition,
 - ineffective myometrial activity.

This phase is prolonged if cervical dilatation does not occur at a rate of at least 1.2 cm/hr in a nullipara or 1.5 cm/hr in a multipara, or if the active phase lasts longer than 12 hours in a primigravida or 6 hours in a multigravida. If the cause of the delay in dilatation is fetal malposition or CPD, cesarean birth may be necessary.

➤ **Prolonged Deceleration Phase.**

- A deceleration phase has become prolonged when it extends beyond 3 hours in a nullipara or 1 hour in a multipara. Prolonged deceleration phase most often results from abnormal fetal head position. A cesarean birth is frequently required.

➤ **Secondary Arrest of Dilatation.**

- has occurred if there is no progress in cervical dilatation for longer than 2 hours. cesarean birth may be necessary

Dysfunction at the Second Stage of Labor

1. Prolonged Descent of the fetus occurs if the rate of descent is less than 1.0 cm/hr in a nullipara or 2.0 cm/hr in a multipara. It can be suspected if the second stage lasts over 3 hours in a multipara.

intervention

- If the membranes have not ruptured, rupturing them at this point may be helpful.
- Intravenous (IV) oxytocin may be used to induce the uterus to contract effectively
- A semi-Fowler's position, squatting, kneeling, or more effective pushing may speed descent.

2. Arrest of Descent. results when no descent has occurred for 1 hour in a multipara or 2 hours in a nullipara.

Failure of descent has occurred

- descent of the fetus does not begin or engagement or movement beyond 0 station
- The most likely cause is CPD.

Intervention

- Cesarean birth usually is necessary. If there is no contraindication to vaginal birth,
- oxytocin may be used to assist labor.

3. Contraction Rings

- is termed a pathologic retraction ring (**Bandl's ring**). A contraction ring is a hard band that forms across the uterus at the junction of the upper and lower uterine segments and interferes with fetal descent.

Contraction rings often can be identified by ultrasound

1. Administration of IV morphine sulfate or the inhalation of amyl nitrite may relieve a retraction ring.
2. A tocolytic can also be administered to halt contractions
3. Most likely, a cesarean birth will be necessary to ensure safe birth of the fetus.

4. If the situation is not relieved, uterine rupture and neurologic damage to the fetus may occur
5. Manual removal of the placenta under general anesthesia may be required if the retraction ring does not allow the placenta to be delivered.

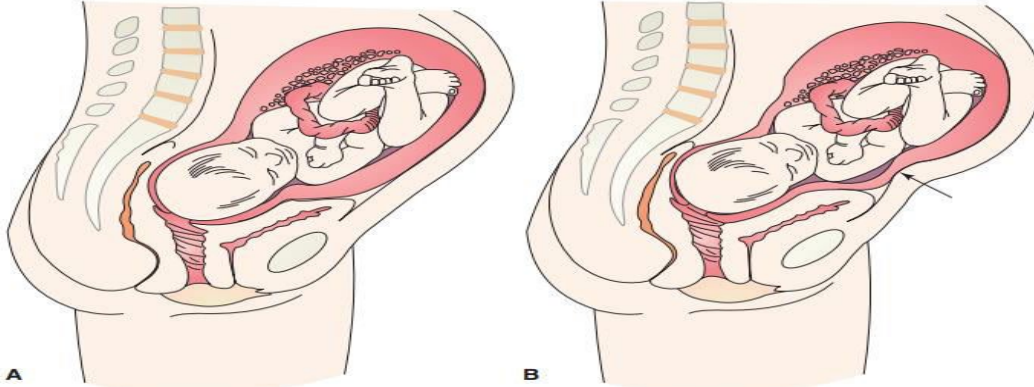


FIGURE 23.4 Pathologic retraction ring. (A) Uterus in the normal second stage of labor. Notice how the upper uterine segment is becoming thicker and the lower uterine segment is thinning. A physiologic retraction ring is normally formed at the division of the upper and lower uterine segments. (B) Uterus with a pathologic retraction ring (Bandl's ring). The wall below the ring is thin and the abdomen shows an indentation. This constriction is caused by obstructed labor and is a warning sign that if the obstruction is not relieved, the lower segment may rupture.

4. Precipitate Labor

- It is often defined as a labor that is completed in fewer than 3 hours the rate is greater than 5 cm/hr (1 cm every 12 minutes) in a nullipara or 10 cm/hr (1 cm every 6 minutes) in a multipara

Risk to mother:

- they lead to premature separation of the placenta,
- placing the woman at risk for hemorrhage.
- lacerations of the birth canal from the forceful birth. In such instances, a **tocolytic may be administered to reduce the force and frequency of contractions.**

5. Induction and Augmentation of Labor

- **Induction of labor** means that labor is started artificially
- **Augmentation of labor** refers to assisting labor that has started spontaneously but is not effective

Before induction of labor is begun, the following conditions should be present:

- The fetus is in a longitudinal lie.
- The cervix is ripe, or ready for birth.
- A presenting part is engaged.
- There is no CPD.
- The fetus is estimated to be mature by date.


BOX 23.3 * Focus on Pharmacology
Misoprostol (Cytotec)

Classification: Misoprostol is a synthetic prostaglandin (PGE1 analog).

Action: Produces cervical dilatation

Pregnancy Risk Category: X

Dosage: 50 to 100 µg orally or 25 to 50 µg placed intravaginally in the posterior fornix

Possible Adverse Effects: Uterine hyperstimulation, nonreassuring fetal heart rate pattern, nausea, diarrhea, flatulence, headache

Nursing Implications

- Ensure that the woman's condition is rated as safe for cervical dilatation and vaginal birth (absence of placenta previa, vasa previa, or cephalopelvic disproportion and the fetus is mature) before administration.
- Anticipate the need for a nonstress test to ensure fetal health before the drug is used.
- Continuously monitor uterine activity and fetal heart rate.
- Have an intravenous fluid line and a tocolytic readily available should uterine hyperstimulation occur (Karch, 2009).


BOX 23.4 * Focus on Pharmacology
Oxytocin for Labor Induction

Classification: Oxytocin is a synthetic form of the naturally occurring posterior pituitary hormone.

Action: Used to initiate uterine contractions in a term pregnancy

Pregnancy Risk Category: C

Dosage: Initially 1 to 2 mU/min by intravenous (IV) infusion, increased at a rate no more than 1 to 2 U/min at 15- to 30-minute intervals until a contraction pattern similar to normal labor is achieved

Possible Adverse Effects: Nausea, vomiting, cardiac arrhythmias, uterine hypertonicity, tetanic contractions, uterine rupture (with excessive dosages), severe water intoxication, and fetal bradycardia

Nursing Implications

- Prepare IV solution by adding 1 mL (10 IU) to 1000 mL of designated intravenous fluid (resulting solution contains 10 mU/mL).
- Use an infusion pump to ensure accurate control of infusion rate.
- Regulate infusion rate to establish uterine contractions similar to a normal labor pattern.
- Monitor frequency, duration, and strength of contractions.
- Assess maternal pulse and blood pressure, and watch for possible hypertension. If hypertension occurs, discontinue drug and notify physician.
- Continuously monitor fetal heart rate for signs of fetal distress.
- Monitor intake and output and watch for signs of possible water intoxication, such as headache or vomiting. Limit IV fluids to 150 mL/hr.
- Prepare the woman for birth (Karch, 2009)

- If stopping the oxytocin infusion does not stop the hyperstimulation, a beta-adrenergic receptor drug such as terbutaline sulfate (Brethine) or magnesium sulfate may be prescribed to decrease myometrial activity

Uterine Rupture

- Is rare, is always a possibility. It is always serious, because it accounts for as many as 5% of all maternal deaths.

Contributing factors may include

- Prolonged labor
- Abnormal presentation
- Multiple gestation
- Unwise use of oxytocin
- Obstructed labor
- Traumatic maneuvers of forceps or traction.

When uterine rupture occurs, fetal death will follow unless immediate cesarean birth can be accomplished. In these instances, fetal outcome can be optimal

- Rupture can be **complete**, going through the endometrium, myometrium, and peritoneum layers

- With a complete rupture, uterine contractions will immediately stop. Two distinct swellings will be visible on the woman's abdomen: the retracted uterus and the extrauterine fetus
- Signs of shock begin, including rapid, weak pulse; falling blood pressure; cold and clammy skin; and dilatation of the nostrils from air hunger. Fetal heart sounds fade and then are absent or **incomplete**, leaving the peritoneum intact.

intervention

1. Administer emergency fluid replacement therapy as ordered.
2. use of IV oxytocin to attempt to contract the uterus and minimize bleeding.
3. Prepare the woman for a possible laparotomy as an emergency measure to control bleeding and achieve a repair.
4. Most women are advised not to conceive again after a rupture of the uterus, unless the rupture occurred in the inactive lower segment.
 - The physician, with consent, may perform a cesarean hysterectomy (removal of the damaged uterus) or tubal ligation at the time of the laparotomy; both procedures result in loss of childbearing ability

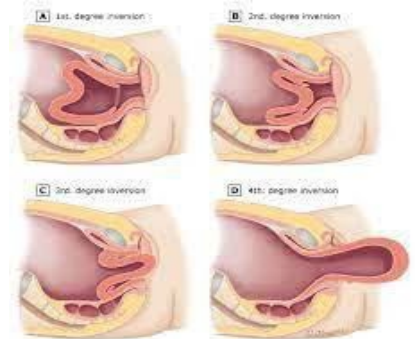
Inversion of the Uterus

• Refers to the uterus turning inside out with either birth of the fetus or delivery of the placenta. It is a rare phenomenon, occurring in about 1 in 20,000 births. It may occur if:

- Traction is applied to the umbilical cord to remove the placenta
- or if pressure is applied to the uterine fundus when the uterus is not contracted.
- It may also occur if the placenta is attached at the fundus so that, during birth, the passage of the fetus pulls the fundus down.

• Inversion occurs in various degrees. The inverted fundus may lie within the uterine cavity or the vagina, or, in total inversion, it may protrude from the vagina. When an inversion occurs,

- a large amount of blood suddenly gushes from the vagina.
- The fundus is not palpable in the abdomen.
- If the loss of blood continues unchecked for longer than a few minutes, the woman will show signs of blood loss: hypotension, dizziness, paleness, or diaphoresis.



Intervention

- Never attempt to replace an inversion, because handling of the uterus may increase the bleeding.
- Never attempt to remove the placenta if it is still attached, because this only creates a larger surface area for bleeding.
- In addition, administration of an oxytocic drug only compounds the inversion

or makes the uterus more tense and difficult to replace. An IV fluid line needs to be started

- Administer oxygen by mask, and assess vital signs. Be prepared to perform cardiopulmonary resuscitation (CPR) if the woman's heart should fail from the sudden blood loss.
- The woman will immediately be given general anesthesia or possibly nitroglycerin or a tocolytic drug intravenously, to relax the uterus.
- The physician or nurse midwife then replaces the fundus manually. Administration of oxytocin after manual replacement helps the uterus to contract and remain in its natural place.
- a woman will need antibiotic therapy to prevent infection. She needs to be informed that cesarean birth will probably be necessary in any future pregnancy, to prevent the possibility of repeat inversion.

Amniotic Fluid Embolism

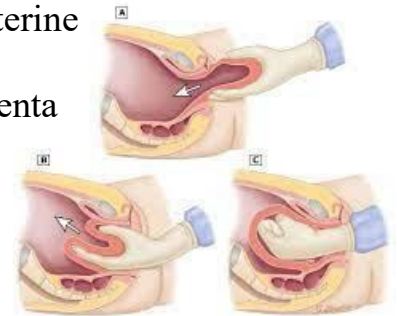
- occurs when amniotic fluid is forced into an open maternal uterine blood sinus through some defect in the membranes or after membrane rupture or partial premature separation of the placenta

Possible risk factors include

oxytocin administration, abruptio placentae, and hydramnios

Signs and symptoms

- A woman, grasps her chest because of sharp pain and inability to breathe as she experiences pulmonary artery constriction.
- She becomes pale and then turns the typical bluish gray associated with pulmonary embolism and lack of blood flow to the lungs.



The immediate management

- ✓ is oxygen administration by face mask or cannula.
- ✓ Within minutes, she will need CPR. CPR may be ineffective, however, because these procedures (inflating the lungs and massaging the heart) do not relieve the pulmonary constriction.
- ✓ Therefore, blood still cannot circulate to the lungs. Death may occur within minutes. A woman's prognosis depends on the size of the embolism, the speed with which the emergency condition was detected, and the skill and speed of emergency interventions. Even if the woman survives the initial insult, the risk for disseminated intravascular coagulation (DIC) is high, further compounding her condition. In this event, she will need continued management that includes **endotracheal intubation** to maintain pulmonary function and therapy with **fibrinogen to counteract DIC**. Most likely, she will be transferred to an ICU. The prognosis for the fetus is guarded, because

reduced placental perfusion results from the severe drop in maternal blood pressure. Labor often begins or the fetus is born immediately by cesarean birth.

Problems with the passenger

1. Prolapse of the Umbilical Cord

It tends to occur most often with:

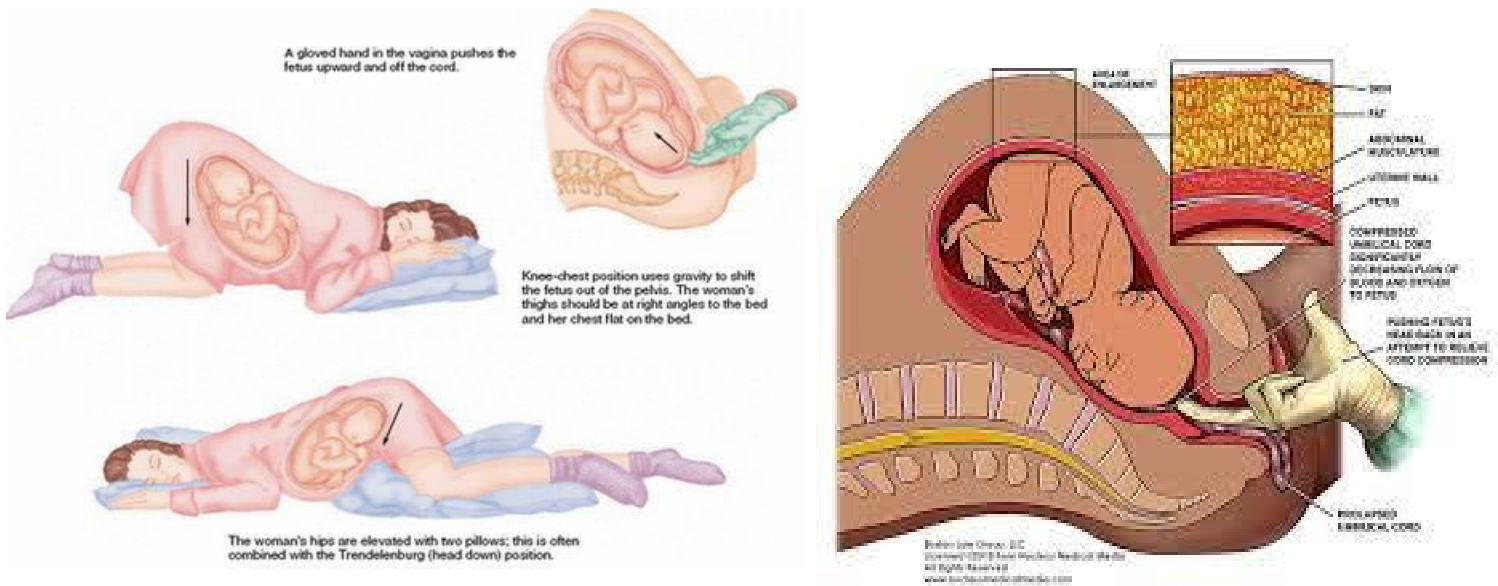
1. Premature rupture of membranes
2. Fetal presentation other than cephalic
3. Placenta previa
4. Intrauterine tumors preventing the presenting part from engaging
5. A small fetus
6. Cephalopelvic disproportion preventing firm engagement
7. Hydramnios
8. Multiple gestations

Therapeutic Management

1. placing a gloved hand in the vagina and manually elevating the fetal head off the cord, or by placing the woman in a knee–chest or Trendelenburg position, which causes the fetal head to fall back from the cord.
2. Administering oxygen at 10 L/min by face mask to the woman is also helpful to improve oxygenation to the fetus.
3. A tocolytic agent may be prescribed to reduce uterine activity and pressure on the fetus.

Amnioinfusion

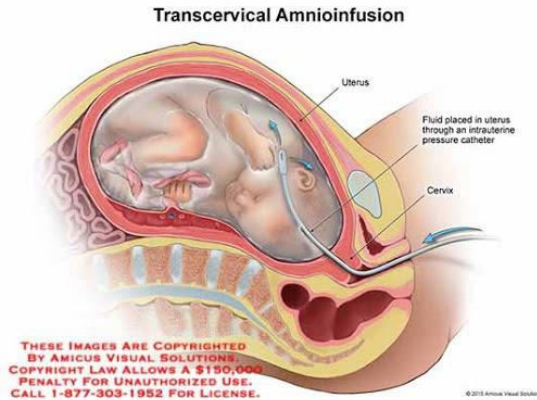
- If the cord has prolapsed to the extent that it is exposed to room air, drying will begin, leading to atrophy of the umbilical vessels. Do not attempt to push any exposed cord back into the vagina. This may add to the compression by causing knotting or kinking. Instead, cover any exposed portion with a sterile saline compress to prevent drying.
- If the cervix is fully dilated at the time of the prolapse, the physician may choose to birth the infant quickly, possibly with forceps, to prevent fetal anoxia.
- If dilatation is incomplete, the birth method of choice is upward pressure on the presenting part, applied by a practitioner's hand in the woman's vagina, to keep pressure off the cord until the baby can be born by cesarean birth. Prolapsed cord is always an emergency situation, because the reduced blood flow to the fetus can quickly cause fetal harm.



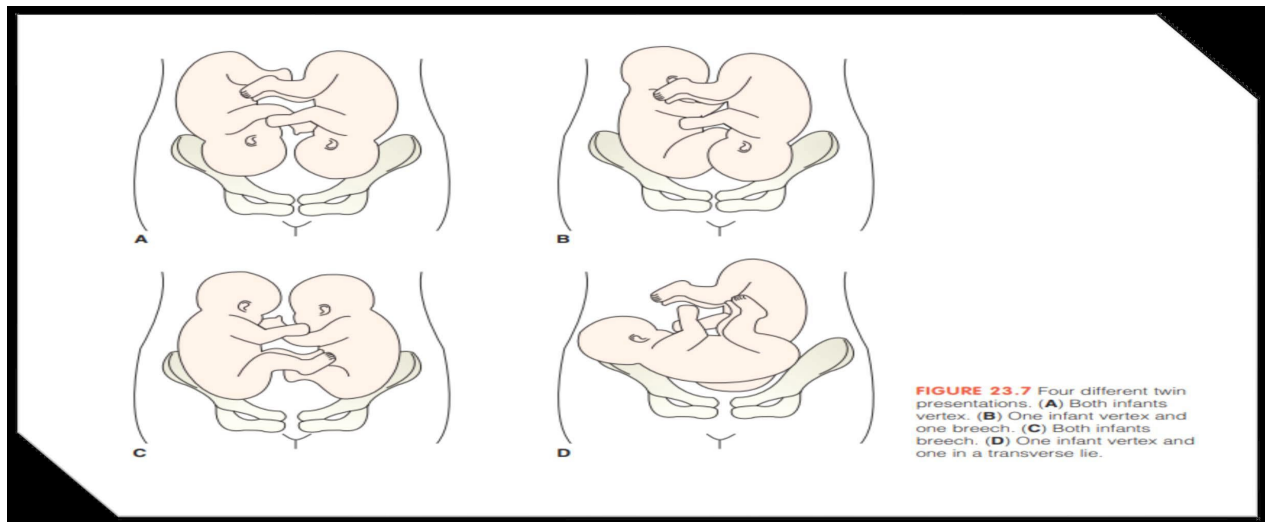
Amnioinfusion.

Amnioinfusion is the addition of a sterile fluid into the uterus to supplement the amniotic fluid. The technique neither shortens nor prolongs labor; it just prevents additional cord compression

- a sterile catheter is introduced through the cervix into the uterus after rupture of the membranes
- a solution of warmed normal saline or lactated Ringer's solution is rapidly infused. Initially, approximately 500 mL is infused
- Throughout the procedure, urge a woman to lie in a lateral recumbent position to prevent supine hypotension syndrome.
- Continuously monitor FHR and uterine contractions internally during the infusion.
- Record maternal temperature hourly to detect infection.
- Be sure the solution is warmed to body temperature before the infusion, to prevent chilling of the woman and fetus.
- This can be done by placing the bag of fluid on a radiant heat warmer or by using a blood/fluid warmer before administration. Because there will be a continuous flow of the infusing solution out of the woman's vagina during the procedure, change her bed frequently.
- Also assess that there is constant drainage. If vaginal leakage should stop, it usually means that the fetal head is firmly engaged and all fluid being infused is being held in the uterus. This is dangerous because it could lead to hydramnios (presence of excessive amniotic fluid) and possibly uterine rupture.



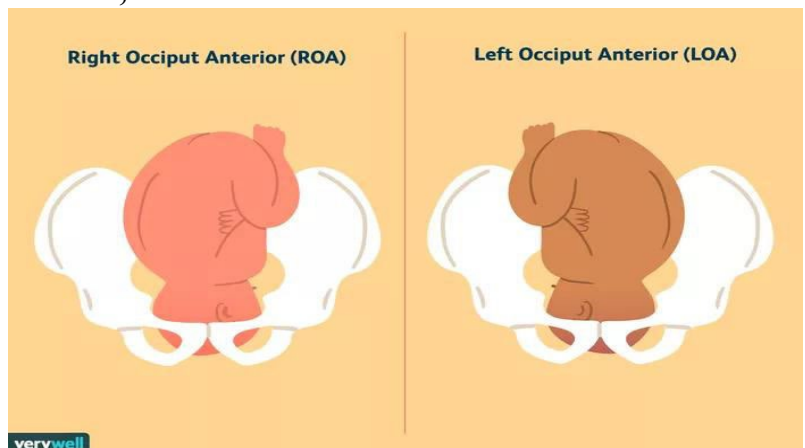
Multiple Gestation



- After the birth of the first child, the lie of the second fetus is determined by external abdominal palpation or ultrasound. If the presentation is not vertex, external version may be attempted to make it so. If this is not successful, a decision for cesarean birth must be made .
- If the infant will be born vaginally, an oxytocin infusion may be begun at this point to assist uterine contractions .

Problems With Fetal Position, Presentation, or Size

- Occipitoposterior Position
- Breech Presentation
- Face Presentation
- Brow Presentation
- Transverse Lie



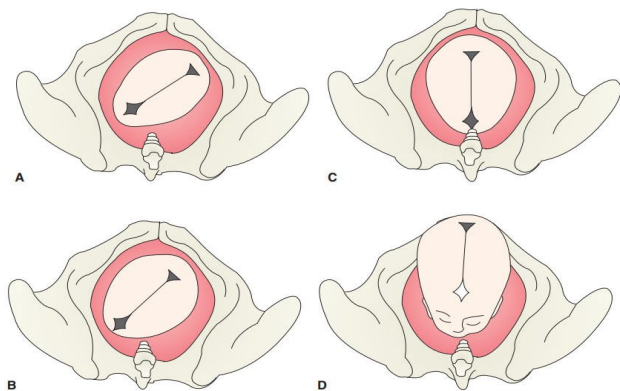


FIGURE 23.8 Left occipitoanterior (LOA) rotation. (A) A fetus in a cephalic presentation, LOA position. View is from the outlet. The fetus rotates 90 degrees from this position. (B) Descent and flexion. (C) Internal rotation complete. (D) Extension; the face and chin are born.

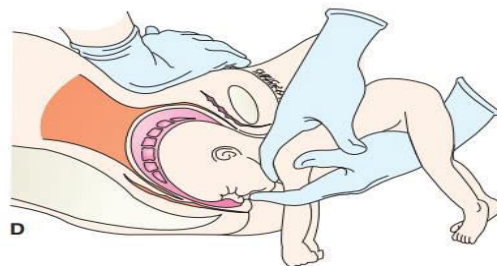
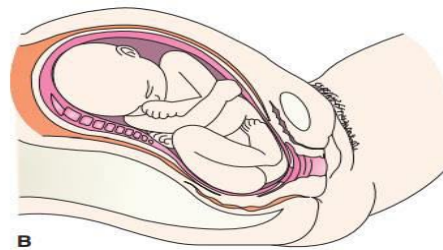
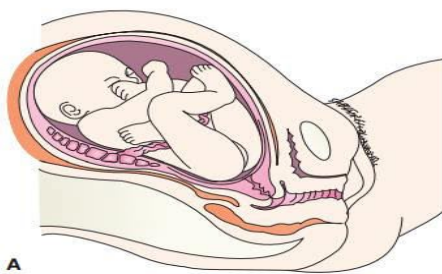
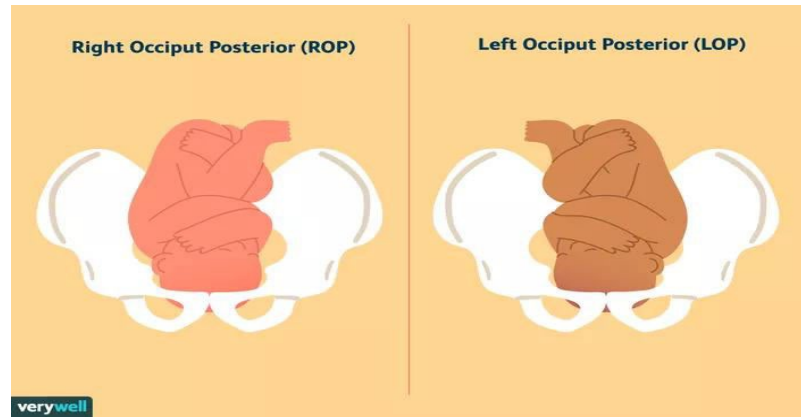
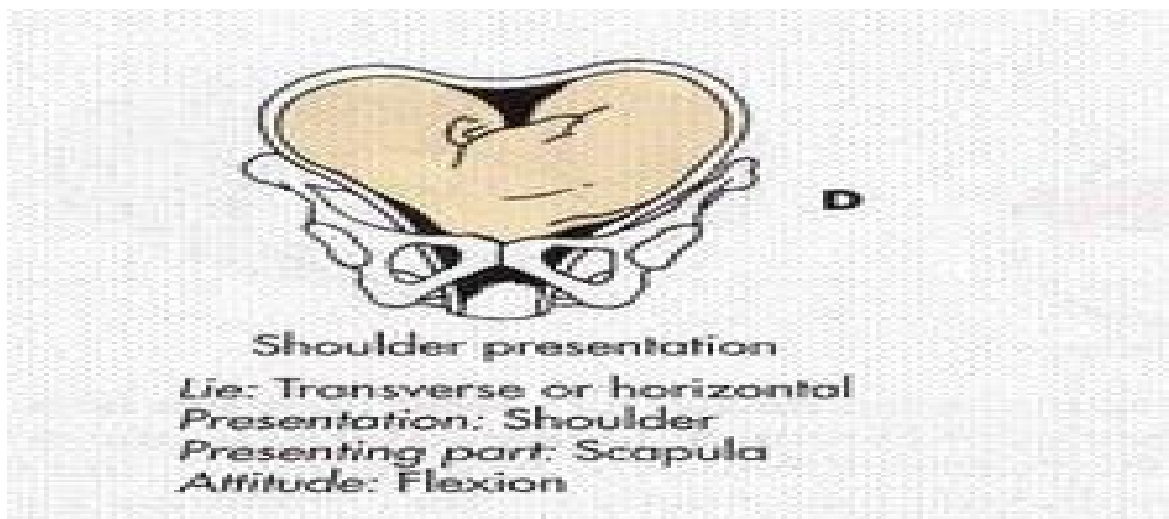


FIGURE 23.11 Breech birth. (A) Position before labor; left sacroposterior. (B) Descent and internal rotation. (C) Legs being born; the shoulders turn to present to the anteroposterior diameter. (D) The head is born. External rotation has put the anteroposterior diameter of the head in line with the anteroposterior diameter of the woman's pelvis. The head is born by gentle pressure to flex the head fully and by gentle traction to the shoulders upward and outward. Additional pressure might be applied by an assistant to the abdominal wall to ensure head flexion.



Oversized Fetus (Macrosomia)

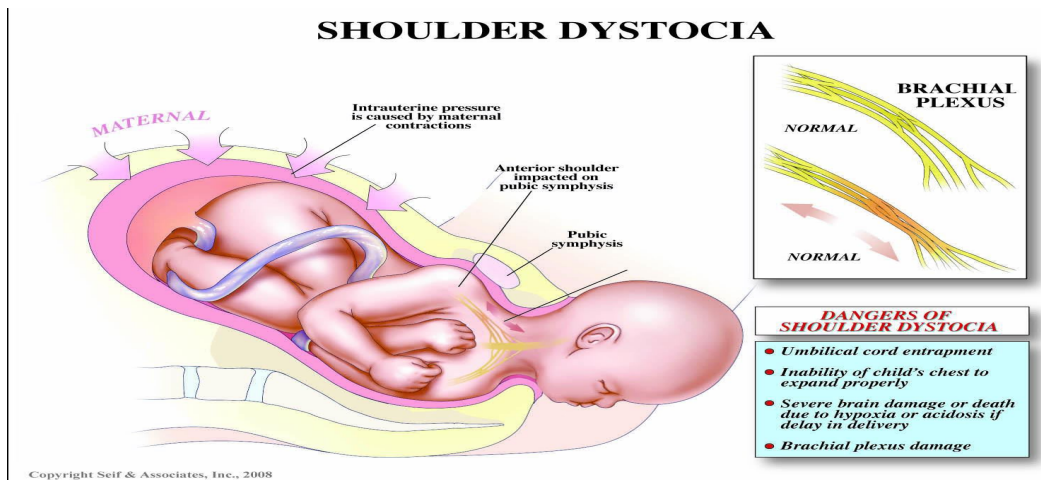
- weighs more than 4000 to 4500 g (approximately 9 to 10 lb). Babies of this size are most frequently born to women who enter pregnancy with diabetes or develop gestational diabetes
- An oversized infant may cause uterine dysfunction during labor or at birth because of overstretching of the fibers of the myometrium. The wide shoulders may pose a problem at birth, because they can cause fetal pelvic disproportion or even uterine rupture from obstruction
- If the infant is so oversized that he or she cannot be born vaginally, cesarean birth becomes the birth method of choice. The large size of a fetus may be missed in an obese woman, because the fetal contours are difficult to palpate and obesity does not necessarily indicate a larger-than-usual pelvis.
- Pelvimetry or ultrasound can be used to compare the size of the fetus with the woman's pelvic capacity.

Shoulder Dystocia

- The problem occurs at the second stage of labor, when the fetal head is born but the shoulders are too broad to enter and be born through the pelvic outlet. This is hazardous to the woman because it can result in vaginal or cervical tears. It is hazardous to the fetus if the cord is compressed between the fetal body and the bony pelvis. The force of birth can result in a fractured clavicle or a brachial plexus injury for the fetus

Shoulder Dystocia

- Is an obstetric emergency in which the anterior shoulder cannot pass under the pubic arch after the head is born
 - Shoulder dystocia occur in
 - women with diabetes
 - in multiparas
 - in post-date pregnancies.
 - may be suspected earlier if the second stage of labor is prolonged
 - if there is arrest of descent
 - Although there is no evidence-based data, asking a woman to flex her thighs sharply on her abdomen (McRobert's maneuver) may widen the pelvic outlet and allow the anterior shoulder to be born. Applying suprapubic pressure may also help the shoulder escape from beneath the symphysis pubis and be born



Fetal Anomalies

- Fetal anomalies of the head such as hydrocephalus (fluid-filled ventricles) or anencephaly (absence of the cranium) can also complicate birth because the fetal presenting part does not engage the cervix well

Problems with the Passage

➤ Inlet Contraction

is narrowing of the anteroposterior diameter to less than 11 cm, or of the transverse diameter to 12 cm or less. It usually is caused by rickets in early life or by an inherited small pelvis.

➤ Outlet Contraction

➤ Trial Labor

- Monitor fetal heart sounds, uterine contractions continuously, if possible, during this time.
- Urge the woman to void every 2 hours so that her urinary bladder is as empty as possible
- if the fetal head is still high, there is an increased danger of prolapsed cord and anoxia to the fetus.
- If after a definite period (6 to 12 hours) adequate progress in labor cannot be documented, or
- if at any time fetal distress occurs, the woman will be scheduled for a cesarean birth.

External cephalic version

- is the turning of a fetus from a breech to a cephalic position before birth. It may be done as early as 34 to 35 weeks, although the usual time is 37 to 38 weeks of pregnancy

For the procedure

- FHR and possibly ultrasound are recorded continuously.
- A tocolytic agent may be administered to help relax the uterus.

- The breech and vertex of the fetus are located and grasped transabdominally by the examiner's hands on the woman's abdomen. Gentle pressure is then exerted to rotate the fetus in a forward direction to a cephalic lie

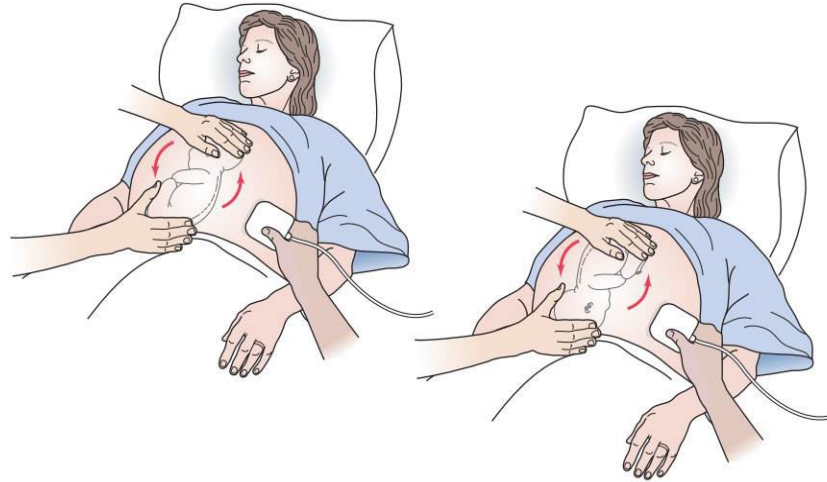


FIGURE 23.13 External cephalic version. The fetus is rotated by external pressure to a cephalic lie. An ultrasound helps guide a safe result.

Contraindications

- Contraindications to the procedure include multiple gestation, severe oligohydramnios, contraindications to vaginal birth, a cord that wraps around the fetal neck, and unexplained third-trimester bleeding.

Forceps Birth

- are steel instruments constructed of two blades that slide together at their shaft to form a handle. One blade is slipped into the woman's vagina next to the fetal head, and then the other is slipped into place on the other side of the head
- Forceps may be necessary, if any of the following conditions occur:
 - woman who has a spinal cord injury.
 - Cessation of descent in the second stage of labor occurs.
 - A fetus is in an abnormal position or is immature.
 - A fetus is in distress from a complication such as a prolapsed cord.

Before forceps are applied,

- Membranes must be ruptured.
- CPD must not be present.
- The cervix must be fully dilated.
- The woman's bladder must be empty.
- ✓ assess FHR immediately after application.
- ✓ assess laceration if occurred.
- ✓ To rule out bladder injury, record the time and amount of the first voiding.
- ✓ assess the newborn to be certain that no facial palsy or subdural hematoma exists.



- ✓ A forceps birth may leave a transient erythematous mark on the newborn's cheek. This mark will fade in 1 to 2 days with no long-term effects.

vacuum extraction

- ✓ a disk-shaped cup is pressed against the fetal scalp, over the posterior fontanelle. When vacuum pressure is applied, air beneath the cup is suctioned out and the cup then adheres so tightly to the fetal scalp that traction on the cord leading to the cup extracts the fetus

Vacuum extraction has advantages over forceps birth

- ✓ little anesthesia is necessary
- ✓ fewer lacerations of the birth canal

major disadvantage

- ✓ causes a marked caput on the newborn head that may be noticeable as long as 7 days after birth.
- ✓ A woman may need reassurance that the caput swelling is harmless to her infant and will decrease rapidly.
- ✓ Moreover, vacuum extraction is not advantageous for preterm infants because of the softness of the preterm skull.

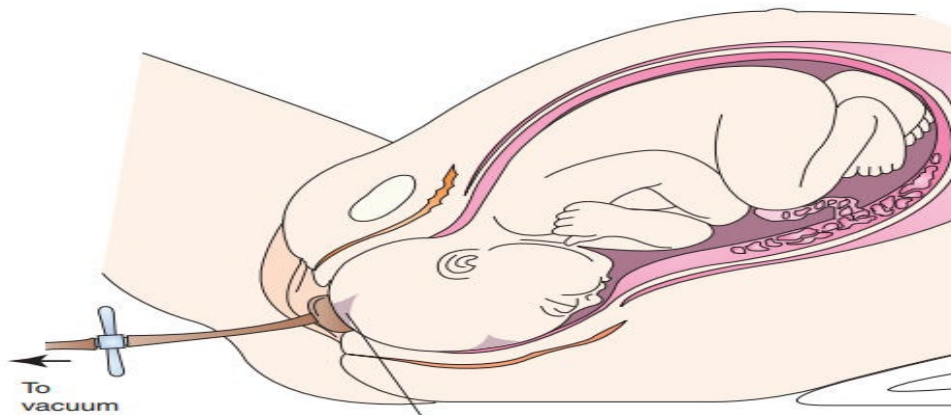


FIGURE 23.14 Vacuum extraction.

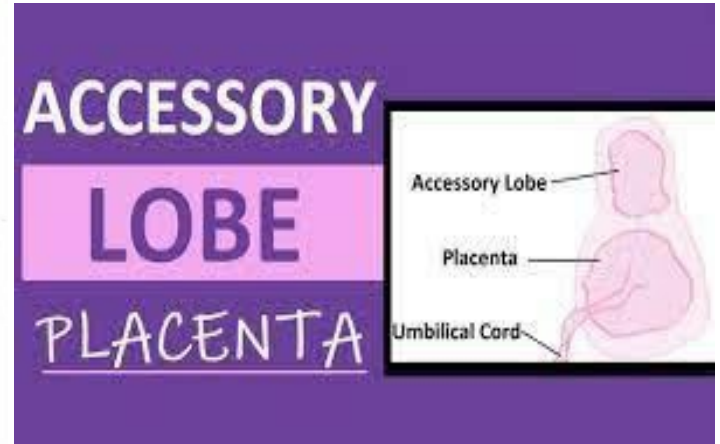
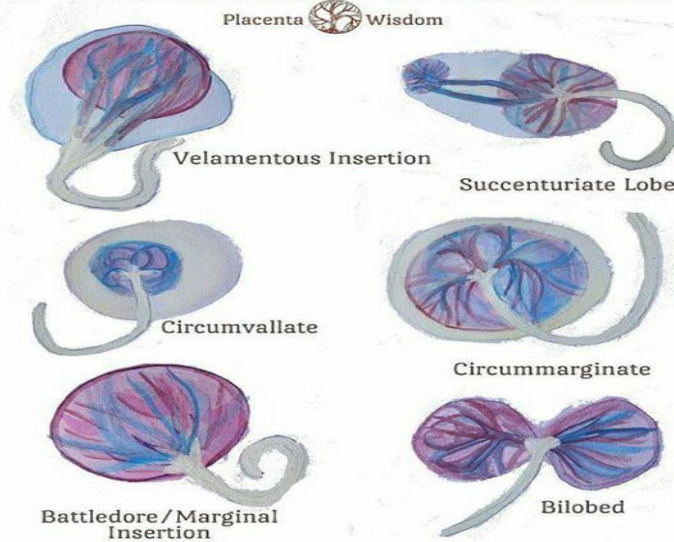
Anomalies of the Placenta

1. Placenta Succenturiata is a placenta that has one or more accessory lobes connected to the main placenta by blood vessels. No fetal abnormality is associated with this type. However, it is important that it be recognized, because the small lobes may be retained in the uterus after birth, leading to severe maternal hemorrhage. On inspection, the placenta appears torn at the edge. The remaining lobes are removed from the uterus manually to prevent maternal hemorrhage from poor uterine contraction.

2. Placenta Circumvallata the fetal side of the placenta is covered to some extent with chorion. The umbilical cord enters the placenta at the usual midpoint, and large vessels spread out from there. They end abruptly at the point where the chorion folds

back onto the surface, however. (In placenta marginata, the fold of chorion reaches just to the edge of the placenta.) Although no abnormalities are associated with this type of placenta, its presence should be noted.

Placenta Variations



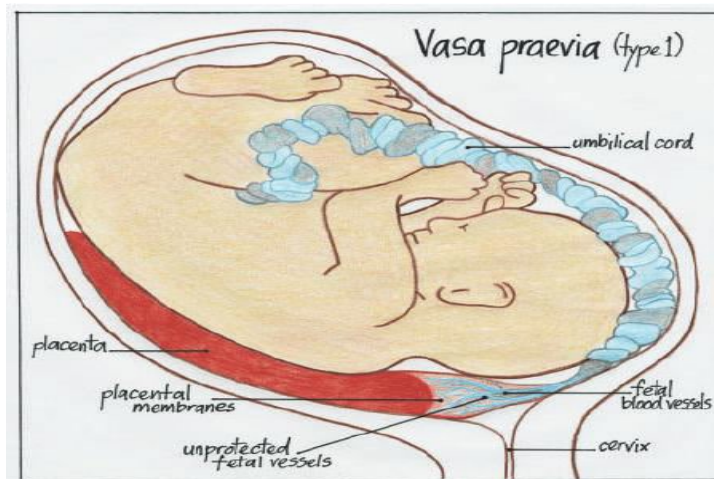
3. Battledore Placenta

the cord is inserted marginally rather than centrally. This anomaly is rare and has no known clinical significance either.

4. Velamentous Insertion of the Cord is a situation in which the cord, instead of entering the placenta directly, separates into small vessels that reach the placenta by spreading across a fold of amnion. This form of cord insertion is most frequently found with multiple gestation. Because it may be associated with fetal anomalies, an infant born with this type of placenta should be examined carefully.

5. Vasa Previa: the umbilical vessels of a velamentous cord insertion cross the cervical os and therefore deliver before the fetus. The vessels may tear with cervical dilatation, just as a placenta previa may tear. Before inserting any instrument such as an internal fetal monitor, be certain to identify structures to prevent accidental tearing of a vasa previa as tearing would result in sudden fetal blood loss. If sudden, painless bleeding occurs with the beginning of cervical dilatation, either placenta previa or vasa previa is suspected. It can be confirmed by ultrasound. If vasa previa is identified, the infant needs to be born by cesarean birth.

6. Placenta Accreta is an unusually deep attachment of the placenta to the uterine myometrium so deeply the placenta will not loosen and deliver. Attempts to remove it manually may lead to extreme hemorrhage because of the deep attachment. Hysterectomy or treatment with methotrexate to destroy the still-attached tissue may be necessary.



Anomalies of the Cord

1. Two-Vessel Cord A normal cord contains one vein and two arteries. The absence of one of the umbilical arteries is associated with congenital heart and kidney anomalies, because the insult that caused the loss of the vessel may have affected other mesoderm germ layer structures as well. Inspection of the cord as to how many vessels are present must be made immediately after birth, before the cord begins to dry, because drying distorts the appearance of the vessels. Document the number of vessels present conscientiously. An infant with only two vessels needs to be observed carefully for other anomalies during the newborn period.

2. Unusual Cord Length

- An unusually short umbilical cord can result in premature separation of the placenta or an abnormal fetal lie.
- An unusually long cord may be easily compromised because of its tendency to twist or knot. Occasionally, a cord actually forms a knot, but the natural pulsations of the blood through the vessels and the muscular vessel walls usually keep the blood flow adequate. It is not unusual for a cord to wrap once around the fetal neck (nuchal cord) but, again, with no interference to fetal circulation

“Nursing care during obstetrical operation”**Induction of labor & augmentation of labor.**

Induction of labor (IOL) is the intentional initiation of labor before it begins naturally. Augmentation of labor is the stimulation of contractions after they have begun naturally.

Indications for Induction

1. Gestational hypertension
2. Ruptured membranes without spontaneous onset of labor
3. Infection within the uterus
4. Postterm pregnancy
5. Medical problems in the woman that worsen during pregnancy, such as diabetes, kidney disease, or pulmonary disease
6. Fetal problems, such as slowed growth, prolonged pregnancy, or incompatibility between fetal and maternal blood types, oligohydramnios
7. Placental insufficiency.
8. Fetal death

Contraindications to Induction

Labor is not induced in the following conditions

1. Placenta previa, Vasa previa
2. Umbilical cord prolapses
3. Abnormal fetal presentation
4. Abnormal FHR
5. High station of the fetus (head not engaged), which can suggest a preterm fetus or a small
6. maternal pelvis
7. Active herpes infection externally or in the birth canal, which the infant can acquire during
8. birth
9. Abnormal size or structure of the mother's pelvis
10. Previous classic (vertical) cesarean incision

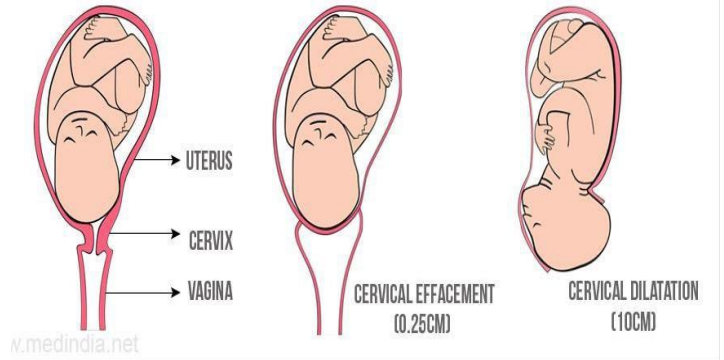
Method of induction of labor**A. Non-pharmacological Methods to Stimulate Contractions (Naturally)**

1. Sexual activity
2. Nipple stimulation
3. Walking
4. Bath.
5. Castor oil
6. Cinnamon and curry
7. Acupressure

B. Pharmacological and Mechanical Methods to Stimulate Contractions

1. Cervical Ripening: Cervical ripening is the physical softening of the cervix that leads to effacement and dilation. Induction of labor is more effective if the woman's cervix is "ripe".

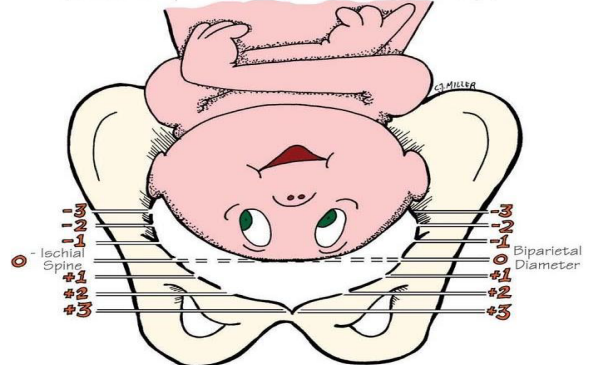
- Cervical ripening can be achieved by pharmacological or mechanical means.
 - Prostaglandin E2 (PGE2; dinoprostone gel (Prepidil) ripens the cervix and stimulates uterine muscle). Dinoprostone inserts (Cervidil)
 - Prostaglandin E1 (PGE1): Misoprostol (Cytotec) can be used for both cervical ripening and induction of labor.



Scoring Factor	Score			
	0	1	2	3
Dilatation (cm)	0	1-2	3-4	3-4
Effacement (%)	0-30	40-50	60-70	80
Station	-3	-2	-1-0	+1-+2
Consistency	Firm	Medium	Soft	
Position	Posterior	Mid-position	Anterior	

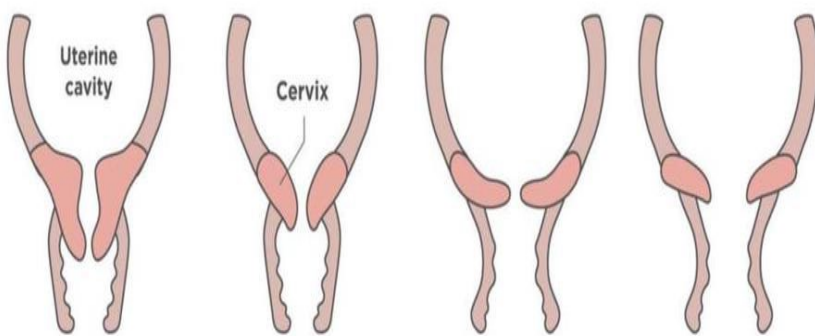
Bishop's Score

FETAL STATION
(Relationship of Fetal Head to Mother's Pelvis)

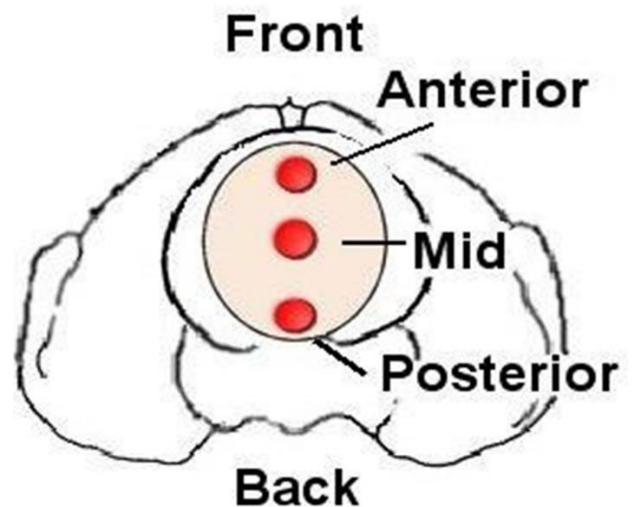


I'm At Zero... From Here It's All Positive... I'm On My Way Out!!!

BISHOP SCORE EFFACEMENT



Before labor: 0% effacement Early effacement: 30% Complete effacement: 100% Complete dilation



2. Stripping the amniotic membranes (Mechanical Cervical Ripening)

- Stripping the amniotic membranes involves separation of the chorioamniotic membranes from the wall of the lower uterine segment and cervix by insertion of the examiner's gloved finger through the cervix and beyond the internal cervical os and rotating the finger along the lower uterine segment.

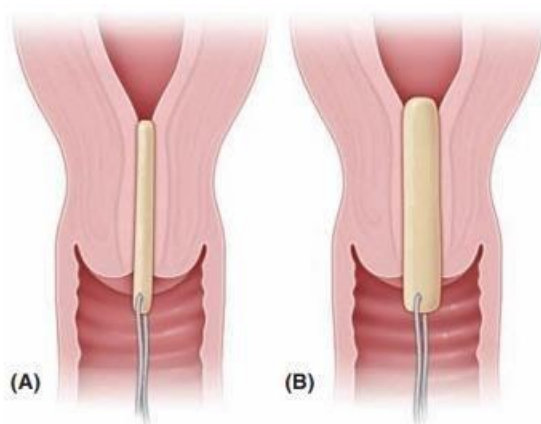
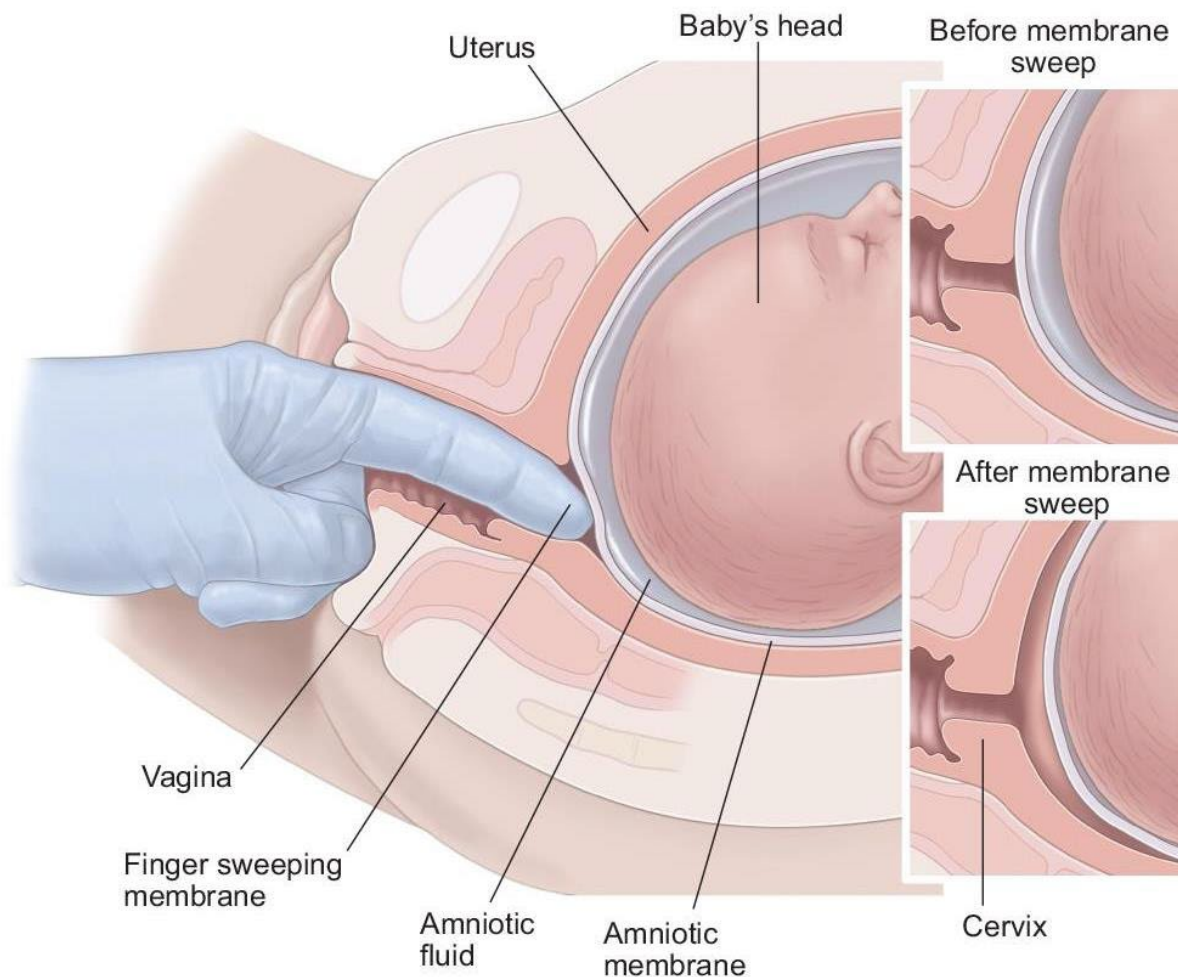


FIGURE 8.13. Use of laminaria. (A) Laminaria properly inserted just beyond the cervical os. (B) Properly placed laminaria that has expanded, causing cervical dilation.

3. **Amniotomy** is the artificial rupture of membranes (AROM) by inserting a cervical hook (Amniohook) through the cervical os. Is done at least when cervical dilation 2 cm

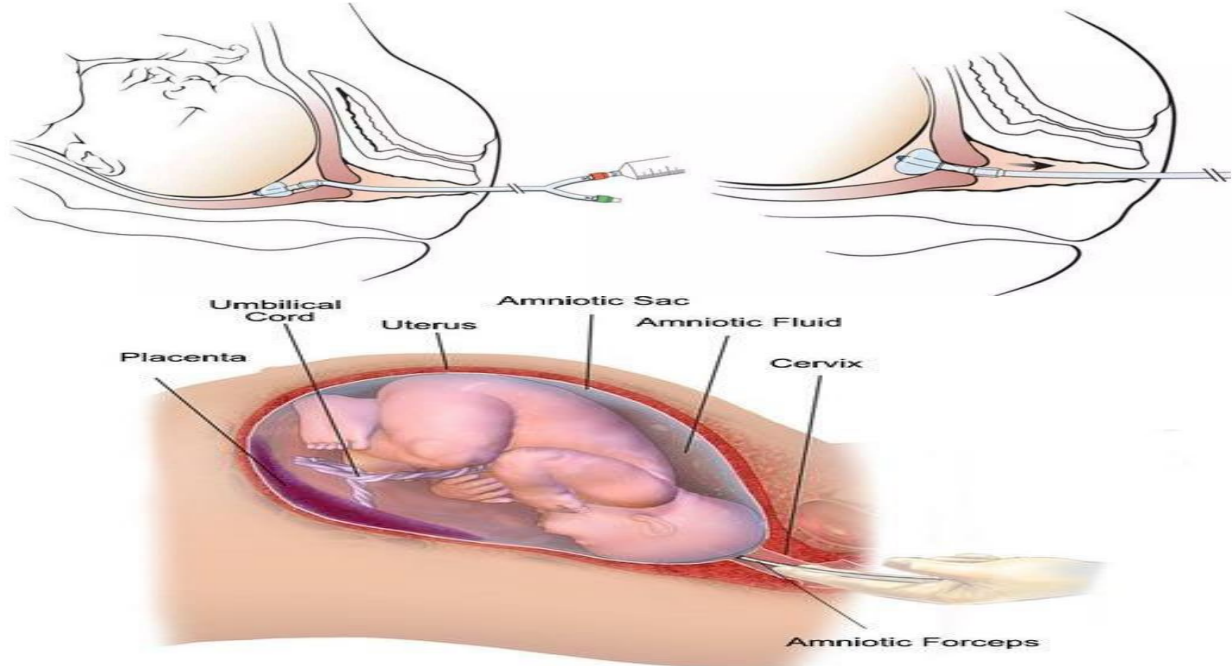
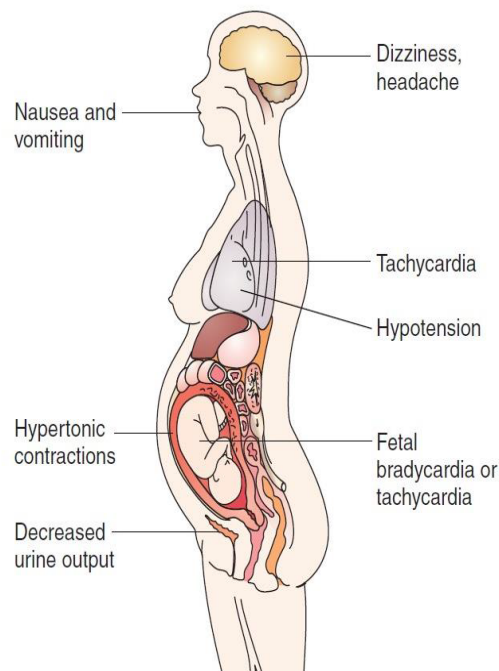


Illustration showing Amniotomy

4. **Oxytocin:** (normally produced in the hypothalamus and released by the posterior pituitary.) Oxytocin causes the uterus to contract used to induce labor, strengthen labor contractions during childbirth, control bleeding after childbirth
- **Oxytocin:** is diluted in an (slow IV solution). Contractions usually start about 30 minutes after oxytocin is given.



Danger Signs of Oxytocin Administration

Complications of Augmentation of Labor

1. fetal compromise
2. uterine rupture
3. uterine hyperstimulation
4. postpartum hemorrhage
5. abruptio placenta
6. rapid labor, leading to laceration of cervix, vagina, perineum, and fetal trauma

Nursing care during induction and augmentation of labor

1. Explain induction and augmentation to the client
2. Assess cervical dilation
3. assess and record Fetal heart and uterine contraction
4. assess maternal vital signs
5. observe & check the rate of flow of infusion, intake and output

Lacerations of the birth canal:**laceration of cervix**

- A minor laceration occurs frequently but not causes symptoms. Extensive laceration occurs in forceps delivery with incomplete cervical dilatation, or in rapid delivery of head in breech presentation.
- Scar of cervix from previous injury may tear.

Management

1. Anesthetize the patient.
2. Insert wide speculum.
3. Hold the anterior & posterior lips by sponge forceps.
4. Suture the tear by catgut.
5. Antibiotic is given to prevent infection.

Laceration of perineum & vagina Laceration of 4 stages:

- First degree: Involves the superficial vaginal mucosa or perineal skin
- Second degree: Involves the vaginal mucosa, perineal skin, and deeper tissues of the perineum
- Third degree: Same as second degree, plus involves the anal sphincter
- Fourth degree: Extends through the anal sphincter into the rectal mucosa

Management:

For 1st & 2nd degree :

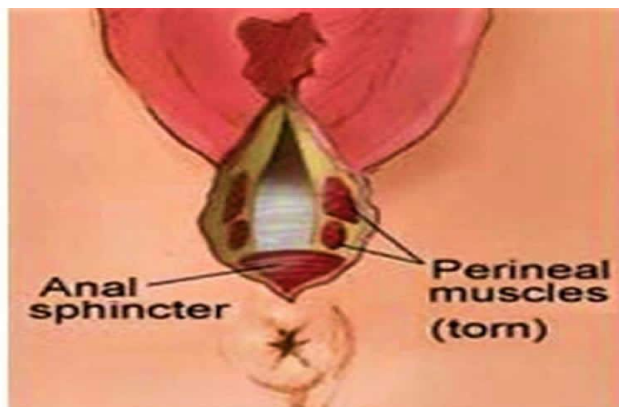
- Repair of the tear urgently should be done.
- Prevent any infection by complete repair under aseptic condition with giving antibiotics.
- Repair is done under pudendal block or G.A or local anesthesia by 1% lignocaine

For 3rd and 4th degree:

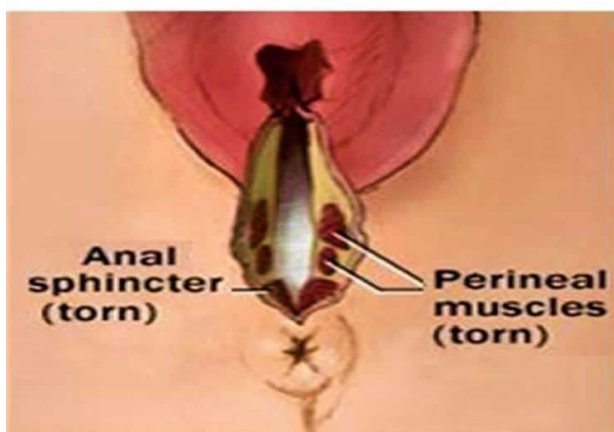
- Repair should be done immediately after delivery.
- If repair not done, rectal incontinence will be the complication.
- Wash the perineum with soap & water & then dried.
- Patient may have urine retention therefore catheterization is needed.
- If the bowel not acted by 4thday, glycerin suppository may be used .
- If wound infected , remove perineal stitches to permit drainage & giving antibiotic



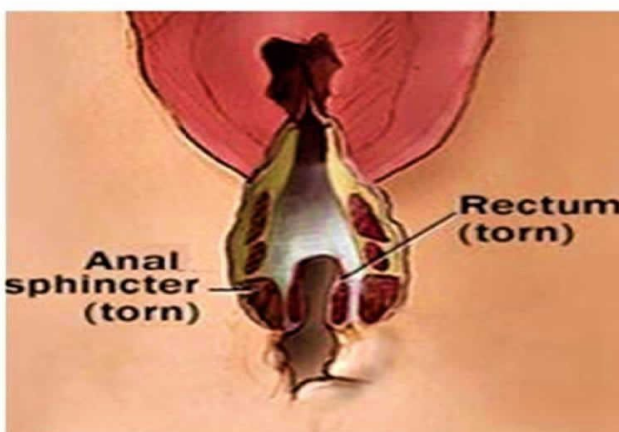
First Degree Perineal Tear



Second Degree Perineal Tear



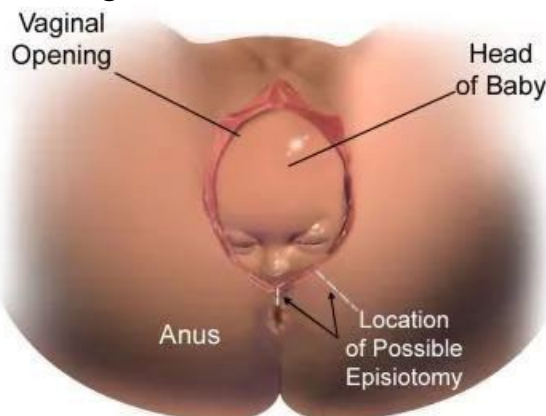
Third Degree perineal tear



Fourth Degree Perineal Tear

Episiotomy

- is a surgical incision of the perineum and the posterior vaginal wall generally done by a midwife or obstetrician. Episiotomy is usually performed during second stage of labor to quickly enlarge the opening for the baby to pass through



Indications of episiotomy

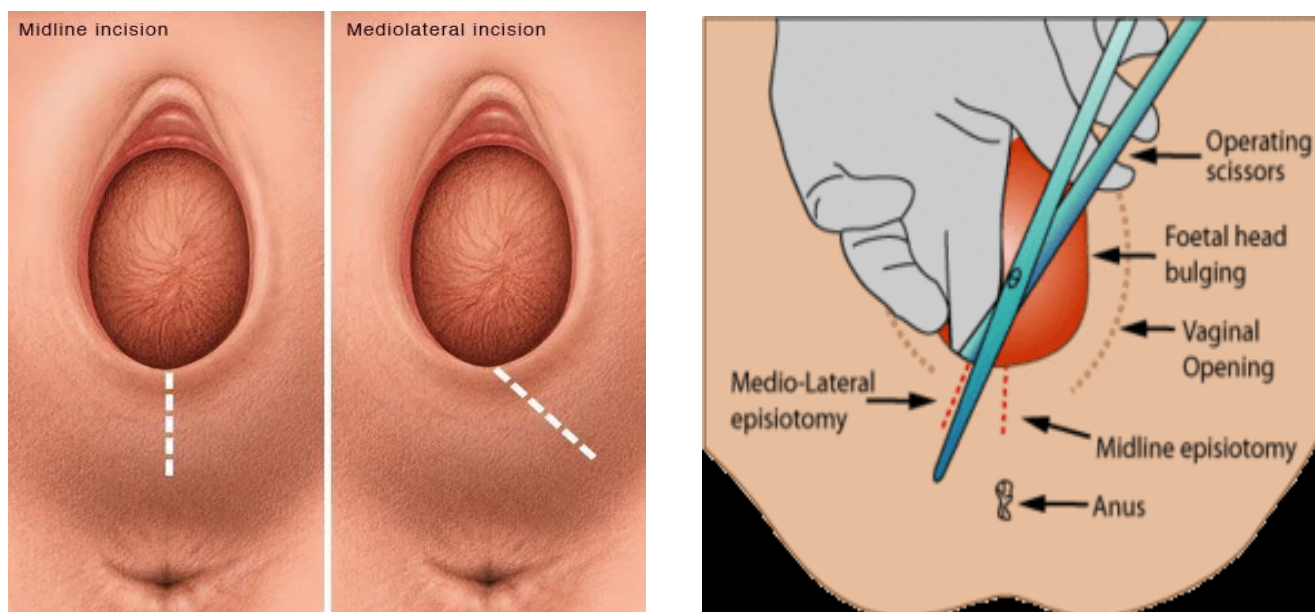
1. When perineum threaten to tear: indicated in primigravida .
2. When there is delay in delivery.
3. Forceps delivery.
4. Breechdelivery: to reduce risk of intracranial hemorrhage.
5. Fetaldistress: when fetal distress at 2ndstage of delivery.
6. Prolapsedcord.
7. Prematurelabor: episiotomy routinely done to prevent intracranial injury

There are four main types of episiotomy

- Midline (median)—extending directly from the lower vaginal border toward the anus
- Mediolateral—extending from the lower vaginal border toward the mother's right or left
- Lateral.

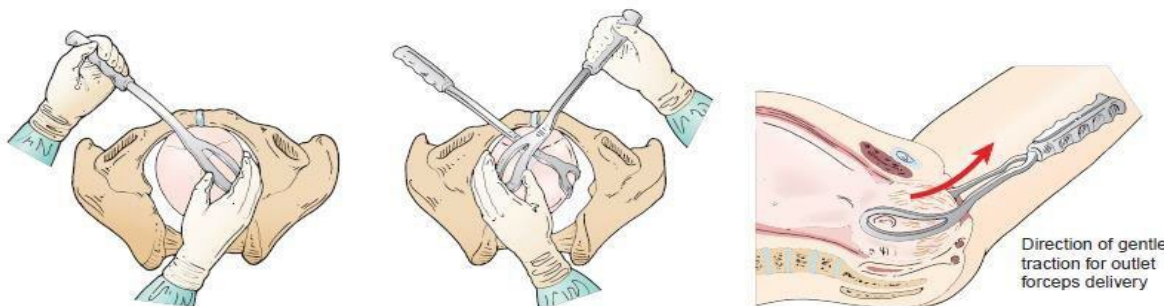
Procedure

1. Do episiotomy under pudenda block or G.A or local anesthesia by infiltration with 10 ml of lignocaine 1%.
2. Incision done when head distending the perineum .
3. Avoid cutting anal sphincter
4. Management
5. suture episiotomy in layers
6. don't leave any space between layers to prevent hematoma
7. remove stitches after 5 days
8. daily bathing is advised
9. keep the wound dry
10. antibiotic is given when there is a risk of infection
11. analgesia is given when there is discomfort

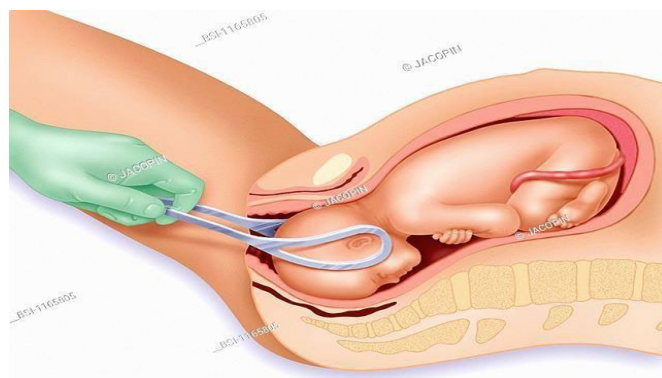
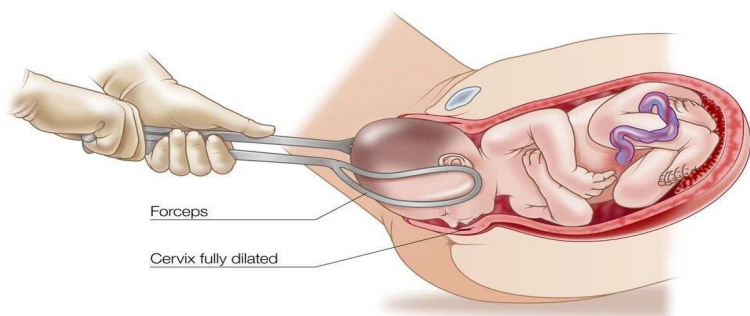


Forceps delivery

- Forceps births, like all assisted births, should only be undertaken to help promote the health of the mother or baby. In general, a forceps birth is likely to be safer for both the mother and baby than the alternatives — either a ventouse birth or a caesarean section— although caveats such as operator skill apply



Forceps birth



Low Forceps

Outlet Forceps

Maternal factors for use of forceps:

1-Maternal exhaustion.

1. Prolonged second stage of labour.
2. Maternal illness such as heart disease, hypertension, glaucoma, aneurysm, or other conditions that make pushing difficult or dangerous.
3. Hemorrhaging.
4. Analgesic drug-related inhibition of maternal effort (especially with epidural/spinal anaesthesia)

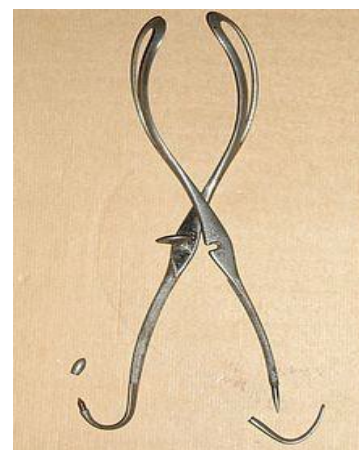
Fetal factors for use of forceps:

1. Non-reassuring fetal heart tracing.
2. Fetal distress.
3. After-coming head in breech delivery

Complications

Baby

1. Cuts and bruises.



2. Increased risk of facial nerve injury (usually temporary).
3. Increased risk of clavicle fracture (rare).
4. Increased risk of intracranial hemorrhage - sometimes leading to death:
4/10,000
5. Increased risk of damage to cranial nerve ,

Mother

1. Increased risk of perineal lacerations, pelvic organ prolapse, and incontinence.
2. Increased risk of injury to vagina and cervix. Increased postnatal recovery time and pain. Increased difficulty evacuating during recovery time

Conditions to be fulfilled before applying forceps:

1. The presentation must be suitable.
2. The head must be engaged.
3. Adequate pelvic outlet.
4. Full dilatation of cervix.
5. Rupture fore water bag. (If it is not ruptured).
6. The bladder should be empty.
7. The uterus should be contracting to help pushing the fetus.

Vacuum extraction

- known as ventouse, is a method to assist delivery of a baby using a vacuum device. It is used in the second stage of labor if it has not progressed adequately. It may be an alternative to a forceps delivery and caesarean section. It cannot be used when the baby is in the breech position or for premature births. The use of VE is generally safe, but it can occasionally have negative effects on either the mother or the child.[1] The term comes from the French word for "suction cup".

Indications of Vacuum extraction

- Same as for forceps.
- Vacuum used to accelerate cervical dilatation when the 1st stage is prolonged.
- If there is weak uterine contraction, oxytocin is given.
- If there is disproportion, C/S is indicated.

Caesarian Section

- Is defined as operation by which the fetus is delivered through an incision in the uterus after 28th week of pregnancy.

Indications of Caesarian section**Maternal:**

- Active genital herpes or HPV
- AIDS or HIV-positive

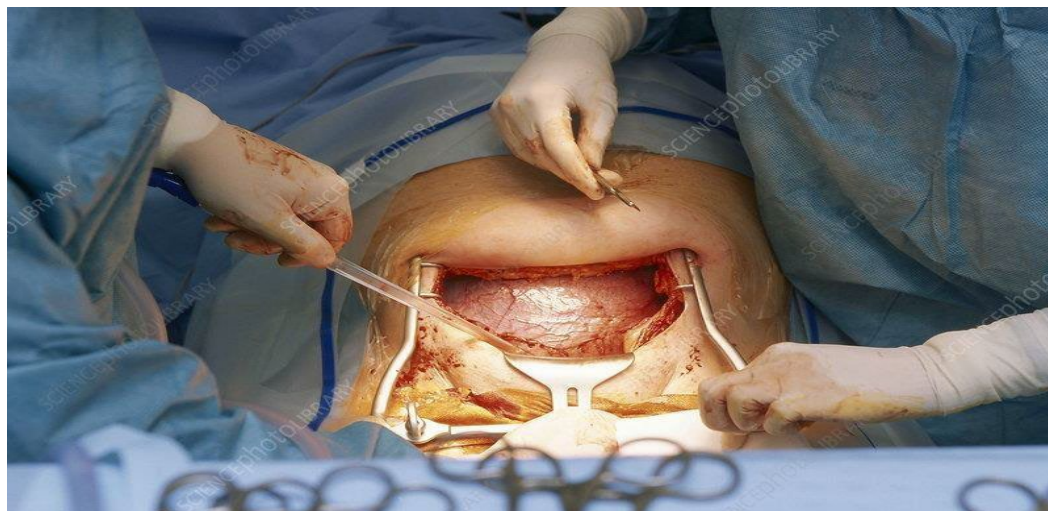
- CPD
- Cervical cerclage
- Disabling conditions, such as severe hypertension
- Failed induction or failure to progress in labor
- Obstructive benign or malignant tumor
- Previous surgery
- Elective—no indicated risks

Placenta:

- Placenta previa
- Premature separation of the placenta
- Umbilical cord prolapse

Fetal:

- Macrosomic fetus
- Breech lie
- Extreme low birth weight
- Fetal distress
- Major fetal anomalies, such as hydrocephalus
- Multigestation or conjoined twins
- Transverse fetal lie

**Classification of Cesarean Births**

2. Scheduled (planned)
3. Unscheduled (emergent) (unplanned)

Scheduled (planned) Cesarean Births

- Previous cesarean birth
- Transverse presentation
- Genital herpes
- Cephalopelvic disproportion

Emergent Cesarean Births

- Placenta previa
- Premature separation of the placenta
- Fetal distress
- Failure to progress in labor

Types of Caesarian section

- Upper uterine segment operation: rarely done (due to risk of rupture scar).
- Trans peritoneal lower uterine segment operation: commonly done both types could be elective or emergency.

Nursing care of a woman anticipating a cesarean birth

Effects of Surgery on a Woman

1. Stress response
2. Interference with body defense
3. Interference with circulatory function
4. Interference with body organ function
5. Interference with self-image or self-esteem

Drugs That May Result in Complications of Surgery

Type of Drug	Action
Antibiotics	Specific antibiotics may predispose to renal insufficiency or increase neuromuscular blockage; can lead to opportunistic infections
Anticoagulants	May cause hemorrhage due to lack of hemostasis during surgery
Anticonvulsants	May increase liver action and metabolism of anesthetic agent
Antihypertensives	May result in hypotension after anesthesia
Corticosteroids	May block body's response to shock and lead to lack of adrenal function
Insulin	May lead to hypoglycemia during labor or hyperglycemia if a dextrose solution is administered
Antianxiety agents	May cause hypotension after anesthesia

Operative Risk

Woman:

- Poor nutritional status
- Age variations
- Altered general health

- Fluid and electrolyte Imbalance
- Fear

Newborn:

- Respiratory difficulty

Preoperative Diagnostic Procedures

- VS.
- Urinalysis.
- CBC.
- Coagulation profile (PT, PTT).
- Serum electrolytes and Ph.
- Blood typing and cross-matching.
- US to determine fetal presentation and maturity

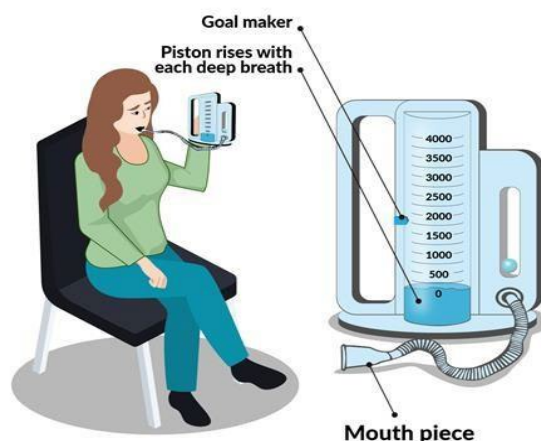
Preoperative Teaching to Prevent Complications

- Deep Breathing.
- Incentive Spirometry.
- Turning.
- Ambulation.

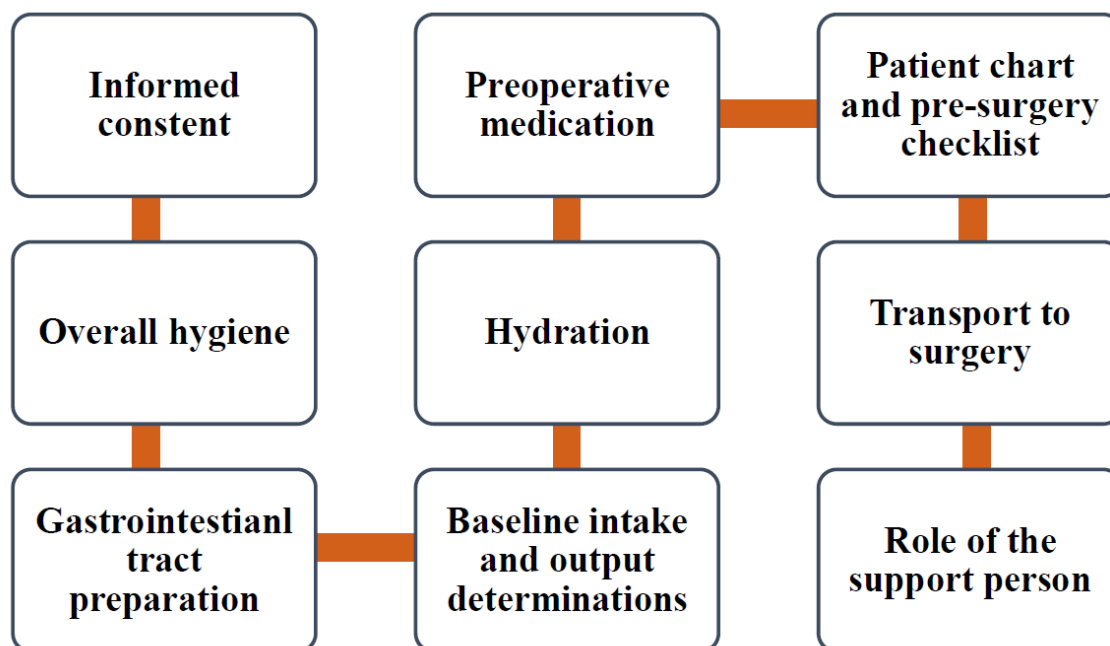
Pre-operative nursing care

1. Checking maternal vital signs.
2. Checking fetal heart.
3. Shaving abdomen with taking a bath the day before operation.
4. Emptying urinary bladder by catheter.
5. I.V glucose –saline drip is inserted.
6. Prepare cross matched liter of blood.

INCENTIVE SPIROMETRY



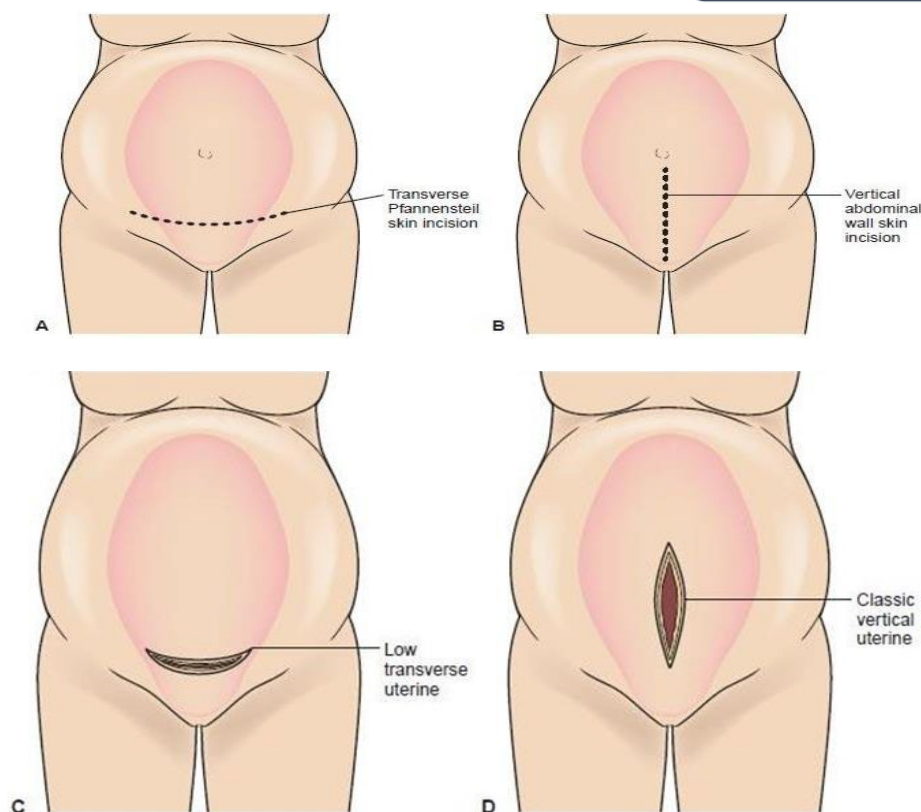
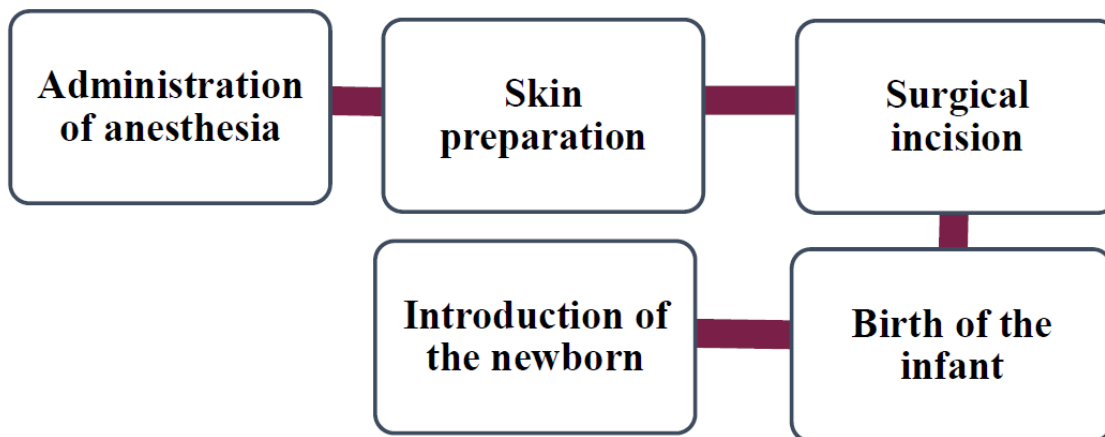
Immediate Preoperative Care Measures



During operation

1. Re-rusticator equipped theater, heat, suction, oxygen, open mask.
2. Checking maternal vital signs regularly.
3. giving oxytocin if uterus is not contracted

Intraoperative care measures

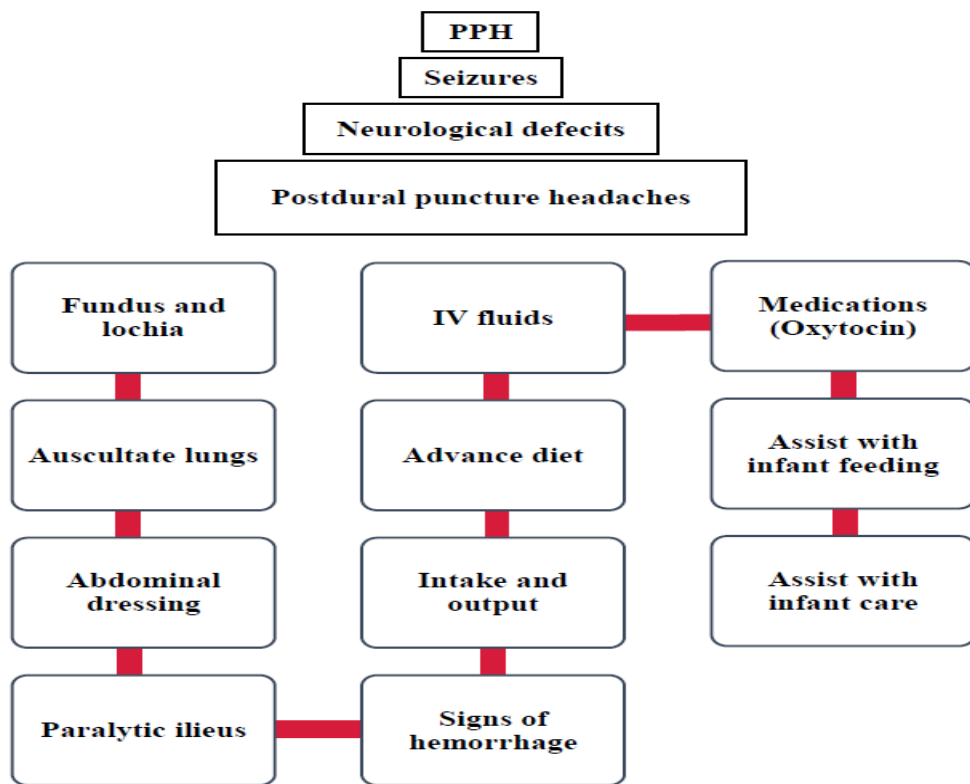


Postoperative

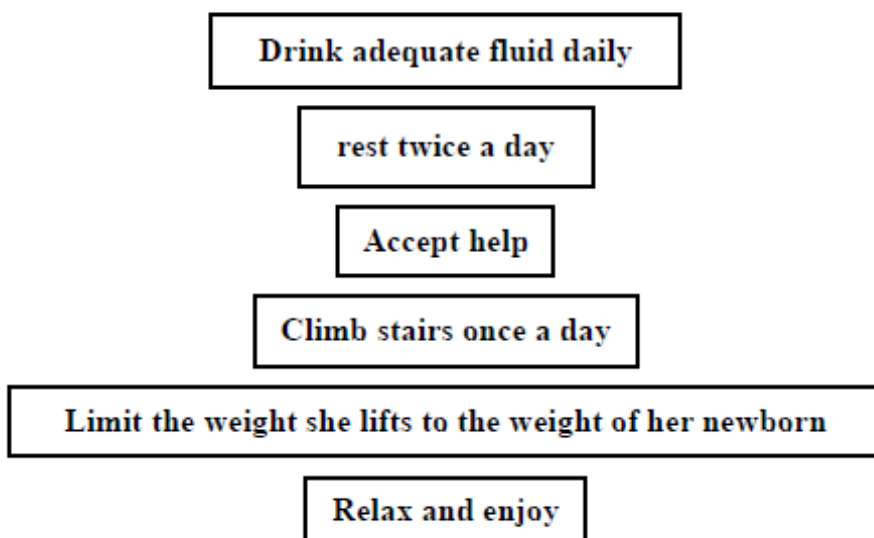
1. Giving I.V fluid for 1st 24 hrs is given.
2. Giving analgesic drug to let the mother comfortable & in rest.
3. Daily breast care is carried out & breast feeding is encouraged earlier.
4. Checking urine output.
5. Check for any PPH.
6. Check for bowel motion early movement of patient will decrease the risk of DVT.

7. Prophylactic antibiotic is given pre & post-operative.
8. Remove stitches at day 5-7 after operation.
9. Checking for any wound infection.

Assess Complications of anesthesia

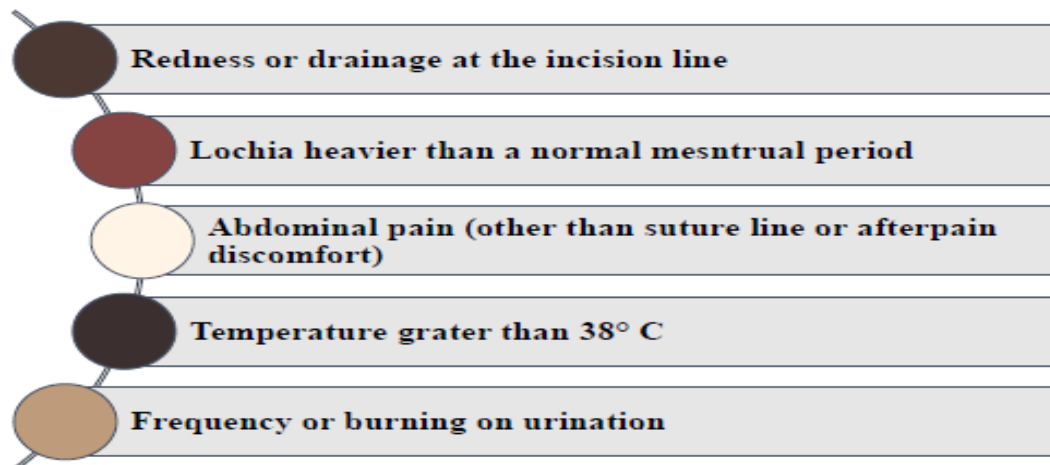


Teaching to Help Mother Regain Her Energy Rapidly



Discharge Planning

- Avoid lifting any object heavier than 10 lb or walk upstairs more than once a day for the first 2 weeks.
- Recognize signs of possible complications directly related to the surgery.



Risks Related to Cesarean Birth

1. Postpartum infection
2. Hemorrhage
3. Thrombo-embolic disease
4. Complication of anesthesia
5. Amniotic fluid embolus
6. Venous-thromboembolism VTE
7. Puerperal infections
8. Rates of re-hospitalization are higher
9. Double costs
10. Neonates are at higher risk for RDS
11. Maternal death

Postpartal care measures

Nursing Management after cesarean birth

- Monitor vital signs as per protocol.
- Monitor respiratory rate.
- Assess woman for pain.
- Use pharmacological and non-pharmacological interventions for pain relief.

Nursing Diagnoses

- Pain related to surgical incision.
- Risk for deficient fluid volume related to blood loss during surgery.
- Risk for deficient fluid volume related to postsurgical fluid restriction.
- Constipation related to effects of abdominal surgery and anesthesia.
- Risk for impaired urinary elimination related to surgical procedure.
- Risk for ineffective peripheral tissue.

- perfusion related to immobility during and after surgery.
- Risk for impaired parenting related to the emergent nature of birth or discomfort from surgery.
- Fatigue related to effects of surgery.
- Impaired skin integrity related to surgical incision.

puerperium

- Postpartum period: the period of adjustment after childbirth during which the mother's reproductive system returns to its normal pre-pregnant state. It generally lasts six to eight weeks and ends with the first ovulation and the return of normal menstruation

Physiological changes General changes

- Temperature: normal but,
- A reactionary rise may occur after difficult labor. It does not exceed 38°C and drops within 24 hours.
- A slight rise may occur at the 3rd day due to engorgement of the breasts.
- Pulse: normal but may rise if there is hemorrhage or infection.
- After pains: Painful uterine contractions occur in early puerperium increasing with suckling due to oxytocin release. If intolerable use analgesics.

Breasts:

- Colostrum is secreted in the first 3 days.
- With the establishment of milk secretion at the 3rd to 4th day, the breasts become engorged, larger, painful, tender while suckling relieves the discomfort.
- Suckling stimulates prolactin secretion, which causes milk production and oxytocin release, which stimulates milk ejection.

Urine: Diuresis by the 2nd - 4th day, lasting for 3-4 days.

Retention of urine may occur due to:

- Atony of the bladder.
- Laxity of the abdomen.
- Recumbancy.
- Reflex inhibition if the perineum is sutured.
- Compression of the urethra by vulval oedema or hematoma

Bowel: Tendency to constipation due to;

- Atony of the intestine.
- Laxity of abdomen and perineum.
- Anorexia.
- Loss of fluids.
- Loss of weight: due to
- Evacuation of the uterine contents.
- More fluid loss in urine and sweat.

Blood:

- Increased coagulability of the blood continues during the first two weeks in spite of significant decrease in a number of coagulation factors.
- Haemoglobin concentration: tends to fall in the first 2-3 days.
- Menstruation: is regained by the 6th - 8th weeks after delivery but in lactating women a variable period of amenorrhea may be present.

Local changes

- The uterus is involuted as follow:
- Structure: 1-Autolysis of the excess muscle fibres.
- The blood vessels are obliterated by thrombosis and become degenerated while its remnants are transformed into elastic tissues iii) The decidua, except the basal layer, is separated.
- Weight: After delivery the uterine weight is 1000 gm. . By the end of 6 weeks it is 50 gm.
- Size: After delivery the length of the uterus is 20 cm and felt at the level of umbilicus. After one week it is midway between umbilicus and symphysis pubis. After 2 weeks it is at the level of symphysis. By the end of the 6th week it is 7.5 cm long.
- Uterine ligaments: are involuted and subinvolution predisposes to prolapse and retroversion
- Lochia: it is post childbirth uterine discharge. It includes:
- Lochiarubra: consists mainly of blood, decidua & trophoblastic debris. After 3-4days.
- Lochiaserosa: which consists of old blood, serum, leukocytes & tissue debris?
- lochia alba: About 10 days after childbirth the drainage becomes yellow to white which consists of leukocytes , decidua, epithelial cells , mucus , serum & bacteria .

The amount of lochia decreases by using of Pitocin.

- Retained placental pieces & membranes cause persistence of lochia rubra .
- The odor of lochia is important, if offensive it indicates infection & if it is associated with fever, pain & abdominal tenderness it indicates endometritis. Pay attention to cervical laceration or unrepaired vaginal lacerations..

Nursing diagnosis

1. Risk for infection related to childbirth trauma to tissues.
2. Risk for constipation related to post childbirth discomfort, decrease intake of solid food &/ or fluids.
3. Disturbed sleep pattern related to discomfort of postpartum period , long labor process , infant care.

4. Acute pain related to involution of uterus , hemorrhoids , engorged breasts.
5. Risk for injury related to effects of anesthesia.
6. Ineffective breastfeeding related to maternal discomfort, infant positioning.

Nursing care during puerperium

1. Assist woman & their partners during their initial transition to parenting.
2. Prevent infection & excessive bleeding & to promote normal bowel & bladder patterns & care for breasts of women who are breastfeeding or bottle-feeding.
3. During 4th stage of labor (1st 1-2 hrs after birth), the nurse should check vital signs (B.p, pulse, temp.) , then examine fundus of uterus (exclude uterine atony) , examine bladder (exclude full bladder) .
4. Determine amount & color of lochia; examine perineum for episiotomy & for laceration & hematoma. Examine for hemorrhoids.
7. Instructions related to the mother include:
8. General body hygiene, good nutrition, rest & sleep, early ambulation, bathing after delivery is necessary & it should be daily in hot weather .
9. Care for bladder: the nurse should help the woman to pass urine after delivery to prevent having full bladder which will cause uterine atony & precipitate postpartum hemorrhage.
10. Care for bowel: to prevent constipation. This is done by taking excessive fluid, vegetables, sometime by having enema or laxative.
11. Analgesia is needed for woman having episiotomy or vaginal laceration.
12. Care for perineum: especially in woman having episiotomy or perineal tear. Cleaning the perineum frequently at day, with diluted antiseptic solution with direction from anterior to posterior to prevent contamination of perineum with feces, then drying the area with clean pads.
13. Care for after pain: which is colicky pain occurs after delivery & after breastfeeding. Reassurance of the mother with use of simple analgesia can relieve pain.
14. Care for breasts: the woman wear well fitted brassiere, the nipple cleaned by water or drops of milk. if breast engorgement occurs, cold sponges used with analgesia .
15. Postpartum exercise : should be encouraged for strengthening pelvic floor & abdominal muscles
16. Encourage breast feeding with explanation of family planning methods by using contraceptives to lengthen the child spacing time, for at least 2 years birth interval.
17. Teaching woman to notice the temperature, lochia & detecting signs of postpartum hemorrhage or infection.

Instructions for caring for fetus:

1. Encourage woman for frequent breast feeding.
2. Explain the importance of general hygiene of the fetus.
3. Care for umbilical stump.
4. Notice any fetal risks like jaundice, fever, repeated vomiting, infection of umbilical stump, no passage of meconium.

Nursing assessment and management of neonate:

1. Assessment and management of newborn is directed toward promoting the physical wellbeing of the baby and supporting the family unit:
2. Providing umbilical cord care, to assist the cord in drying and falling off
3. Check umbilical cord clamp placement to prevent bleeding from cord.
4. Keep cord dry and exposed to air.
5. Assess the cord for presence of vessels.
6. Observe cord and abdominal area for redness, discharge, or bad odor.
7. Teaching parents to solution used for clean.
8. weighing and measuring the newborn:
9. To obtain accurate weight and measurement of the newborn infant Weight:
10. document on the newborn's medical record after returning the newborn to the bassinet and compare the weight with previous weight and normal range (2500 - 4000 g).
11. Length: Their head to heel length is (48 to 53 cm)
12. Head: The head circumference measured over the most prominent part of the occiput and just above the eyebrows is between 33cm and 35 cm. The anterior fontanel is largest and closed by 18 months. Posterior fontanel is closed about 2 months.
13. Eyes: eye color varies being either slate grey, blue or brown the eyelids are usually edematous and there are no tears.
14. Ears: the ears are soft, pliable and recoil swiftly when bent and released.
15. Neck: the neck is short, thick and usually has several skin folds.
16. Chest: circumference is 30.5cm to 35cm.
17. Abdomen: The abdomen is cylindrical in shape the bluish white umbilical cord protrudes from the center.
18. Genitalia: the labia are usually edematous with vernix caseosa between the labia
19. Back: the spine is intact with no openings, masses or prominent curve.
20. Extremities:
 - Usually flexed.
 - Full range of motion.
 - Ten fingers and ten toes are present with creases visible on the anterior two-thirds of the sole of the feet.

General care of baby

1. Check for abnormalities before give the baby to her mother to suckle the colostrum .
2. Protect him from cold/warp baby with warm towels
3. Baby laid in head turn to one side in its cot
4. Check the temperature: rectally or axillary.
5. identification: by plastic wrist band (blue for♂ pink for♀).
6. bathing the baby: to remove vernixcaseosa&blood best to clean face of baby moistened swab
7. daily inspection of baby skin, eye, mouth, umbilical, cord stamp

Nursing care for puerperium complications:

1. puerperal infections
2. sub involution of the uterus
3. vulvar hematoma
4. disorders of breasts
5. disorders of bladder

puerperal infections

- It is any clinical infection of the genital canal that occurs within 28 days after miscarriage , induced abortion & labor. It occurs 5-10 times higher after c/s than after vaginal birth .
- Common postpartum infections include endometritis , wound infection, mastitis, UTI & respiratory tract infections.
- The most common infecting micro-organisms are streptococci & anaerobic organisms. The less common , but serious pathogenic organisms include staphylococcus aureus, gonococci, coliform bacteria & clostridia .

Predisposing factors for postpartum infections :**A// Antepartal factors :**

- History of previous venous thrombosis, UTI, mastitis, pneumonia .
- Diabetes mellitus
- Alcoholism & drug abuse
- Anemia & malnutrition

B// Intrapartum factors :

- C/S births
- prolonged rupture of membranes
- chorioamionitis
- prolonged labor
- bladder catheterization
- internal fetal / uterine pressure monitoring
- multiple vaginal exam. After rupture of membranes
- epidural anesthesia
- retained pieces of placenta
- PPH
- episiotomy or lacerations
- hematomas

WOUND INFECTION:

- It is common postpartum infection . The site of infection include C/S incision , episiotomy , repaired laceration site .
- Signs of wound infection :
- Erythema, edema, warmth, tenderness, seropurulent discharge, wound separation, fever & pain.
- Urinary tract infection :
- It occur in 2-4% of postpartum women . The risk factors include :
- catheterization , frequent pelvic exam. , epidural anesthesia, genital tract injury, history of UTI & C/S births .
- Signs & symptoms include :
- Dysuria, frequency, urgency, low-grade fever, urinary retention , hematuria & pyuria .
- Flank pain may indicate upper UTI. Urinalysis may reveal E.Coli . other gram negative aerobic bacilli can cause UTI .

Mastitis :

- Affects 1% of women soon after birth. It is almost always unilateral & develops after flow of milk is established.
- The infecting organism is hemolytic strept. aureus.
- It starts as infected nipple fissure followed by ductal system involvement . Edema & engorgement of breast obstruct flow of milk & regional then generalized mastitis develop.
- If mastitis not treated, breast abscess will occur.
- Mastitis more commonly seen in 2nd-4th week postpartum.

Treatment of wound infection:

- antibiotic therapy
- wound debridement: wound may be opened & drained
- nursing care include: frequent wound & vital signs assessment & wound care.
- comfort measures: warm compresses. sitz bath, perineal care.
- teaching include: good hygiene technique e.g., changing perineal pads front to back, hand washing before & after perineal care. self-care measures, signs of worsening conditions reported.
- woman discharged for self-care or home nursing care after treatment is initiated in inpatient setting.
- follow-up is needed to detect early complications.

Management of UTI:

1. antibiotic therapy according to C&S test. (treatment not less than 10 days).
2. analgesia, hydration
3. postpartum woman with UTI treated on outpatient basis.
4. teaching include: monitor temp. , bladder function, appearance of urine, signs of potential complications & taking antibiotics as prescribed.
5. inform postpartum woman for proper perineal care, wiping from front to back after urinating or have bowel motion , with increase fluid intake to prevent UTI.

Treatment of mastitis:

1. teaching include warning signs of mastitis
2. counseling about prevention of cracked nipple
3. intensive antibiotic therapy (cephalosporin, vancomycin) which are useful for staph. Infection
4. supports of breasts, local cold, adequate hydration
5. giving analgesia
6. proper breastfeeding technique is preventive measure for cracked nipple
7. cleanliness by all having contact with new mother reduce incidence of mastitis

Sub involution of the uterus:

- Is incomplete return of uterus to its prepregnant size & shape with sub involution .
- At 4-6 wk postpartum visit, the uterus is still enlarged & soft. Local discharge is still present.
- Sub involution may result from small retained pieces of placenta , mild endometritis or accompanying problem e.g. myoma which interferes with complete contraction.

Management:

1. Oral administration of methylergonovine (0.2 mg 4 times daily) will improve uterine tone & complete involution.
2. If uterus is tender on palpation , suggesting endometritis , so give oral antibiotic .
3. The nurse should teach the mother about normal process of involution & lochial discharge prior to discharge to home to prevent delay in seeking health care advice. Anemia can result from chronic blood loss from subinvoluted uterus& this can add more to woman complaints.

Vulvar hematoma:

- Mainly perineal hematoma which is collection of blood in subcutaneous layer of tissue of perineum
- . the overlying skin is intact. this blood collection caused by injured blood vessels in perineum during birth.

- Hematoma most likely to occur after rapid spontaneous delivery in woman having perineal varicosities. also, it can occur at episiotomy or laceration repair site . they may cause woman acute discomfort.

Assessment:

1. Perineal sutures almost give postpartum woman some discomfort .
2. the woman complain of severe pain in perineal area or feeling of pressure between her legs.
3. Inspect perineal area for hematoma. Hematoma appear as area of bluish discoloration & swelling from 2-8 cm in diameter . the area is tender on palpation & feel fluctuant , but seepage into area continue & thus it may be felt as firm globe.

Management:

1. assess the size of hematoma & degree of woman discomfort
2. administer mild analgesic for pain relief
3. apply ice pack covered with towel to prevent further bleeding
4. hematoma usually is absorbed over next 3-4 days
5. if hematoma is large when discovered or increasing in size, then it should be incised, & bleeding vessel ligated
6. if episiotomy incision line is opened to drain hematoma it may be left open & packed with gauze rather than be resutured
7. packing usually removed within 24-48 hrs
8. teach a woman for home care of suture line before discharge her
9. give antibiotic with correction of anemia by tonics if needed

pulmonary embolism:

- It is obstruction of pulmonary artery with blood clot . usually occur as complication of thrombophlebitis . the signs of pulmonary embolism are :
- Sudden sharp chest pain , tachypnea , tachycardia, orthopnea, & cyanosis. It is an emergency situation . the woman need oxygen immediately & is at high risk of cardiopulmonary arrest . woman with such condition urgently transferred to intensive care unit for continuing treatment.

Disorders of bladder:

1. urinary retention (UTI)
2. urinary retention & incontinence :
3. It implies inadequate bladder emptying after childbirth , bladder sensation for voiding is decrease because of bladder edema from pressure of birth.
4. Unable to empty bladder means over distention .
5. Incomplete emptying bladder leads to retention with overflow .

6. Continuous over distention will lead to bladder atony with permanent incontinence .

Assessment:

- Retention of urine is associated with anesthesia & forceps . when postpartum woman not void for > 8 hr. , palpate & percuss bladder to exclude retention .
- Always measure the 1st urine output after birth . if it is < 50 ml, suspect retention . urinary retention is confirmed by catheterization immediately after voiding .
- if residual urine in bladder after voiding is > 100 ml so the woman has retention of urine . in such condition leave Foley's catheter in bladder (Foley's catheter decrease risk of introducing pathogens) . always use antiseptic technique to prevent infection . activity & ambulation help to prevent thrombophlebitis . after 24 hr, catheter clamped for short time & then removed , encourage woman to void by end of 6 hrs after removal of catheter by offering fluid & giving analgesia to be relaxed . take a mother to bathroom & let water running at sink or let her hold her hands under warm running water . in most women when edema of vulva & bladder decrease , she can void without difficulty . assess residual urine again . if a woman not void after 8 hrs of catheter removal , reinsert Foley's catheter for another 24 hrs . assure the mother that bladder complications are not uncommon . usually they are present for no longer than 48 hrs postpartum. They are problems that most likely will not recur.

“Neonatal nursing care”

- The period of transition: from intrauterine to extra uterine life occurs during the first several hours after birth. During the immediate newborn period , the nursing interventions include maintaining airway patency, ensuring proper identification, administering prescribed medications, and maintaining thermoregulation.

Immediate Care of the Newborn:

1. **Maintaining Airway Patency:** Immediately after birth, a newborn is suctioned to remove fluids and mucus from the mouth and nose. When suctioning a newborn with a bulb syringe, compress the bulb before placing it into the oral or nasal cavity



2. **Identification:** the nurse gives the mother and newborn identification bands with identical codes in the delivery room. (on bracelet on the wrist of mother and two bracelet are placed on the wrist and ankle of newborn→ pink for female baby and blue for male).The footprint can be placed on a card or the parents' baby book.
3. **Care of umbilical cord:** clamp umbilical cord after baby cry and pulsation of cord stop. Two artery and one vein. Put clamp 1-2 cm from umbilical, make sure the baby at level of placenta not higher or lower .keep the cord clean and dry.
4. Assess body temperature frequently during the immediate newborn period. Wrap the baby in warmed blankets to reduce heat loss. Place the newborn under a temperature-controlled radiant warmer.
5. APCAR score :
Five parameters are assessed with Apgar scoring:
A quick way to remember the parameters of Apgar scoring is as follows:

A = appearance (color), P = pulse (heart rate), G = grimace (reflex irritability),

A = activity (muscle tone), R = respiratory (respiratory effort)

Table 1: Apgar Scoring:

	Sign	Score		
		2	1	0
A	Appearance (skin colour)	Normal over entire body	Normal except extremities	Cyanotic or pale all over
P	Pulse(heart rate)	>100 bpm	<100bpm	Absent
G	Grimace response(reflexes)	Sneezes, coughs, pulls away	Grimaces	No response
A	Activity (muscle tone)	Active	Arms and legs flexed	Absent
R	Respiration (breathing rate and effort)	Good, crying	Slow, irregular	Absent

- A normal newborn's score should be 8 to 10 points. The higher the score, the better the condition of the newborn. If the Apgar score is 8 points or higher, no intervention is needed.
- If Scores of 4 to 7 points signify moderate difficulty and needing care. If scores of 0 to 3 points represent severe distress and need resuscitation

6. Vital signs :

-Temperature (36.5–37.5° C)

-Heart rate (pulse): (120–160 bpm); can increase to 180 bpm during crying

-Respirations 30–60 breaths/minute at rest; will increase with crying

-Blood pressure 50–75 mm Hg systolic, 30–45 mm Hg diastolic

1. Measurements of Weight, length, head and chest circumference

-Weight: 2500-4000 gm

-Length : 48-52 cm

-Head circumference: 32-37 cm

-Chest circumference: 30-35 cm

2. Administering Prescribed Medications

- During the immediate newborn period, two medications are commonly ordered: vitamin K and eye prophylaxis with either erythromycin or

tetracycline ophthalmic ointment (Prevents ophthalmia neonatorum).

Vitamin K is administered intramuscularly to prevent hemorrhage.

7. **Bathing** the baby to remove vernix caseosa and blood. Best clean the face of baby by moistened swab. The vernix caseosa act as barrier for infection. And keep the baby warm after bathing.
8. Skin to skin contact (Temp. regulation, comfort baby, mother does not have to hold the baby)
9. Check for abnormalities before give the baby to her mother to suckle the colostrum and encourage to breast feeding.
10. **Vaccine** (BCG, Hep.B ,and OPV first dose)

Assess for newborn reflexes

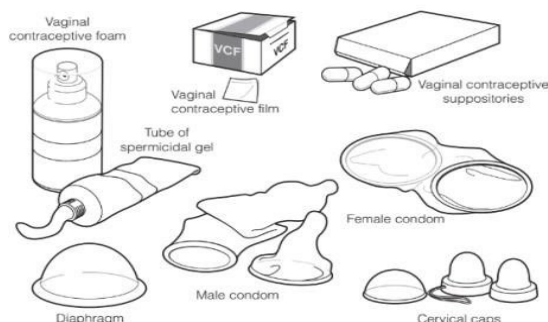
Reflex name	Evoking stimulus	Response
Blinking reflex	Light flash	Eyelids close
Rooting reflex	Light touch of finger on cheek close to mouth	Head rotates toward stimulation; mouth opens & attempts to suck finger.
Sucking reflex	Finger(or nipple) inserted into mouth	Rhythmic sucking occurs
Moro reflex	Infant lying on the back; slightly raised head suddenly released;	Arms are extended, head is thrown back, fingers are spread wide; arms are then brought back to center convulsively with hands clenched, legs are extended.
Grasp reflex	Finger placed in the palm of hand	Infant's finger close around and grasp object
Abdomen reflex	Tactile stimulation or tickling	Abdomen muscles contract
Babinski reflex	Gentle stroking on the sole of each foot	The big toe dorsiflexion and other toes fan or spread out.

11. **Physical examination:** General survey: periods of alertness, symmetric features and movements, easily consolable and all body systems from head to toys.

“Contraception, sterilization and termination of pregnancy”

Family planning

- **Family planning:** the concept or a program of limiting the size of families through the spacing or prevention of pregnancies
- **Contraception:** the intentional prevention of conception by artificial or natural means.



Objective of family planning in Iraq

1. Space pregnancy: increase child spacing.
2. Keep woman healthy and fit.
3. To control the frequent pregnancies which are burden on the mother.
4. Make balance between economic resources and increasing population.

Contraception methods

1. **Natural methods "Physiological"** (Abstinence, safe period, coitus interruptus, lactational amenorrhea method LAM)
2. **Barrier methods and spermicides** (Condom "male and female", vaginal diaphragm, cervical cap)
3. **Intrauterine devices(IUD)**
4. **Hormonal contraceptive methods**(oral, IM, Implants, Vaginal ring, patches)
5. **Surgical sterilization.**
6. **Emergency contraception**

Natural methods (Physiological)

1. **Abstinence:** have no sexual intercourse (failure rate: none, 100% STD protection).
2. **Safe period:** Intercourse is totally prevented, at the time of expected ovulation (day 10-18 of a 28 days cycle), while allowed for the rest of the month without protection methods. This method is suitable only for regular cycles.

To determine fertile period by either method:(F.R 25%, none protection of STD)

- Calendar method to calculate time of ovulation.
- Basal body temperature (BBT): Pre-ovulation temperatures are suppressed by estrogen, whereas post-ovulation temperatures are increased under the influence of heat-inducing progesterone
- (BBT \uparrow 0.4-0.8 C) and remain elevated till 2-4 days before menstruation.
- Cervical mucus ovulation method: As ovulation approaches, the mucus becomes more abundant, clear, slippery, and smooth; it can be stretched between two fingers without breaking. After ovulation, the cervical mucus becomes thick and dry under the influence of progesterone.

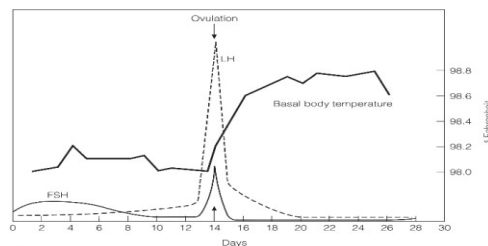
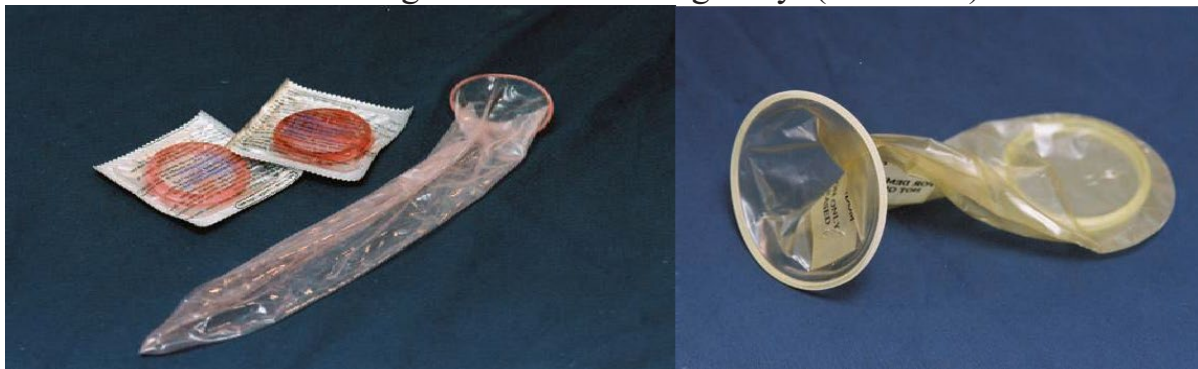


Figure 24-1 • The relationship between ovulation and basal body temperature. LH, luteinizing hormone; FSH, follicle-stimulating hormone.

- 3. Coitus interruptus, or withdrawal** of the penis from the vagina before ejaculation(Failure rate 27% , not protection against STDs).
- 4. Lactational Amenorrhea Method (LAM)**: Breastfeeding inhibits ovulation and prevent pregnancy. Breastfeeding stimulates the hormone prolactin (\uparrow prolactin \rightarrow \downarrow HCG), 1-2% chance of pregnancy in first 6 month.
- 5. Barrier methods and spermicides**

- a-Male condoms** are latex sheaths placed over the erect penis before ejaculation to block sperm (F.R 15%). Safe, readily available, low cost, Act as protective measure against STD. Disadvantages: latex allergy, tear, spillage of sperm.
- b-Female condom**: is a polyurethane pouch inserted into the vagina. It consists of outer and inner flexible ring that is inserted vaginally. (F.R 21%)



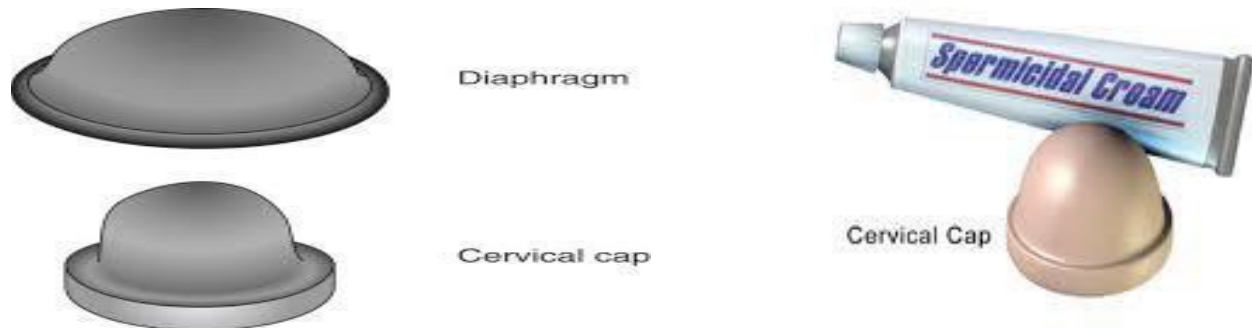
Male condom

Female condom

- c-Vaginal Diaphragm**: The diaphragm is a latex dome surrounded by a spring or coil. The woman places spermicidal cream or gel into the dome and around

the rim and then inserts the diaphragm over the cervix (covers the cervix and prevents passage of sperm).F.R 16%.

d-Cervical Cap is a smaller than diaphragm , soft, silicone cap that fits directly over the cervix acts as a barrier to sperm and used with a spermicidal jelly. F.R 24%.

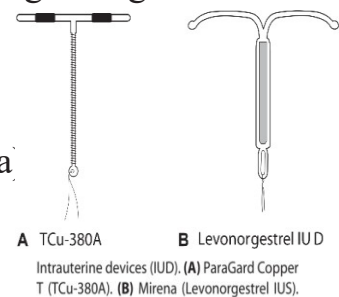


Intrauterine devices:

Is a small plastic T-shaped inserted into the uterine cavity, long-acting contraceptives, failure rate 1%.

There are two types of IUDs:

1. The Copper T 380 (ParaGard) IUD - contains copper
2. Hormonal IUD contains the hormone progestogene (Mirena)



HOW DOES IT WORK?

- The hormones or the copper stop the sperm reaching the egg. Sometimes, sperm does reach the egg (fertilization) so the IUD stops the egg from attaching to the wall of the uterus.
- **The Cooper-covered (ParaGard)** is approved for 10 years of use and non-hormonal. produces a spermicidal intrauterine environment by the release of copper ions into the uterus. This makes the uterus inhospitable to sperm transport and viability.
- **Mirena** is provided for 3- 5 years. It releases a low dose of progestin causing thinning of the endometrium cavity and thickening of cervical mucus, prevents transport of sperm into the endometrial cavity and fallopian tubes.

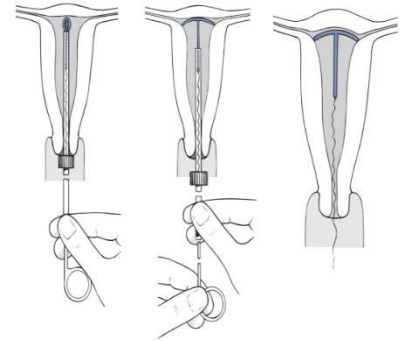
Contraindications for Intrauterine Device (IUD) Use

- Known or suspected pregnancy.
- Undiagnosed abnormal vaginal bleeding.
- Acute cervical, uterine infection.
- Copper allergy (for ParaGard only).

- History of ectopic pregnancy.
- History of pelvic inflammatory disease.
- Current menorrhagia or dysmenorrhea (for ParaGard only).
- Nullipara.
- Uterine fibroid.
- Uterine anomalies that interfere with proper insertion

Possible side effects and Complication for Intrauterine Device (IUD)

- Feel pain, cramps or dizziness, spotting ,Irregular periods after insertion the IUD.
- Perforation
- Expulsion of device
- Infection
- Menorrhgia (increase bleeding during menses)
- Dysmenorrhea (painful menstruation)
- Ectopic pregnancy.
- Missed IUD.
- Vaginal discharge



1. Hormonal contraceptive methods

- Hormonal contraceptives are the most commonly used reversible means of preventing pregnancy, and consist of combined (estrogen and progesterone) and progesterone-only methods.
- Combined hormonal methods are available in oral, transdermal patches, and vaginal ring, whereas progesterone-only methods are available in oral, injectable, implantable, and intrauterine forms.

A. Combination Oral Contraceptives (COCs)

- Estrogen and progestin combinations (COCs) are the most common OCs. COCs prevent pregnancy by:

1-Estrogen: Inhibits ovulation via suppression of (GnRH, FSH, LH, and LH surge)

2-Pregersterone:

1. Thickening of cervical mucus, and not penetrated by sperm.
2. Making endometrium unfavorable site for implantation.
3. tubal motility is slowed and unfavorable for oocyte transport.

The combination pill containing both estrogen and progestin is taken for the first 21 days out of a 28-day monthly cycle. During the last 7 days of the cycle, a placebo pill(contain iron) or no pill is taken. (F.R 8%)

Advantages of COCs

- 1-Easy,cheap, available
- 2-High rate of effectiveness

- 3-Regulates menstrual cycle and reduce dysmenorrhea, menstrual blood loss.
- 4- Reduce anemia
- 5-↓ incidence of benign breast disease
- 6-↓ ectopic pregnancy
- 7-↓ incidence of ovarian, endometrial cancer.
- 8- improve acne, Hirsutism,

Disadvantages of COCs

1. Offer no protection against STDs
2. User must remember to take pill daily.
3. Nausea, vomiting
4. Spotting
5. Breakthrough bleeding
- 6- Breast tenderness
6. Headache. depressive mood
7. Deep vein thrombosis.
8. Weight gain: mainly due to salt and water retention.
9. Skin pigmentation (Chloasma).

Contraindication of Oral Contraceptives

- Cardiovascular disease
- Deep Vein Thrombosis (DVT)
- Hypertension.
- pregnancy
- Liver impairment
- Lactation 6 > weeks postpartum.
- Diabetes longer than 20 years.
- breast cancer;
- undiagnosed abnormal vaginal bleeding



Vaginal contraceptive ring (NuvaRing) and transdermal contraceptive patch (Ortho Evra). Both contain a combination of estrogen and progesterone, which are released over a period of 1 week and 3 weeks, respectively.

Transdermal Estrogen and Progestin Hormonal Contraception—Ortho Evra

- patch (Ortho Evra), Women apply one patch each week for 3 weeks followed by 1-week patch- free period during which they will have a withdrawal bleed. F.R 8%

Vaginal Estrogen and Progestin Hormonal Contraception-NuvaRing

- Vaginal ring (NuvaRing), the ring is placed in the vagina for 3 weeks, and is removed for 1 week to allow for a withdrawal bleed. F.R 8%.

B. Progesterone-only contraception

- Progesterone-only contraception consists of oral, injectable, implantable, and intrauterine options (the Mirena). These all function primarily using the same mechanisms: thickening the cervical mucus, inhibiting sperm motility, and

thinning the endometrial lining so that it is not suitable for implantation.

Progestin-Only Oral Contraception Pills (The Minipill) POP

- Progestin-only pills (POPs) are less effective at inhibiting ovulation but cause thickening the cervical mucus to prevent penetration of the sperm and make the endometrium unfavorable for implantation. Progestin-only pills must be taken at a certain time every 24 hours. **Used for lactating women.** F.R 8%

Injectable Progesterone-Only Contraception—Depo-Provera

- Depo-Provera (medroxyprogesterone acetate; DMPA) (150 mg/1 mL, intramuscular “IM”) is injected intramuscularly every 3 months. The site should not be massaged after injection because massage accelerates absorption and decreases the period of effectiveness. Depo-Provera acts by suppressing ovulation, thickening the cervical mucus, making the endometrium unsuitable for implantation, and reducing tubal motility. F.R. 3%

Implantable Progesterone-Only Contraception—Nexplanon

- The contraceptive implant Nexplanon is a single rod implant that is inserted subcutaneously into the upper inner arm with the use of a local anesthetic. It is 2 mm thick and 4 cm (1.6 in) long and releases progestin continuously to provide 3 years of contraception. It acts to inhibit ovulation, thickens cervical mucus to prevent sperm penetrability, and thins out the endometrium making it unfavorable for implantation.

2. Emergency contraception

- Emergency contraception (EC) also called "morning-after pill" is a safe and effective means of preventing pregnancy after unprotected intercourse or in the case of contraceptive failure. (COCs, POP, Copper IUD,)

3. Surgical sterilization

1. **Vasectomy** ♂: is used to provide permanent contraception for men. It involves cutting and sealing the vasa deferens (the tubes that carry sperm from the testes).
2. **Tubal ligation** ♀ : ligation of the fallopian tubes that by preventing passage of ova from the ovaries to the uterus serves as a method of female sterilization

Gynecological disorders

- **Urinary tract infection (UTI):** is defined as an infection of the lining of the urinary bladder and urethra. A urinary tract infection occurs when an infectious organism enters your urinary tract – usually through the urethra and causes an infection it affect about 2 - 4 % of post partum woman.

Signs & symptoms

- Inflamed bladder and urethra
- Pain in the pelvic region and abdomen
- Strong urge to urinate (but may urinate only few drops)
- Urinating more often
- Burning sensation while urinating
- Unpleasant smelling urine (foul odour)
- generalized body pain, fever and fatigue

The risk factor

1. Catheterization.
2. Frequent unsafe pelvic exam.
3. Epidural anesthesia.
4. Genital tract injury.
5. history of U T I & C/S births

Management of U T I

1. Antibiotic therapy according to c & s test.
2. Analgesics hydration.
3. Postpartum woman with U T I treated in outpatient basis.
4. **Teaching includes:** monitor temp, bladder function, appearance of urine.
5. Inform postpartum woman for proper perinea care, wiping from front to back after urinating or bowel motion, increase fluid intake to prevent urinary tract infection.

Nursing Implementation

1. Give the woman information to help her recognize the signs of UTI.
2. Discuss hygiene practices.
3. Advantage of wearing cotton under wear & need to void frequent to prevent urinary stasis.
4. Stress the importance of maintaining a good fluid intake.

5. Drinking cranberry juice daily & taking 500 mg of vitamin C.

Care of the woman with endometriosis.

1. **Endometriosis** is a condition in which cells similar to those in the endometrium, the layer of tissue that normally covers the inside of the uterus, grow outside of it. Most often this is on the ovaries, fallopian tubes, and tissue around the uterus and ovaries; however, in rare cases it may also occur in other parts of the body.

Endometriosis has been found almost everywhere in the body include:-

2. Vagina.
3. Lungs.
4. Cervix.
5. Central nervous system.
6. Gastrointestinal tract

The main symptoms :

1. pelvic pain while in 70% pain occurs during menstruation
2. Infertility.

2- Pain during sexual intercourse is also common

Nursing Implementation

- Review the dosage, schedule possible side effect & any warning signs of prescribed medication.
- A woman with endometriosis is often advised not to delay pregnancy because of the increase risk of infertility.

Care of woman with polycystic ovarian syndrome

- 3- **Polycystic ovarian syndrome:** is a complex endocrine disorder of ovarian dysfunction that is evidence by a menorrhoea or oligomenorrhoea & clinical signs of androgen excess (typically, hirsutism, acne).

The 3 main features of PCOS are:

- irregular periods – which means your ovaries do not regularly release eggs (ovulation)
- excess androgen – high levels of "male" hormones in your body, which may cause physical signs such as excess facial or body hair

- polycystic ovaries – your ovaries become enlarged and contain many fluid-filled sacs (follicles) that surround the eggs (but despite the name, you do not actually have cysts if you have PCOS)

Clinical manifestations

1. Menstrual dysfunction.
2. Irregular menses, ranging from total absence of periods (amenorrhea) to intermittent or infrequent period (oligomenorrhea) to heavy periods (menorrhagia).
3. Obesity.
4. Hyperinsulinemia.
5. Infertility.
6. hyperandrogenism

Clinical therapy

1. Decrease the effect of hyperandrogenism (hirsutism, acne).
2. Restoring reproductive function for woman desiring pregnancy.
3. Protecting the endometrium (increased risk for uterine cancer).
4. Reducing long term risk specifically type 2 diabetic & cardio vascular disease.
5. Treating polycystic ovary syndrome (PCOS)
6. There's no cure for PCOS, but the symptoms can be treated. Speak to a GP if you think you may have the condition.
7. If you have PCOS and you're overweight, losing weight and eating a healthy, balanced diet can make some symptoms better.
8. Medications are also available to treat symptoms such as excessive hair growth, irregular periods and fertility problems.
9. If fertility medications are not effective, a simple surgical procedure called laparoscopic ovarian drilling (LOD) may be recommended.
10. This involves using heat or a laser to destroy the tissue in the ovaries that's producing androgens, such as testosterone.
11. With treatment, most women with PCOS are able to get pregnant.

Unit One: Foundations of Mental Health

General Symptomology of Psychiatric Disorders

I. Disorder of Thought

a. Formal thought disorder: -

- Formal thought disorder refers to an impaired capacity to sustain coherent discourse, and occurs in the patient's written or spoken language.
- Formal thought disorder occurs when the order, sequence, attraction and alternations are lacking, thoughts do not fulfill their function, and ideas are just put together in a disconnected and loose manner.
- formal thought disorder indicates a disturbance of the organization and expression of thought.
- Clinical manifestations of formal thought disorder: -
- Concrete thinking: described when using the literal thinking, without understanding the implicit meaning behind sentences. Concreteness versus abstractness.
- Autistic thinking: - thinking that gratifies unfulfilled desires but has no regard for reality, egocentric (self-centered) fantasy

b. Disorders of the stream of thinking are not separable from formal thought disorders. They are also related to the association and the goal directed sequence as well as to the speed of production, expression and succession of thoughts.

- Tangentially: an association disturbance in which the speaker goes off the topic. When it happens frequently and the speaker does not return to the topic.
- Circumstantially: Before getting to the point or answering a question, the person gets caught up in countless details and explanation.
- Looseness of association: Thinking is haphazard illogical, and confused. Connections in thought are interrupted. Seen mostly in schizophrenic disorders.
- Flight of ideas: rapid jumping from one idea to another. The connection between ideas is through last idea or external stimuli.
- Clang association: The meaningless rhyming of words

- incoherence or word salad: A mixture of words and phrases that have no meaning
- Pressure of speech: is a tendency to speak rapidly and frenziedly. Pressured speech is motivated by an urgency that may not be apparent to the listener. The speech produced is difficult to interrupt. Such speech may be too fast, erratic, irrelevant, or too tangential for the listener to understand.
- Poverty of speech: speech that is brief and uncommunicative
- Retardation: refers to slow speech and prolonged latent period before response
- Blocking: sudden cessation of a thought in a middle of a sentence person is unable to continue the stream of thought
- Perseveration: psychopathological repetition of the same word or idea in response to different questions.
- Palilalia: it is the pathological repetition of the last word said
- Echolalia: repetition the speech of another person irrelevant answer: answer that is not in harmony with question asked
- Neologisms: Words a person makes up that only have meaning for the person himself

c. Disorder of the content of thoughts: it includes:

- Delusion
- Obsession
- Preoccupation
- Suicidal ideation

1- Delusion

- Definition: it is false fixed believe, not consistent with patient's educational, religion and cultural background, that cannot be corrected by logic or reasons.

Another categorization of delusions:

1. paranoid delusion
2. delusion of influence
3. depressive delusion
4. hypochondriacal delusion

- **Paranoid delusion:** it is an intense strongly defended irrational suspicious belief. It includes the following:
 1. Delusion of grandeur: false belief that one is a very powerful and important person
 2. delusion of persecution: false belief that one is chased by others
 3. Delusion of reference: false belief that the behavior of others refers to one self (by people in street, radio, and newspaper are referring to him).
 4. Erotic delusion: false belief that there is a love story between oneself and famous person
 5. Delusion of jealousy: conviction that the spouse has some definite relation with someone else
 6. Delusion of infidelity: false belief derives from pathological jealousy that one's lover is unfaithful. (It's an extreme of the jealousy delusion).
 7. Litigious delusion: patient writes complaints and sends them to responsible person
- 2. **Delusion of influence** (delusion of control) false belief that one is being controlled by others or agencies.
- 3. **Depressive delusion:**
 - a. Delusion of self-blame, guilt or sin: in which the patient believes that he is wicked, full of sins and unfit to live with other people (unworthiness).
 - b. Delusion of poverty: false belief that he lost everything in life.
 - c. Nihilistic delusion: false belief that a part of his body does not exist (dead).
- 4. **Hypochondriacal delusion:** patient has false belief that he has physical disease e.g., cancer stomach, that is not based on real organic pathology

2- Obsessive thoughts:

- Obsessive thoughts are intrusive invading the conscious awareness against the resistance of the person in an involuntary way that is fully aware that they are unnecessary and absurd.
- If the patient's resistance succeeds to temporarily or partially control this intrusion, tension accumulates until it reaches an intolerable degree that compels the individual to yield and act out the obsessive behavior.
- N.B. the difference between delusion and obsession is that the latter is more absurd and the patient is aware of the absurdity and resists it most of the time

- 3- **Preoccupation:** Centering of thought content around a particular idea associated with strong affective tone
- 4- **Suicidal ideation:** it is a recurrent idea affecting the individual to put an end by himself to his own life

II. Disturbance in Perception

1. Hallucinations: False perception for which no external stimuli exist. Hallucinations can have an organic or a functional etiology
 - Visual: seeing things that are not there
 - Auditory: hearing voices when none are present
 - Olfactory: smelling smells that do not exist
 - Tactile: feeling touch sensations in the absence of stimuli
 - Gustatory: experiencing taste in the absence of stimuli
2. **Illusion:**
 - Illusion: It is a false perception with an external stimulus
 - N.B. it may affect any of the special senses (auditory. Olfactory, etc.....)
3. **Unreality status**
 - a. Depersonalization: a phenomenon whereby a person experiences a sense of unreality or self-estrangement
 - b. Derealization: the false perception by a person that his or her environment changed.

III. Disorder of Memory

1. Amnesia: is loss of memory and may be partial or complete the following are the different types of amnesia
 - a. Anterograde amnesia: loss of memory for recent events
 - b. Retrograde amnesia: loss of memory for remote events.
 - c. Total amnesia: loss of memory for recent and remote events
 - d. Circumscribed amnesia: loss of memory for limited time
2. Paramnesia: it denotes false recall
 - a. Confabulation: patient fills the gaps in his memory by fabrication
 - b. Falsification: patient adds false details to a true memory
3. Hypermnesia: it's excessive memory, the patient mentions even unnecessary details
4. Déjà vu phenomena (already seen): in which new situation is experienced as previously
5. Jamais vu phenomena: in which familiar situation is experienced as novel

IV. Orientation, Disorientation

- 1- Orientation: the ability to relate the self correctly to time place and person.
- 2- Disorientation: confusion and impaired ability to identify time place and person

V. Judgment: it is the ability to assess a situation correctly and act appropriately within that situation.

VI. Insight: it is the ability to understand the objective condition of his illness.

- N.B. a patient with no insight will have poor judgment towards his social financial and domestic problems

VII. Attention and Concentration: it is the direction of the focus of awareness and perception to a particular stimulus

- Destructibility: inability to maintain attention, shifting from one area or topic to another with minimal provocation.

VIII. Disorder of Consciousness: Between conscious and unconscious there are various degrees of disturbed consciousness, some of them are:

1. Confusion: there is dimming or clouding of consciousness. All mental processes are slow.
2. Delirium: there is clouding of consciousness, the mental function shows quantitative changes:
 - a. Intellect: hallucination, illusion and disorientation.
 - b. Affect: fear and apprehension
 - c. Behavior: restlessness
3. Stupor: there is complete suppression of motor activity, the patient does not respond to any stimuli neither external nor internal
4. Fugue: it involves memory loss as does psychogenic amnesia but it also includes traveling away from home or from one's usual work locale. Therefore, fugue involve flight forgetfulness.

IX. Disorder of Affect

- Affect is an objective manifestation of an experience of emotion accompanying an idea or feeling. The observation one would makes on assessment e.g., a client may be said to have a flat affect.

- Mood: a pervasive and sustained emotion that in the extreme markedly colors the person's perception of the world.
 - 1- Appropriate affect: (congruity) it is a harmony of affect and ideation.
 - 2- Inappropriate affect: (incongruity) it is disharmony of affect and ideation.
 - 3- Pleasurable affect:
 - a. Euphoria: it is a heightened feeling of psychological wellbeing inappropriate to apparent events. (subjective feeling)
 - b. Elation: it is feeling of happiness with air of confidence and enjoyment associated with increased motor activity. (objectively observed)
 - c. Exaltation: it is intense elation with feelings of grandeur and sarcasm. (objectively observed)
 - 4- Depressive affect:
 - a. Grief: it is feeling of sadness appropriate to a real loss.
 - b. Depression: it is a psychopathological feeling of sadness.
 - 5- Inadequate affect:
 - a. Apathy: it is the absence of both emotional experience and expression.
 - b. Ambivalence: the holding at the same time of two opposed emotion, attitude, idea or wishes toward the same person, situation or object.

X. Disorder of Behavior:

1. Hyperactivity: it includes:

- a. Agitation: it some of hyper activity characterized by pacing and accompanied with restlessness.
- b. Excitement: it is severe form of hyper activity excessive purposeless motor activity and the patient may destruct himself or others.

2. Psychomotor retardation: extremely slow & difficult movement that in the extremes can entire complete inactivity & incontinence.

3. Repetitive activities:

1. Stereotypy: it is a monotonous repetition of certain movement without purpose.
2. Mannerism: it is a repeated movement, which is not monotonous & keeping with the personality character.
3. **Perseveration:** the involuntary repetition of the same thought, phrase, or motor response (brushing teeth, walking).
4. **Waxy flexibility:** it is the maintenance of imposed posture however abnormal with order they may be (arm up,) the absence of fatigue in such cases is remarkable.

5. **Catalepsy:** it is sustained immobility. The patient initiates the posture by himself.
6. **Echopraxia:** imitating the movement of another person.
7. **Negativism:** frequent opposition to suggestion e.g.
 - a. Motor: when he was asked to look up, he looks down.
 - b. Speech: when he asked question, he did not answer.
 - c. Visceral: retention of saliva, urine & feces
4. **Impulsiveness:** is an action that is sudden, abrupt, unplanned & directed toward immediate gratification.
5. **Compulsion:** uncontrollable impulse to perform an act repetitively.

Mental Health

- The World Health Organization (WHO) defines health as a state of complete physical, mental, and social wellness, not merely the absence of disease or infirmity.
- This definition emphasizes health as a positive state of well-being, not just absence of disease. People in a state of emotional, physical, and social well-being fulfill life responsibilities, function effectively in daily life, and are satisfied with their interpersonal relationships and themselves.

Mental disorder:

- Mental disorder: is defined as a clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., a painful symptom) or disability (i.e., impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom.
- It is an abnormal mental condition or disorder that disrupts a person's thinking, feeling, mood, ability to relate to others, and daily functioning.
- **Mental Health Nursing** refers to the care of people of all ages experiencing mental illness or psychological distress. Conditions include mood and anxiety disorders, schizophrenia, eating disorders, psychosis and self-harm.

Theories in mental health nursing

Theories of treatment of the mental illness:

1. **Demons' disorders** were viewed as being either divine or demonic depending on their behavior. Individuals seen as divine were worshipped and adored; those seen as demonic were ostracized, punished, and sometimes burned at the stake.
2. Later Aristotle (382–322 BC) attempted to relate mental disorders to physical disorders and developed his theory that the amounts of **blood, water, and yellow and black bile** in the body controlled the emotions. These four substances, or humors, corresponded with happiness, calmness, anger, and sadness. Imbalances of the four humors were believed to cause mental disorders, so treatment aimed at restoring balance through bloodletting, starving, and purging.
3. Such —treatments persisted well into the 19th century. In early Christian times (1–1000 AD), primitive beliefs and superstitions were strong. All diseases were again blamed on demons, and the mentally ill were viewed as possessed. Priests performed exorcisms to rid evil spirits. When that failed, they used more severe measures such as incarceration in dungeons, flogging, starving, and other brutal treatments.
4. **Sigmund Freud and Treatment of Mental Disorders** The period of scientific study and treatment of mental disorders began with Sigmund Freud (1856–1939). Freud described formation of the personality through **five stages of psychosexual development**.

Age	Stage	Major Developmental Tasks
Birth–18 months	Oral	Relief from anxiety through oral gratification of needs
18 months–3 years	Anal	Learning independence and control, with focus on the excretory function
3–6 years	Phallic	Identification with parent of same gender; development of sexual identity; focus on genital organs
6–12 years	Latency	Sexuality repressed; focus on relationships with same-gender peers
13–20 years	Genital	Libido reawakened as genital organs mature; focus on relationships with members of the opposite gender

5. Sullivan's theory (the Interpersonal Theory):

- Sullivan describes six stages of personality development:

Age	Stage	Major Developmental Tasks
Birth–18 months	Infancy	Relief from anxiety through oral gratification of needs
18 months–6 years	Childhood	Learning to experience a delay in personal gratification without undue anxiety
6–9 years	Juvenile	Learning to form satisfactory peer relationships
9–12 years	Preadolescence	Learning to form satisfactory relationships with persons of same gender initiating feelings of affection for another person
12–14 years	Early adolescence	Learning to form satisfactory relationships with persons of the opposite gender; developing a sense of identity
14–21 years	Late adolescence	Establishing self-identity; experiencing satisfying relationships; working to develop a lasting, intimate opposite gender relationship

Relevance of Interpersonal Theory to Nursing Practice

The interpersonal theory has significant relevance to nursing practice:

1. Relationship development.
2. Nurses develop therapeutic relationships with clients in an effort to help them generalize this ability to interact successfully with others.
3. Knowledge about the behaviors associated with all levels of anxiety and methods for alleviating anxiety helps nurses to assist clients achieve interpersonal security and a sense of well-being.
4. Nurses use this theory to help clients achieve a higher degree of independent and interpersonal functioning.

6. Erikson's Stages of Personality Development (the Psychosocial Development Theory)

Erikson (1963) studied the influence of social processes on the development of the personality. He described eight stages of the life cycle during which individuals struggle with developmental —crises. Specific tasks associated with each stage must be completed for resolution of the crisis and for emotional growth to occur:

Age	Stage	Major Developmental Tasks
Infancy (Birth–18 months)	Trust vs mistrust	To develop a basic trust in the mothering figure and be able to generalize it to others
Early (18 months – 3years) childhood	Autonomy vs. shame and doubt	To gain some self-control and independence within the environment
Late childhood (3–6 years)	Initiative vs guilt	To develop a sense of purpose and the ability to initiate and direct own activities
School age (6–12 years)	Industry vs inferiority	To achieve a sense of self-confidence by learning, competing, performing successfully, and receiving recognition from significant others, peers, and acquaintances
Adolescence (12–20 years)	Identity vs. role confusion	To integrate the tasks mastered in the previous stages into a secure sense of self
Young adulthood (20–30 years)	Intimacy vs isolation	To form an intense, lasting relationship or a commitment to another person, cause, institution, or creative effort.
Adulthood (30–65 years)	Generativity vs. Stagnation	To achieve the life goals established for oneself, while also considering the welfare of future generations
Old age (65 years–death)	Ego integrity vs. despair	To review one’s life and derive meaning from both positive and negative events, while achieving a positive sense of self-worth

Relevance of Psychosocial Development Theory to Nursing Practice

1. It incorporates sociocultural concepts into the development of personality.
2. It provides a systematic, stepwise approach and outlines specific tasks that should be completed during each stage. This information can be used quite readily in psychiatric/mental health nursing.
3. Many individuals with mental health problems are still struggling to achieve tasks from a number of developmental stages. Nurses can plan care to assist these individuals to complete these tasks and move on to a higher developmental.

Hildegard Peplau (1909–1999)

- Leading nursing theorist and clinician: developed the nurse–patient relationship with phases and tasks
- Identified roles of the nurse: stranger, resource person, teacher, leader, surrogate, counselor
- Described four levels of anxiety (mild, moderate, severe, panic) still widely used today
- Peplau went on to form an interpersonal model emphasizing the need for a partnership between nurse and client as opposed to the client passively receiving treatment (and the nurse passively acting out doctor's orders).
- The essence of Peplau's theories is the creation of a *shared experience*. Nurses, she thought, could facilitate this through observation, description, formulation, interpretation, validation, and intervention.
- For example, as the nurse listens to her client, she develops a general impression of the client's situation. The nurse then validates her inferences by checking with the client for accuracy. The result may be experiential learning, improved coping strategies, and personal growth for both parties.

Jean Piaget (1896–1980)

Described *cognitive and intellectual development* in children in four stages:

- Sensorimotor
- Preoperational
- Concrete operations
- Formal operations
- These four stages have the following characteristics:
 1. invariant sequence
 2. universal (not culturally specific)
 3. related to cognitive development
 4. generalizable to other functions
 5. stages are logically organized wholes
 6. hierarchical nature of stage sequences (each successive stage incorporates elements of previous stages, but is more differentiated and integrated)

7. stages represent qualitative differences in modes of thinking, not merely quantitative differences

- According to Piaget, intelligence enables individuals to make adaptations to the environment that increase the probability of survival, and through their behavior, individuals establish and maintain equilibrium with the environment. The course of intellectual development is both maturational and invariant and is divided into the following stages (ages are approximate):

Sensorimotor (birth–2 years):

- Children progress from reflex activity through simple repetitive behaviors to imitative behavior.
- They develop a sense of cause and effect as they direct behavior toward objects. Problem solving is primarily by trial and error.
- Toward the end of the sensorimotor period, children begin to use language and representational thought.

Preoperational (2–7 years):

- The predominant characteristic of the preoperational stage of intellectual development is **egocentrism**, which in this sense does not mean selfishness or self-centeredness, but the inability to put oneself in the place of another.
- Children interpret objects and events not in terms of general properties but in terms of their relationships or their use to them. Preoperational thinking is concrete and tangible. Children cannot reason beyond the observable, and they lack the ability to make deductions or generalizations.

Concrete operations (7–11 years):

- At this age, thought becomes increasingly logical and coherent.
- Children are able to classify, sort, order, and otherwise organize facts about the world to use in problem solving.
- They develop a new concept of permanence

Formal operations (11–15 years):

- Formal operational thought is characterized by adaptability and flexibility.
- Adolescents can think in abstract terms, use abstract symbols, and draw logical conclusions from a set of observations.
- For example, they can solve the following question: If A is larger than B and B is larger than C , which symbol is the largest? (The answer is A .) They can make hypotheses and test them;

Humanistic Theories

Abraham Maslow (1921–1970) Hierarchy of needs

- basic physiologic needs, safety and security needs, love and belonging needs, esteem needs, self-actualization
 - One of the many interesting things Maslow noticed while he worked with monkeys early in his career, was that some needs take precedence over others.
 - For example, if you are hungry and thirsty, you will tend to try to take care of the thirst first. After all, you can do without food for weeks, but you can only do without water for a couple of days! Thirst is a “stronger” need than hunger. Likewise, if you are very very thirsty, but someone has put a choke hold on you and you can’t breathe, which is more important? The need to breathe, of course. On the other hand, sex is less powerful than any of these. Let’s face it, you won’t die if you don’t get it!
- 1. The physiological needs.** These include the needs we have for oxygen, water, protein, salt, sugar, calcium, and other minerals and vitamins.
 - They also include the need to maintain a pH balance (getting too acidic or base will kill you) and temperature (98.6 or near to it). Also, there’s the needs to be active, to rest, to sleep, to get rid of wastes (CO₂, sweat, urine, and feces), to avoid pain, and to have sex. Quite a collection!
 - Maslow believed, and research supports him, that these are in fact individual needs, and that a lack of, say, vitamin C, will lead to a very specific hunger for things which have in the past provided that vitamin C -- e.g. orange juice.
 - 2. The safety and security needs.**
 - When the physiological needs are largely taken care of, this second layer of needs comes into play.
 - The individual will become increasingly interested in finding safe circumstances, stability, protection. He/she might develop a need for structure, for order, some limits.

3. The love and belonging needs.

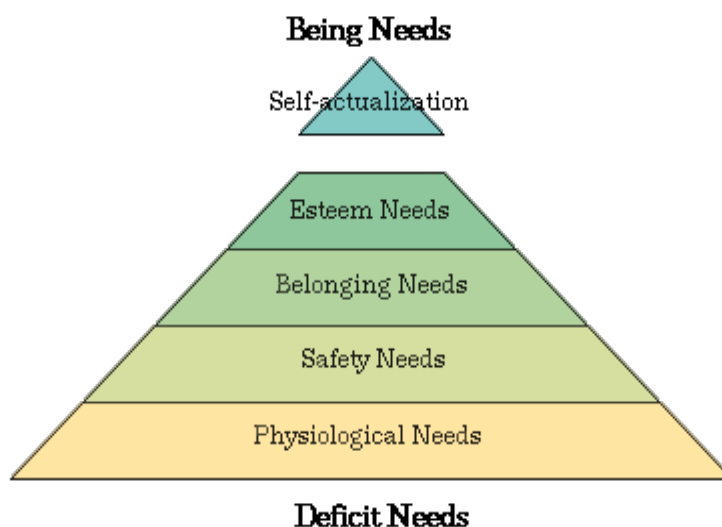
- When physiological needs and safety needs are, by and large, taken care of, a third layer starts to show up. Human begin to feel the need for friends, a sweetheart, children, affectionate relationships in general, even a sense of community.
- Looked at negatively, individual become increasing susceptible to loneliness and social anxieties.

4. The esteem needs. Next, we begin to look for a little self-esteem.

- Maslow noted two versions of esteem needs, a lower one and a higher one.
- The lower one is the need for the respect of others, the need for status, fame, glory, recognition, attention, reputation, appreciation, dignity, even dominance.
- The higher form involves the need for self-respect, including such feelings as confidence, competence, achievement, mastery, independence, and freedom. Note that this is the “higher” form because, unlike the respect of others, once you have self-respect, it’s a lot harder to lose!
- The negative version of these needs is low self-esteem and inferiority complexes.

5. All of the preceding four levels he calls **deficit needs**, or **D-needs**.

- If individual don’t have enough of something -- i.e. you have a deficit -- you feel the need. But if you get all you need, you feel nothing at all! In other words, they cease to be motivating. As the old blues song goes, “you don’t miss your water till your well runs dry!”



Neurobiological Theories and Psychopharmacology

Central Nervous System

- Brain
 - Cerebrum
 - Cerebellum
 - Brain stem
 - Limbic system (see Figure 1.2 and 2.2)
 - Spinal cord
- Nerves that control voluntary acts

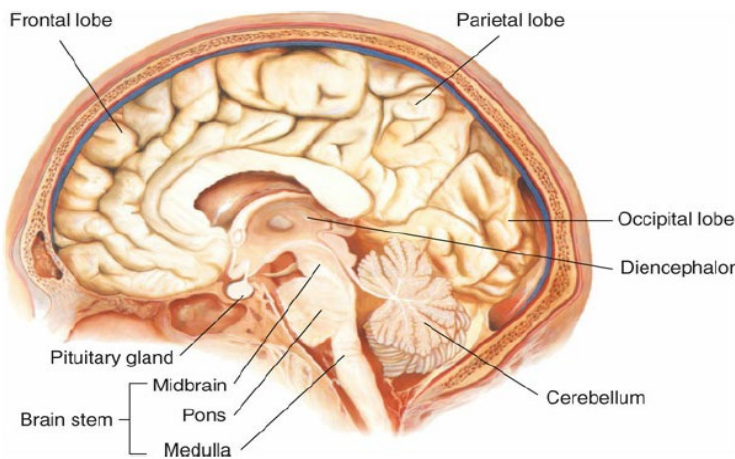


FIGURE 2.1. Anatomy of the brain.

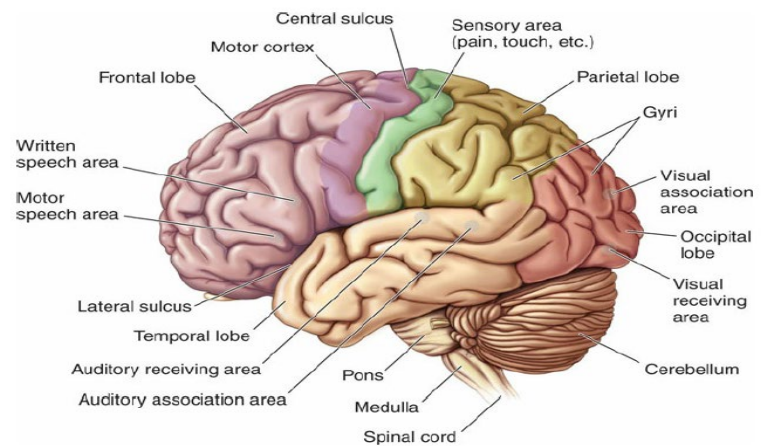


FIGURE 2.2. The brain and its structures.

Cerebrum

- Two hemispheres
- Four lobes:
 - Frontal lobe (thought, body movement, memories, emotions, moral behavior)
 - Parietal lobe (taste, touch, spatial orientation)
 - Temporal lobe (smell, hearing, memory, emotional expression)
 - Occipital lobe (language, visual interpretation)

Cerebellum

- Below cerebrum
- Center for coordination of movements, postural adjustments
- Reception, integration of information from all body areas to coordinate movement, posture

Brain Stem

- Midbrain: reticular activating system (motor activity, sleep, consciousness, awareness) and extrapyramidal system
- Pons: primary motor pathway
- Medulla oblongata: vital centers for cardiac, and respiratory function
- Nuclei for cranial nerves III through XII
- Locus ceruleus: norepinephrine-producing neurons (stress, anxiety, impulsive behavior)

Limbic System

- Above brain stem
 - Thalamus (activity, sensation, emotion)
 - Hypothalamus (temperature regulation, appetite control, endocrine function, sexual drive, impulsive behavior)
 - Hippocampus (emotional arousal, memory)
 - Amygdala (emotional arousal, memory)

Neurobiological Causes

- Genetics and heredity: play role but not solely genetic
 - Twin, adoption, family studies used
 - Psychoimmunology: compromised immune system possibly contributing, especially in at-risk populations
- Infections: particularly viruses during fetal development, possibly play role

Treatment Modalities

Treatment modalities:

- They can be simply defined as methods of treatment. These are ways in which a psychiatrist or an allied health professional would go about treating a condition. Some people are expert in a single method, and others have training in a number of different treatments.

The reasons for using medications are twofold:

1. The medications control symptoms, thus helping the patient to feel more comfortable emotionally.
2. The medications are usually used in connection with some other type of therapy.

Types of psychopharmacologies:

1. Antipsychotics (Neuroleptics / Major Tranquilizers): is used to treat psychotic behavior such as schizophrenia and other disorders.
 - The antipsychotic will treat schizophrenia and other acute or chronic psychotic behavior including violent or potentially violent behavior. Antipsychotics are classified as typical or atypical.
 - Typical antipsychotic agents treat the positive symptoms of schizophrenia, such as hallucinations, delusions, and suspiciousness.
 - Atypical antipsychotic agents reduce the negative symptoms of schizophrenia, such as flat affect, social withdrawal, and difficulty with abstract thinking.
2. Antiparkinson Agents (Anticholinergics): Antiparkinson agents help decrease the effects of drug-induced and non-drug induced symptoms of parkinsonism that often occur with antipsychotics.
3. Antianxiety Agents (Anxiolytics / Minor Tranquilizers): antianxiety agents decrease the effects of stress, anxiety, and mild depression. They can be used preoperatively to help promote sedation.
4. Anticonvulsants: these drugs stabilize the manic episodes in bipolar disorders.
5. Antidepressants (Mood Elevators): they decrease the effects of stress or mild depression without causing sedation. It has the following types:
 - a. Selective Serotonin Reuptake Inhibitors (SSRIs) (Bicyclic Antidepressants).
 - b. Tricyclic Antidepressants.

- c. Serotonin Norepinephrine Reuptake Inhibitors (SNRIs).
- d. Monoamine Oxidase Inhibitors (MAOIs).
- e. Antimanic Agents (Mood Stabilizing Agents)

Nursing Considerations for All Antidepressants:

1. Reinforce the teaching that these medications take several weeks to become effective. Encourage patients to continue taking the medication during this time, although they may not feel any change in their mood right away.
2. All antidepressant medications should be tapered gradually rather than abruptly discontinued to prevent withdrawal symptoms.
3. It is imperative that all patients receiving antidepressant medications be monitored for suicide potential throughout treatment.

Examples for psychopharmacology

Antipsychotics		Antiparkinson	Antianxiety	Anticonvulsants	Antidepressants
A Typical	Typical				
risperidone (Risperdal), olanzapine (Zyprexa), aripiprazole (Abilify) and clozapine (Clozaril).	chlorpromazine (Largactil), haloperidol (Haldol),	Procyclidine (Kemadrin) Trihexyphenidyl (Benzhexol) Orphenadrine	Benzodiazepines alprazolam (Xanax) chlordiazepoxide (Librium) clonazepam (Klonopin) diazepam (Valium) lorazepam (Ativan)	Acetazolamide (Acetazolam) Carbamazepine (Tegretol)	SSRIs <ul style="list-style-type: none"> • escitalopram (Lexapro) • fluoxetine (Prozac) • paroxetine (Paxil) • sertraline (Zoloft) Tricyclics <ul style="list-style-type: none"> • clomipramine (Anafranil) • imipramine (Tofranil) MAOIs <ul style="list-style-type: none"> • Isocarboxazid (Marplan) • phenelzine (Nardil)

Several types of treatment modalities:

1. Psychotherapy: this is the term used to describe the form of treatment chosen by the psychologist or psychiatrist or another mental health therapist to treat an individual. The goals of psychotherapy are to:
 - Decrease the patient's emotional discomfort.
 - Increase the patient's social functioning.

- Increase the patient's ability to behave or perform in a manner appropriate to the situation.
2. Psychoanalysis the focus is on the cause of the problem, which is buried somewhere in the unconscious. The therapist tries to take the patient into the past in an effort to determine where the problem began.
 3. Hypnosis is a type of complementary medicine in which hypnosis is used to create a state of focused attention and increased suggestibility during which positive suggestions and guided imagery are used to help individuals deal with a variety of concerns and issues.
 4. Behavior Modification: is variables are manipulated for behavioral changes. It uses to remove or greatly diminish behaviors that are inappropriate or unhealthy.
 5. Exposure Therapy: is developed to help patients address their feared objects or situations through confrontation. In an exposure session, clients are instructed to use imagery, memory, and real-life objects to construct a vivid, anxiety producing image of a traumatic event, and are encouraged to remain in the anxious state until their fear of the event declines.
 6. Relaxation therapy is an effective means of reducing the stress response in some individuals. The degree of anxiety that an individual experiences in response to stress is related to certain predisposing factors, such as characteristics of temperament with which he or she was born, past experiences resulting in learned patterns of responding, and existing conditions, such as health status, coping strategies, and adequate support systems. Deep relaxation can counteract the physiological and behavioral manifestations of stress.
 7. Group Therapy: it involves patients' sessions together to discuss topics that are relevant to recovery.

The therapeutic results of group therapy are:

1. Gaining or learning new information
2. Gaining inspiration or hope
3. Interacting with others
4. Feeling acceptance
5. Becoming aware that one is not alone and that others share the same problems

6. Gaining insight into one's problems and behaviors and how they affect others
7. Giving of oneself for the benefit of others

There are four types of group therapy:

1. Open groups: are ongoing and run indefinitely, allowing members to join or leave the group as they need.
 2. Closed groups: are structured to keep the same members in the group for a specified number of sessions.
 3. Family Therapy: is a form of group therapy in which the client and his or her family members participate.
 4. Support group: are organized to help members who share a common problem to cope with it.
8. Electroconvulsive therapy (ECT) is a type of somatic treatment in which electric current is applied to the brain (unilateral or bilateral) through electrodes placed on the temples. The current is sufficient to induce a grand mal seizure, from which the desired therapeutic effect is achieved. A patient typically receives ECT 2-to-3 times a week for a total of 6 to 12 treatments, depending on the severity of symptoms and how quickly the symptoms respond to the treatment.

ECT indications:

1. Major or severe Depression 90% effective
2. Mania 80% effective: ECT may also be used as a fast-acting treatment for very hyperactive manic clients in danger of physical exhaustion and for individuals who are extremely suicidal.
3. Acute Schizophrenic Psychosis 50% effective
4. Advanced Parkinson's.
5. Intractable Epilepsy.
6. Catatonia.

Contraindications of ECT:

Note: No absolute contraindications have been seen but it has high risk with:

1. Recent myocardial infarction.
2. Cerebrovascular accident.

3. Aortic or cerebral aneurysm.
4. Severe underlying hypertension.
5. Congestive heart failure.
6. Brain aneurysm.
7. ECT should not be used if there is increased intracranial pressure (from brain tumor, recent cardiovascular accident, or other cerebrovascular lesion).

Risks or complications of ECT:

1. Short-term memory loss and difficulty learning.
2. The risks of general anesthesia, which is needed for ECT, are similar to the risks when anesthesia is used for other procedures such as minor surgeries.
3. The most common side effects of ECT on the day of treatment include nausea, headache, fatigue, confusion, and slight memory loss, which may last minutes to hours.
4. Cardiovascular problems.
5. Brain Damage.
6. Mortality 2:100,000

Benefits of ECT:

1. ECT can work more quickly than medications.
2. It can be useful if a patient is suicidal, is not responding to medications or cannot tolerate the side effects of medication.

Nursing Intervention for Client Receiving ECT:**A. Pre and intra procedure nursing intervention:**

1. Ensure that the physician has obtained informed consent and that a signed permission form is on the chart.
2. Ensure that the most recent laboratory reports (complete blood count [CBC], urinalysis) and results of electrocardiogram (ECG) and x-ray examination are available.
3. Client should receive nothing by mouth (NPO) on the morning of the treatment.
4. Prior to the treatment, client should void, dress in night clothes (or other loose clothing), and remove dentures and eyeglasses or contact lenses. Bedrails should be raised.

5. Take baseline vital signs and blood pressure.
6. Administer cholinergic blocking agent approximately 30 minutes before treatment, as ordered by the physician, to decrease secretions (to prevent aspiration) and increase heart rate (which is suppressed in response to vagal stimulation caused by the ECT).
7. Assist physician and/or anesthesiologist as necessary in the administration of intravenous medications. A short-acting anesthetic is given along with the muscle relaxant.
8. Administer oxygen and provide suctioning as required.

B. After ECT procedure nursing interventions:

1. After the procedure, take vital signs and blood pressure every 15 minutes for the first hour. Position the client on his or her side to prevent aspiration.
2. Stay with the client until he or she is fully awake, oriented, and able to perform self-care activities without assistance.
3. Describe to the client what has occurred.
4. Allow the client to verbalize fears and anxieties associated with the treatment.
5. Reassure the client that memory loss and confusion are only temporary.
6. Provide the client with a highly structured schedule of routine activities in order to minimize confusion.

Anxiety and Related Disorders

- Anxiety can be described as an uncomfortable feeling of dread that is a response to extreme or prolonged periods of stress. Anxiety is an unpleasant feeling of tension, apprehension, and uneasiness or a diffuse feeling of dread or unexplained discomfort.
- The four commonly levels of anxiety are:**

Anxiety Level	Psychological Responses	Physiologic Responses
Mild	Wide perceptual field Sharpened senses Increased motivation Effective problem-solving Increased learning ability Irritability	Restlessness Difficulty sleeping Hypersensitivity to noise
Moderate	Perceptual field narrowed to immediate task Selectively attentive Cannot connect thoughts or events independently Increased use of automatisms	Muscle tension Diaphoresis Pounding pulse Headache Dry mouth High voice pitch Faster rate of speech GI upset Frequent urination
Severe	Perceptual field reduced to one detail or scattered details Cannot complete tasks Cannot solve problems or learn effectively Behavior geared toward anxiety relief and usually ineffective Doesn't respond to redirection Feels awe, dread, or horror Crying Ritualistic behavior	Severe headache Nausea, vomiting, and diarrhea Trembling Rigid stance Vertigo Pale Tachycardia Chest pain
Panic	Perceptual field reduced to focus on self Cannot process any environmental stimuli Distorted perceptions Loss of rational thought Doesn't recognize potential danger Can't communicate verbally Possible delusions and hallucination May be suicidal	Totally immobile and mute Dilated pupils Increased blood pressure and pulse Flight or fight or freeze

Types of Anxiety and Anxiety-Related Disorders:**First: Generalized Anxiety Disorder (GAD):**

- is the anxiety (also referred to as—excessive worry or —severe stress) itself is the expressed symptom. It is diagnosed when excessive worry is related to two or more things and lasts 6 months or longer.

Second: Fear:

Response to perceived threat that is consciously recognized as a danger, characterized by:

- Refuses to leave own home alone
- Refuses to eat in public
- Refuses to speak or perform in public]
- Refuses to expose self to (specify phobic object or situation)
- Identifies object of fear

Nursing interventions:

1. Reassure client of his or her safety and security.
2. Explore the client's perception of threat to physical integrity or threat to self-concept.
3. Discuss reality of the situation with client in order to recognize aspects that can be changed and those that cannot.
4. Include client in making decisions related to selection of alternative coping strategies. (Example: Client may choose either to avoid the phobic stimulus or attempt to eliminate the fear associated with it.
5. If the client elects to work on elimination of the fear, the techniques of desensitization may be employed.
6. Encourage client to explore underlying feelings that may be contributing to irrational fears.
7. Help client to understand how facing these feelings, rather than suppressing them, can result in more adaptive coping abilities.

Third: Panic disorder

- Is a recurrent condition that is a state of extreme fear that cannot be controlled. It is an abrupt surge of intense fear or discomfort that reaches a peak in a short period of time. It can lead to intense fear and worry about it happening again. It is also referred to as —panic attack, and people may not consider it to be a serious disorder initially.

Fourth: Phobia:

- Is the most common of the anxiety disorders. Phobia is defined as an —irrational fear. The person is very aware of the fear and even of the fact that it is irrational, but the fear continues. A phobia is an illogical, intense, persistent fear of a specific object or a social situation that causes extreme distress and interferes with normal functioning.

Some Common Specific Phobias

- **Agoraphobia:** there is a fear of being in places or situations from which escape might be difficult, or in which help might not be available.

- **Social phobia:** also known as social anxiety disorder, the person becomes severely anxious to the point of panic or incapacitation when confronting situations involving people.
- **Specific phobia:** which is an irrational fear of an object or situation. It divides to:
 - **Acrophobia:** Fear of height
 - **Ailurophobia:** Fear of cats
 - **Carcinomatophobia:** Fear of cancer
 - **Decidophobia:** Fear of making decisions
 - **Nyctophobia:** Fear of darkness
 - **Odontophobia:** Fear of teeth or dental surgery
 - **Scoleciphobia:** Fear of worms
 - **Thanatophobia:** Fear of death
 - **Natural environmental phobias:** fear of storms, water, heights, or other natural phenomena
 - **Blood-injection phobias:** fear of seeing one's own or others' blood, traumatic injury, or an invasive medical procedure such as an injection.
 - **Situational phobias:** fear of being in a specific situation such as a bridge, tunnel, elevator, small room, hospital, or airplane

Fifth: Post-Traumatic Stress Disorder:

- Is developed in response to an unexpected emotional or physical trauma that could not be controlled.

Sixth: Obsessive-Compulsive Disorder:

- (OCD) is reoccurring thoughts, ideas, and actions that interfere with a person's daily ability to function.
- **Obsessions:** are recurrent, persistent, intrusive, and unwanted thoughts, images, or impulses that cause marked anxiety and interfere with interpersonal, social, or occupational function. The person knows these thoughts are excessive or unreasonable but believes he or she has no control over them.
- **Compulsions:** are repetitive behaviors or mental acts that a person carries out continuously in an attempt to neutralize anxiety.

Common compulsions include the following:

1. Checking rituals (repeatedly making sure the door is locked or the coffee pot is turned off)
2. Counting rituals (each step taken, ceiling tiles, concrete blocks, desks in a classroom)
3. Washing and scrubbing until the skin is raw
4. Praying or chanting
5. Touching, rubbing, or tapping (feeling the texture of each material in a clothing store; touching people, doors, walls, or oneself)
6. Hoarding items (for fear of throwing away something important)

7. Ordering (arranging and rearranging items on a desk, shelf, or furniture into a perfect order; vacuuming the rug pile in one direction)
8. Rigid performance (getting dressed in an unvarying pattern)
9. Aggressive urges (for instance, to throw one's child against a wall).

Treatment

- Like other anxiety disorders, optimal treatment for OCD combines medication and behavior therapy.:
 1. **Behavior therapy** specifically includes exposure and response prevention.
 - **Exposure** involves assisting the client to deliberately confront the situations and stimuli that he or she usually avoids.
 - **Response prevention** focuses on delaying or avoiding performance of rituals. The person learns to tolerate the anxiety and to recognize that it will recede without the disastrous imagined consequences.
 2. **Medications:** e.g. SSRI antidepressant.

Nursing Care for Patients with Anxiety Symptom and Related Disorders

Disorders	Symptoms	Nursing Intervention
Generalized Anxiety Disorder	Muscle aches, shakes, palpitations, dry mouth, nausea, chills, vomiting, hot flashes, polyuria, difficulty swallowing, feeling of dread	<ol style="list-style-type: none"> 1. Provide calm milieu 2. Open communication done calmly and clearly 3. Focus on brief messages 4. Teach early signs of escalating anxiety 5. Suicide precautions if the person indicates any self-destructive thoughts 6. Document behavior changes 7. Encourage activities 8. Promote deep breathing and other relaxation methods 9. Reassurance
Panic Disorder	Fear, dissociation, nausea, diaphoresis, chest pain, increased pulse, shaking, unsteadiness, paralysis	Same as above Stay with patient during attack
Phobia	Fear, dissociation, nausea, diaphoresis, chest pain, increased pulse, shaking, unsteadiness, paralysis	Same as above Stay with patient during attack
Obsessive-Compulsive Disorder	Repeated thoughts and/or repeated actions	<ol style="list-style-type: none"> 1. Same as above 2. Allow patient to express the anxiety 3. Recognize and accept need for obsessions and compulsions 4. Allow time for rituals 5. Provide structured schedule and give

		<p>patient some control</p> <p>6. Explore alternative methods of anxiety reduction including religious and cultural influences.</p>
<p>Post-Traumatic Stress Disorder</p>	<ul style="list-style-type: none"> • Flashbacks, in which the person may relive and act out the traumatic event • Social withdrawal • Nightmares • Insomnia • Feelings of low self-esteem as a result of the event • Changes in the relationship with a significant other and difficulty forming new relationships • Irritability and outbursts of anger toward another person or situation, apparently for no obvious reason • Depression • Distress when thinking about the event • Making efforts to avoid reminders of the event 	<ol style="list-style-type: none"> 1. Assign the same staff as often as possible. Use a nonthreatening, matter-of-fact but friendly approach. 2. Stay with the client during periods of flashbacks and nightmares. Offer reassurance of safety and security and that these symptoms are not uncommon following a trauma of the magnitude he or she has experienced. 3. Obtain an accurate history from significant others about the trauma and the client's specific response. 4. Encourage the client to talk about the trauma at his or her own pace. Provide a nonthreatening, private environment, and include a significant other if the client wishes. 5. Discuss coping strategies used in response to the trauma, as well as those used during stressful situations in the past. 6. Determine those that have been most helpful, and discuss alternative strategies for the future. Include available support systems, including religious and cultural influences. 7. Identify maladaptive coping strategies. 8. Assist the individual to try to comprehend the trauma if possible. 9. Discuss feelings of vulnerability and the individual's —place in the world following the trauma.

Seventh: Somatic Symptom Disorder (SSD):

- Somatic symptom disorder is characterized by somatic symptoms that are either very distressing or result in significant disruption of functioning, as well as excessive and disproportionate thoughts, feelings, and behaviors regarding those symptoms. The symptoms may or may not have an organic cause.

Types of Somatoform Disorders:

1. Somatization disorder: Patients with somatization disorder (formally called hysteria syndrome) typically have a long history of going to the doctor for many

different unexplainable symptoms. This pattern of symptoms has occurred for many years and began before they were 30 years old.

2. Undifferentiated Somatoform Disorder

- This is similar to somatization disorder, except that the patient must complain of at least one unexplainable symptom for at least 6 months. Common complaints include digestive problems and chronic fatigue.

3. Pain Disorder

- As the name suggests, pain is the primary complaint with this disorder. There is no physical explanation for the pain. Underlying psychological issues are believed to play a role in triggering, maintaining, or exacerbating the pain or making it more intense.

4. Conversion Disorder

- Conversion disorder is a loss of or change in body function resulting from a psychological conflict, the physical symptoms of which cannot be explained by any known medical disorder or pathophysiological mechanism. Individuals with this disorder have symptoms or difficulties with their senses (e.g. blindness, deafness) or their motor functioning (e.g. difficulties swallowing, weakness in a specific area).

5. Hypochondriasis

- Individuals with this disorder are preoccupied with the belief or fear that they have a serious medical condition. Their belief or fear is triggered by their own misinterpretation of their physical symptoms or bodily functions (e.g. they have occasional headaches and fear they have a brain tumor).

6. Body Dysmorphic Disorder

- Individuals with this disorder become extremely preoccupied with and distressed about one or more imagined or actual (but minor) physical flaws (e.g. someone with a small scar on her hand always wears gloves or keeps her hand hidden from others).

Treatment

1. Treatment may include the followings.
2. Explanation: This must be clear and coherent as attributing physical symptoms to a psychological cause is not accepted by many educated people in western cultures.
3. Physiotherapy where appropriate.
4. Occupational Therapy to maintain autonomy in activities of daily living.
5. Treatment of depression or anxiety if present.

Nursing Care for Patients with Somatic Symptom and Related Disorder

Disorders	Symptoms	Nursing Intervention
Somatic Symptom Disorder	High level of anxiety about health Excessive time and energy devoted to symptoms May or may not have an organic disorder	Listen to patient's concerns but then focus on other issues Promote trust Encourage patient to express self about other issues than the symptoms
Conversion Disorder	Loss or decrease in physical functioning that seems to have a neurological connection (paralysis, blindness) Indifference to the loss of function Primary and secondary gain	Use therapeutic communication skills. Encourage therapy (occupational therapy, physical therapy, etc.). Provide emotional support. Respond to the patient's symptoms as real.
Illness Anxiety Disorder	—Professional patient Intense fear of becoming seriously ill Preoccupation with the idea of being seriously ill and not being helped—may be concerned about not being taken seriously or evaluated properly	Do not reinforce the symptom. Be nonjudgmental. Continue to focus on trusting relationship.

Mood Disorders

Mood

- Also called affect, mood is a pervasive and sustained emotion that may have a major influence on a person's perception of the world. Examples of mood include depression, joy, elation, anger, and anxiety.
- Affect is described as the emotional reaction associated with an experience.
- Mood disorders: also called affective disorders, are pervasive alterations in emotions that are manifested by depression, mania, or both. They interfere with a person's life, plaguing him or her with drastic and long-term sadness, agitation, or elation.

The DSM-IV-TR categorizes mood disorders as follows:

- Depressive disorders.
- Bipolar disorders: bipolar I disorder, bipolar II disorder.
- Mood disorder caused by a general medical condition.
- Substance-induced mood disorder.

Depression

- An alteration in mood that is expressed by feelings of sadness, despair, and pessimism. There is a loss of interest in usual activities, and somatic symptoms may be evident. Changes in appetite and sleep patterns are common.

Signs and Symptoms

1. Depressed mood
2. Anhedonism (decreased attention to and enjoyment from previously pleasurable activities)
3. Unintentional weight change of 5% or more in a month
4. Change in sleep pattern
5. Agitation or psychomotor retardation
6. Tiredness
7. Worthlessness or guilt inappropriate to the situation (possibly delusional)

8. Difficulty thinking, focusing, or making decisions
9. Hopelessness, helplessness, and/or suicidal ideation

Types of depressive disorders:

1. Major Depressive Disorder:

- Major depressive disorder, or major depression, is characterized by a combination of symptoms that severely interfere with a person's ability to work, sleep, study, eat, and enjoy once pleasurable activities. These symptoms must last at least 2 weeks and very often last much longer to receive this diagnosis. Major depression is disabling and prevents a person from functioning normally.

2. Postpartum Depression

- Postpartum —blues is a common response a few days after giving birth and may be related to fatigue, hormone changes, and anxiety. It resolves in a short time with rest and support. Postpartum depression, also called postpartum onset depression, occurs up to 6 months after childbirth and is a much more serious condition.

3. Dysthymic Disorder

- Dysthymic disorder is a less severe form of depression that is characterized by its chronic nature. It is sometimes called persistent Major depressive disorder is characterized by a classic cluster of symptoms.

4. Major Depressive Disorder with Seasonal Pattern

- Previously called seasonal affective disorder (SAD), this is a depression associated with seasonal patterns. Symptoms generally are exacerbated during the winter months and subside during the spring and summer. This type of depression is thought to be related to the hormone melatonin. During months of longer darkness, there is increased production of melatonin that seems to trigger depressive symptoms in some people.

5. Substance-Induced Depressive Disorder

- Substance-induced depressive disorder is depressed mood from the physiological effects of withdrawal, intoxication, or after exposure to a substance. This can include drugs of abuse such as alcohol, opioids, sedatives, and anti-anxiety medications as well as exposure to toxins.

6. Depressive Disorder Associated with Another Medical Condition

- This condition is characterized by a prominent and persistent depression that is judged to be the result of direct physiological effects of a general medical condition.

7. Premenstrual Dysphoric Disorder

- The features include a consistent pattern of markedly depressed mood, excessive anxiety, and mood swings during the week prior to menses. Family history remains an important risk factor indicating genetic links.

Level of depression

- Mild depressive: episodes occur when the grief process is triggered in response to the loss of a valued object. This can occur with the loss of a loved one, pet, friend, home, or significant other. As one is able to work through the stages of grief, the loss is accepted, symptoms subside, and activities of daily living are resumed within a few weeks. If this does not occur, grief is prolonged or exaggerated, and symptoms intensify.
- Moderate depression: occurs when grief is prolonged or exaggerated. The individual becomes fixed in the anger stage of the grief response, and the anger is turned inward on the self. All of the feelings associated with normal grieving are exaggerated out of proportion, and the individual is unable to function without assistance. Dysthymic disorder is an example of moderate depression.
- Severe depression: is an intensification of the symptoms associated with the moderate level. The individual who is severely depressed may also

demonstrate a loss of contact with reality. This level is associated with a complete lack of pleasure in all activities, and ruminations about suicide are common. Major depressive disorder is an example of severe depression.

Treatment:

1. Psychopharmacology: Major categories of antidepressants include:
 - Cyclic antidepressants.
 - Monoamine oxidase inhibitors (MAOIs).
 - Selective serotonin reuptake inhibitors (SSRIs).
2. Electroconvulsive Therapy (ECT).

General Nursing Interventions

1. Identify small, achievable goals the patient can meet.
2. Provide support and encouragement.
3. Encourage the patient to speak about his or her concerns without judgment.
4. Encourage independence.
5. Avoid activities that might tax memory or concentration if the patient is struggling with these.
6. Monitor patient compliance with antidepressants. Include education about potential side effects and not to expect results for several weeks
7. Encourage participation in activities to reduce time spent ruminating on negative thoughts
8. Promote a trusting relationship.
9. Provide for the safety of the client and others.
10. Promote sleep and rest.
11. Encourage the client to verbalize and describe emotions.
12. Encourage the patient to challenge negative thoughts. For example, identify an alternative solution to one problem.
13. Promote the patient's self-esteem by identifying improvements or recent successes.

Bipolar disorder (previously known as manic depression)

- Is characterized by marked shifts in mood, energy, and ability to function, often with profound depressions to periods of hyperactivity or mania with periods of normalcy. The common forms of bipolar disorders include bipolar I, bipolar II, and cyclothymic, as well as several others.
- Forms of Bipolar Disorders

Forms of Bipolar Disorders	Type Description
Bipolar I	<ul style="list-style-type: none"> • This type of bipolar disorder is diagnosed when manic episodes last at least seven days and are accompanied by psychotic features, or the manic symptoms are severe enough to require immediate hospitalization to prevent harm to oneself or others. • Depressive episodes, typically lasting at least two weeks, also often occur. • A person may have manic episodes with some depressive features or depressive episodes with some manic features.
Bipolar II	<ul style="list-style-type: none"> • Mania is not involved in bipolar II disorder. Instead, the illness involves recurring episodes of major depression and hypomania, a milder form of mania • Common symptoms that occur in a major depressive episode include: <ol style="list-style-type: none"> 1. Insomnia or hypersomnia 2. Unexplained or uncontrollable crying 3. Severe fatigue 4. Loss of interest in things the person typically enjoys 5. Recurring thoughts of death or suicide

Cyclothymic	<ul style="list-style-type: none"> • Cyclothymia is a milder form of bipolar disorder. Like bipolar disorder, cyclothymia consists of cyclical mood swings. However, the highs and lows are not severe enough to qualify as either mania or major depression
Bipolar disorder due to another medical condition	<ul style="list-style-type: none"> • Some bipolar disorders don't have a specific pattern. They also don't match the other three disorders. Yet, they still have to meet the criteria for abnormal mood changes. • For example, a person may experience mild depressive or hypomanic symptoms that last less than the two years specified for cyclothymia. • Another example is if a person has depressive episodes, but their symptoms of mood elevation are too mild or brief to be diagnosed as mania or hypomania.

Phases of the bipolar disorder:

1. Manic Phase

- The manic phase may last from days to months and cause marked disruption of occupational and social functioning. It can include the following symptoms:
 - Easily distracted
 - Little need for sleep (may feel rested after 3 hours of sleep)
 - Poor temper control, easily agitated and irritable
 - Reckless behavior and lack of self-control including:
 - Drinking, and/or drug use, binge eating
 - Poor judgment
 - Sex with many partners (promiscuity)

- Spending sprees
- Very elevated mood
- Excess activity (hyperactivity)
- Increased energy
- Racing thoughts, flight of ideas
- Talking a lot
- Very high self-esteem (false beliefs about self or abilities)
- Very involved in activities

Depressed Phase.**General Nursing Interventions for manic patients**

1. Focus on reality, especially when the patient describes grandiose ideas.
Present reality without arguing with patient.
2. Remove hazardous objects from the patient's room. Promote safety for all involved in the patient's care by identifying signs of increasing potential for violence.
3. Reduce external stimulation such as extraneous noise.
4. Provide an outlet for excess energy by letting the patient pace or exercise.
5. Encourage activities that don't require a lot of concentration.
6. Encourage patient compliance with medication regimens and lab testing.
7. Take the time to establish a relationship with the patient to promote a sense of safety
8. Identify ways to ensure the patient is eating and drinking adequately.
9. Encourage the patient to complete thoughts or actions rather than jumping from item to item.

Neurocognitive Disorders

Cognition

- Cognitive is the brain's ability to process, retain, and use information.
- Cognitive abilities include reasoning, judgment, perception, attention, comprehension, and memory.
- These cognitive abilities are essential for many important tasks including making decisions, solving problems, interpreting the environment, and learning new information.

Cognitive disorder

- It is a disruption or impairment in these higher-level functions of the brain.
- Cognitive disorders can have devastating effects on the ability to function in daily life.
- They can cause people to forget the names of immediate family members, to be unable to perform daily household tasks, and to neglect personal hygiene.
- The primary categories of cognitive disorders are delirium, dementia, and amnesic disorders.

Delirium

- Delirium: is a mental state characterized by a disturbance of cognition, which is manifested by confusion, excitement, disorientation, and a clouding of consciousness. Hallucinations and illusions are common.

Symptoms of Delirium

1. Difficulty with attention, Disoriented.
2. Easily distractible.
3. May have sensory disturbances such as illusions, misinterpretations, or hallucinations.
4. Changes in psychomotor activity.
5. May experience anxiety, fear, irritability, euphoria, or apathy.

Etiological Implications

The DSM-IV-TR Categories of delirium include the following:

1. Delirium due to a general medical condition.
2. Substance-induced delirium.
3. Substance-intoxication delirium.
4. Substance-withdrawal delirium.
5. Delirium due to multiple etiologies.

1: Delirium Due to a General Medical Condition

- In delirium due to a general medical condition, evidence must exist (from history, physical examination, or laboratory findings) to show that the symptoms of delirium are a direct result of the physiological consequences of a general medical condition such conditions include systemic infections, metabolic disorders (e.g., hypoxia, and hypoglycemia), fluid or electrolyte imbalances, hepatic or renal disease).

2: Substance-Induced Delirium

- This disorder is characterized by the symptoms of delirium that are attributed to medication side effects or exposure to a toxin called substance-induced delirium are: anesthetics, analgesics, anti-asthmatic agents, anticonvulsants, antihistamines, antihypertensive and cardiovascular medications.

3: Substance-Intoxication Delirium

- With this disorder, the symptoms of delirium may arise within minutes to hours after taking relatively high doses of certain drugs such as cannabis, cocaine, and hallucinogens.

4: Substance-Withdrawal Delirium

- Withdrawal delirium symptoms develop after reduction or termination of sustained, usually high-dose use of certain substances, such as alcohol, sedatives, and hypnotics.

5: Delirium Due to Multiple Etiologies

- The delirium may be related to more than one general medical condition or it may be a result of the combined effects of a general medical condition and substance use.

Nursing Interventions:

1. Promoting client's safety
 - A. Teach client to request assistance for activities (getting out of bed, going to bathroom).
 - B. Provide close supervision to ensure safety during these activities.
 - C. Promptly respond to client's call for assistance.

2. Managing client's confusion
 - A. Speak to client in a calm manner in a clear low voice; use simple sentences.
 - B. Allow adequate time for client to comprehend and respond.
 - C. Allow client to make decisions as much as able.
 - D. Provide orienting verbal cues when talking with client.
 - E. Use supportive touch if appropriate.
3. Controlling environment to reduce sensory overload
 - A. Keep environmental noise to minimum (television, radio).
 - B. Monitor client's response to visitors; explain to family and friends that client may need to visit quietly one on one.
 - C. Validate client's anxiety and fears, but do not reinforce misperceptions.
4. Promoting sleep and proper nutrition
 - A. Monitor sleep and elimination patterns.
 - B. Monitor food and fluid intake; provide prompts or assistance to eat and drink adequate amounts of food and fluids.
 - C. Provide periodic assistance to bathroom if client does not make requests.
 - D. Discourage daytime napping to help sleep at night.
 - E. Encourage some exercise during day like sitting in a chair, walking in hall, or other activities client can manage.

Dementia

- **Dementia:** is a loss of previous levels of cognitive, and memory function in a state of full alertness.

Classifications of Dementia

1. Primary dementias are those in which the dementia itself is the major sign of some organic brain disease not directly related to any other organic illness.
2. Secondary dementias are used by or related to another disease or condition, such as HIV disease or a cerebral trauma.

Signs and Symptoms

1. Loss of memory (initial stages, recent memory loss such as forgetting food cooking on the stove; later stages, remote memory loss such as forgetting names of children, occupation).
2. Deterioration of language function (forgetting names of common objects such as chair or table, echoing sounds (palilalia), and echoing words that are heard (echolalia).
3. Loss of ability to think abstractly and to plan, monitor, or stop complex behaviors (loss of executive function): the client loses the ability to perform self-care activities.

Etiological Implications

- The disorders of dementia are differentiated by their etiology, although they share a common symptom presentation. Categories of dementia include the following:
 1. Dementia of the Alzheimer's type.
 2. Vascular dementia.
 3. Dementia due to HIV disease.
 4. Dementia due to head trauma.
 5. Dementia due to Parkinson's disease.
 6. Dementia due to Huntington's disease.
 7. Dementia due to Pick's disease.
 8. Dementia due to Creutzfeldt-Jakob disease.
 9. Dementia due to other general medical conditions.
 10. Substance-induced persisting dementia.
 11. Dementia due to multiple etiologies.

Nursing Interventions

1. Promoting client's safety and protecting from injury
 - A. Offer unobtrusive assistance with or supervision of cooking, bathing, or self-care activities.
 - B. Identify environmental triggers to help client avoid them.
2. Promoting adequate sleep, proper nutrition and hygiene, and activity
 - A. Prepare desirable foods and foods client can self-feed; sit with client while eating.
 - B. Monitor bowel elimination patterns; intervene with fluids and fiber or prompts.

- C. Remind client to urinate; provide pads or diapers as needed, checking and changing them frequently to avoid infection, skin irritation, unpleasant odors.
- D. Encourage mild physical activity such as walking.
- 3. Structuring environment and routine
 - A. Encourage client to follow regular routine and habits of bathing and dressing rather than impose new ones.
 - B. Monitor amount of environmental stimulation, and adjust when needed.
- 4. Providing emotional support
 - A. Be kind, respectful, calm, and reassuring; pay attention to client.
 - B. Use supportive touch when appropriate.
- 5. Promoting interaction and involvement
 - A. Plan activities geared to client's interests and abilities.
 - B. Reminisce with client about the past.
 - C. If client is nonverbal, remain alert to nonverbal behavior.
 - D. Employ techniques of distraction, time away, going along, or reframing to calm clients who are agitated, suspicious, or confused.

Schizophrenia

- The term schizophrenia (which literally means —split mind)).
- Schizophrenia is a serious, chronic, psychiatric disorder characterized by impaired reality testing, hallucinations, delusions, and limited socialization.
- It is a psychotic thought disorder where hallucinations and delusions dominate the patient's thinking, leading to confusing and bizarre behaviors.
- Schizophrenia is a psychotic disorder (or a group of disorders) marked by severely impaired thinking, emotions, and behaviors.
- Schizophrenic patients are typically unable to filter sensory stimuli and may have enhanced perceptions of sounds, colors, and other features of their environment.

The types of schizophrenia:

Type	Characteristics
Delusional disorder	Delusional Delusions without the other symptoms or disabilities of schizophrenia
Schizoaffective	Symptoms of schizophrenia along with symptoms of major depression or manic episode that requires treatment of both disorders
Schizophreniform	Schizophrenia symptoms without the level of impairment of functioning usually seen in schizophrenia and lasting more than 1 month and fewer than 6 months
Schizotypal	A personality disorder characterized by odd and eccentric behavior that does not decompensate to the level of schizophrenia
Paranoid type schizophrenia	Characterized by persecutory (feeling victimized or spied on) or grandiose delusions, hallucinations, and, occasionally, excessive religiosity (delusional religious focus) or hostile and aggressive behavior.
Disorganized type schizophrenia	Characterized by grossly inappropriate or flat affect, incoherence, loose associations, and extremely disorganized behavior.

Type	Characteristics
Catatonic type schizophrenia	characterized by marked psychomotor disturbance, either motionless or excessive motor activity. Motor immobility may be manifested by catalepsy (waxy flexibility) or stupor. Excessive motor activity is apparently purposeless and is not influenced by external stimuli. Other features include extreme negativism, mutism, peculiarities of voluntary movement, echolalia, and echopraxia.
Undifferentiated type schizophrenia	Characterized by mixed schizophrenic symptoms (of other types) along with disturbances of thought, affect, and behavior.
Residual type schizophrenia	Characterized by at least one previous, though not a current, episode; social withdrawal; flat affect; and looseness of associations.

General symptoms of schizophrenia:

1. The presence of delusions, hallucinations, and/or disorganized speech for a significant portion of time during a 1-month period. At least one of these must be present for the diagnosis.
2. Grossly abnormal motor behavior and/ or negative symptoms.
3. One or more areas of functioning, such as work, school, personal relationships, or self-care, are impaired. Some disturbance needs to be evident for at least 6 months.
4. Schizophrenia can also have features of catatonia, which include any of the following: motor immobility to stupor, excessive motor activity, peculiar voluntary movements, and echolalia or echopraxia.

Types of the symptoms of schizophrenia:

A. Positive or hard symptoms:

1. Ambivalence: Holding seemingly contradictory beliefs or feelings about the same person, event, or situation.
2. Associative looseness: Fragmented or poorly related thoughts and ideas.
3. Delusions: Fixed false beliefs that have no basis in reality.
4. Echopraxia: Imitation of the movements and gestures of another person whom the client is observing.
5. Flight of ideas: Continuous flow of verbalization in which the person jumps rapidly from one topic to another.

6. Hallucinations: False sensory perceptions or perceptual experiences that do not exist in reality.
7. Ideas of reference: False impressions that external events have special meaning for the person.
8. Perseveration: Persistent adherence to a single idea or topic; verbal repetition of a sentence, word, or phrase; resisting attempts to change the topic.

B. Negative or soft symptoms:

1. Alogia: Tendency to speak very little or to convey little substance of meaning (poverty of content)
2. Anhedonia: Feeling no joy or pleasure from life or any activities or relationships
3. Apathy: Feelings of indifference toward people, activities, and events
4. Blunted affect: Restricted range of emotional feeling, tone, or mood
5. Catatonia: Psychologically induced immobility occasionally marked by periods of agitation or excitement; the client seems motionless, as if in a trance
6. Flat affect: Absence of any facial expression that would indicate emotions or mood
7. Lack of volition: Absence of will, ambition, or drive to take action or accomplish tasks

Phases of schizophrenia

Phase I. The Premorbid Phase

- The premorbid personality often indicates social maladjustment, social withdrawal, irritability, and antagonistic thoughts and behavior. Premorbid personality and behavioral measurements that have been noted include being very shy and withdrawn, having poor peer relationships, doing poorly in school, and demonstrating antisocial behavior.

Phase II. The Prodromal Phase

- The prodromal of an illness refers to certain signs and symptoms that precede the characteristic manifestations of the acute, fully developed illness. The prodromal phase of schizophrenia begins with a change from premorbid functioning and extends until the onset of frank psychotic symptoms. This phase can be as brief as a few weeks or months, but most studies indicate that the average length of the prodromal phase is between 2 and 5 years.

Phase III. Schizophrenia

- In the active phase of the disorder, psychotic symptoms are prominent. Following are the (DSM-IV-TR) diagnostic criteria for schizophrenia:
 1. Characteristic symptoms: Two (or more) of the following, each present for a significant portion of time during a 1-month period (or less if successfully treated):
 - a. Delusions
 - b. Hallucinations
 - c. Disorganized speech (e.g., frequent derailment or incoherence)
 - d. Grossly disorganized or catatonic behavior
 - e. Negative symptoms (i.e., affective flattening, alogia, or avolition)
 2. Social/occupational dysfunction: For a significant portion of the time since the onset of the disturbance, one or more major areas of functioning such as work, interpersonal relations, or self-care are markedly below the level achieved before the onset (or when the onset is in childhood or adolescence, failure to achieve expected level of interpersonal, academic, or occupational achievement).
 3. Duration: Continuous signs of the disturbance persist for at least 6 months. This 6-months period must include at least 1 month of symptoms (or less if successfully treated).

Phase IV. Residual Phase

- Schizophrenia is characterized by periods of remission and exacerbation. A residual phase usually follows an active phase of the illness. During the residual phase, symptoms of the acute stage are either absent or no longer prominent. Negative symptoms may remain, and flat affect and impairment in role functioning are common. Residual impairment often increases between episodes of active psychosis.

Treatment

1. Psychopharmacology: Antipsychotic medications.
2. Psychosocial Treatment: Individual and group therapy, family therapy, family education, and social skills training can be instituted for clients in both inpatient and community settings.
3. Social skills training: Clients with schizophrenia can improve their social competence with social skills training, which translates into more effective functioning in the community. three forms of social skills training: the basic model; the social problem-solving model; and the cognitive remediation model.

4. Family education and therapy are known to diminish the negative effects of schizophrenia and reduce the relapse rate. While inclusion of the family is a factor that improves outcomes for the client, family involvement often is neglected by health care professionals. Family members can benefit from a supportive environment that helps them cope with the many difficulties presented when a loved one has schizophrenia.

Nursing intervention:

Nursing diagnosis	Intervention
Sensory-perceptual alteration: Disoriented to place and person, disoriented in time.	<ol style="list-style-type: none"> 1. Call the patient by name. 2. Present reality when talking to or working with the patient. 3. Keep a calendar in clear view to orient the patient daily. 4. Provide a protective, safe environment.
Social isolation: Withdrawal	<ol style="list-style-type: none"> 1. Assign one member of the health care team to establish a one-to-one relationship. 2. Provide a structured list of activities such as time to awaken, shower, and eat. 3. Spend a specific amount of time daily with the patient. 4. Set limits regarding amount of times spent alone in room.
Alteration in thought process: Delusional	<ol style="list-style-type: none"> 1. Present reality when talking to or working with the patient. 2. Ignore the delusion but do not attempt to disprove it or argue with the patient. 3. Set limits by instructing the patient not to discuss the delusion with others.

Nursing diagnosis	Intervention
Alteration in thought process: Hallucinations	<ol style="list-style-type: none"> 1. Decrease environmental stimuli such as loud music or television shows, extremely bright colors, or flashing lights. 2. Present reality, for example: —The voices may be real to you but I don't hear anything. Attempt to identify precipitating factors by asking the patient what happened before the onset of the hallucination.
Ineffective individual coping: Regression	<ol style="list-style-type: none"> 1. Assess the patient's present developmental level. 2. State expected behavior to the patient. 3. Set limits to discourage regressive behavior.
Dysrhythmia of sleep-rest activity: Agitation and unpredictable behavior	<ol style="list-style-type: none"> 1. Recognize signs of increasing agitation. 2. Decrease environmental stimuli that could be upsetting to the patient.
Sensory-perceptual alteration: Suspiciousness	<ol style="list-style-type: none"> 1. Be sincere and honest when talking with the patient. 2. Avoid making promises that cannot be fulfilled. 3. Face the patient while talking. 4. Avoid whispering or any other behavior that may cause the patient to feel that you are talking about him. 5. Give detailed explanations of tests, procedures, and so forth to the patient. Allow the patient to help to prepare food or have food brought from home if he or she refuses to eat (because s/he thinks food is poisoned).

Substance Related Disorders

Addiction

- Intoxication: short term psychological and physiological changes caused by psychoactive substances.
- Abuse: long term effect of psychoactive substance.
- Hazardous use: consumption of alcohol or psychoactive substance that carries a high risk of long-term damage to health.
- Dependence syndrome: is a psycho physiological phenomenon caused by repeated administration of a psychoactive substance.
- Withdrawal state: this can be physiological or/and psychological and refers to disturbed physical and mental functioning when the psychoactive substance is abruptly discontinued.
- Tolerance: the need for increasing doses in order to produce the same effect.
- Craving: an overwhelming desire to consume the psychoactive substance.

Criteria for Substance Abuse:

- Substance abuse is described as a maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:
 1. Recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home (e.g., repeated absences or poor work performance related to substance use; substance-related absences, suspensions, or expulsions from school; neglect of children or household).
 2. Recurrent substance use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by substance use).
 3. Recurrent substance-related legal problems (e.g., arrests for substance-related disorderly conduct).
 4. Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance (e.g., arguments with spouse about consequences of intoxication, physical fights).

Symptoms of Substance Abuse

1. Anxiety, Irritability, Impulsivity.
2. Feelings of guilt and sadness or anger and resentment, Poor judgment.
3. Limited insight, Low self-esteem, and Ineffective coping strategies.
4. Difficulty expressing genuine feelings.

5. Impaired role performance.
6. Strained interpersonal relationships.
7. Physical problems such as sleep disturbances and inadequate nutrition.

Alcohol abuse

- is important source of ill health and economic loss

Intoxication criteria:

- Alcohol is a central nervous system depressant that is absorbed rapidly into the bloodstream. Initially the effects are relaxation and loss of inhibitions.
- With intoxication, there is slurred speech, unsteady gait, lack of coordination, and impaired attention, concentration, memory, and judgment.
- Some people become aggressive or display inappropriate sexual behavior when intoxicated.
- The person who is intoxicated may experience a blackout.

An overdose criteria

1. An excessive alcohol intake in a short period, can result in vomiting, unconsciousness, and respiratory depression.
2. This combination can cause aspiration pneumonia or pulmonary obstruction.
3. Alcohol-induced hypotension can lead to cardiovascular shock and death.

Body system	Medical Complications of Alcohol Abuse
Cardiovascular System	Cardiomyopathy, congestive heart failure, hypertension
Respiratory System	Increased rate of pneumonia and other respiratory infections
Hematologic System	Anemias, leukemia, hematomas
Nervous System	Withdrawal symptoms, irritability, depression, anxiety disorders, sleep disorders, phobias, paranoid feelings, diminished brain size and functioning, organic brain disorders, blackouts, cerebella degeneration, neuropathies, palsies, gait disturbances visual problems

Digestive System and Nutritional Deficiencies	Liver diseases (fatty liver, alcoholic hepatitis, cirrhosis), pancreatitis, ulcers, other inflammations of the gastrointestinal (GI) tract, ulcers and GI bleeds, esophageal varices, cancers of the upper GI tract, pellagra, alcohol amnestic disorder, dermatitis, stomatitis, cheilosis, scurvy
Endocrine and Metabolic	Increased incidence of diabetes,
Immune System	Impaired immune functioning, higher incidence of infectious diseases, including tuberculosis and other bacterial infections
Integumentary System	Skin lesions, increased incidence of infection, burns, and other traumatic injury
Musculoskeletal System	Increased incidence of traumatic injury, myopathy
Genitourinary System	Hypogonadism, increased secondary female sexual characteristics in men (hypoandrogenization and hyperestrogenization), impotence in males, electrolyte imbalances due to excess urinary secretion of potassium and magnesium.

Physical damage:

1. Hepatitis and cirrhosis.
2. Neuropsychiatric syndrome and peripheral neuropathy.
3. Anemia and cardiomyopathy.
4. Pancriatitis
5. Haemochromatosis.
6. Low birth weight babies and fetal alcohol syndrome with facial deformities, low intelligence.

Neuropsychiatric syndrome includes:

1. Amnesia for event when drinking.
2. Delirium
3. Withdrawal fits
4. Malnutrition
5. Alcoholic Dementia

General symptoms of alcohol addiction:

1. Inability to cut down or stop using
2. Daily use common
3. Impaired social function
4. May use drugs in addition to alcohol to manage symptoms
5. Increase in alcohol tolerance
6. Drinking in —secret
7. Preoccupation with alcohol
8. Inability to discuss problem
9. Loss of control
10. Failure in efforts to control drinking
11. Grandiose and aggressive behavior
12. Trouble with family, employer
13. Loss of outside interests
14. Neglecting food
15. Tremors (hands)
16. Morning drinking
17. Prolonged intoxication
18. Physical and moral deterioration
19. Impaired thinking

Neuropsychiatric syndrome include:

1. Amnesia for event when drinking.
2. Delirium: it occurs within 24 hours after withdrawal, lasts for 3-4 days if left untreated it has a significant mortality not only from physical problem but also from suicide. It is characterized by:
 - A. Clouding of consciousness.
 - B. Disorientation
 - C. Impairment of recent memory
 - D. Illusion and hallucination (visual hall.)
 - E. Agitation and fearfulness

- F. Sleeplessness.
- G. Sweating, fever, tachycardia, raised BP.
- H. Electrolyte abnormalities
- I. Risk of chest infection
- 3. Withdrawal fits: generalized convulsion can occur between 1-14 days after stopping alcohol consumption. Carbamezipine is the best treatment.
- 4. Malnutrition: due to:
 - A. Diversion of money from food to alcohol.
 - B. Gastritis and loss of appetite.
 - C. Impaired absorption from small intestine.
 - D. Reliance on alcohol for calorie intake.
- 5. Alcoholic Dementia: Cerebral and cerebeller atrophy in brain shown by CT scan.
- 6. Long term psychological and social consequences of alcohol abuse: these include deterioration of personality, depressed mood with increased risk of suicide, anxiety, impotence, and morbid jealousy, marital conflict, violence, job loss and road traffic accident.

Common drugs of misuse:

- 1. Sedative/Hypnotics e.g., Temazepan, Alcohol.
- 2. Stimulants: Amphetamines, Cocaine, caffeine
- 3. Opioid: e.g., Heroin, Methadone.
- 4. Marijuana (Cannabis)
- 5. Hallucinogens (phencyclidines)
- 6. Inhalant (cleaning solution and Solvents) aerosol, paint thinner

Treatment:

- A. Medication.
 - 1. Disulfiram (Antabuse)
 - 2. Naltrexone won't feel the pleasure that usually comes with it
 - 3. Acamprosate (Campral) eases withdrawal symptoms
- B. Additional treatment
 - 1. Education: information about consequence (physical, psychological and social) of continued alcohol abuse.
 - 2. Cognitive behavioral therapy: learn instead of using alcohol in social situation to reduce anxiety management and assertiveness techniques.
 - 3. Group therapy: provide an opportunity for frank and accurate feedback from other member of the group concerning the problem that the patientfaces.

Nursing intervention

1. Nurses can encourage clients to identify problem areas in their lives and to explore the ways that substance use may have intensified those problems.
2. Client and family teaching:
 - A. Substance abuse is an illness.
 - B. Dispel myths about substance abuse.
 - C. Any alcohol, whether beer, wine, or liquor, can be a abused substance.
 - D. Prescribed medication can be an abused substance.
 - E. Feedback from family about a return to previous maladaptive coping mechanisms is vital.
 - F. Continued participation in an aftercare program is important.
3. The nurse also can help clients to find ways to relieve stress or anxiety that do not involve substance use.
4. Relaxation, exercise, listening to music, or engaging in activities may be effective.
5. Clients also may need to develop new social activities or leisure pursuits if most of their friends or habits of socializing involved the use of substances.
6. The nurse can help clients to focus on the present not the past. It is not helpful for clients to dwell on past problems and regrets.
7. The nurse can encourage clients to set attainable goals such as —What can I do today to stay sober? ‖ .
8. Communicate honestly
9. Assist patient in identifying thoughts and feelings
10. Convey acceptance of individual
11. Provide information about substance abuse, causes, and treatment
12. Monitor for withdrawal syndromes and complications from substance abuse
13. Support of drug/alcohol-free lifestyle

Personality Disorder

Personality

- **Personality** can be defined as an ingrained, enduring pattern of behaving and relating to the self, others, and the environment; it includes perceptions, attitudes, and emotions.
- These behaviors and characteristics are consistent across a broad range of situations and do not change easily.
- A person is usually not consciously aware of his or her personality.
- Many factors influence personality; some stem from biologic and genetic makeup, while others are acquired as a person develops and interacts with the environment and other people.

Personality disorders

- **Personality disorders** are diagnosed when there is impairment of personality functioning and personality traits that are maladaptive.
- Individuals have identity problems such as egocentrism, or being self-centered, and their sense of self-esteem comes from gaining power or pleasure that is often at the expense of others.
- Their behavior often fails to conform to cultural, social, or legal norms, and they are motivated by personal gratification.
- Relationships with others are dysfunctional and often characterized by deceit, coercion, or intimidation by the individual with a personality disorder.
- They are not capable of mutual, intimate relationships and lack the capacity for empathy, remorse, or concern for others.

Maladaptive or dysfunctional personality traits exhibited by individuals with a personality disorder may include:

1. Negative behaviors toward others, such as being manipulative, dishonest, deceitful, or lying
2. Anger and/or hostility
3. Irritable, labile moods
4. Lack of guilt or remorse, emotionally cold and uncaring
5. Impulsivity, distractibility, poor judgment
6. Irresponsible, not accountable for own actions
7. Risk-taking, thrill-seeking behaviors

8. Mistrust
9. Exhibitionism
10. Entitlement
11. Dependency, insecurity
12. Eccentric perceptions

Clinical Symptoms and Diagnostic Characteristics for Personality Disorders

1. Cluster A—odd or eccentric behaviors
 - Paranoid personality disorder
 - Schizoid personality disorder
 - Schizotypal personality disorder
2. Cluster B—erratic or dramatic behaviors
 - Antisocial personality disorder
 - Borderline personality disorder
 - Histrionic personality disorder
 - Narcissistic personality disorder
3. Cluster C—anxious or fearful behaviors
 - Avoidant personality disorder
 - Dependent personality disorder
 - Obsessive personality disorder
4. Personality disorder, not otherwise specified
 - Passive–aggressive personality disorder
 - Depressive personality disorder

Onset and Clinical Course

- Personality disorders are relatively common, occurring in 10% to 20% of the general population.
- Incidence is even higher for people in lower socioeconomic groups and unstable or disadvantaged populations.
- Clients with personality disorders have a higher death rate, especially as a result of suicide; they also have higher rates of suicide attempts, accidents, and emergency department visits, and increased rates of separation, divorce, and involvement in legal proceedings regarding child custody.
- Personality disorders have been highly correlated with criminal behavior, alcoholism, and drug abuse.
- Personality disorder people are treatment resistant for three reasons

1. personality characteristics and behavioral patterns are deeply ingrained
 2. many clients with personality disorders do not perceive their dysfunctional or maladaptive behaviors as a problem; indeed, sometimes these behaviors are a source of pride.
 3. Clients with personality disorders frequently fail to understand the need to change their behavior and may view changes as a threat.
- The difficulties associated with personality disorders persist throughout young and middle adulthood, but tend to diminish in the 40s and 50s.

ETIOLOGY

Biologic Theories

- Personality develops through the interaction of hereditary dispositions and environmental influences.
- **Temperament** refers to the biologic processes of sensation, association, and motivation that underlie the integration of skills and habits based on emotion.
- Genetic differences account for about 50% of the variances in temperament traits.
- The four temperament traits are harm avoidance, novelty seeking, reward dependence, and persistence.
- Each of these four genetically influenced traits affects a person's automatic responses to certain situations.
- These response patterns are ingrained by 2 to 3 years of age.

Temperament	degree	characteristics	results
harm avoidance	High	fear of uncertainty, social inhibition, shyness with strangers, rapid fatigability, and pessimistic worry in anticipation of problems.	maladaptive inhibition and excessive anxiety.
	Low	carefree, energetic, outgoing, and optimistic.	unwarranted optimism and unresponsiveness to potential harm or danger.
novelty-seeking	High	Quick tempered, curious, easily bored, impulsive, extravagant, and disorderly.	He or she may be easily bored and distracted with daily life, prone to angry outbursts, and fickle in relationships.
	Low	slow-tempered, stoic, reflective, frugal, reserved, orderly, and tolerant of monotony	he or she may adhere to a routine of activities.
Reward dependence: how a person responds to social cues	High	tenderhearted, sensitive, sociable, and socially dependent	They may become overly dependent on approval from others and readily assume the ideas or wishes of others without regard for their own beliefs or desires.
	Low	practical, toughminded, cold, socially insensitive, irresolute, and indifferent to being alone.	Social withdrawal, detachment, aloofness, and disinterest in others can result.
persistent	High	hardworking and ambitious overachievers who respond to fatigue or frustration as a personal challenge	They may persevere even when a situation dictates they should change or stop.
	Low	People with low persistence are inactive, indolent, unstable, and erratic.	They tend to give up easily when frustrated and rarely strive for higher accomplishments.

- These four genetically independent temperament traits occur in all possible combinations.
- Some of the previous descriptions of high and low levels of traits correspond closely with the descriptions of the various personality disorders.

- For example, people with antisocial personality disorder are low in harm avoidance traits and high in novelty-seeking traits, while people with avoidant personality disorder are high in reward dependence traits and harm avoidance traits.

Psychodynamic Theories

- Although temperament is largely inherited, social learning, culture, and random life events unique to each person influence character.
- **Character** consists of concepts about the self and the external world. It develops over time as a person comes into contact with people and situations and confronts challenges.
- Three major character traits have been distinguished: self-directedness, cooperativeness, and self-transcendence. When fully developed, these character traits define a mature personality
- Self-directedness is the extent to which a person is responsible, reliable, resourceful, goal-oriented, and self-confident.
 - Self-directed people are realistic and effective and can adapt their behavior to achieve goals.
 - People low in self-directedness are blaming, helpless, irresponsible, and unreliable. They cannot set and pursue meaningful goals.
- Cooperativeness refers to the extent to which a person sees him or herself as an integral part of human society.
 - Highly cooperative people are described as empathic, tolerant, compassionate, supportive, and principled.
 - People with low cooperativeness are self-absorbed, intolerant, critical, unhelpful, revengeful, and opportunistic; that is, they look out for themselves without regard for the rights and feelings of others.
- Self-transcendence describes the extent to which a person considers him or herself to be an integral part of the universe.
 - Self-transcendent people are spiritual, unpretentious, humble, and fulfilled. These traits are helpful when dealing with suffering, illness, or death.
 - People low in self-transcendence are practical, self-conscious, materialistic, and controlling. They may have difficulty accepting suffering, loss of control, personal and material losses, and death.

ANTISOCIAL PERSONALITY DISORDER

- Antisocial personality disorder is characterized by a pervasive pattern of disregard for and violation of the rights of others—and by the central characteristics of deceit and manipulation.
- This pattern has also been referred to as psychopathy, sociopathy, or dyssocial personality disorder.
- It occurs in about 3% of the general population, up to 30% in clinical settings, and is three to four times more common in men than in women.
- In prison populations, about 75% are diagnosed with antisocial personality disorder.
- Antisocial behaviors tend to peak in the 20s and diminish significantly after 45 years of age in many individuals.

Nursing interventions

For Antisocial Personality Disorder

- Promoting responsible behavior
- Limit setting
 1. State the limit.
 2. Identify the consequences of exceeding the limit.
 3. Identify the expected or acceptable behavior.
- Consistent adherence to rules and treatment plan
- Confrontation
 1. Point out the problem behavior.
 2. Keep the client focused on him or herself.
 3. Help clients solve problems and control emotions.
- Effective problem-solving skills
- Decreased impulsivity
- Expressing negative emotions such as anger or frustration
- Taking a time-out from stressful situations
- Enhancing role performance
- Identifying barriers to role fulfillment
- Decreasing or eliminating use of drugs and alcohol

BORDERLINE PERSONALITY DISORDER

- BPD is characterized by a pervasive pattern of unstable interpersonal relationships, self-image, and affect as well as marked impulsivity.

- About 2% to 3% of the general population has BPD; it is five times more common in those with a first-degree relative with the diagnosis.
- BPD is the most common personality disorder found in clinical settings. It is three times more common in women than in men. Under stress, transient psychotic symptoms are common.
- Between 8% and 10% of people with this diagnosis commit suicide, and many more suffer permanent damage from self-mutilation injuries, such as cutting or burning.
- Up to three-quarters of clients with BPD engage in deliberate self-harm, sometimes called nonsuicidal self-injury.
- Typically, recurrent self-mutilation is a cry for help, an expression of intense anger or helplessness, or a form of self-punishment.
- The resulting physical pain is also a means to block emotional pain. Clients who engage in self-mutilation do so to reinforce that they are still alive; they seek to experience physical pain in the face of emotional numbing.
- Working with clients who have BPD can be frustrating. They may cling and ask for help 1 minute and then become angry, act out, and reject all offers of help in the next minute.
- They may attempt to manipulate staff to gain immediate gratification of needs and, at times, sabotage their own treatment plans by purposely failing to do what they have agreed.
- Their labile mood, unpredictability, and diverse behaviors can make it seem as if the staff is always “back to square one” with them.

DSM5-TR DIAGNOSTIC CRITERIA: Borderline Personality Disorder

A. A pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity, beginning by early adulthood and present in a variety of contexts, as indicated by five (or more) of the following:

1. Frantic efforts to avoid real or imagined abandonment. (Note: Do not include suicidal or self-mutilating behavior covered in Criterion 5.)
2. A pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation.
3. Identity disturbance: markedly and persistently unstable self-image or sense of self.

4. Impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance abuse, reckless driving, binge eating). (Note: Do not include suicidal or self-mutilating behavior covered in Criterion 5.)
5. Recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior.
6. Affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days).
7. Chronic feelings of emptiness.
8. Inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights).
9. Transient, stress-related paranoid ideation or severe dissociative symptoms.

NURSING INTERVENTIONS

- Promoting client's safety
 1. No-self-harm contract
 2. Safe expression of feelings and emotions
- Helping client to cope and control emotions
 1. Identifying feelings
 2. Journal entries
 3. Moderating emotional responses
 4. Decreasing impulsivity
 5. Delaying gratification
- Cognitive restructuring techniques
 1. Thought stopping
 2. Decatastrophizing
- Structuring time
- Teaching social skills
- Teaching effective communication skills
- Entering therapeutic relationship
 1. Limit setting
 2. Confrontation

CLIENT AND FAMILY EDUCATION

- Teaching social skills
 1. Maintaining personal boundaries
 2. Realistic expectations of relationships
- Teaching time structuring

1. Making a written schedule of activities
 2. Making a list of solitary activities to combat boredom
- Teaching self-management through cognitive restructuring
 1. Decatastrophizing situation
 2. Thought stopping
 3. Positive self-talk
 - Using assertiveness techniques, such as “I” statements
 - Using distraction, such as walking or listening to music

Types of personality disorder

Personality disorder	Symptom, characteristics	Nursing intervention
Paranoid	Mistrust and suspicions of others; guarded, restricted affect	Serious, straightforward approach; teach client to validate ideas before taking action; involve client in treatment planning
Schizoid	Detached from social relationships; restricted affect; involved with things more than people	Improve client's functioning in the community; assist client in finding case manager
Schizotypal	Acute discomfort in relationships; cognitive or perceptual distortions; eccentric behavior	Develop self-care skills; improve community functioning; social skills training
Antisocial	Disregard for rights of others, rules, and laws	Limit setting; confrontation; teach client to solve problems effectively and manage emotions of anger or frustration
Borderline	Unstable relationships, self-image, and affect; impulsivity; self-mutilation	Promote safety; help client to cope and control emotions; cognitive restructuring techniques; structure time; teach social skills
Histrionic	Excessive emotionality and attention seeking	Teach social skills; provide factual feedback about behavior
Narcissistic	Grandiose; lack of empathy; need for admiration	Matter-of-fact approach; gain cooperation with needed treatment; teach client any needed selfcare skills
Avoidant	Social inhibitions; feelings of inadequacy; hypersensitive to negative evaluation	Support and reassurance; cognitive restructuring techniques; promote self-esteem
Dependent	Submissive and clinging behavior; excessive need to be taken care of	Foster client's self-reliance and autonomy; teach problem-solving and decision-making skills; cognitive restructuring techniques

Obsessive– compulsive	Preoccupation with orderliness, perfectionism, and control	Encourage negotiation with others; assist client in making timely decisions and complete work; cognitive restructuring techniques
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جمهورية العراق
وزارة التعليم العالي والبحث العلمي
دائرة الدراسات والتخطيط والمتابعة

منهاج
جرائر حزب البعث البائد
٢٠٢٣

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الفصل الأول

إنتهاكات الحقوق والحريات

تسعى الدول الديمقراطية إلى ضمان تمتع الافراد بالحقوق والحريات، وتعمل بموجب قوانين هيئات الحكم الثلاث (التشريعية، التنفيذية، القضائية) على حمايتها، وعلى خلاف ذلك تعمل الدولة الاستبدادية أو الدكتاتورية على مصادرة تلك الحقوق والحريات أو تقييدها والعمل على انتهاكها في ضوء الأفعال والإمتناعات التي تمثل انتهاكات خطيرة وجسيمة سواء أكانت تلك الحقوق طبيعية أم شخصية، أم سياسية، أم إجتماعية، أم فكرية، أم ثقافية.

ومع بداية تأسيس الدولة العراقية في العام ١٩٢١ أُسس نظامٌ للحكم الملكي شهد العديد من الأحداث، لكنها عموماً أحداث لم تؤثر كثيراً في الحقوق والحريات على الرغم من بساطة الحياة وعدم تعقيدها، وإن الأحداث التي شهدتها العراق منذ العام ١٩٢١ إلى العام ١٩٥٨ كانت مستقرة نسبياً قياساً بما كان حاصلًا بعد العام ١٩٥٨.

وقد شهد العراق بعد إنقلاب ١٧ / تموز / ١٩٦٨ إنتهاكات خطيرة لحقوق الافراد وحرياتهم طوال مدة حكم حزب البعث. وقد تنوعت مظاهر هذه الانتهاكات بين القتل ، والتعذيب ، والإعتقالات، والتهجير، والحرمان من العديد من الحقوق الفكرية والثقافية لفئات كثيرة من أبناء الشعب العراقي ممّا ألزم - بعد العام ٢٠٠٣ - إيجاد معالجات لتلك الانتهاكات الخطيرة التي عانى منها الشعب ، وإنصاف الضحايا وذويهم ، وضمان حقوقهم عن طريق أنظمة العدالة الانتقالية ، ووسائلها التي تستدعي كشفًا إستدلاليًا لحقيقة تلك الأنظمة السياسية التي حكمت العراق منذ العام ١٩٢١ إلى العام ٢٠٠٣، ثم توضيحًا للإنتهاكات التي تعرّض لها الافراد في ظل نظام حكم البعث ، وتوضيحًا لأثر سلوكيات ذلك النظام في المجتمع العراقي ، موازنةً بأثر نظام العدالة الانتقالية في معالجة تلك الآثار السلبية المترتبة على تويّي نظام البعث للحكم منذ العام ١٩٦٨ حتى العام ٢٠٠٣. ويتألف هذا الفصل من مباحثٍ أربعةٍ فيما يأتي كشفُ مضامينها:

المبحث الأول: نبذة وصفية عن الأنظمة السياسية في العراق (١٩٢١-٢٠٠٣)

شهد العراق في العام ١٩٢١ تأسيس أول حكومة عراقية بعد قيام ثورة العشرين العراقية إذ تم إنشاء المجلس التأسيسي من شخصيات عراقية معروفة ولها مكانتها في المجتمع. وقد تم تتويج (الملك فيصل) في (٢٣ / ٨ / ١٩٢١) ملكًا على العراق، ثم تسنّم حكم العراق فيما بعد كلٌّ من (الملك غازي، والملك فيصل الثاني).



منهاج جرائم حزب البعث البائد المحظور

وفي العام ١٩٥٨ وقع إنقلاب عسكري بزعامة عدد من الضباط لم يستمرّ طويلا حتى سيطر نظام البعث على البلاد في انقلاب (١٧/تموز/١٩٦٨) الذي استمرّ يحكّم بالبطش حتى إسقاطه باحتلال العراق في العام ٢٠٠٣. ومن أجل الإحاطة حُبْرًا بتلك الأنظمة السياسية التي حكمت العراق منذ التأسيس إلى العام ٢٠٠٣ سنعرضُ نبذة وصفية عنها في محاورٍ ثلاثة:

المحور الأول: النظام الملكي (١٩٢١-١٩٥٨)

على أثرِ الثورة الشعبية العراقية الكبرى (ثورة العشرين) التي حصلت في العراق ب(إتفاقٍ، وفتوى، وتوجيه) عراقيّ خالصٍ تمّ تأليفُ المجلس التأسيسي من شخصيات عراقية معروفةٍ ومشهورة - كما أشرنا قبل قليل - وبعد ذلك تم تنصيب (الملك فيصل الأول) ملكا على العراق في (٢٣/٨/١٩٢١)، وألّفت أول حكومة عراقية برئاسة (عبد الرحمن الكيلاني النقيب) الذي استقال بعد سنة فخلفه (عبد المحسن السعدون).

ومن أظهرِ المواضيع التي حصلت في مدة حكم النظام الملكي وضعُ دستورٍ في العام ١٩٢٥، وإقراره رسميًا. وقد سُمي ب(القانون الأساسي) الذي صدّقه الملك بتاريخ ٢١/ آذار/ ١٩٢٥.

وقد تكوّن هذا القانونُ من مقدمة وعشرة أبواب اشتملت على (١٢٥) مئة وخمسة وعشرين) مادةً، واتخذ بموجبها هذا الدستورُ الملكيّة نظامًا للحكم عندما جعل (سيادة المملكة العراقية الدستورية للأمة هي وديعة الشعب للملك (فيصل بن الحسين) ثم لورثته من بعده).

بعدها توالى الحكومات العراقية متعاقبةً حتى العام ١٩٥٨ بانتهاء الملكيّة، وحلول النظام الجمهوري محلّها بانقلابٍ ثورة (١٤/ تموز/ ١٩٥٨).

وقد شهد العراق طوَالَ مدة الحكم الملكي العديدَ من الأحداث السياسية والعسكرية والإقتصادية المؤثرة في النظام السياسي؛ فقد انضم العراق إلى عصبة الأمم في العام ١٩٣٢؛ فأعلن إستقلاله الرسمي عن المملكة المتحدة (بريطانيا العظمى). وحدثت في العام ١٩٣٦ الثورة العربية الكبرى في سوريا والأردن، وإنقلاب (بكر صدقي) في العراق. وشهدت البلاد حركات عسكرية لمجموعة من الضباط أشهرها (حركة مايس) في العام ١٩٤١. ونشبت عدة حروبٍ متعاقبةٍ منها حربُ ١٩٤٨، ثم حرب ١٩٥٦ ضد (مصر) بعدوان ثلاثي.

ومن الإنجازات الظاهرة التي تمت في العهد الملكي (إنشاء مجلس الإعمار) الذي ما تزال العديد من منجزاته شاخصة إلى الآن.



منهاج جرائم حزب البعث البائد المحظور

وقد إنتهى النظام الملكي في العراق بعد إنقلاب ١٩٥٨ الذي قتل فيه (الملك فيصل الثاني) وعدد من أفراد أسرته وحاشيته، وعدد من المسؤولين في الحكومة. وبذلك بدأت حقبة زمنية و نظام سياسي جديد.

المحور الثاني: العهد الجمهوري (١٩٥٨-١٩٦٨)

بدأ العهد الجمهوري الأول في العراق بإنقلاب (١٤/ تموز/١٩٥٨) الذي قام به عدد من الضباط العسكريين. وقد تولى الزعيم (عبد الكريم قاسم) وعدد من الضباط العسكريين مقاليد الحكم في العراق، وتم إلغاء القانون الأساسي لعام ١٩٢٥، وأصدرت الجهة القائمة بالانقلاب دستورا مؤقتا في (٢٧/ تموز/١٩٥٨) أمضى عليه رئيس الوزراء؛ فأعلن رسميا، وكان مكونا من (٢٧ سبع وعشرين) مادة، ثم أُضيفت إليه ثلاث مواد؛ فأصبح مكونا من (٣٠ ثلاثين) مادة.

واستمر ذلك حتى وقوع انقلاب (٨/ شباط/١٩٦٣) عندما حصلت أحداث أدت إلى مقتل الزعيم (عبد الكريم قاسم)، وتولي البعثيين السلطة، وتم اختيار (عبد السلام محمد عارف) رئيسا للجمهورية، وتحصل إصدار دستور (٤/ نيسان/١٩٦٣) الذي تكون من (٢٠ عشرين) مادة.

وكانت السيادة للمجلس الوطني، ثم صدر دستور (٢٢/ نيسان/١٩٦٣)، ثم دستور (٢٩/ نيسان/١٩٦٤). وقد استمر حكم (عبد السلام محمد عارف) حتى وفاته في (١٣/ نيسان/١٩٦٦) نتيجة سقوط الطائرة التي كانت تقله مع عدد من الوزراء والضباط والمراتب بين مدينة البصرة والقرنة؛ فتولى الحكم بعده أخوه (عبد الرحمن محمد عارف) الذي كان رئيسا لأركان الجيش، وابتدأ حكمه من (١٦/ نيسان/١٩٦٦) حتى إجباره على التنحي بأمر الانقلابيين في ١٧/ تموز/١٩٦٨، والسفر إلى تركيا تاركا الظهور السياسي تماما.

المحور الثالث: العهد الجمهوري (البعثي) (١٩٦٨-٢٠٠٣)

بدأ هذا العهد بإنقلاب (١٧/ تموز/١٩٦٨) الذي قاده مجموعة من الضباط البعثيين؛ فأجبروا الرئيس آنذاك (عبد الرحمن محمد عارف) على التنحي مقابل ضمان حياته و حياة إبنه. وقد كان نظام الحكم شموليا تفرد فيه نظام الحزب الواحد إذ منعت الأحزاب من ممارسة النشاطات السياسية، ومسك زمام الحكم، ومقاليد حزب البعث البائد.



منهاج جرائم حزب البعث البائد المحظور

وألف مجلسٌ لقيادة الثورة جمع بيده السلطتين التشريعية، والتنفيذية حتى إنشاء المجلس الوطني الذي كان صُورياً يمثل السلطة التشريعية التي كانت في حقيقة الأمر بيد رئيس مجلس قيادة الثورة وهو رئيس الجمهورية نفسه الذي كان في بعض الأحداث والمواقف يتسّم منصب رئيس الوزراء أيضاً.

لقد شهدت هذه الحقبة الزمنية من حكم البعث التضيق على الحقوق، والحريات، ومحاربة التيارات الدينية، وغير الدينية، ومنع أي نشاط سياسي أو حزبي لها، وزجّ قادتها وأعضائها في المعتقلات والسجون تحت تهمة كاذبة وغير صحيحة.

وقد إستمر هذا النظام بسياسته هذه حتى إسقاطه بدخول قوات الاحتلال الأجنبي إلى العراق في (٢٠٠٣/٤/٩)؛ فتم إصدار (قانون الدولة) للمرحلة الانتقالية في العام ٢٠٠٤، ثم صدر دستور العراق في العام ٢٠٠٥ الذي أصبح نافذاً بعد التصويت عليه بالاستفتاء الشعبي الدستوري؛ فتمّ تأليف الحكومة بموجبه.

المبحث الثاني: إنتهاكات النظام البعثي للحقوق والحريات العامة

إستولى حزب البعث على زمام السلطة في العراق بعد الانقلاب الذي قاده ضد الرئيس (عبد الرحمن محمد عارف) في (١٧/ تموز/ ١٩٦٨) كما مرّ سابقاً، وبدأ عهد جديد في العراق لم تصن فيه مبادئ حقوق الإنسان والحريات العامة التي أقرتها المواثيق والمعاهدات الدولية، ولم تحفظ فيه الحقوق الاجتماعية والاقتصادية. ولتبيين ذلك سنعرضُ هذا المبحث في محورين رئيسيين هما:

المحور الأول: إنتهاك الحقوق الفكرية والحريات العامة

بعد إنقلاب العام ١٩٦٨ وضع قادة حزب البعث (البائد) دستورا جديدا لتنظيم سلطتهم إذ تولى الحزب زمام الحكم، وأحكم سيطرته عليه بعد إبعاد الجهات التي تحالفت معه للإطاحة بالرئيس (عبد الرحمن عارف)، وأصدر الحزب في ١٩٦٨/٩/٢١ دستورا مؤقتاً لم تختلف فيه المواد التي عالجت حقوق الإنسان المدنية، والسياسية عما ورد في دستور العام ١٩٦٤ إذ جاءت الحقوق تكراراً لما سبق مع ملاحظة أنه على الرغم من ورود قانون لتأسيس الأحزاب، والاعتراف بها فإنه لم يتم تأليف أي حزب سياسي في هذه المدة. وإن حرية الصحافة بقيت محكومة بمبدأ الترخيص، إذ يجبُ استحصال موافقة (وزير الثقافة والإعلام) قبل إصدار أي مطبوع.



منهاج جرائم حزب البعث البائد المحظور

وُمُنِحَ رئيس الجمهورية الحقَّ في إصدار القرارات التي لها قوة القانون من دون وجود ضوابط أو جهة تملك الرقابة عليه فضلا على عدم خضوع الإجراءات المتخذة من الرئيس للطعن أمام القضاء مما وُلِدَ انتهاكا لحقوق الإنسان نتيجة عدم توافر ضمانة كافية للأفراد بهذا الخصوص ولا سيما مع النص على استحداث محاكم لأمن الدولة تنظر في القضايا الناشئة عن حالة الطوارئ مما وُلِدَ انتهاكا للحقوق الدستورية للأفراد.

وقد إنتهى العمل بدستور العام ١٩٦٨ المؤقت بصدر دستور جديد بتاريخ ١٦/٧/١٩٧٠ مؤقت استمر تطبيقه قرابة (٣٣ ثلاث وثلاثين) سنة. وقد احتوى على نصوص عديدة تضمنت مبادئ دستورية مهمة إلا أن آلية وضع دستور العام ١٩٧٠ المؤقت لم تأخذ بأية طريقة ديمقراطية لنشأة الدساتير؛ فمسودة الدستور لم يتم إعدادها ولا إقرارها من أي مجلس تأسيسي منتخب^(١). وسنعرِّضُ هذا المحورَ على أفرع هي:

الفرع الأول إنتهاكات الحقوق الفكرية

على الرغم من أن دستور العام ١٩٧٠ قد نص على بعض الحقوق السياسية، وكفلها للمواطن العراقي فإن هذه الحقوق قد صيغت على وَفَقَ مفهوم (حزب البعث) للحقوق السياسية، وللديمقراطية التي كان يُريدها هو فقط إذ كان يرفض (الديمقراطية البرلمانية) لأنها ديمقراطية برجوازية لا تتواءم مع الواقع الذي يعيشه المجتمع العراقي - كما ترى القيادة السياسية للحزب، واتخذ بدلاً منه ما يسمى بـ (الديمقراطية الشعبية) التي كانت بحسب مفهوم حزب البعث تعني ((حق كل الطبقات والفئات الاجتماعية المؤمنة بالوحدة والحرية والاشتراكية))؛ فكان هذا شعار حزب البعث البائد في التعبير عن رأيه، والمشاركة في بناء المجتمع وقيادته بسلطة المؤسسات السياسية التي يقف في مقدمتها حزب البعث البائد^(٢).

وهكذا فالحقوق السياسية بحسب مفهوم حزب البعث البائد للديمقراطية كانت تقتصر على الفئات والطبقات التي يمثلها الحزب الحاكم فقط. وهذا المفهوم كما يبدو يتنافى مع أهم المبادئ التي تستند إليها الحقوق السياسية التي هي الحرية والمساواة، وسيادة الشعب للديمقراطية. وكل هذه الجوانب قد أثرت في نطاق ممارسة المواطن لحقوقه السياسية الواردة في دستور العام ١٩٧٠، وكيفية معالجة الأخير لها، إلا أن

(١) احتوى دستور العام (١٩٧٠) المؤقت على (٦٧ سبع وستين) مادة عند صدوره، وبعد التعديلات عليه طوال مدة إنفاذه (١٩٧٠ - ٢٠٠٣) أصبح عدد مواده (٧٠ سبعين) مادة موزعة على خمسة أبواب وأفضل. وللتفصيل يُنظر: دستور ١٩٩٧ المؤقت.

(٢) قانون إصلاح النظام القانوني رقم ٣٥ لسنة ١٩٧٧، وزارة العدل، رقم الإعلام القانوني، بغداد ١٩٧٧، الوقائع العراقية: ٤٧.



منهاج جرائم حزب البعث البائد المحظور

النظام قد وضع قيّدًا لكل هذه الحريات مفاده أن تكون منسجمة مع ما يسمى بـ (خط الثورة القومي التقدمي) وبذلك نسف الحريات مرة واحدة بهذا القيد؛ لأنه مكّن السلطة من منع أي حق من الحقوق المنصوص عليها متى رأت أو ادّعت أنه مخالف للخط الذي تسعى لبلوغه.

وفي الواقع كان النظام البائد يعتمد سياسة التطهير العرقي للتخلص من المعارضين لسياسته إذ قام باغتيال المئات من الشخصيات السياسية، والأكاديمية، والعلمية المعارضة للنظام وسياساته، بل إن النظام قام بتصفية كل من يعارض أفكاره، وتوجهاته حتى إن كان من المنتمين لحزب البعث؛ فقد قام بتصفيتهم على مراحل تمثلت بالحكم بإعدام (٢٢ اثنين وعشرين واحدا) منهم، والسجن لـ (ثلاثة وثلاثين) آخرين بمُدَد تتراوح من (سنة واحدة) إلى (خمس عشرة سنة).

وقد نفذ حكم الإعدام بهم صباح يوم (١٩٧٩/٨/٨) بإشراف مباشر من رأس النظام البعثي للتخلص من أعضاء (مجلس قيادة الثورة) الذي جاء أساسًا في (١٧ - ٣٠ / تموز ١٩٦٨) بالقتل أو الغدر. ولم يكن في تلك الجمهورية البعثية الظالمة التزام بالمؤسسات الدستورية، ولا قضاء محايد أو مستقل يستند إليه المواطنون في الدفاع عن أنفسهم، وحقوقهم أمام جرائم القتل والاعتداء على الكرامات التي يمارسها حزب البعث ضد المواطنين فضلًا عن منحاهم في كتابة القوانين والقرارات وتطبيقها خلافًا لكل القوانين الإنسانية كقرارات قطع اللسان لكل من انتقد رأس النظام ونظامه، والوشم على الجباه، وقطع الأذن والأيدي والأرجل، وغيرها من القرارات التي تُنتهك فيها حقوق الإنسان؛ فقد أصدر العديد من القرارات التي تنص على إعدام كل من يثبت ولاؤه لغير حزب البعث منها القرار رقم (٤٦١) في (١٩٨٢/٣/٣١) الذي نص على إعدام كل من يثبت انتمائه لـ (حزب الدعوة الإسلامية) وبأثر رجعي، وشملت التصفيات أعضاء في الأحزاب القومية، والشيعوية، والاشتراكية، وغيرها من الأحزاب العلمانية بقرارات الإعدام والتصفيات. وقد أُعدم العديد من شخصيات تلك الأحزاب داخل العراق، وطوردت كوادرها التي هاجرت إلى خارج العراق.

إنّ هذا القرار يمثل مخالفة للميثاق العالمي لحقوق الإنسان والاتفاقية الدولية لحقوق المدنية والسياسية الصادرة في العام ١٩٦٦ التي صدّقها النظام نفسه في ١٩٧١/١/٢٥.

وقد مارس رأس النظام، ونظامه أشد أنواع الانتهاكات الصارخة لحقوق الإنسان بتصديه قمعًا لإنتفاضة الشعب العراقي في (١٥ / شعبان / ١٤١١ هـ) الموافق للأول من آذار في العام ١٩٩١ التي إشتراك فيها الشعب العراقي في (١٤ / أربع عشرة) محافظة عراقية من أصل (١٨ / ثمانية عشرة) محافظة عراقية.



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ومن الإنتهاكات الصارخة لحقوق الإنسان التي مورست في قمع الانتفاضة الشعبانية، والمناطق التي شهدت الإنتفاضة نذكر ما يأتي:

- أ. الإعدام بدون إجراءات قضائية، بل اعتمد على الظن، والشبهة لتنفيذ الإعدام فوراً في الموقع.
- ب. التعذيب باستعمال الممارسات غير الإنسانية.
- ت. الإحتجاز التعسفي للناس.
- ث. أخذ الرهائن واستعمال النساء والأطفال دروعاً بشرية.
- ج. انتهاك حقوق الممارسات الدينية، والممتلكات.
- ح. قتل المواطنين بدفنهم أحياء في مقابر جماعية على الشبهة والظن.
- خ. حالات الاختفاء الجماعي لعوائل أو جماعات في ظروف غامضة.
- د. التعامل مع المنتفضين بعناوين طائفية، وعنصرية.
- ذ. منع الغذاء والرعاية الصحية للمشكوك بمشاركتهم في الانتفاضة مع عوائلهم.
- ر. التمثيل بجثث القتلى بعد تعذيبهم وقتلهم.
- ز. الإجهاز على الجرحى في المستشفيات.
- س. قتل الشباب أمام ذويهم وأهلهم، وترك جثثهم معلقة أمام بيوتهم.
- ش. قتل المعارضين بربط أيديهم وأرجلهم، ووضع ثقل ورميهم في النهر.
- ص. رمي المعارضين للنظام من علو شاهق بواسطة الطائرات المروحية ليصل إلى الأرض ميتاً^(٣).

الفرع الثاني إنتهاك الحريات العامة

لم ينص دستور العام (١٩٧٠) المؤقت على الحق في المشاركة العامة بشؤون البلد صراحةً وإنما جاء إقراره بهذا الحق إقراراً ضمنياً في المادة (٤٨) منه بالقول: ((يتألف المجلس الوطني من ممثلي الشعب في مختلف قطاعاته السياسية، والاقتصادية، والاجتماعية، ويتم تشكيله وتحديد طريقة العضوية وسير العمل منه وصلاحياته بقانون خاص يسمى قانون المجلس الوطني)).

وبهذا يعد عدم النص صراحةً على هذا الحق من دستور (١٩٧٠) تراجعاً واضحاً عما ورد في دستور (١٩٦٨) المؤقت الذي نص صراحةً في المادة (٤٠) منه على أن ((الإنتخاب حق للعراقيين ينظمه القانون...إلخ)). وهذا التراجع كان له أثر كبير في مدى ظهور حق المساهمة والانتخاب - وهو أهم نوع من أنواع الحقوق السياسية - إلى حيز التطبيق والممارسة الفعلية في ظل دستور (١٩٧٠) المؤقت خاصةً وأن المادة (٤٧) منه عندما أشارت

(٣) جرائم البعث متاح على الموقع الإلكتروني taserbat.com



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إلى تأليف المجلس الوطني الذي يمثل مختلف قطاعات الشعب لم تحدد طريقة اختيار أعضاء المجلس فيما إذا كان بالانتخاب، أو بالتعيين وإنما ترك أمر إقرار ذلك إلى قانون خاص.

وعندما أصدر النظام قانون المجلس الوطني رقم (٢٢٨) لعام (١٩٧٠) المعدل بالقانون رقم (٧٢) لسنة (١٩٧٣) فقد اعتمد على مبدأ التعيين في تكوين المجلس الوطني بدلاً من الانتخاب. وهذه صيغة غريبة جدا على مؤسسة تمثيلية يفترض أن تقوم بمنهج الانتخاب الذي ليس سواه من منهج صحيح لإقامة المؤسسات التشريعية التمثيلية؛ لذلك ظلت ممارسة حق المساهمة في الشؤون العامة والحقوق المتفرعة عنه (الانتخاب، التصويت والترشيح) غائبة عن الحياة السياسية العراقية في العهد الجمهوري إلى أن أصدر النظام البعثي في أوائل (١٩٨٠) قانون المجلس الوطني رقم (٥٥) لسنة (١٩٨٠)^٤. وقد نصت المادة (٢) منه على أنه ((يجري اختيار الأعضاء عن طريق الانتخاب الحر المباشر وبالاقتراع العام السري))، ونصت المادة (١٢) منه على ((أن لكل عراقي أو عراقية أن يكون ناخبا، أو مرشحا إذا توافرت فيه الشروط المنصوص عليها في هذا القانون)).

وقد أوجب هذا القانون توافر شروط مشددة في الناخب والمرشح، فلم يحظ معظم العراقيين بفرص متساوية لممارسة حقوق (الانتخاب، والتصويت، والترشيح) لأن بعض تلك الشروط كانت عقبة حالت دون ترشيح الكثيرين لعضوية المجلس الوطني مثل (الإيمان بقادسية صدام، وأنها الطريق الذي ليس سواه من طريق للحفاظ على العراق، وأن يكون مؤمنا بالاشتراكية، وذا سلوك اشتراكي).

وقد خضع قانون المجلس الوطني رقم ٥٥ لسنة ١٩٨٠ إلى تعديلات عديدة منذ صدوره شملت العديد من مواده بما يخدم مصلحة النظام وأهدافه الأحادية الجانب، وبقي هذا القانون نافذاً إلى أن أصدر النظام في أواسط التسعينات من القرن الماضي - أي بعد مرور (١٥ / خمسة عشر) عاماً على تشريع القانون رقم ٥٥ لسنة ١٩٨٠ (السابق) - قانون المجلس الوطني رقم ٢٦ لسنة ١٩٩٥ الذي ألغى القانون (السابق) بالمادة ٩٠ منه.

ومن الملاحظ على هذا القانون الجديد أنه لم يغير من الشروط التي أوجبها القانون السابق في الناخب والمرشح، بل وثق شروطا غريبة زادها على شروط القانون السابق منها ((منع من مارس التجارة خلال مدة الحصار المفروض على العراق منذ ٦/٦/١٩٩٠ أن يرشح لعضوية المجلس الوطني. واستمر هذا الحرمان لدورتين متتاليتين بعد رفع الحصار.

(٤) الوقائع العراقية، العدد ٢٧٦٤، ١٩٨٠.



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وقد ظن النظام البعثي أنه قد أجرى أول عملية انتخابية في حزيران من العام ١٩٨٠ بعد أن غابت عن الحياة السياسية أكثر من (٢٢/اثنين وعشرين) عامًا منذ قيام الجمهورية في العام ١٩٥٨. والحقيقة أنها كانت انتخابات صورية فقط؛ لأن النظام لا يريد إلا من هو من دائرة فكره وسياسته؛ فقد رشح في انتخابات العام (١٩٨٠) مثلًا (٨٤٠/ثمانمائة وأربعون) مرشحًا تنافسوا على (٢٥٠/مئتين وخمسين) مقعدًا على أن يكون هناك مقعد لكل (٥٠/خمسين ألف) عراقي.

وعلى الرغم من أن عددا من المرشحين كانوا من خارج حزب البعث الحاكم لكنهم كانوا مُلزمين بأن يثبتوا أنهم غير معارضين لهذا الحزب، ويكونوا في الأقل من مؤيديه. وكان هذا قيودا لحرية الترشيح.

وقد أشار التقرير السياسي للمؤتمر القطري التاسع إلى أن ((حرمان أعضاء الحزب الشيوعي من الترشيح لخيانتهم للوطن والشعب والثورة، والمنسويين للفئات السياسية العميلة والمعادية للثورة)). ومُنع من الترشيح من سبق له أن كان عضواً في المجالس النيابية في العهد الملكي، وكذلك الأحزاب، والحركات، والشخصيات التي كانت تتقاطع سياسيا وفكريا مع سياسة البعث وفكره. وهذا دليل على تفرد الحزب بالسلطة، وتحريم، وحظر لكل الأحزاب السياسية المعارضة للنظام بحرمانهم من المشاركة والترشيح لعضوية المجلس الوطني؛ فلم يحصل أي ترشيح من خارج الحزب الحاكم، ومؤيديه، ومنظماته المهنية والشعبية. وقد أسفرت الانتخابات عن فوز أعضاء حزب البعث بأغلبية المقاعد إذ فاز البعثيون ب (٢٢٠/مئتين وعشرين) مقعدًا، أي ما يوازي (٨٨%) من المقاعد الكلية، في حين مُثل المستقلون الموالون للحزب بالمقاعد المتبقية بنسبة (١٢%)، وعلى الرغم من استمرار المجلس الوطني في أعماله حتى إسقاط النظام في العام ٢٠٠٣ ظل تحريم كل الأحزاب السياسية المعارضة للنظام، وحظرها من المشاركة والترشيح لعضوية المجلس الوطني.

وقد بقي نظام البعث البائد على طبيعته التسلطية إذ حال دون أن تثمر هذه المحاولات عن أي نتائج ديمقراطية لصالح حق المساهمة، والتصويت، والترشيح، والانتخاب، ولم تحصل أي ترشيحات من خارج الحزب ومؤيديه؛ فالمجلس الوطني لم يكن سوى محاولة زائفة للتجميل، ومن دون أية صلاحيات أو قدرة على المبادرة؛ فالسلطان (التشريعية، والتنفيذية) حُكّر على مجلس قيادة الثورة دون غيره، وما باقى المؤسسات إلا أدوات لإعانتته في إدارة الدولة.



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ولورجعنا إلى واقع الإنتخابات التي كانت تجري لانتخاب أعضاء المجلس الوطني طوال المدة الممتدة من العام (١٩٨٠) إلى العام (٢٠٠٣) وجدنا أن الحزب المسيطر على الحكم هو حزب البعث البائد؛ لعدم تحقق تعددية حقيقية للحياة الحزبية؛ ولهذا نُؤشر الملاحظات الآتية:

إفتقار الإنتخابات إلى الحرية والنزاهة.

١. الصلاحيات التشريعية الممنوحة للمجلس الوطني ضعيفة جداً.

٢. انعدام الأثر الرقابي الفاعل على الانتخابات؛ لأن الإدارة هي من تقوم بها.

٣. أغلب المرشحين تابعون لحزب البعث.

يضاف إلى هذا كله أن التنظيم السياسي آنذاك قد اعتمد على ما يعرف بنظرية الحزب القائد التي لا تعدو أن تكون تكريساً لمبدأ الحزب المسيطر الذي ينفرد بالسلطة بطريقة لا تترك للأحزاب السياسية الأخرى الموجودة في الساحة من حظوظ في البقاء في السلطة للتغيير في السياسات العامة فضلاً عن توثيق شرط أساس هو أن تكون هذه الأحزاب دائرة في فلك ما يعرف بالحزب القائد؛ لذا يكون وجودها، وعدمها سواءً.

الفرع الثالث إنتهاك الحق في التعددية الحزبية

أقر دستور العام (١٩٧٠) المؤقت بهذا الحق، وفصّل في تحديد تفرعاته المختلفة (الأحزاب السياسية، والنقابات، والجمعيات) عندما نصت المادة (٢٦/ السادسة والعشرون) منه على أن ((يكفل الدستور حرية... تأسيس الأحزاب السياسية، والنقابات، والجمعيات وفقاً أغراض الدستور وفي حدود القانون... إلخ)). وبهذه المادة يعد دستور (١٩٧٠) المؤقت أول دستور عراقي ينص صراحةً على حرية تأليف الأحزاب السياسية منذ العام (١٩٥٨) بينما اكتفت الدساتير السابقة بالنص فقط على حرية تأليف الجمعيات، وأحياناً النقابات، ثم تأتي القوانين المتعلقة بتنظيم الجمعيات لتشمل بأحكامها تنظيم شؤون الأحزاب السياسية أيضاً.

وقد عمل النظام البعثي في الوقت نفسه على تقييد حرية ممارسة هذا الحق طوال مدة حكمه في ثلاث

مراحل:

المرحلة الأولى (١٩٦٨ – ١٩٧٨)

شجع النظام في هذه المرحلة تنظيم الجمعيات، والمنظمات المهنية، والنقابات (العمال، المعلمين، والموظفين)، وألّفت العديد من المنظمات الجماهيرية مثل (الإتحاد العام لنساء العراق، إتحاد طلبة العراق،



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الإتحاد العام لشباب العراق) لكن في إطار الصيغة المركزية التي اتبعتها النظام بإشرافِ الحزب الحاكم (حزب البعث) وتوجيهاته.

أما بشأن الأحزاب السياسية فقد سمح النظام في التعددية برغبة زائفة في المصالحة مع الأحزاب والمجموعات المعارضة مثل (الشيوعيين، والناصرين، والبعثيين اليساريين).

وقد بادر النظام بإعلان ميثاق العمل الوطني في تشرين الثاني ١٩٧١ الذي أكد سماح النظام لضمان ((كافة الحريات الديمقراطية لجماهير الشعب وقواها الوطنية بما فيها حرية الأحزاب السياسية، والجمعيات، وحرية الصحافة، وغيرها من الحريات التي تشرعها الدولة)).

وتحقيقاً لذلك أُسست (الجبهة الوطنية القومية التقدمية في تموز ١٩٧٣) التي ضمت حزب البعث، والحزب الشيوعي، ثم انضم إليها الحزب الديمقراطي الكردستاني. وامتازت الحركة الحزبية في هذه المرحلة بحوارات، وتحالفات مؤقتة مع الحزب الحاكم من جانب، وبضربات خفيفة من جانب آخر.

المرحلة الثانية: (١٩٧٩ - ١٩٨٨)

بدأت هذه المرحلة مع خروج الحزب الشيوعي العراقي من (الجبهة الوطنية القومية التقدمية)، وإغلاق صحيفته المركزية (طريق الشعب) في آذار ١٩٧٩؛ وبهذا انفرد الحزب الحاكم بالساحة السياسية الحزبية كما انفرد بالسلطة السياسية.

ولقد أصبح كل شيء في العراق يتبع أيديولوجية البعث، ومجمل النظام السياسي يخضع لزعيم واحد كرس عبادة الشخصية؛ فأصبح الفرد خاضعاً تماماً لمشيئة الدولة التي هي مشيئة القائد الملهم، وظاهرة (الحزب الواحد).

المرحلة الثالثة: بعد العام (١٩٨٩)

بدأت هذه المرحلة مع الظروف التي خلفتها الحرب العراقية الإيرانية، والمركزية في الحكم، والحياة الحزبية إذ بدأ النظام السياسي بالتوجه نحو إجراء بعض الإصلاحات السياسية الصورية. وتمثلت انتهاكات النظام في هذه المرحلة ضد الحريات العامة بما يأتي:
أ- انتهاك حرية الفكر، والرأي، والصحافة.



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- ب - تجريم تأسيس الأحزاب السياسية، والانتماء إليها.
- ت - منع تأسيس الجمعيات والنقابات المهنية خارج إطار حزب البعث.
- ث- تجريم ممارسة بعض الشعائر الدينية، ومنع البعض الآخر وتقييده.
- ج- إعدام المعارضين السياسيين، وتعذيبهم.
- وعاش العراق تحت هيمنة نظام شمولي دموي تمثل في نظام الحزب الواحد الذي دام أكثر من ثلاثة عقود. وكل من ينتمي إلى جهة حزبية غير (حزب البعث)، أو إلى جهة سياسية، أو يعمل لحسابها أو مصلحتها يعاقب بالإعدام. ومثال على ذلك إصدار قرار بالرقم (٤٦١/أربعمئة وواحد وستين) لسنة (١٩٨٠) يقضي بإعدام كل من انتمى أو رُوِّج لأي حزب إسلامي، أو المتعاطفين معه، والمروجين له وبأثر رجعي؛ فاستشهد نتيجة ذلك آلاف من أبناء الشعب العراقي.

لقد عمل هذا النظام على فرض نظرية الرأي الواحد، والثقافة البعثية الواحدة؛ ولأجل هذا عمدت أجهزة النظام القمعية على تصفية العديد من الرموز الوطنية، والدينية من علماء، وأدباء، ومثقفين لا لذنوبهم إلا لأنهم خارج فكر حزب البعث.

المحور الثاني: الانتهاكات التي تمس الحقوق الاجتماعية، والسياسية، والثقافية

كان النظام البائد يتعامل مع الشعب العراقي على أساس التمييز والإقصاء إذ كان يتعامل بمنهج طائفي ، أو عرقي ؛ فكان يحرم غير الموالين لسلطته وحزبه من التعليم والتعيين ، وممارسة الشعائر الدينية بدليل أنه قام بحملة واسعة ضد المشاركين في زيارة الأربعين للإمام الحسين (عليه السلام) تمثلت باعتقال كل من يشارك في هذه الزيارة المليونية، وإعدامه في العام (١٩٧٩) ، وبما قام به من اضطهاد وتصفية للكرد الفيلين باعتقال الرجال منهم الذين تتراوح أعمارهم بين (١٨-٣٨) سنة ، وقتلهم ، ومصادرة ممتلكاتهم وأراضيهم ، وإسقاط الجنسية العراقية عنهم. ويضم هذا المحور الأفرع الآتية:

الفرع الأول: إنتهاك حرية الرأي

أقر دستور العام (١٩٧٠) ب(حرية الرأي) حقاً موثقاً في المادة (٢٦/ السادسة والعشرين) منه إذ جاء فيها: ((يكفل الدستور حرية الرأي، والنشر، والاجتماع، والتظاهر... وفق أغراض الدستور وفي حدود القانون، وتعمل الدولة على توفير الأسباب اللازمة لممارسة هذه الحريات التي تنسجم مع خط الثورة القومي والتقدمي)). ومعنى هذا الشطر يعني أن الدولة توفر أسباب ممارسة هذه الحرية مع بقية الحريات السياسية لكل من يمارسها



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بالمناهج الذي ينسجم مع مبادئ النظام الحاكم، وأهدافه، ونهجه السياسي، وتحرم ممارستها على كل من لا ينسجم مع هذه المبادئ والأهداف، ولا يؤمن بها، أي أنها لا تضمن هذا الحق، ولا الحقوق السياسية الأخرى للأحزاب، أو الاتجاهات التي تعارض مسار النظام وأهدافه. وهذا يتعارض ومبادئ الحرية والمساواة التي تقوم عليها هذه الحقوق.

وقد بينت المادة (٣٦/السادسة والثلاثون) من دستور العام (١٩٧٠) أنه ((يحظر أي نشاط يتعارض مع أهداف الشعب (أو بالأحرى مع أهداف النظام وحزبه الواحد)، أو العدوان على مكاسبه)) أي منجزات النظام، وما حققه في ظل التعسف، والاعتقالات، والتعذيب في السجون لكل من يخالف النظام وأهدافه.

وقد عالج الدستور بنصوص آخر الحريات المتفرعة من الحق في حرية الرأي والتعبير عنه مثل حرية الفكر، والإعتقاد، والدين؛ فقد نصت المادة (٢٥/الخامسة والعشرون) على أن ((المعتقدات وممارسة الشعائر الدينية مكفولة على أن لا يتعارض ذلك مع أحكام الدستور والقوانين، وأن لا يناهز الآداب والنظام العام)).

ولم يُشر دستور العام (١٩٧٠) المؤقت إلى (حرية الصحافة) صراحةً فضلاً عن أن الدستور قد سكت عن تحديد الوسائل المختلفة للنشر من الكتابة، والتصوير، والإذاعة وغيرها في حين أن دستور العام (١٩٦٨) قد أشار إليها في المادة (٣٢/الثانية والثلاثين) منه.

ومما تقدم يتبين أن الدستور قد كفل الحق في حرية الرأي والنشر والاجتماع إلا أن القوانين المنظمة لهذه الحقوق قد عمّدت إلى تقييدها؛ فقد تضمنت حرية النشر والتعبير والصحافة في ظل دستور العام (١٩٧٠) في (قانون المطبوعات رقم ٢٠٦ لسنة ١٩٦٨) الذي ظل ساري المفعول طوال حكم نظام (صدام) الذي فرض قيوداً شتى على هذه الحريات؛ فالمادتان (١٦، و١٧) منه مثلاً قَدِّمتا قائمة طويلة بالمواد الممنوع نشرها في المطبوعات: (منها ما يعد مساساً برئيس الجمهورية، وأعضاء مجلس قيادة الثورة، أو رئيس الوزراء، أو من يقوم مقامه... إلخ)؛ فالتوجه الذي إتبعه النظام في إطار المتغيرات نحو السيطرة المركزية للدولة على قطاعات الإعلام، والمطبوعات قد أدى إلى انكماش الصحافة الحرة لصالح توسع الصحف الرسمية المؤيدة لسياسات السلطة الحاكمة، والصحف التابعة للحزب الحاكم فضلاً عن أن كل المؤسسات الثقافية، والفنية، والإعلامية كانت تابعة لوزارة الثقافة والإعلام، وخاضعة لسياسات الحكومة الإعلامية.

كان الإعلام العراقي قد سار على أفق سياسي يعبر عن طبيعة النظام، وتوجهاته إذ كانت الوسائل جميعها مملوكة للدولة؛ فهي تُعبّر عن سياستها بحصر قنوات معينة مقروءة، أو مرئية، أو مسموعة، وتقنينها. وهنا لم



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يعد من مجالٍ للحديث عن حرية الإعلام، أو وظيفته في التعبير عن ضمير المجتمع، واحتياجاته الأساسية^(٤)؛ فلم يكن هناك تعددية على مستوى المصادر الإعلامية إذ كانت الحكومة تحتكر الصحف، وإدارة المحطات الإذاعية والتلفزيونية، وكان ممنوعًا منعًا باتًا التقاط الفضائيات، وكانت تفرض عقوبات صارمة بحق كل من يثبت التقاطه قناة فضائية. أما الإنترنت فإنه غير متاح إلا بحدود، وكانت الحكومة تمارس الرقابة عليه. أما عبارة (في حدود القانون) الواردة في المادة (٢٦/السادسة والعشرين) فإن تنظيم حق الاجتماع، والتظاهر قانونيا ظلت طوال مدة إنفاذ دستور العام (١٩٧٠) في ظل الجمهورية الرابعة خاضعة لقانون الاجتماعات العامة، والمظاهرات) ذي الرقم (١١٥/مئة وخمسة عشر) لسنة (١٩٥٩) بكل ما يتضمنه من قيود.

الفرع الثاني: إسقاط الجنسية

إن من أهم الحقوق المدنية الحق في الجنسية. ولأهمية التمتع بالجنسية فقد عدتها الأمم المتحدة من الحقوق الأساسية للإنسان، ونصت على ذلك في المادة (١٥/الخامسة عشرة) من الإعلان العالمي لحقوق الإنسان التي جاء فيها ((إنَّ من حق كل إنسان التمتع بجنسية ما وإنه لا يجوز حرمان أحد من جنسيته تعسفا، ولا من حقه تغييرها)).

تعد الجنسية الرابط القانوني بين الفرد والدولة، وعلى أساسها تترتب علاقة قانونية بين الطرفين. وتقوم الدولة بحماية الفرد وتأمين حقوقه الإنسانية الأساسية؛ لذا يُعدُّ الحرمان من الجنسية خرقاً لقواعد القانون الدولي، وانتهاكاً لحقوق الإنسان الأساسية؛ لأنَّ ((الدولة عندما تحرم إنساناً تحرمه من كافة حقوقه)).

وعلى الرغم من المواثيق الدولية الخاصة بالجنسية وتصديق العراق على هذه الاتفاقيات فقد عمل النظام السابق على إسقاط الجنسية العراقية عن نحو (نصف مليون) عراقي إذ أصدر النظام السابق قراراً بالرقم (٦٦٦/ستمئة وستة وستين) أسقط بموجبه الجنسية العراقية عن (نصف مليون) عراقي، وتم إبعادهم خارج الوطن إذ هُجروا بادعاء أنهم من أصول إيرانية، وهُجروا لأنهم من المسلمين الشيعة، وتمت مصادرة أموالهم المنقولة وغير المنقولة.

وقد نصت المادة (٦) من دستور العام (١٩٧٠) المؤقت على أن ((الجنسية وأحكامها ينظمها القانون))؛ فقد أحال الدستور أمور تنظيم الجنسية إلى القانون. وإن المادة (٦/السادسة) الخاصة بالجنسية لم تُذكر ضمن (الباب الأول) المتعلق بحقوق الأفراد، بل وردت هذه المادة ضمن (الباب الأول) المتعلق بمبادئ جمهورية

(٤) التقرير الاستراتيجي العراقي ٢٠٠٨، الملف الإعلامي، مصدر سابق: ٣٤٠.



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العراق؛ فلم يعامل دستور العام (١٩٧٠) مسألة الجنسية على أنها حق من الحقوق الأساسية للمواطن العراقي؛ فهذا الحق كغيره من الحقوق السياسية تعرض في ظل دستور العام (١٩٧٠) من الناحية العملية إلى انتهاكات عديدة لأغراض سياسية في معظم الأحيان، وبما يخدم مصلحة النظام الحاكم، وحزبه الواحد (حزب البعث). ومن أظهر الأمثلة في هذا المجال اتجاه النظام في نيسان (١٩٩٥) إلى إسقاط الجنسية عن كل من: (محمد مهدي الجواهري، وعبد الوهاب البياتي، وسعد البزاز) بسبب حضور هؤلاء مهرجان الجنادرية الثقافي. ولم يشفع لهؤلاء ما قدموه للأدب العربي، والثقافة العراقية إذ عوملوا معاملة خونة، في حين أن (الجواهري) كان على مدى عقود من أشهر الشعراء الكلاسيكيين الأحياء في العالم العربي. أما (البياتي) فقد كان من أسماء الحداثة، والتجديد الشعري في العراق. وكان مثل هذا التعسف جارياً بسحب الجنسية عن مجموعات عراقية بذريعة الولاء للخارج.

الفرع الثالث: الحقوق الإجتماعية الأخر

على الرغم من أن دستور العام (١٩٧٠) قد تضمن العديد من النصوص التي تحترم الحقوق الاجتماعية مثل (ضمان حرمة المنازل) ، و(عدم جواز إلقاء القبض على أحد، أو توقيفه، أو حبسه، أو تفتيشه) إلا بموجب أمر قضائي مستند إلى نص القانون ، وأكد سرية المراسلات بأنواعها (البريدية ، والبرقية ، والهاتفية) ، وعدم جواز منع المواطن من السفر خارج العراق ، أو من العودة إليه ، ولا تقييد تنقله ، أو اقامته داخله ؛ فإن الواقع كان خلاف ذلك فقد عمل النظام على انتهاك هذه الحقوق بشتى الوسائل ؛ فالحق في السفر قُيد سنة (١٩٩٣) بوجوب دفع مبلغ نقدي لكل مسافر خارج العراق. واستمر دفع المبلغ المقرر هذا حتى العام (٢٠٠٢) إذ صدر قرار بإلغائه.

ولعل أظهر الانتهاكات ضد الحقوق المدنية والسياسية التي مارسها النظام ما يأتي:

أ - إنتهاك الحق باكتساب الجنسية العراقية.

ب - عدم التكافؤ في فرص العمل.

ت - إسناد المناصب في الوظائف العامة على أساس حزبي وطائفي.

ث - عدم التكافؤ في فرص التعليم.

ج - إنتهاك الحق بمحاكمة عادلة وعلنية.

ح - إنتهاك حرية العمل.



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خ - التدخل التعسفي في الحياة الأسرية والخاصة.

د- منع حرية التنقل والسفر، وتقييدها.

ذ - الاعتداءات على الشخصية العراقية ومقوماتها، وممارسة الإرهاب الفكري.

ر- التربية الخاطئة وانتهاك حقوق الطلبة التعليمية وغيرها.

ومن أقسى صور الانتهاكات المدنية الإبادة الجماعية التي قام بها النظام البائد وقد تمثلت بالمقابر الجماعية إذ أعدم الآلاف من العراقيين في حفر عرفت لاحقاً بالمقابر الجماعية) على الرغم من أن المواثيق الدولية تنص على عدم تعرض أي شخص للتعذيب بحسب (المادة الخامسة/ ٥) من الإعلان العالمي لحقوق الإنسان التي جاء فيها ((لا يجوز إخضاع أحد للتعذيب، ولا للمعاملة القاسية واللاإنسانية أو الإحاطة بالكرامة)).

الفرع الرابع/ إنتهاك الحقوق، و الحريات الثقافية

أقدم النظام السياسي لحزب البعث على تغييب تلك الحريات الثقافية قسراً بالتضليل الإعلامي ، ومنع تداول أغلب أنواع المطبوعات من الكتب ، والمؤلفات المعارضة لسياسته ، وعدم تقبل الرأي الآخر والمختلف ؛ فقد كان التعذيب والاعتقال والإعدام هو المصير الحتمي لكل من يضبط بحوزته كتاب ممنوع كمؤلفات السيد (الشهيد محمد باقر الصدر) مثلاً ، وهذا ما جعل القطيعة والفجوة تكبر يوماً بعد آخر مع العالم الخارجي بسبب الحرمان الثقافي ، والتربوي الذي أوجده النظام آنذاك ، فضلاً عن الانتهاكات التي تعرضت لها المؤسسات التعليمية في المدارس ، والجامعات ، وانتهاك حرمتها ، وقديستها ، وفرض سيطرة (حزب البعث) على تلك المؤسسات ما أدى إلى هجرة العديد من العلماء ، والمفكرين ، والأدباء ، والأساتذة ، والأطباء إلى خارج العراق ، وتصفية كثير منهم بالاعتقالات ، والتهم الكيدية ، والإعدامات ، بل أصبحت هنالك كليات باسم (حزب البعث) مثل (كلية التربية) التي أمر النظام بألا يدخلها إلا من هو منتتم لحزب البعث إلا من أبي هذا الانتماء الفاسد ؛ فنَجى بحيلته ، وموّه بفطنته.

من هنا فإن النظام السياسي في (حزب البعث) قد عمِد إلى إستعمال أسوأ الأساليب في تصفية معارضيه، وتحجيم أثر خطرهم الذي يراه محدقاً به بما يتصوره هو؛ لذا يُعدُّ التنوع الثقافي من بين القضايا المهمة التي تمثل خطراً وتوجساً كبيراً يهدد الوجود السياسي للحزب، وتنظيماته، وأيديولوجيته.

إن مهمة الدساتير في الدول تأتي لتنظيم حياة المواطنين على وفق قوانين محددة فضلاً عن تحقيق التعايش السلمي في الدولة، وحماية تلك الحقوق، وضمان ممارستها في ظل إطار الدولة.



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إنَّ مما أقدم عليه (حزب البعث) آنذاك من انتهاكات كبيرة بحق الشعب العراقي قد وقع في مجالات كثيرة في الحريات ، والحقوق المدنية والسياسية ؛ ففي مجال الحريات نجد أنه قد انتهك حرية الفكر، والرأي، والصحافة، وجرّم تأسيس الأحزاب السياسية، أو الانتماء إليها، ومنع تأليف الجمعيات، والنقابات المهنية خارج إطار (حزب البعث) ، وإنتهك حرية العمل ، وتدخّل تعسفاً في الحياة الأسرية ، والخاصة ، وجرّم ممارسة الشعائر الدينية ، ومنع وقيد بعضها الآخر، فضلاً عن منع حرية السفر والتنقل ، وممارسة الإرهاب الفكري، وتعذيب المعارضين للحزب وإعدامهم. أما فيما يخص الحقوق المدنية والسياسية فقد قام (حزب البعث) بانتهاك الحق بإكتساب الجنسية العراقية، وإسناد المناصب والوظائف العامة على أساس حزبي، وفئوي، وطائفي زيادة على عدم التكافؤ في فرص العمل، وفرص التعليم، وانتهاك الحق بمحاكمة عادلة وعلنية.

وهناك إنتهاكات للحقوق الإقتصادية، والإجتماعية، والثقافية كمصادرة الأموال المنقولة، وغير المنقولة، وهدم دور المواطنين الذين يعارضون النظام السياسي، وتقييد الحرية الدينية وممارسة الشعائر، وتقييد حرية التصرف بالأموال، وحرية التملك زيادةً على إجبار المواطنين على قبول التعويض عن الدور والأراضي التي يتم الاستيلاء عليها، أو استملاكها من دون مسوغ قضائي، ومصادرة منازل الذين تم تسفيرهم من العراق قسراً لأسباب عنصرية، وطائفية.

وتأسيساً على ما تقدم فإن الانتهاكات قد طالت العنصر النسوي أيضاً فضلاً عن الأطفال؛ فقد تم الاعتداء في السجون على النساء العراقيات من ذوي المعارضين للحزب آنذاك، أو ممن تصدّرن هنّ بالمعارضة للنظام السياسي. وقد تعرض كلُّ هؤلاء النسوة للعنف الجسدي، والإغتصاب الجنسي طوال مدة التحقيق. ولم تسلم الطفولة من عبث البعث وانتهاكاته؛ فالطفولة هي الأخرى قد تعرضت إلى التعدي والإهمال والقسر نتيجة تعرض الأطفال للتعذيب أمام والديهم لانتراع الاعترافات منهم، وحرمان الأطفال من التعليم بعد تعرض عوائلهم للتهجير القسري من العراق. وقد أجبر الأطفال على الخروج للتظاهر لمصلحة النظام في المظاهرات الطلابية، وغيرها من الممارسات غير الإنسانية ضد الطفولة، وبهذا تعرضت أربعة أجيال في العراق إلى هذه الممارسات التي غيرت من مستوى تفكيرهم بالتضليل المتعمد، والتجهيل، وغياب العدالة الاجتماعية. وبهذا يكون العراق من الدول التي تعرضت إلى أكبر كارثة إنسانية غيرت وأثرت في الديموغرافية السكانية، والتضاريس، ومستوى التفكير، والأزمات النفسية، وغيرها من الكوارث التي لم تتعرض لها دولة من قبل.



وخلاصة ما تقدم يمكن الإشارة إلى أهم الانتهاكات التي مارسها النظام البعثي بما يأتي:

- ١- إنتهاك الحريات العامة وأهمها حق الحياة. ذلك بما ارتكبه النظام من إعدامات بحق عشرات الآلاف من المواطنين.
- ٢- وصلت العقوبات إلى حد الاستعباد، والاسترقاق كقطع الألسن والأذُن وغير ذلك من الاعمال المشينة مما تم توثيقه. وهناك أشخاص تعرّضوا لمثل هذه العقوبات البدنية مما لم تعرفه الإنسانية حتى في العصور القديمة المظلمة.
- ٣- تعريض السجناء والمعتقلين إلى التعذيب الجسدي الذي يصل إلى حد الموت، أو الإعاقة الجسدية.
- ٤- عدم المساواة أمام القانون؛ فقد كان هناك تمييزٌ عرقي، وطائفي في التعامل مع من توجّه إليهم الاتهامات. ووصل التمييز إلى أن يكون على الأساس المنطقيّ، أو ضمن الطائفة الواحدة.
- ٥- الحجز التعسفي على التهمة والأخبار غير الموثقة، وغير الصحيحة، والمعلومات الكيدية التي يُخبر بها أيُّ أحدٍ من عناصر الأجهزة القمعية.
- ٦- منع المواطنين من السفر، ومراقبة من يُسمح لهم بذلك حتى في مناسك الحج، والسفر للعلاج إن سمح النظام بذلك، وفرض مبالغ مالية على السفر.
- ٧- منع حق اللجوء، وكبت الحريات.
- ٨- عدم التكافؤ والعدالة في توفير فرص العمل، وفي البعثات الدراسية، وفي المراتب العسكرية في الجيش.
- ٩- إسقاط الجنسية لأسباب سياسية، والتهجير القسري لعشرات الآلاف من المواطنين، ومصادرة ممتلكاتهم. وهذا ما تعرض له بعض مكونات الشعب العراقي وخصوصاً الشعية والأكراد والکرد الفيلية، وغيرهم ممن طالتهم تلك الإجراءات التعسفية.
- ١٠- مصادرة الملكية بطرق غير مشروعة؛ لأسباب سياسية، وغير سياسية.
- ١١- منع حرية التعبير عن الرأي ولاسيما في القضايا السياسية، ومعاقبة من يقوم بذلك عقوبات قاسية تصل إلى السجن لسنوات، أو إلى عقوبة الإعدام.
- ١٢- هناك الكثير من الإنتهاكات التي قامت بها الأجهزة القمعية كالتهجير الجماعي، والسجون الجماعية، وتجريف الأراضي الزراعية كما حدث من تجريف لها في مدينة (الدجيل) في محافظة (صلاح الدين)، أو تجفيف (الأهوار) في الجنوب، واستعمال الأسلحة الكيماوية المحرمة في مدينة (حلبجة) في محافظة (السليمانية) ضد المدنيين



منهاج جرائم حزب البعث البائد المحظور

التي راح ضحيتها أكثر من (٥٠٠٠ / خمسة آلاف) مدني إذ وقعت جريمتها في (١٦/٣/١٩٨٨) فضلاً عن استهداف مئات القرى الكردية في العمليات العسكرية التي أطلق عليها النظام اسم عمليات (الأنفال).
١٣- الجرائم الكبرى التي ارتكبتها النظام وأجهزته القمعية إبّان الانتفاضة الشعبية التي بدأت في محافظات (الوسط والجنوب)، وعُرفت بـ (الانتفاضة الشعبانية) لوقوعها في شهر شعبان المعظم. وهي انتفاضة شعبية إيمانية ضد طغيان النظام راح ضحيتها عشرات الآلاف من الأبرياء في المقابر الجماعية، واستهدفت فيها المدن، والعتبات المقدسة.

١٤- تغيير الحدود الجغرافية، والديمغرافية لبعض المناطق في المحافظات لأسباب سياسية وغير سياسية؛ فتسببت هذه التغييرات بأزمات ومشكلات ما تزال قائمة، ويصعب حلها كالحال في (كركوك)، و(تكريت)، ومناطق في (كربلاء) وغيرها.

إنّ كل ما ورد ذكره فيما مضى ما هو إلا إشارات لأنواع الجرائم التي ارتكبتها النظام التي لا يمكن لباحث أن يُحيط بها فضلاً عن أنها تحتاج إلى وقت أطول لبيانها. ويمكن للباحثين، أو المتخصصين دراسة تفصيلاتها، وآثارها النفسية والاجتماعية على الشعب العراقي بما يستدعي دراساتٍ وجهودًا كبيرة لمعالجة آثارها، وانعكاساتها على واقع الشعب ومستقبله، واستقراره السياسي والاجتماعي.

المحور الثالث: إنتهاك القانون الدولي

يعد القانون الدولي من بين أهم القواعد القانونية التي تنظم العلاقات الدولية. وإن إنتهاك هذا القانون من قبل أية دولة أو نظام سياسي يمثل تهديداً للسلم والأمن الدوليين. وقد قام النظام البائد المتمثل بـ(حزب البعث) بانتهاكات لقواعد القانون الدولي عن طريق تسببه بحروب وأزمات إقليمية، ودولية إنعكست آثارها السلبية على حقوق الإنسان داخل العراق وخارجه. ويمكن الإشارة إلى أهم تلك الانتهاكات بالفرعين الآتيين:

الفرع الأول: حرب الخليج الأولى، والثانية

لقد تسبب إنتهاك النظام لقواعد القانون الدولي، والمعاهدات والموثيق الدولية بإندلاع حروب إقليمية تسببت بكوارث إنسانية، وانتهاكات لحقوق الإنسان داخل العراق وخارجه. ومنها حرب الخليج الأولى التي استمرت طوال الأعوام (١٩٨٠-١٩٨٨) بعدوانية من النظام البعثي الحاكم في العراق؛ فكانت من بين أهم الحروب الإقليمية التي حدثت فيها انتهاكات لحقوق الإنسان. وقد اعترف رئيس النظام السابق فيما بعد بأنه



منهاج جرائم حزب البعث البائد المحظور

هو المُسبب الفعلي لاندلاع هذه الحرب. وأشار عدد من المسؤولين إلى تأكيد ذلك مما دفع الأمم المتحدة إلى إدانة العراق، وتحميله المسؤولية القانونية لتبعات تلك الحرب، وفرض تعويضات للدول المتضررة.

ولم يكتفِ رأسُ النظامِ البعثي بهذه الحربِ، ونتائجها، وتحملِ تبعاتها بعد انتهائها، بل قام بخرقِ القانون الدولي بغزو دولة (الكويت)، واحتلالها في شهر (آب) من العام (١٩٩٠)، وإصراره على عدم الانسحاب منها مما دفع الأمم المتحدة إلى إصدار قرارات دولية تحت طائلة الفصل السابع لإرغامه على الانسحاب. وقد أدى ذلك إلى اندلاع حرب الخليج الثانية في العام (١٩٩١)، وقادتها الولايات المتحدة الأمريكية التي أرغمت النظام على الانسحاب الفوري من دولة (الكويت)، وفرض حصار دولي على العراق استمر أكثر من (١٢/اثنى عشر) عامًا حتى سقوط نظام البعث في نيسان من العام (٢٠٠٣).

لقد تسببت تلك الحروب الإقليمية، والدولية، والحصار الاقتصادي الذي تم فرضه على النظام من الأمم المتحدة بمآسٍ كبيرة على الشعب العراقي؛ ففاقم من معاناته في مجال حقوق الإنسان فضلًا عن ما كان يعانيه الشعب العراقي من الحكم الشمولي الدكتاتوري القائم آنذاك.

الفرع الثاني: الحصار الدولي على العراق بسبب غزو الكويت

لقد فُرض الحصار على العراق نتيجة غزوه (الكويت) بموجب قرار الأمم المتحدة ذي الرقم (٦٦١/س٦٦١) وواحد وستين) الذي صدر بتاريخ (١٩٩٠/٨/٦)، ونصَّ على إقرار عقوبات اقتصادية خانقة على العراق؛ لتُجبر النظام السياسي آنذاك على الانسحاب الفوري من الكويت. وقد تلى هذا القرار عددٌ من القرارات المتتالية. وقد عانى العراقيون ظروفًا قاسية جدًا جرَّاء هذه العقوبات مما أدى إلى وفاة (مليون ونصف مليون) طفل نتيجة الجوع، ونقص الدواء الحاد، وافتقارهم إلى أبسط وسائل الحياة.

إن هذه العقوبات دفعت بالكثير من العراقيين للهجرة إلى دول أخرى بحثًا عن الأمان، والحياة، والتطور. وقد استمر هذا الحصار قرابة (١٣/ثلاثة عشر) عامًا حتى انتهى عمليًا بإسقاط نظام (حزب البعث) سنة (٢٠٠٣). وقد عانى العراق جرَّاء الحصار عزلة شديدة من معظم دول العالم سياسيًا، ودبلوماسيًا، واقتصاديًا مما تسبب بدمار بنيته التحتية من مصانع، ومصافي، ومحطات توليد، ومحطات للمياه والمجاري.

كان لفرض الحصار على العراق نتائج وخيمة إذ تسبب في تدمير اقتصاد البلد، وتراجع المستوى الصحي، والتعليمي، وتسبب في كارثة إنسانية بسبب نقص الغذاء والدواء. إن كل تلك المآسي والأزمات التي تعرض لها



الشعب العراقي طوال حقبة حكم (حزب البعث) كانت بسبب إنتهاك النظام لقواعد القانون الدولي، وعدم التزامه بالعهود والمواثيق الدولية.

المبحث الثالث: أثر سلوكيات النظام البعثي في المجتمع، وتسليطه على الدولة

لجأ (حزب البعث) إلى سلوكيات قمعية كان لها الأثر السلبي في المجتمع العراقي وعليه قد تركت آثارها في نواحي الحياة جميعها. وكانت تلك السلوكيات تُرتكب تارة بشكل موجه، وممنهج، ومخطط له، وتارةً أخرى بتفويضٍ وتخويلٍ من الجهات الحاكمة إلى أجهزتها القمعية التي تعمل على تنفيذها. وهناك العديد من الشواهد، والأحداث لتلك السلوكيات التي عانى منها أفراد الشعب العراقي سنستعرض أظهِرها في هذا المبحث بمحاوَر هي:

المحور الأول: الإعتقالات العشوائية، وتعذيب السجناء، والإعدامات

منذ أن تولى (حزب البعث) السلطة في العراق بدأ بارتكاب الجرائم تلو الجرائم من أجل ترسيخ سلطته، وتصفية معارضيه بأي شكل من الأشكال حتى من كان يشتبه بهم من أنهم يمثلون معارضة سياسية لسلطة البعث؛ فقد كان الهدف الأول عدم معارضة حكم البعث، بل إن هيمنة الحزب الواحد بلا منافس هو أحد مقومات سياسة الحزب؛ فلا توجد انتخابات نزيهة بل انتخابات صُوريه للمجلس الوطني. وأما انتخابات رئيس الجمهورية فلا وجود لها؛ لذا عمِد (حزب البعث) إلى ترسيخ سلطته بقمع الأحزاب جميعها، وإبعادها عن الساحة السياسية بالقوة والاعتقالات الممنهجة، ومطاردة قيادات الأحزاب السياسية داخل العراق وخارجه، وتأليف فرق للاغتيالات تطارد كل من يختلف مع البعث في الرأي أو المعتقد.

وقد تمكن (حزب البعث) من ترسيخ سلطته باستعمال العنف المفرط، وسياسة الإقصاء والإبعاد إذ طالت هذه الجرائم أغلب شرائح الشعب العراقي لكل من يختلف معه، أو ينتقد سياسته؛ فكانت ترتكب الجرائم بأبشع الأساليب. ومن أجل تعرّف الجرائم التي ارتكبتها النظام البعثي سنعرض لتقسيمها على الأفرع الآتية:

الفرع الأول: الإعتقال التعسفي للمشتبه بهم، وتعذيب السجناء

يُعد الإعتقال على الشبهة أحد أدوات الرعب التي مارسها (حزب البعث) فقد شملَ اعتقال العراقيين، والأجانب على حد سواء.



أ- اعتقال العراقيين

مُنحت أجهزة الشرطة والأمن العامة صلاحية الاعتقال، والاحتجاز، واتخاذ الإجراءات التعسفية تجاه الأفراد بحسب رغبة تلك الأجهزة، ومن دون أمر قضائي، أو تهمة موجهة ضد الأشخاص مددًا زمنية غير محددة. ويتم الاعتقال بما تختاره تلك الأجهزة من طرق، ويقومون بذلك بما أوتوا من رُعب إذ يتم نقل المشتبه بهم من السياسيين والمدنيين سرا من دون إخطار عوائلهم، أو أصدقائهم، ثم يُساقون إلى مكاتب الأمن، والسجون لتحديد مكانهم. وبعضهم يُعتقل أمام أفراد أسرته، أو أصدقائه من دون ذكر أي شيء عن وجهتهم، أو سبب اعتقالهم.

لقد اعتقلت أجهزة الأمن، والشرطة أعدادا كبيرة من العراقيين بطريقة تعسفية. وكان يُفرج عن بعضهم في غضون أيام، أو أشهر قليلة ليتم اعتقاله مرة أخرى في وقت لاحق. وبعضهم كان يخضع لمحاكمة صورية، والأغلب يُغيب، أو يُخفى، أو يقتل في السجون، وأماكن الاحتجاز بلا محاكمة. ولا أحد يعرف عدد المعتقلين السياسيين في العراق آنذاك إلا أن التقديرات توصلهم إلى عشرات الآلاف. ويعد الاعتقال التعسفي أداة قوية لقمع المعارضة السياسية، وإن طرق الباب من رجال الأمن كان متوقعًا في أي لحظة. وتعد أداة قوية لإثارة الرعب في نفوس معظم الناس.

وعلى الرغم من تشخيص الكثير من الجرائم التي ارتكبتها عناصر (حزب البعث) بحق أبناء الشعب العراقي بمختلف فئاته للمدة من (١٩٦٨/٧/١٧) إلى (٢٠٠٣/٤/٩) على صُعد متعددة؛ فإن التركيز يقع في جرائم تجاوزت القوانين العراقية النافذة كقانون العقوبات العراقي بالرقم (١١١ / مئة وأحد عشر) لسنة (١٩٦٩) المعدل، وغيره في ضوء إصدار قرارات في (مجلس قيادة الثورة البائد) بحسب اجتهادات أعضائه من دون مراعاة للجانب الإنساني أو الوطني، وممارسة جرائم الاعتقالات العشوائية بحق المواطنين بمجرد الاشتباه بهم إذ اتخذ (حزب البعث) نهجًا قاسيًا في تعريض المعتقلين الأبرياء والسجناء إلى التعذيب الجسدي، والنفسي لانتزاع الاعترافات منهم بالقوة، وإثبات التهم عليهم لغلق القضايا العالقة والمفتوحة، وإصاقها بهم من جهة، ولإرضاء المسؤولين في (حزب البعث، ومجلس قيادة الثورة) من جهة أخرى.

ولا يفوتنا هنا أن نعرض لإصدار أحكام الإعدام بحق الأفراد من دون العودة إلى الأساليب التحقيقية المهنية الرصينة؛ فهذه عقوبة انتزاع الحياة، وتمثل أخطر عقوبة بحق المتهمين.



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وعند مراجعة دستور العراق المؤقت لسنة (١٩٧٠) نجد أن النصوص الدستورية صُورية بامتياز، ولا يعتد بها؛ فالمادة (٢٢/أ) على سبيل المثال تنص على أن ((كرامة الإنسان مصونة، وتحرم ممارسة أي نوع من أنواع التعذيب الجسدي أو النفسي)) في حين أن سلطة البعث لا تعترف بأي نص قانوني، أو دستوري بحسب ما شهدناه واطلعنا عليه من جرائم.

أما البند (ب) من المادة نفسها فينص على أنه ((لا يجوز القبض على أحد، أو توقيفه، أو حبسه، أو تفتيشه إلا وفق أحكام القانون)). وهذا ما لم تشهدده حقبة البعث.

وأما بخصوص اعتقال الأشخاص من المنازل فقد بات واضحاً أن الأجهزة الأمنية كانت تعمل خلافاً للدستور بكل وضوح إذ إن البند (أ) من المادة (٢٢) ينص على أن ((للمنازل حرمة لا يجوز دخولها، أو تفتيشها إلا وفق الأصول المحددة بالقانون)). إلا أن العراقيين جميعهم كانوا يعلمون بأن السلطات في حينها كانت تعتقل من تشاء بغير رقابة قضائية.

ب- اعتقال الأجانب داخل العراق

كانت الأجهزة الأمنية العراقية تعتقل بعض الأجانب على الشبهة كما تعتقل العراقيين. وقد أجرت منظمة مراقبة الشرق الأوسط (Middle East Watch) مقابلة مع مسؤول دبلوماسي أمريكي اسمه (روبرت سيرلنغ) وهو في الخمسين من العمر - بحسب ما أوردته منظمة العفو الدولية - قد تعرّض للاعتقال في العراق بعد أن كان على وشك الصعود على متن رحلة متجهة إلى باريس ليلة (١٩٨٣/٦/٢٩) مع زوجته البلجيكية وأطفاله لكنه اختفى من دون علم عائلته ، وتم تحويل مساره إلى أسفل منحدر حيث ينتظره رجال الأمن ، وطلبت زوجته مساعدة الممثلين الدبلوماسيين الأمريكيين في بغداد، وبعد أكثر من أسبوع اعترفت السلطات العراقية باحتجاز (سيرلنغ)، ولم توضح سبب اعتقاله بعد أن أمضى (١١٩ / مئة وتسعة عشر) يوماً في سجون الأمن العامة في بغداد من دون توجيه تهمة له. ويروي هو أن معاملته على أيدي سجنائه العراقيين كانت (لا شيء) مقارنة بمعاملة السجناء للمعتقلين العراقيين والعرب الذين التقى بهم. وعندما أُفرج عنه في (١٩٨٣/١٠/١٨) أخبر (سيرلنغ) المسؤولين الأمريكيين بأنه اختطف وعُصبت عيناه ، واقتيد إلى ما افترض أنه المقر الرئيس لجهاز الأمن في (بغداد) ، وهناك تم استجوابه وتعذيبه مراراً ، وأنه كان يسمع صرخات السجناء الآخرين وأصواتهم في أثناء استجوابهم تحت التعذيب ، وأنه كان يتم الضغط عليه للاعتراف بالتجسس، ثم طُلب إليه أن يُدلي بمعلومات عن بعض الأفراد الأجانب. يقول (سيرلنغ): ((لقد تلقيت ضريات بهراوات مطاطية على



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أُخْمَصَ قَدَمِي ، وَصُغِّقْتُ بِالصَّدْمَاتِ الكَهْرَبَائِيَّةِ فِي يَدِي وَقَدَمِي وَمِنْطَقَةَ الكَلَى والأَعْمَاءِ التَّنَاسُلِيَّةِ ، وَتَلَقَيْتُ ضَرِيَّاتٍ بِالسَّاعِدِ عَلَى رَأْسِي، وَضَرِيَّاتٍ فِي الأُذُنَيْنِ بِكَعْبِ الحِذَاءِ ، وَصَفَّعَاتٍ عَنيفَةً عَلَى الأُذُنَيْنِ بِوَسَائِدٍ تُشْبِهُ قَفَازَاتِ المَلَائِكَةِ. وَقِيلَ لِي: إِنَّهُ تَمَّ القَبْضُ عَلَى زَوْجَتِي وَأَطْفَالِي، وَأَنْهَمُ سَيَتَعَرَّضُونَ لِسُوءِ المَعَامَلَةِ مَا لَمْ أَتَّعَاوَنَ مَعَهُمْ، وَقَدْ تَعَرَّضْتُ لِنَقْصِ فِي الطَّعَامِ، وَتَمَّ إِطْعَامِي مَوَادِّ غِذَائِيَّةٍ فَاسِدَةٍ، وَمَمْلُحَةٍ بِشِدَّةٍ لِإِحْدَاثِ الغَثِيَانِ (والعَطَشِ)).

وَيُمَثِّلُ عَدْمُ إِخْبَارِ السُّلْطَاتِ العِرَاقِيَّةِ قِسْمَ رِعَايَةِ مَصَالِحِ الوَلَايَاتِ المِتْحَدَةِ فِي (بَغْدَادِ) بِاعْتِقَالِ (سِيرِلِنِغ) إِنْتِهَاكَ وَاضِحًا لِلْمَادَّةِ (٣٦) مِنْ اتِّفَاقِيَّةِ (فِيِينَا) لِلعِلَاقَاتِ القَنْصَلِيَّةِ المَوْرُخَةِ فِي (١٩٦٣/٤/٢٤) الَّتِي يَعِدُ العِرَاقُ، وَالْوَلَايَاتِ المِتْحَدَةِ طَرَفَيْنِ فِيهَا.

الفرع الثاني: إعدام العسكريين والمدنيين

اعتمد (حزب البعث) في إصدار أحكام الإعدام بحق العراقيين من دون العودة إلى الأساليب التحقيقية المهنية الرصينة على الرغم من أنها عقوبة تصادر حق الحياة، وتمثل أخطر عقوبة بحق المتهمين، ولا سيما إذا كانت التهمة الموجهة للشخص تهمة سياسية. وكانت هناك تقارير منتظمة عن إعدام ضباط عراقيين بزعم تأمرهم ضد النظام على الرغم من أنه كان من المستحيل تحديد صحة هذه الاتهامات إلا أن النظام العراقي قد أشاع فريضة الاتهام بالتخطيط للإنقلاب على كل من يُعارضه؛ لتطهير المعارضين له في الجيش والحزب. وقد وثقنا ذلك بحسب قرارات الإعدام السياسية الآتية التي تصدر بموجبها أحكام الإعدام مما تحصلنا عليه من عملية الإحصاء الدقيقة التي أجريناها عن قرارات الإعدام السياسية الظالمة؛ فتبين أن ما يسمى بـ(مجلس قيادة الثورة) قد أصدر القرارات الآتية:

أ- القرار المرقم (١٣٥٧) في (١٩٧١/١١/١٠) والمعدل عام (١٩٧٦) الذي حرّم العمل السياسي للعسكريين في القوات المسلحة. ومن يخالف ذلك يعاقب بعقوبة الإعدام ما عدا النشاط السياسي لـ(حزب البعث). وقد تم تفعيل هذا القرار، وشمل كلّ الأفعال التي تضر بحزب البعث.

ب- القرار المرقم (٨٦٥) في (١٩٧٤/٨/١٢) الذي نص على عقوبة الإعدام لكل من ينتمي إلى (حزب البعث) وكان في السابق منتمياً إلى تنظيم حزبي، أو سياسي سابق، وأخفى تلك العلاقة.



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ج- القرار المرقم (١٢٤٤) في (١٩٧٦/١١/٢٠) الذي نص على عقوبة الإعدام لكل من عمل مع (حزب البعث) لمدة ثم ترك الحزب، وعمل مع حزب آخر.

ح- القرار المرقم (٧٨٤) في (١٩٧٨/٦/٧) الذي قضى بإنزال عقوبة الإعدام على كل من عمل على تنظيم شخصٍ للعمل مع جماعة سياسية، أو حزب آخر وله علاقة بـ(حزب البعث).

هـ- القرار المرقم (٨٨٤) في (١٩٧٨/٧/٣) الذي قضى بإعدام كل متقاعد من العسكريين، أو الشرطة، أو المتطوعين الذين أُحيلوا إلى التقاعد بعد إنقلاب (١٩٦٨/٧/١٧) إذا ثبت تورطهم بالعمل مع جهات سياسية غير (حزب البعث).

و- القرار المرقم (١٤٤٧) في (١٩٧٩/١٠/٣٠) القاضي بإعدام كل من يعتنق البهائية.

ز- القرار المرقم (٤٦١) في (١٩٨٠/٣/٣١) القاضي بإعدام كل شخص ينتمي إلى (حزب الدعوة الإسلامية). والأدهى من ذلك أنه جعل هذا القرار بأثر رجعي، ويسري على الحالات السابقة. وهذا التعسف يؤكد المخالفة للمبادئ القانونية التي تقضي بعدم رجعية القوانين ولا سيما في القضايا الجنائية إلا إذا كانت لصالح المتهم. وهو بذلك يخالف البند (ب) من المادة (٦٦) من دستور (حزب البعث) نفسه لسنة (١٩٧٠) التي تنص صراحة على عدم رجعية القوانين.

خ- القرار المرقم (١١٤٠) في (١٩٨١/٨/٢٦) الذي حُكِمَ على الهارب من الخدمة العسكرية بالإعدام رمياً بالرصاص. وقد جرى تعديله ليشمل أفراد حرس الحدود، والجيش الشعبي بموجب القرار (١٥٤٠) في (١٩٨١/١١/١٧).

ط- القرار المرقم (٨٧٧) في (١٩٨٤/٧/٧) ويتم بموجبه إعدام العسكري في حال تغيبه عن وحدته العسكرية خمسة أيام من دون عذر مشروع.

ي- القرار المرقم (٣٨٤) في (١٩٨٤/٣/٣١) من قانون (عقوبات الجيش الشعبي) ذي الرقم (٣٢) لسنة (١٩٨٤) الذي نص على إنزال عقوبة الإعدام على كل من ثبت عليه الجبن، والتخاذل من دون إعطاء معنى صريح لهذا الوصف، أو تحديد الجهة التي تضع المعايير.

ك- القرار المرقم (٤٥٨) في (١٩٨٤/٤/٢١) المعني مضمونه بتحريم محاولات مشاركة جهةٍ أخرى (حزب البعث) بالسلطة، أو محاولة تغييرها إذ قضى هذا القرار بإعدام كل من انتمى إلى جهة سياسية، أو حزب، أو جمعية تستهدف تغيير حكم البعث سواء بالقوة، أو بالتعاون مع جهات خارجية.



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ل- القرار المرقم (٨٤٠) في (١٩٨٦/١١/٤) المعني مضمونه بشخصية رئيس الجمهورية ونائبه، وتقديسهما؛ ف جاء هذا القرار ليقضي بالسجن المؤبد بحق من يهين رئيس الجمهورية، ونائبه، أو مجلس قيادة الثورة، أو المجلس الوطني، أو حكومة حزب البعث، وبمصادرة أمواله المنقولة، وغير المنقولة. أما إذا كانت الإهانة واضحة، وتستهدف إثارة الرأي العام ضد حكم البعث فتكون العقوبة الإعدام.

المحور الثاني: حصر السلطات الثلاث بيد النظام البعثي

إنَّ حصر السلطات يعني تركيزها في جهة واحدة، وعادة ما تكون السلطة التنفيذية. والحصر هو المعنى المضاد لمبدأ الفصل بين السلطات. هذا المبدأ الذي يرتكز على أصول تاريخية إذ يُعد من الأفكار التي جاء بها الفلاسفة الإغريق ومنهم (أفلاطون ، وأرسطو)، ثم توالى الاهتمام بهذا المبدأ في الحقب التاريخية المتعاقبة ولا سيما لدى المفكرين والفلاسفة في القرن السابع عشر كالفيلسوف الإنكليزي (جان لوك) إلا أنَّ مبدأ الفصل بين السلطات تبلور بصورته النظرية الأكثر وضوحاً على يد الفيلسوف الفرنسي الكبير (مونتسكيو)، ثمَّ تطور عن طريق كتابات المفكر (جان جاك روسو) الذي سعى إلى تعميق هذا المبدأ ليأخذ مجاله في التطبيق في كثير من الدول التي تحرص على العمل بمضمونه الفعلي. ويُعد هذا المبدأ في مقدمة المبادئ الدستورية الأساسية التي تقوم على أساسها الأنظمة الديمقراطية المعاصرة.

ولعرض موضوع حصر السلطات الثلاث بيد (حزب البعث) سوف نذكر في هذا المحور ثلاثة مسانَد ارتكز عليها (حزب البعث) هي الفصل بين السلطات، وسلطات الحكم في ظل نظام البعث، والاشتراطات الحزبية كآلية لحصر السلطة.

المسند الأول: الفصل بين السلطات

الفصل بين السلطات هو ((تقسيم الوظائف وتوزيع السلطات، إذ إنه يتضمن كلا المفهومين؛ فهو يفترض سلفاً تعدد الهيئات الحاكمة، وأن كل هيئة تقوم بممارسة وظيفة معينة من وظائف الدولة التي تأخذ بها، بحيث تصبح لدينا ثلاث سلطات وهي: السلطة التشريعية، والسلطة التنفيذية، والسلطة القضائية، ثم يتم تنظيم العلاقة بينها. وبلا شك فإن توزيع وظائف الدولة على أكثر من سلطة واحدة يعود بنتائج إيجابية؛ فهذا التوزيع يعطي الفرصة لكل سلطة أن تخصص فيما يوكل إليها من مهام مما يسهم في إتقان كل سلطة لعملها، وقيامها به على أكمل وجه، فيتحقق معه في نهاية المطاف حسن سير العمل في مختلف المجالات الرئيسية في



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الدولة من دون تقصير ن أو ضعف)). وهذا ما يُرجى لو جاء بالعدل؛ ((فإذا أُسندت وظائف الدولة الثلاث إلى هيئات ثلاثٍ متعددة؛ فأُسندت مهمة التشريع إلى السلطة التشريعية، ومهمة التنفيذ إلى السلطة التنفيذية، ومهمة القضاء إلى السلطة القضائية؛ فإن ذلك سيكفل تحقق عناصر الدولة القانونية ومن أهمها كفالة احترام القانون)). ولكن ((يجب ألا يفهم من مبدأ الفصل بين السلطات أن كل سلطة مستقلة عن السلطة الأخرى تمام الاستقلال بحيث تكون كل منها بمعزل تام عن الأخرى، وإنما المقصود بهذا المبدأ هو عدم تركيز سلطات الدولة وتجميعها في يد هيئة واحدة، بل توزيعها على هيئات منفصلة، ومتساوية بحيث لا يمنع هذا التوزيع والاتصال من تعاون ورقابة كل هيئة مع الأخرى)) وهذا ((يؤدي إلى تنفيذ وتخصيص كل سلطة من هذه السلطات كل حسب عمله، وبالمهام الموكلة إليه، ومن ثمّ تعمل كل سلطة على إتقان أعمالها)).

ويسوق قسم من الباحثين بعض المبررات لتعزيز ضرورة هذا المبدأ مثل حماية الحرية، ومنع الاستبداد ذلك المنع الذي يُعد المبرر والميزة الأولى والأساس لهذا المبدأ بحسب وجهة نظرهم فضلاً عن ذلك فإن مبدأ الفصل بين السلطات يؤدي إلى تحقيق شرعية الدولة؛ فهو يعد وسيلة فعّالة لكفالة احترام القوانين، وحسن تطبيقها من الحاكمين والمحكومين، ((وحسن أداء وظائف الدولة إذ إن هذا المبدأ يحقق مبدأ تقسيم العمل والتخصص الذي من شأنه أن يحقق إتقان كل هيئة لوظيفتها وحسن أدائها)).

ويذهب بعضهم إلى أنّ العلاقة بين مبدأ سيادة القانون ومبدأ الفصل بين السلطات تأتي عن طريق وضع المفاضلة بين السلطات إذ يرى أنّ ((مبدأ سيادة القانون يتعلّق بتنظيم السلطات العامة في الدولة، ويهدف إلى وضع السلطة التنفيذية في مركز أدنى من السلطة التشريعية، ومنع الأولى من التصرف إلا وفقاً لقانون، أو بتحويل من القانون))؛ لذا إن هذه المفاضلة تؤكد أرجحية سلطة ممثلي الشعب على حكومة يتم اختيارها منهم لتنفيذ القوانين التي يشرعونها.

إن ضرورة تطبيق مبدأ الفصل بين السلطات تأتي لتؤكد مشروعية أي نظام حاكم في دولة ما، ومقدار احترامه لتخصص كل سلطة من السلطات الثلاث. أمّا الدولة التي تحصر السلطات بيد جهة واحدة فإنها تمثّل صورة للدولة الاستبدادية.

المستند الثاني: سلطات الحكم في ظل النظام

لقد شاب موضوع الفصل بين السلطات وفقاً للدساتير التي أصدرها النظام البائد غموضٌ واضح المعالم؛ فمن الصعوبة بمكان كشف النقاط التي يمكن أن يتلمس بموجبها الباحث ما وضعه المشرع الدستوري للفصل



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بين السلطات الثلاث، ولكن يلاحظ أن النصوص الدستورية قد عززت دمج السلطتين التشريعية، والتنفيذية، وألغت الفواصل بينهما، وجعلتهما سلطة واحدة في حين تأتي السلطة القضائية تابعة لتلك السلطة الموحدّة. وسوف نعرض لهذا بإيراد ما يفيد عن السلطات تباعا.

أ- السلطة القضائية

تكاد هذه السلطة تكون هامشية وفقا للتشريعات الصادرة في المدّة التي حكم فيها النظام المباد؛ ففي مقارنة بين دستوري العام (١٩٦٨)، والعام (١٩٧٠) نرى أنّه في الوقت الذي خصص دستور (١٩٦٨) تسع مواد للسلطة القضائية، وأطلق عليها تسمية (السلطة القضائية)؛ فإن دستور جمهورية العراق لسنة (١٩٧٠) خصص لها مادتين فقط، وأطلق على هذه السلطة كلمة واحدة هي كلمة (القضاء) بدلاً من السلطة القضائية، وتم إلحاقها بوزارة العدل: فهي تخضع لوزير مهامه تنفيذية. ومن هنا نستنتج أنّ القضاء لم يكن سلطة مستقلة توازي السلطتين التشريعية والتنفيذية.

وزيادةً على ذلك فإن النظام قد أوغل في تحجيم دور السلطة القضائية إذ أنشأ قضاءً موازيًا للقضاء الذي يتبع وزارة العدل، وهذا النوع من القضاء استند إلى إنشاء (محاكم خاصة) بعيدة عن وزارة العدل، وأوكل لها النظر بمجموعة من القضايا التي تم اجتزاؤها من قانون العقوبات وقوانين أخرى. فكان هناك نوعان من القضاء، النوع الأول هو القضاء العادي هو الذي يتعلّق بالشؤون القانونية للأفراد والدولة جميعها منظورا إليها بأنّها شخص معنوي.

أما القضاء الآخر فهو قضاء يتعلّق بالقضايا السياسية ذات الصلة المباشرة بالمواضيع التي تخص الأمن. وهو قضاء لا يرتبط بالقضاء العادي بأي شكل من الأشكال، وقد تمثل هذا القضاء بإنشاء محكمة الثورة، وما تلتها من محاكم خاصة، وبطبيعة الحال فإن هذه المحاكم تمارس اختصاصها الموكّل إليها بموجب قوانين وقرارات أجازت لها النظر في كل ما يتعلق (بالجرائم) الماسة بأمن الدولة الخارجي والداخلي، ومن هنا يكون النظام السابق قد أحكم استيلاءه على السلطة القضائية بيده لا لأجل الظاهر فقط، بل للاستيلاء كليا عليها عن طريق تقسيمها على شطرين شطر يتبع وزارة العدل بوزارة تنفيذية تابعة للنظام من جهة، وشرط آخر يرتبط بالأجهزة الأمنية التي تتصل مباشرة بالنظام من جهة أخرى بما لا خضوع فيه لأي نوع من أنواع الرقابة؛ فأحكام المحاكم الخاصة التي تؤلّف، وتتبع السلطات الأمنية تتصف على رأي جانب من الفقه بأنّ ((جلساتها تكون كقاعدة عامة غير علنية وأحيانا أخرى لا تمكّن المتهم من الحضور والدفاع عن نفسه علما أنّ حق الدفاع من المبادئ العامة



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للقانون ؛ فمن أساسيات المحاكم العادلة الحق في تمكين المتهم من الحضور إلى جلسات المحاكمة ، أو تعيين محامٍ يمثله بالإضافة إلى عدم الاكتراث لحق المتهم في حظر تطبيق القوانين الجنائية بأثر رجعي ، أو عدم الممانعة من محاكمة المتهم على ذات الجريمة مرتين ، وتتسم أحكامها بالغلظة وشدة العقوبة ، واتساع نطاق التجريم ، وتطبيق عقوبات أشد قسوة مقارنة . بتلك المطبقة أمام المحاكم العادية ، وكثيرا ما تنتهك مبدأ عدم رجعية القوانين الجنائية)) ، وهذا يبين تبعية القضاء للسلطة ، وانعدام الاستقلال الواجب له. وبعبارة أخرى فإن (حزب البعث) في ظل تعامله مع السلطة القضائية يكون قد طوّقها وحصرها بيده بشكل مطلق.

ب. السلطة التشريعية

ينظر إلى السلطة التشريعية بأنها تلك السلطة التي ترسم الأطر القانونية التي يسير على أساسها الجميع، فهي التي تشرّع القوانين متى ما برزت حاجة فعلية لها على صعيد المجتمع والدولة. وغالبا ما تأتي هذه السلطة عن طريق الانتخابات في الأنظمة الديمقراطية.

أما السلطة التشريعية في ظل دستور العام (١٩٧٠) فتمثّلت ب(مجلس قيادة الثورة) بشكل رئيسي بالإضافة إلى (المجلس الوطني) بقدر أقل أهمية. وقد تمت الإشارة إلى سلطات مجلس قيادة الثورة (المنحل) ابتداءً بموجب أحكام الدستور المؤقت لسنة (١٩٦٨) الذي صدر بعد إنقلاب (١٩٦٨/٧/١٧). وهذا المجلس مكوّن من القيادات العليا لحزب البعث في العراق، وهو يمارس عدة اختصاصات منها إصدار القرارات التي لها قوة القانون وفقا لأحكام الدستور والقوانين النافذة. وهذا يعني أنّ السلطة التشريعية هي (مجلس قيادة الثورة) نفسه الذي يُفترض أن يمارس مهامه مؤقتًا إلى حين انتخاب السلطة التشريعية الدائمة التي أشار إليها دستور سنة (١٩٦٨)، ثمّ إنهاء المهام التشريعية التي يمارسها هذا المجلس؛ فقد جاء النص بما مضمونه أن ((يمارس مجلس قيادة الثورة السلطة التشريعية إلى حين انعقاد الجلسة الأولى للمجلس الوطني)). وفي الوقت نفسه فقد حصر دستور العام (١٩٦٨) قيادة السلطتين التشريعية، والتنفيذية في يد شخص واحد يشغل أكثر من منصب هو (رئيس مجلس قيادة الثورة، ورئيس الجمهورية، ورئيس الدولة، والقائد العام للقوات المسلحة، ورئيس السلطة التنفيذية).

ويبدو أن هذا التحويل الدستوري الذي لا يحتاج إلى إغراق في التفسير قد حسم موضوع حصر السلطتين التشريعية ، والتنفيذية في جهة واحدة هي التي تُشرّع القوانين ، وتصدر القرارات التي لها قوة القانون لتقوم بتنفيذها لأن رئاسة الجمهورية منصب تنفيذي، ويجري هذا بطبيعة الحال من دون وجود جهة رقابية ، ولكن لابد من التذكير بأن المادة الدستورية التي أشارت إلى حل (مجلس قيادة الثورة) عند عقد الجلسة الأولى



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للمجلس الوطني وبحسب ما جاء في دستور العام (١٩٦٨) تم تجاهلها في دستور العام (١٩٧٠) ، ولم يُعد تكرارها مما يعني بقاء (مجلس قيادة الثورة) جهة تشريعية رئيسة ، وأهملت تلك المادة. كذلك تم إهمال التدخل في اختيار الجهة التشريعية الثانوية (المجلس الوطني)، وإصدار قانونها بموجب شروط تنسجم مع توجهات مجلس قيادة الثورة التي أكدت حق مجلس قيادة الثورة في (اختيار) أعضاء المجلس الوطني بما نصّه ((يختار مجلس قيادة الثورة أعضاء المجلس من ممثلي قطاعات الشعب المختلفة السياسية، والاقتصادية والاجتماعية، ومن العناصر الوطنية، والقومية التقدمية)). وقد بقي حق الاختيار من دون تطبيق عملي إلى حين إلغائه وذلك بإصدار قانون جديد للمجلس الوطني الذي صدر في العام (١٩٨٠) أي بعد (عشر) سنوات من صدور قانون المجلس الوطني في سنة (١٩٧٠) الذي ألغى شرط الاختيار السابق؛ فنص على أن ((يجرى اختيار الأعضاء عن طريق الانتخاب الحر المباشر، وبالاقتراع العام السري)).

وعلى الرغم من ذلك فإن المجلس الوطني - بغض النظر عن الصلاحيات التشريعية المناطة به - لم يكن لبقائه تلك الضمانة الرصينة؛ فلم يكن وجوده في حياة الدولة في زمن النظام البائد حاسماً؛ فقد نص القانون على أرجحية مجلس قيادة الثورة كجهة تشريعية ، وتنفيذية إذ إن ((لمجلس قيادة الثورة ضماناً لحسن سير مؤسسات الجمهورية أن يحلّ المجلس الوطني)). وهذا الأمر لا صلة له بالانتخابات النيابية الحرة النزيهة؛ فالنص المذكور آنفاً يصادر إرادة الناخب ، ويكشف زيف تلك الانتخابات أصلاً. وكل ذلك الارتباك يؤدي إلى ((إهدار الفصل بين السلطات، وظهور الفساد السياسي، والإداري ، والاقتصادي بسبب النزعة الفردية للحزب الحاكم، والاستبداد بالسلطة نتيجة عدم وجود معارضة على المستوى العام للدولة))؛ لأنّ خيار المعارضة قد حسمته شروط الناخب التي سوف نذكرها لاحقاً.

ج- السلطة التنفيذية

السلطة التنفيذية (الحكومة) هي الأداة التي تنفذ التشريعات، وتشرف على تسيير العمل في الجهاز الإداري للدولة، ويوكل إليها مهام كثيرة مثل حفظ الأمن في الداخل، والدفاع عن الدولة، والصحة، والتربية والتعليم، والصناعة، والتجارة، وتطوير البنى التحتية، وما سواها. وعادة ما يجري اختيار الحكومة من ممثلي الشعب أي (البرلمان المنتخب)، ويجري ذلك وفقاً لآليات دستورية ترسم الطريق الذي يتم بموجبه تشكيل الحكومة. أمّا فيما يتعلّق بالسلطة التنفيذية في ظل النظام البائد فهي مدمجة مع السلطة التشريعية؛ فرئيس مجلس قيادة الثورة هو رئيس للجمهورية وفقاً للدستور. بمعنى أنّه يجمع بين منصب رئيس السلطة التشريعية، ورئيس



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السلطة التنفيذية. ويلاحظ أنّ من ضمن مهامه التنفيذية ((الإشراف على حسن تطبيق الدستور والقوانين والقرارات وأحكام القضاء... في جميع أنحاء الجمهورية العراقية)).

ويبدو أنّ جزءاً من المهام الرقابية موكلةً له بصفته رئيساً للسلطة التنفيذية علاوةً على صلاحيات كثيرة ((منها تعيين نواب رئيس الجمهورية، والوزراء، وإعفاؤهم من مناصبهم، وتعيين الحكام والقضاة وجميع موظفي الدولة المدنيين والعسكريين، وترفيغهم، وإنهاء خدماتهم، وإحالتهم على التقاعد، ومنح الأوسمة والرتب العسكرية وفقاً للقانون، وعقد القروض، ومنحها، والإشراف على تنظيم وإدارة النقد والائتمان، والإشراف على جميع المرافق العامة والمؤسسات الرسمية وشبه الرسمية ومؤسسات القطاع العام، وتوجيه ومراقبة أعمال الوزارات والمؤسسات العامة، والتنسيق بينها، وإجراء المفاوضات، وعقد اتفاقيات والمعاهدات الدولية، وقبول الممثلين الدبلوماسيين والدوليين في العراق، وطلب سحبهم)). ولأنّ رئيس الدولة هو أعلى منصب في نظام (حزب البعث) فإن هذا الحزب يكون قد حصر السلطات جميعها في صفوف أعضائه إلا ما اقتضته الضرورة.

المسند الثالث: الاشتراطات الحزبية لحصر السلطة

يأخذ الجانب الأيديولوجي مكانة بارزة في موضوع حصر السلطات؛ ففري المشرّع في مرحلة حكم النظام البائد يُدكر دائماً بأهداف ما تسمى ب(ثورة تموز ١٩٦٨)، وأينما سنحت الفرصة لذكر هذا الموضوع والتذكير به بما يوحى للجميع بأنّ مصير المجتمع، والدولة مقترن فقط ببقاء (حزب البعث البائد، وثورته). وقد مهّدت تلك السياسة لحصر السلطات بيد النظام البعثي الذي أتى بمفهوم أيديولوجي أطلق عليه مصطلح (القيادة السياسية) التي بوجودها يُلغى عملياً مبدأ تعدد السلطات ((فالسلطة السياسية الواحدة تمارسها قيادة سياسية تضع خطة أو سياسة اقتصادية، واجتماعية تتبلور في العديد من الاختبارات السياسية التي تأخذ صفة التشريعات. وإذا كانت السلطة (واحدة) في الدولة فمعنى هذا انتفاء فكرة (تعدد السلطات) التشريعية، والتنفيذية، والقضائية)). فهذه القيادة هي وحدها ((التي تمارس السلطة إذ تحدد إطار الحياة الاقتصادية، والاجتماعية، والسياسية عن طريق ما تضعه من تشريعات)). وقد انعكس هذا التوجه الأيديولوجي في بعض التشريعات فيما يتعلّق بالسلطة القضائية، وبغية حصر هذه السلطة بيد حزب البعث جاءت الاشتراطات ضمن أهداف القضاء؛ فتم النص على أن يكون ((تنظيم القضاء بما يحقق العدل بروح تستوعب طبيعة التحولات الاجتماعية، والاقتصادية في مرحلة البناء الاشتراكي في القطر، وإعداد قضاء قادر على استيعاب التشريعات، والقرارات الثورية، وتطبيق



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القوانين بروح الثورة ، وبذهنية تتفق مع الأهداف الاشتراكية)). والحقيقة أن عباراتٍ مثل (مرحلة البناء الاشتراكي ، والقرارات الثورية ، وروح الثورة) تعد عباراتٍ غامضةً لا علاقة لها بالقضاء إلا من زاوية اشتراط ربط القضاء بحزب البعث عن طريق تعويم مثل هذه العبارات.

لم يكتفِ المشرِّعُ بما أورده من عبارات توجيهية لحصر القضاء بيد حزب البعث ، وإنما جاء باشتراطات شبيهة لها لاختيار عضو (المجلس الوطني) ؛ فبموجب قانون المجلس الوطني نرى المشرِّعَ يحدد الشروط التي يتوجب توفرها في عضو هذا المجلس وكأنَّه اختار نمطا جاهزا لعضويته ؛ فعلى المرشح لعضوية المجلس أن يكون ((مؤمنا بما يسمى بمبادئ وأهداف إنقلاب تموز ، وأن تكون مساهماته في المعركة المقدسة ضد العدوان الإيراني سواء بالمشاركة ، أو التطوع ، أو التبرع في ميادين العمل والإنتاج ، أو في نتاجاته الفكرية والأدبية فعالة ، ومتميزة ، وتتناسب مع قدراته وإمكانياته ، وأن يكون مؤمنا بأن قادية صدام قد عززت بالمجد هام العراق ، وأنها الطريق الذي ليس سواه من طريق للحفاظ على العراق أرضا ، ومياها ، وسماءً ، وأمنا ، ومقدسات)).

يعكس هذا النص القانوني مقدار السعي إلى حصر السلطة (التشريعية) بيد حزب البعث ؛ فهو لا يشترط أن يكون العضو في المجلس بعثيا ، ولكن الاستنتاج يؤدي إلى النتيجة بهذا الشرط. أما بشأن المساهمة المميزة (بقادية صدام) فهو شرط غريب للعضوية في مجلس مهمته المفترضة هي التشريع.

ويشترط في المرشح للعضوية ألا يكون ((محكوما عليه بجريمة التآمر على ثورة ١٧-٣٠/تموز/١٩٦٨)) ، أو على نظام الحكم ، أو محاولته قلب نظام الحكم)). ويبدو أن للمشرِّع هدفا واحداً هو اتخاذ فكر حزب البعث ، ونظامه السياسي ، ومعاركه التي أدت إلى الإضرار بالبلد ، ويضع شروطه بناءً على ذلك من أجل حصر السلطة بيد النظام وحزبه.

وعلى الصعيد السياسي أصدر المشرِّع في العام (١٩٩١) مشروع قانون لتأسيس الأحزاب السياسية ، وقد وضع إشارات واضحة لحصر السلطة بيد حزب البعث إذ اشترط في تأسيس أي حزب سياسي أن يعترف بما يُسمى ب(ثورة ١٧-٣٠ تموز) ، وأن يكون مؤمنا بالوحدة العربية.

وهذه شروط تؤكد النهج نفسه في حصر السلطات الذي يعد من أظهر مناهج النظام البائد الذي كان يسعى عن طريق التشريع إلى تذكير من يسعى إلى تأسيس حزب سياسي بالدور المميز لحزب البعث الذي له الحق وحده في احتكار الكسب الحزبي داخل القوات المسلحة ، وقوى الأمن الداخلي ، والأجهزة الأمنية الأخرى.



المحور الثالث: الإستبداد في إفساد الأخلاق، ومحاربة العلماء

كان للحكم البعثي الأثر السلبي في العديد من المجالات ومنها إفساد الأخلاق لدى فئات المجتمع المتنوعة ولا سيما الشباب ، والنساء ؛ فقد تفشيت ظاهرة التجسس ، والوشاية على أفراد الشعب من أبناء جلدتهم سواء أكانوا أقارب أم غرباء ولا سيما المنتمين للمؤسسات الأمنية ، ومحاسبة من لم يقيم بذلك .

واستعمل النظام أساليب الترهيب، والتخويف، والتهديد بمسائل تتعلق بالشرف، والاعتبار مع العديد من المعارضين لأفكار البعث وتوجهاته. وكان كل ذلك ضمن خطة ممنهجة اعتمدت على عسكرة المجتمع، واستعمال أساليب البطش والقوة ، ومحاولة تنشئة جيل يقوم على أفكار الإكراه والعنف ، وعدم احترام الآخرين ، وغياب القدوة والرمز الصالح.

لقد كانت المناهج التربوية والتعليمية موجهةً ومسيطرًا عليها من الحزب الحاكم. وكانت تصب في خدمة مصالحه وأفكاره الاستبدادية التسلطية بموجب تمجيد الحزب الحاكم ورموزه ، ومحاربة معارضيه وكل من يحمل فكرياً مناهضاً له ، والعمل على زجهم في السجون ، أو إجبارهم على مغادرة البلاد ، أو إعدامهم وتصفيتهم جسدياً عن طريق عمليات الاغتيال.

وهيمن الحزب الدكتاتوري الواحد على وسائل الإعلام المسموعة والمرئية والمقروءة جميعها ؛ فكانت مسيطراً عليها ، وموجهةً وفقاً لأفكاره وتوجهاته ؛ فكانت سياسته إقصائية استئنافية لأي فكري معارض سواء أكان شخصاً أم مجموعة. وقد كثرت الأجهزة الأمنية الاستبدادية لضمان استمرارية الحكم الاستبدادي الدكتاتوري التي كانت جميعها تعمل من أجل بناء فكره ، وتوجهاته.

وقد حارب النظام الاستبدادي العلم والعلماء بالتقييد والضغط لجعلهم منتمين للحزب الحاكم، وتوظيف مواهبهم وأفكارهم ، لخدمته ، وبخلافه فإن من يرفض سيتم التضييق عليهم ، وعدم السماح لهم بممارسة نشاطاتهم بحرية ؛ فتم تصفية العديد من العلماء ، والمفكرين ، والمثقفين ، أو إجبارهم على ترك البلد لعدم قبولهم العمل مع الحزب الحاكم ، أو لعدم تمجيده ومدحه.

وقد أكدت العديد من التقارير تزايد نسبة التسرب من المدارس في مراحل الدراسة الابتدائية ، والمتوسطة ، والثانوية بسبب الضائقة المالية للعديد من العوائل التي يضطرُّ أبناؤها إلى العمل لكسب المال لإعالة أسرهم.



وكانت السياسة التعليمية المتبعة في التعليم منذ السبعينات وحتى سقوط النظام تركز في توجيه التعليم بما يخدم سيادة النظام، وأهدافه، وتمجيد الحاكم من دون مراعاة حقوق القوميات، وخصوصياتها.

المبحث الرابع: أثر المرحلة الانتقالية في محاربة السياسة الاستبدادية

تعد العدالة الانتقالية نظامًا يطبق في الدول التي شهدت حكمًا استبداديا، وانتهاكات خطيرة وجسيمة للحقوق والحريات ولفئات عديدة من الشعب. وتطبق العدالة الانتقالية بآليات متعددة لإنصاف الضحايا وعوائلهم. وفيما يأتي أظهر محاور هذا المبحث:

المحور الأول: مفهوم العدالة الانتقالية، وآليات تحقيقها

يُعد هذا المحور بيان مفهوم العدالة الانتقالية، والجوانب ذات الصلة المتعلقة بتحقيقها وأهدافها بما يأتي تبينه في ضوء العرض للأفرع الآتية:

الفرع الأول: مفهوم العدالة الانتقالية، ومزاياها

العدالة الانتقالية تلك الوسائل التي تبحث في كيفية معالجة مخلفات الدكتاتورية والأنظمة الاستبدادية؛ فهي - إداً - مفتاح التحقيقات عن الجرائم المرتكبة بحق الأفراد وفقا للمعايير القانونية، وتطبيقا للمعايير الديمقراطية بوصفها منهجاً بديلاً عن سلوك تلك الأنظمة. أمّا العدالة الانتقالية في العراق فقد وُلدت بعد سقوط الحكم الشمولي المستبد في نيسان (٢٠٠٣) نتيجة الاحتلال الأمريكي للعراق في سياق الصراعات الدولية، وهيمنة الولايات المتحدة على العالم.

ولأن حاجة العراق للتغيير السياسي كانت مُلحة سواءً أتمت من داخل البلاد أم بتأثير خارجي ؛ فإن عملية التغيير المسلحة كانت خيارًا لا مفر منه لدى المعارضة التي أُجبر أغلب قياداتها على الهجرة من الوطن طوَال عقود الحكم البعثي ، والتقت مطامحُ الشعب العراقي في تفكيك الحكم الشمولي ، والتحول إلى الحكم الديمقراطي مع هذا الحراك الدولي ، وخرج العراق من الاستبداد ؛ ليقع تحت نير الاحتلال الذي جاء رافعا شعار التحرير ولكن الواقع العملي قد أثبت مدى تأثيره السلبي على النواحي السياسية ، والاقتصادية ، والاجتماعية كلها. وتجدُر الإشارة هنا إلى أن للعدالة الانتقالية مزايا يُمكن تبينها في الفقرة اللاحقة.



مزايا العدالة الانتقالية

تمتاز استراتيجيات العدالة الانتقالية بعدد من السمات العامة نذكر أظهرها:

أ. التدرج: لا بد أن تكون آليات تطبيق العدالة الانتقالية متدرجة ؛ لأنَّ كمًّا كبيرًا من التدايعات التي تجذرت في المجتمع لا يمكن تغييرها دفعة واحدة ؛ ، فتراكمُ إرثِ استبدادي في التعذيب ، واستعمالِ العنف يحتاج إلى سلسلة من علاجات متنوعة بتنوع آثاره ، وأنَّ عقودًا من الحُكم الشمولي لا يمكن أن تنقلب رأسًا على عقب إلى حكم ديمقراطي سوي وفاعل من دون المرور بمراحلٍ زمنيةٍ تُزيل الأثر ، وتستبدله.

ب. الامتداد الزمني: إن التدرج في تطبيق العدالة الانتقالية يتطلب امتدادا زمنيا لإرساء أسسها؛ فكما أن التحول الديمقراطي يكون على وفق جدول زمني فإن برامج مؤسسات العدالة الانتقالية تكون كذلك. وما دام الشعب قد رضي بالحكم الديمقراطي لإرساء العدل ، والإنصاف ، والقصاص ؛ فهذا يعني تعاقبًا لجلسات محاكم تستغرق مُددا زمنية ، وتأهيدا ، وتدريبًا لملاكاتٍ بشرية ، وتطويرًا لمؤسسات سارت عقودا على مناهج الإقصاء ، وعدم احترام الآخر فضلًا عن تأسيسٍ لثقافة الديمقراطية ، وحقوق الإنسان تأسيسا نابعا من واقع المجتمع ، ومتناسبا مع بنيته الاجتماعية ، والثقافية.

ج. التشاركية: لا يمكن لجهة دون أخرى أن تتولى مهمة إرساء آليات العدالة الانتقالية ، وتنفيذها في المجتمع ؛ فهي مهمة ليست باليسيرة إذ تصطدم بمظاهر ترسخت إبان عقود الاستبداد من تمييز ، وتفضيل لعرق أو قومية أو إثنية على أخرى ، وإن زوال السلطة من جماعات أفادت مباشرة منها قد تعمل على إعاقة العمل من دون إشراك فئات المجتمع ومساندتها في التنفيذ بكل مراحلها.

إن العمل على القواسم الوطنية المشتركة ، وتعزيز روح المواطنة تساعد كثيرا على أن يكون العمل جماعيا ، ويتخذ طابعا وطنيا إذ إن النظم المستبدة تعمل على تمزيق النسيج الوطني ، وتعمل على تأجيج التناحر لأنه الرهان الناجع على بقائها في سدة الحكم ؛ فنجد فئات الشعب نفسها في تناحر مع بعضها ، وتتولد بينهم العداوات إلا أن اللجوء إلى الهوية الوطنية هو السبيل الأمثل للعودة إلى ما قبل الاستبداد ، والعمل على رآب الصدع المجتمعي الكبير الذي خلفه فيه من النواحي جميعها. وهذا جوهر مبادئ العدالة الانتقالية ؛ فالمجتمع ينحو للاستقرار حيثما ترسو العدالة والإنصاف ، ويستقيم الميزان ليعود الأفراد متساوين بالحقوق والواجبات بغض النظر عن أي هوية فرعية قد تطعنى على الهوية الوطنية. وهذا أول مبادئ الديمقراطية والحكم الرشيد.



الفرع الثاني: أهداف العدالة الانتقالية

أ- البحث عن الحقيقة وحفظ الذاكرة:

تهدف العدالة الانتقالية إلى إحياء ذاكرة المجتمع بشأن ما ارتُكب من إنتهاكات جسيمة لحقوق الإنسان ترحمًا على الضحايا، واستهجانًا لما وقع عليهم من ممارسات قاسية بما يسهم في نشر ثقافة تضمن عدم تكرار تلك الانتهاكات. وربما يحرص ذوو الضحايا على معرفة تسلسل الأحداث التي تسببت في فقدان ضحيتهم أو موته. وتسعى دول ديمقراطية إلى توظيف العدالة الانتقالية للمطالب الآتية:

- ترسيخ ثقافة احترام الرأي والتعبير عنه.
- التأسيس لنبذ العنف والإستبداد في ضوء تقبل الآخر.
- توظيف الحكام الجدد لها في أثناء التحول السياسي في حملات الانتخاب من مبدأ (حتى لا يعود من جديد).
- وبذلك يحفزون الضحايا، وذويهم للتصويت لصالحهم.
- محاسبة الجناة وترسيخ مبدأ عدم الإفلات من العقاب.

ويقوم هذا الهدف على عاملين مترابطين هما المحاسبة من جهة، وترسيخ ثقافة عدم الإفلات من العقاب من جهة أخرى. فهما يؤسسان لثقافة جديدة لم تألفها مجتمعات عانت من ظلم وإستبداد وإنتهاكات متنوعة من دون أدنى محاسبة للجنة، بل لم يتوقع الشعب أن ثمة عقابًا ينتظر هؤلاء في ظل القهر والقمع الذي خيم على الشعب وبمشاركة مؤسسات معنية، وغير معنية بذلك.

ب جبر المتضرر، ورد الاعتبار للضحايا

يمكن وضع جبر الضرر في إطار مفاهيمي بعدّه علاقة بين ثلاث مصطلحات هي (الضحايا، والمستفيدون، والإستحقاقات). ويهدف برنامج جبر الضرر إلى ضمان أن يتلقى كل من الضحايا نوعًا من الاستحقاقات من ذلك البرنامج، ثم تصبح الضحية مستفيدة. وتتخذ العدالة الانتقالية في هذا الهدف سمة العدالة التصحيحية، وتكمن وظيفتها عندئذ في:

- إعادة الحق المنتهك إلى نصابه، والحقوق المهضومة إلى أصحابها في مجال التعاملات بين الناس؛ فإن الهدف هو عقاب المعتدي، ومحاولة تصحيح الضرر، وإعادة الاعتبار للمعتدى عليه.
- العدالة التصحيحية لا يمكن أن تتحقق في إطار أي نظام سياسي ما لم يكن هناك فصل بين السلطة التنفيذية، والسلطة التشريعية، والسلطة القضائية. ويُعد مبدأ فصل السلطات الركيزة الأساس التي تقوم عليها الأنظمة



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الديمقراطية العادلة ولا سيما تلك التي تنشأ في دول عانت من الاستبداد عندما جمع الحاكم تلك السلطات وأساء استعمالها.

ج. إصلاح المؤسسات

لم تقم أركان دولة الاستبداد بجهود المستبد مفردة، بل ثمة أفراد ومؤسسات رسخت إستبداده ووطدت بنيانه. ولعل المؤسسات الأمنية هي ذراعها التي يسخرها لبسط الخوف بأدواتها القمعية التي من المفترض أن تكون لبسط الأمن، وسلامة المواطن من المجرمين والمهتدين، لا أن تكون هي بعينها تهديدا وقمعا له. ومن إجراءات الإصلاح المؤسسي ما يأتي:

- جعل السلطة الرابعة (الإعلام) سلطة مستقلة حرة معبرة عن الشعب وتطلعاته وسندا للحكومة في برامجها التي تخدم المواطن وليس بوقا لها ولا مزوقا لتقصيرها مع مراعاة التزامها بمعايير الديمقراطية واحترام الآخر.
- محاسبة الجناة الذين هم في الغالب من القيادات العلى في المؤسسات المعنية، وإبعادهم منها فضلا على من تورط من غير تلك القيادات إذ إن المسؤولية لا تسقط عن المأمورين بالجرائم.
- التوعية والتثقيف لمبادئ حقوق الإنسان وأسس التعامل الديمقراطي في مؤسسات الدولة كافة.
- برامج التأهيل والتطوير لملاكات جديدة لا تنتمي للنظام السابق من أجل تسليمها مناصب بديلة عن الجناة في قيادة تلك المؤسسات.
- المتابعة والتقويم والرصد لسلوكيات تنتهك حقوق الإنسان مهما صغرت للحيلولة دون تكرار مآسي الماضي.
- تفعيل مؤسسات الرقابة والنزاهة بترسيخ مبادئ الشفافية في العمل الحكومي.
- وتعد هذه الإجراءات وسائل استرداد ثقة المواطنين بمؤسسات الدولة والمساهمة في دعم القانون والمؤسسات الديمقراطية بموجب آليات شفافة ومتنوعة وشاملة تمنع وقوع مثل هذه الانتهاكات في المستقبل.

د- الاحتفاء وإحياء الذاكرة الجماعية

ومن صور هذا الاحتفاء إقامة النصب التذكارية التي غالبا ما تهدف إلى التعويض الرمزي والجبر المعنوي للأضرار إذ يعجز ضحايا انتهاكات حقوق الإنسان عن نسيانها. ومن واجب الدول الحفاظ على ذكرى تلك الجرائم؛ فالنصب التذكارية الهندسية، والمتاحف، ونشاطات تخليد الذكرى مبادرات تربية ضرورية لوضع السجلات التي لا تترك مجالا للنكران، ولتفادي التكرار.



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إن تخليد ذكرى الشهداء والضحايا بوصفه واحداً من آليات العدالة الانتقالية يأتي عادة بعد القصاص العادل من الجناة، وجبر أضرار ضحاياهم، فلا يمكن الحديث عن تخليد للذكرى قبل أن يحصل الضحايا وذووهم على حقوقهم؛ فالقصاص للضحية وذويه يشفي نفوسهم المكومة، ويُبعد عنهم الرغبة في الانتقام والتدمير بما يعيد الاستقرار للمجتمع، ويعزز وحدته، ويرص صفوفه بعد عهود التشتت والتفرقة والأحقاد التي نتجت عن سياسات الاستبداد. وقد أدى المجتمع المدني في حالات عديدة عملاً محققاً يدفع الدول إلى توالي واجباتها بإطلاق نشاطات تخليد الذكرى. وكلما طالت عهود الاستبداد تراكمت وتشعبت المعاناة، وتضاعف عدد الضحايا، وتنوعت قصصهم. إن تخليد الذكرى لا يتطلب تجسيد مفاصل الاستبداد كلها، ولا مراحلها كلها.

هـ - مؤسسات تطبيق العدالة الإنتقالية

لقد طبقت العدالة الانتقالية في العراق بعد سقوط النظام البائد عام (٢٠٠٣) بتأسيس مؤسسات العدالة الانتقالية التي أكدها دستور جمهورية العراق لسنة (٢٠٠٥). وقد تمثلت في سبع مؤسسات هي:

- ١ - مؤسسة الشهداء، وقانونها ذو الرقم (٣) لسنة ٢٠٠٦.
- ٢ - مؤسسة السجناء السياسيين، وقانونها ذو الرقم (٤) لسنة ٢٠٠٦.
- ٣ - المحكمة الجنائية العراقية العليا، وقانونها ذو الرقم (١٠) لسنة ٢٠٠٥.
- ٤ - وزارة حقوق الإنسان، ومفوضية حقوق الإنسان التي أُسست بتاريخ (٢٠٠٤/١/١) بتشريع قانونها من سلطة الائتلاف لاستحداث وزارة لحقوق الإنسان.



الفصل الثاني

المبحث الأول: الميدان النفسي

إن مجيء نظام الحكم السابق الى السلطة في العراق كان ضمن خطة مدروسة ومقررة مند بدايات القرن الماضي. والخطة بدأت على شكل مراحل تكمل أحداها الآخر ابتداءً من اسقاط النظام الملكي في العراق الذي كانت تؤيده بريطانيا. اذ ظهرت قوى استعمارية جديدة في العالم بعد نهاية الحرب العالمية الثانية، وبدأت هذه القوى الاستعمارية الجديدة بإزاحة الاستعمار البريطاني من المنطقة وكل رموزه وجاءت بالنظام الجمهوري الى العراق. ولم تعلن هذه القوى الاستعمارية الجديدة عن نفسها بشكل سافر وصریح وبقيت مستترة واكتفت بتزويد العراق وكثير من دول العالم الثالث بالمساعدات مثل الحنطة والارز والحليب مجاناً لتحسين صورتها كقوى محبة للشعوب الساعية للتحرر من الاحتلال الانكليزي.

المحور الأول: الآليات النفسية والاجتماعية التي استعملها نظام الحكم السابق

افتعل نظام الحكم السابق^(١) جملة من الظواهر والآليات عند تسنمه للسلطة عام ١٩٦٨ بهدف احداث تغييرات عميقة في سيكولوجية الانسان العراقي، وبنية المجتمع العراقي. للتمهيد الى مرحلة الاحتلال العسكري للعراق لاحقاً من قبل القوى الاستعمارية الجديدة. ومن أبرز الظواهر والآليات التي أفتعلها النظام البعثي:

١. ظاهرة الندرة والشحة

بدأت ظاهرة اختفاء المواد الغذائية من السوق بمجرد وصول النظام السابق للسلطة في العراق عام ١٩٦٨. حيث بدأت تختفي مواد غذائية أساسية من السوق وبشكل مفاجئ ومفتعل مثل الحنطة وما صاحبها من جلبة إعلامية حينها تتعلق بالحنطة المسمومة، واختفاء معجون الطماطم، والبيض، والدجاج، والبطاطا، والسجاير... الخ. فلم تكن تمضي مدة قصيرة من الزمن دون إختفاء مادة أساسية من السوق وبشكل كامل.

(١) يجب الانتباه الى ان هذه الآليات والظواهر التي افتعلها نظام الحكم السابق ليست من بنات أفكار رموز النظام، ولكنها نصائح وتوصيات صادرة من القوى الاستعمارية الجديدة الى النظام لتطبيقها.



ظاهرة الإلهاء

ومن هذه السياسة المقصودة ظاهرة (عدنان القيسي) على سبيل المثال، اذ بدأ الناس يتكلمون عليها صغارا وكبارا. الى جانب اقامة المهرجانات الغنائية والفنية وإستقدام المطربين والفنانين العرب، وجانب التوسع في فتح الملاهي الليلية ومحال شرب الخمر، والسماح لدور السينما بعرض الأفلام الإباحية، وجلب الراقصات من دولة عربية معروفة وبشكل غير مسبوق، وكذلك جلب بنات الليل من الفلبين... الخ.

آلية الرعب والتخويف

قام النظام السابق بنشر الرعب والتخويف في العراق بوسائل عدة منها اعدام المناوئين للنظام وإعدام شبكات التجسس (المزعومة) وعلى رؤوس الاشهاد لبث الرعب بين المواطنين وافتعال ظواهر اجتماعية مرعبة مثل (أبو طبر) و(تجنيد الفتوات) أو ما يطلق عليهم بالمصطلح العراقي الشعبي (الأشقياء) للعمل ضمن سلك الشرطة، واعطائهم رتباً عسكرية شرفية لفرض هيبة الدولة على المواطنين وبالقوة والتخويف.

آلية الافقار والتجويع

وتتمثل هذه الآلية بظاهرة الحصار الاقتصادي التي يمكن وصفها بأنها من أخطر الظواهر التي عانى منها الشعب العراقي اذ استطاع النظام السابق بها تدمير القدرة الشرائية للمواطن العراقي وإفقاره اذ اضطر العراقيون الى بيع كل ما يمتلكونه لسد احتياجاتهم، وكذلك ضرب المنظومة الأخلاقية للمواطن العراقي وتفشي الفساد بكل أنواعه وصوره. وأصبح اغلب العراقيين (خصوصا في المنطقتين الوسطى والجنوبية) تحت خط الفقر بمراحل عديدة، وقام النظام بافتعال شركات وهمية تقوم بأخذ أموال المواطنين ومدخراتهم بحجة الاستثمار، ثم الهروب برؤوس الأموال هذه خارج العراق. وهذه الشركات في الحقيقة كانت تديرها المخابرات العراقية تحت مسميات وهمية مثل (سامكو) وغيرها. كذلك افتعال نزول سعر صرف الدولار في عام ١٩٩٤ الى ما يقرب من ١٠٠٠٠٠ دينار عراقي بعد ان كان يبلغ ما يقرب من ٤٠٠٠٠٠ دينار عراقي حيث استطاع النظام بهذه اللعبة الاقتصادية من سحب الكثير من أموال العراقيين ومدخراتهم.

آلية الضغط والعقاب النفسي

وذلك بالإبقاء على ظاهرة تقليل تزويد الطاقة الكهربائية. فمن المعلوم ان النظام السابق عمل الكثير من المشاريع العملاقة في عقد التسعينات من القرن الماضي مثل برج الاتصالات في بغداد والجسر ذي الطابقين



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وغيرها ولكنه لم يبذل اي جهد حقيقي لحل ازمة الكهرباء. بل انه استغل هذه الظاهرة لخدمته للضغط على العراقيين ومعاقتهم بعد أحداث الإنتفاضة الشعبانية. فيما أبقى العاصمة بغداد خارج منطقة الضغط بتأمين الكهرباء لها بشكل دائم.

آلية التطهير العرقي والمذهبي

قام النظام السابق بعملية تطهير عرقي ومذهبي كبيرة اذ شجع المواطنين العراقيين والعرب- وعلى وجه الخصوص من المنطقتين الجنوبية والوسطى- على الذهاب الى المنطقة الشمالية وقدم لهم مغريات في هذا الصدد. كما شجع المواطنين الاكراد على المجيء الى وسط العراق وجنوبه بهدف تغيير خارطة المنطقة الجنوبية والوسطى والشمالية.

وقام بعملية تطهير مذهبي هائلة مستغلا الحرب المفتعلة ضد إيران. فالمعروف ان غالبية الجيش العراقي آنذاك وخصوصا الجنود والرتب الصغيرة هم من سكان المنطقتين الجنوبية والوسطى وبتعبير أدق من العراقيين (الشيعة). اما الرتب العلى وأجهزة الامن والمخابرات وأجهزة الامن الخاصة فإن منتسبيها من سكان محافظات صلاح الدين، والانبار، وديالى، ونينوى. أي من العراقيين (السنة). ومعروف أن ضحايا الحروب يكون معظمهم من الجنود والرتب الصغيرة، أي من العراقيين (الشيعة).

آلية الافكار العلمي والثقافي

قام النظام بأكبر عملية تفرغ وافكار ثقافي وعلمي في التاريخ لشعب من شعوب الارض اذ استعمل النظام السابق عقاب الحصار المزعوم في عقد التسعينيات من القرن الماضي وقام بشكل ظاهري غير حقيقي بمنع أساتذة الجامعات والمهندسين والأطباء من السفر خارج العراق. ولكنه في الحقيقة كان يقوم بتهريبهم الى خارج العراق بخدعة رخيصة ومكشوفة وهي دفع ما يقرب من مليون دينار عراقي للحصول على جواز عراقي (مزور!!) للهروب خارج العراق، وبهذه الخدعة المكشوفة، وضغط الحصار المخيف ترك العراق عشرات الآلاف من المهندسين وأساتذة الجامعات والأطباء الى جانب عشرات الآلاف من العمالة الوسطى الماهرة. وخير دليل على ذلك وجود ما يقرب من ٥٠٠٠ طبيب عراقي في انكلترا وحدها الآن.

المحور الثاني: الآثار والتبعات النفسية والاجتماعية والتربوية

ان تبعات الآليات والظواهر المذكورة في هذا العنوان التي استعملها النظام السابق بتوصيات مباشرة من أسياده المستعمر الجديد كان يقصد منها تحقيق أهداف بعينها والخوض في تفاصيل هذه الاهداف قد تنتهي الى



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تشعبات عديدة لسنا في حاجة لها، لذا سوف تتم الإشارة الى أهم الاهداف وأخطرها التي كان المستعمر الجديد يهدف الى تحقيقها باستعمال السلطة البعثية بالآليات والظواهر التي أُشير اليها سابقا وهي:

١. ضرب الدين الإسلامي والقيم والعادات الأخلاقية السامية السائدة في المجتمع العراقي.
٢. إفراغ العراق من طاقاته وقياداته الدينية، والعلمية، والثقافية، والفنية إما عن طريق التصفية الجسدية أو بإجبارهم وبشتى الطرق على مغادرة العراق.
٣. ضرب أسس النظام التربوي بإجبار المعلمين والمدرسين وأساتذة الجامعات ممن رفض مغادرة العراق على العمل باعاً متجولين في الأسواق لتحمل تكاليف الحياة مما شجع على إعلاء قيمة الجهل والحط من قيمة الثقافة.
٤. تفتيت الأواصر والروابط الاجتماعية التي كانت تشد النسيج الاجتماعي العراقي وتأكيد قيم الطائفية والعشائرية والمناطقية.
٥. زرع بذور الفساد في المجتمع العراقي الذي نحصد آثاره الآن.
٦. زرع أحاسيس الضعف والعجز في شخصية المواطن العراقي حد الاستسلام.
٧. تأهيل الشعب العراقي نفسيا واجتماعيا وفكريا الى تقبل فكرة التدخل الخارجي لتخليصه من النظام الديكتاتوري القمعي والاستبدادي، ثم تقبل فكرة الاحتلال من قبل الاجنبي لاحقاً.

المبحث الثاني: الميدان الاجتماعي

الفرع الأول: حكم العائلة واختزال الوطن في شخصية الحاكم:

على الرغم من أن الدولة العراقية الحديثة قد نشأت في ظل تحديات كبرى، كان من أهمها عملية صعوبة دمج مكونات مجتمعية كانت ثقافتها الفرعية تقوم على جملة من الخلافات الكامنة فيما بينها؛ الظاهر منها أقل من الكامن الذي تناقلته الذاكرة الجمعية للمجتمع طوال قرون من الشد والجذب؛ إلا أن هذه الدولة كانت تسير على طريق مهما كانت عقباته كبيرة إلا أنه كان طريقاً يشق لرسم مستقبل بناء دولة موحدة؛ ومع ذلك فشلت الحقبة الملكية (١٩٢١ - ١٩٥٨) من إقامة دولة مواطنة، والنهوض بمجتمع عراقي موحد حتى مع وجود إنتماءاته الفرعية.

دخل العراق بعد تموز ١٩٥٨ في سلسلة من الصراعات التي جذرت حالة عدم الوئام التام بين مكونات المجتمع (القومية، والدينية، والمذهبية، والمناطقية)؛ وعلى الرغم من الخط الوطني الذي انتهجته حكومة عبد الكريم



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قاسم (تموز ١٩٥٨ - شباط ١٩٦٣) إلا أن التحديات الكبرى ظلت حاضرة تعرقل قيام حكم وطني دون الميل أو الانحياز لجهة على حساب أخرى، ولقد وقفت في وجه هذه الحكومة جهات وأحزاب وقوى ومؤسسات تعاني هي ذاتها من اختلاف فيما بينها وتربص أحداها بالأخرى إلا أنها اجتمعت على إسقاط تجربة حكم وطني يتعامل مع العراقيين على أساس المواطنة وليس القومية أو الدين أو الطائفة.

ولقد مرت تلك المدة والمُدد التي جاءت بعدها العارفية (١٩٦٣ إلى ١٩٦٨) ثم حكم البعث للمدة من تموز ١٩٦٨ وحتى تموز ١٩٧٩ - فترة حكم احمد حسن البكر- دون الوصول إلى مرحلة الحكم الشمولي الاستبدادي الذي تكرر لاحقا في شخص الزعيم كما حصل مع (صدام حسين) الذي أصبح الزعيم الأوحده؛ إذ هو بطل النصر والسلام، وهو الذي يمنح حق الموت والحياة، يمنع ويمنح، ويقرر دائما هو وحده دون أن يستشير أحدا استشارة حقيقية يمكن الأخذ بها. ولقد جاءت القرارات المصيرية الكبرى التي أدخلت العراق في نفق الضياع نتيجة أفكار، ورؤى، وأحلام شخصية بحتة؛ دخل البلد والمجتمع من خلالها في أتون محارق الحرب مع إيران (١٩٨٠-١٩٨٨)، وغزو الكويت ١٩٩٠، وحرب عاصفة الصحراء ١٩٩١، ثم الاحتلال الأمريكي في نيسان ٢٠٠٣، وما بين تلك الحروب كانت هناك هجمات أمريكية بين وقت وآخر، وكانت الحرب الناعمة المميته تتمثل بالحصار الاقتصادي (١٩٩١-٢٠٠٣) الذي أسهم في هدم البناء الاجتماعي العراقي؛ وأدخل المجتمع في عصر جديد من عدم الأمن والاستقرار، كما أن التنمية تعطلت، وارتفعت بشكل مخيف نسب الأمية، ومعدلات الفقر، ومستويات البطالة، وانخفض الأداء الحكومي، وشاع الفساد الإداري وتجذر الفساد المالي، وانتشرت ظواهر خطيرة تمثلت بالتسرب المدرسي، وانحراف الأحداث، والإتجار بالمخدرات، وتعاطي الحبوب المخدرة، والتفكك العائلي، والجريمة المنظمة.

وفي ظل الأوضاع المعقدة التي أدخل النظام السياسي المجتمع فيها، ازداد تمسك رأس النظام-صدام- بالأفكار التقليدية دون محاولة التصحيح أو التقويم والتعديل، وبعد أن كان ينادي بالوحدة العربية، وتحقيق الأهداف والشعارات البراقة، صار بعد كل أزمة يرتمي في أحضان العشيرة، ثم الفخذ القبلي الذي ينتمي له، بل حتى الفرع العائلي لم يسلم من التشذيب نتيجة صراع الجيل الثاني من الأبناء والأصهار في محاولة الحصول على المناصب الحكومية المهمة التي صارت حكرا على العائلة.

ولقد صارت شعارات مثل (إذا قال صدام قال العراق) يتم تداولها يوميا في المدارس، والثكنات العسكرية، والدوائر الحكومية دون أن يكون هناك إيمان حقيقي بها، لكنها كانت تقع ضمن سياق اعتاد عليه المجتمع



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خوفا من بطش النظام، أو تملقا للحصول على منصب او للاحتفاظ بآخر. وهكذا صار بلد عمره ثمانية آلاف عام يتم اختصاره بشخص الزعيم الذي كان قد استمرراً للعبة دون أن يدرك أنه يسير في الطريق الخاطئ وأنه يقود نفسه والبلد برمته نحو المجهول.

الفرع الثاني: جدلية الحاكم والمواطن بين النفاق والظلم وتعزيز ثقافة المدح

تعتمد نظام البعث العمل على إثارة النعرات الطائفية والمناطقية والقومية بين أفراد الشعب العراقي إذ أثار روح النزاع الديني بين أفراد الشعب فقد ضرب المسلمين بغيرهم من غير المسلمين وأشاع روح الطائفية بين المسلمين فقسّمهم الى طائفتين (السنة والشيعة) مفضلاً طائفة على أخرى مانحاً الامتيازات لإحدهما دون غيرها، كما أثار روح النعرات القومية بين العرب والکرد رافعا الشعارات القومية التي توحى بأن الوطن هو ملك لقومية واحدة وأن الآخرين هم مجرد مستوطنين، عامدا الى تهجير العديد من المواطنين من ديارهم إلى أماكن أخرى سواء داخل العراق او خارجه كما فعل في حملات التسفير المستمرة للكثير من العوائل العراقية وإخراجهم خارج حدود الوطن ورميهم على الحدود، ومنع مواطني الداخل من الانتقال من محافظاتهم والسكن في محافظات أخرى، وسحب الجنسية العراقية أو تسقيطها عن العديد من المواطنين وأثار في نفوسهم روح العدا للوطن بالتشكيك في وطنيتهم.

إن إنسلاخ المواطن عن شعوره بالمواطنة والانتماء الحقيقي لوطنه وتهديده المستمر بالتهجير والتشكيك بانتمائه ووطنيته هدد أمنه الاجتماعي، وأفقده هويته بالانتماء وأصبح يعيش في حالة الإغتراب النفسي على الرغم من وجوده الفعلي على أرضه التي ولد فيها. وتشير الأبحاث النفسية الى ان شعور الفرد بالاغتراب النفسي داخل وطنه يهدد ذاته ويضعف ولاءه لوطنه الحقيقي ويجعله يعيش في صراع دائم من اجل إثبات وجوده النفسي مما يقلل أداءه وإنتاجه وإختلال موازينه وعيشه حالة صراع مستمر مع قيم المجتمع الذي يعيش فيه محاولا الهجرة للبحث عن وطن يشعر فيه بالاستقرار والأمن النفسي والاجتماعي. لذا زاد أعداد المهاجرين من العراق الى دول العالم الأخرى بحثا عن الاستقرار اذ تشير كثير من التقارير الى هجرة آلاف المهندسين وأساتذة الجامعات والأطباء والعمالة الماهرة وغيرهم.

الفرع الثالث: الولاء أولاً، وعسكرة المجتمع

اعتمدت الدولة العراقية منذ النصف الثاني من العقد الثامن من القرن العشرين على تعبئة الجماهير، وعسكرة المجتمع ظناً منها أن هذا الأمر سيدعم بقاءها في السلطة بالاحتماء بالناس من أية أخطار قد تلحق



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بها من قوى سياسية مناوئة لها، كما أنها كانت تظن أن انشغال الناس بالتعبئة والتحشيد سيجعلها جزءاً من جسد النظام، وينسيها أي مطالب تتعلق بحقوقها في الحياة الكريمة والعيش الرغيد.

لقد إستنسخ النظام السياسي في العراق الذي كان يقوده حزب البعث تجارب من أوروبا الشرقية والصين والاتحاد السوفياتي والأنظمة الاشتراكية في أميركا الجنوبية في محاولة منه لتطبيقها في العراق، وكان هناك جملة من الأهداف التي تصب في مصلحة النظام منها تنظيم مؤسسات رديفة للجيش تقوم على تنظيمات مليشياوية يقودها الحزب مثل (الجيش الشعبي)، وتنظيمات الفتوة والشباب التي كان الفتيان يندرجون فيها برغبتهم أو من دونها بهدف إنشاء أجيال جديدة مؤدلجة تدافع عن النظام، ولاحقاً تأسيس تنظيم فدائي صدام الذين قاموا بجرائم يندى لها الجبين.

ولقد أسهمت هذه السياسة في تجذير نزعة العنف لدى الشخصية العراقية بزرع القسوة في نفوس الشباب وسرقة أجمل سنوات عمرهم التي كان من الممكن تمضيها بالمعرفة واللعب والرياضة والفن، إلا أن البلد تحول بعد العام ١٩٨٠ إلى معسكر كبير للتدريب على حمل السلاح وتفعيل استعماله.

وما أن يصل الشاب إلى عمر الثامنة عشرة حتى يصبح رقماً ضمن آلة القتل المتمثلة بالحرب الطاحنة التي استمرت ثمانية أعوام متواصلة أكلت الأخضر واليابس وأحرقت سني عمر الناجين من الجنود الذين وجدوا أنفسهم دون أدنى أمل في الحياة الآمنة المستقرة، إذ كانت كوابيس الحرب، والتجنيد لها، والموت الذي كان محيطاً بهم في خنادق السواتر الأمامية لها تلاحقهم حتى بعد تسريحهم من الجيش، لذا ظهر مجتمع جديد في العراق بعد العام ١٩٨٨ يختلف كثيراً عن مجتمع ما قبل الحرب؛ ثم استمرت مغامرات النظام الكارثية، فقد استمر هذا النظام على نهجه التقليدي العقيم في معالجة التحديات التي كان يتعرض لها، لذا استمر في عمليات التحشيد والتعبئة، وكان الإعلام يصور استعداد العراق للدخول في محرقة جديدة وكأن أعوام الدمار الثمانية - الحرب العراقية الإيرانية- لم تكن كافية، حتى تم زج هذا البلد الصغير في أتون محرقة جديدة من خلال الوقوع في الكمين الذي نصبته دوائر الاستخبارات الأمريكية والبريطانية فقام بغزو الكويت الذي تسبب في سلسلة من الحروب والحصار استمرت من العام ١٩٩٠ وحتى العام ٢٠٠٣ عندما أسقطت القوات الأمريكية ذلك النظام السياسي المستبد وأدخلت البلد والمجتمع في مرحلة جديدة من الصراع وعدم الاستقرار وفقدان التنمية.



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لقد سلبت سياسات النظام - المتعلقة بعسكرة المجتمع - من ذلك المجتمع حقه في العيش الآمن المستقر والاستمتاع بحياة صحية آمنة وطويلة؛ ففي الوقت الذي كانت فيه شعوب المنطقة تعيش التنمية على المستويات كافة، كان العراق غارقاً في دوامات الحرب والدمار.

ولقد أسهمت عسكرة المجتمع في ولادة أجيال تربت على العنف ونشأت على حالة الطوارئ المستمرة، لذا تجذرت لدى المجتمع العراقي خاصة بين الأجيال الشابة التي ولدت بعد العام ١٩٨٠، ثقافة العنف والتطرف التي ظهرت تمثلاتها بعد سقوط النظام عام ٢٠٠٣، فقد كان المجتمع في حالة إستعداد نفسي- ثقافي على الاقتتال الأهلي دون وجود أهداف واضحة، إذ كان القتل لأجل القتل، وهي حالة ما كان يصل لها المجتمع لو لم يكن قد مر بظروف الحرب، وإرهاب الدولة، والقمع، وتكميم الأفواه، ومصادرة الآراء، وتغول الدولة بكل اجهزتها وهي ترهب المواطن البسيط، وتهدهه بمختلف العقوبات بما فيها قطع الماء والكهرباء والطرده من الوظيفة وإسقاط الجنسية، والتعذيب الجسدي والنفسي، والتغييب، والإغتيال، والإعدام.

المبحث الثالث: الدين والدولة

لم يرد للدين في دستور الحزب لعام ١٩٤٧م ذكر مباشرٌ الا ان الإشارة الى علمانية الحزب قد وردت ضمناً في بعض المواد. وقبل التطرق لها لابد من تعريف العلمانية ومفهومها، فالعلمانية تعني فصل السياسة عن الدين وهذا لا يعني ان السياسة تعادي الدين او ان الحاكم ملحدٌ او ان الدولة العلمانية ملحدة , وتتميز الدولة العلمانية بإحلال القانون الوضعي وانحسار الحكم بالحق الإلهي، إذ وردت الإشارة الى العلمانية في مواد دستور حزب البعث بشكل ضمني , فقد نصت الفقرة الأولى من المادة الثانية من المواد الأساسية على حرية الكلام والاجتماع والاعتقاد وأنها مقدسة لا يمكن لأي سلطة أن تنتقصها , وجاء في المادة الثالثة من المبادئ العامة : انه حزب قومي يؤمن بان القومية حقيقة خالدة وان الشعور القومي هو الذي يربط أبناء الوطن , وورد في المادة (١٥) ضمن سياسة الحزب الداخلية بان الرابطة القومية هي الرابطة الوحيدة القائمة في الدولة العربية. وذكرت المادة (١٨) ضمن الباب نفسه انه يوضع بملء الحرية تشريع موحد للدولة العربية منسجماً مع روح العصر وفي ضوء تجارب الأمة العربية في ماضيها.

ومن المواد أعلاه نلاحظ ان الحزب لم يتطرق الى الدين إطلاقاً، بل كانت جميع دعواته علمانية. وقد برزت قضية الدعوة الى العلمانية في أفكار وأطروحات مؤسسة المسيحي (ميشيل عفلق) عندما كتب في عام ١٩٥٦م



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في شهر آذار مقالاً بعنوان (نظراتنا الى الدين) وفي نيسان عام ١٩٥٦م كتب مقالاً آخرًا بعنوان (قضية الدين في البعث العربي).

ومن أفكاره الأخرى المتناقضة التي بثها بين أتباعه انه عد الإسلام حادثاً قومياً وانسانياً وعالمياً ويجب على الشباب إعطاؤه حقه من الإهتمام يدرسونه بكل ظروفه وتفصيله وملابساته، ويقول (إن الإسلام حركة ثورية ولا يفهم الإسلام حق الفهم سوى الثوريين). بمعنى انه يريد ان ينسب أمور الدين الى رجالات حزب البعث!

وسنقوم بتقسيم هذه الدراسة على محورين

المحور الأول: جرائم منع نشر التعاليم الدينية ومصادرة العلم والمعرفة، وتنطوي تحته عدة محاور.

المحور الثاني: جرائم قتل العلماء والشباب المتدين وحظر الاحزاب الدينية وايضا تنطوي تحته عدة محاور.

هذه الجرائم التي سأسجلها لكم ليست من وحي الخيال بل هي ممن عاش سني الألم والمعاناة، للتاريخ وللأمة التي لازالت تنتظر الأمل بعد سراب البعث الزائل، وللأجيال المقبلة لئلا تلدغ من جحر مرتين،

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المدخل

لنفرض اننا حاولنا ان نسجل الجرائم والانتهاكات التي قام بها نظام البعث المقبور ضد الشعب العراقي او الشعوب المجاورة لوجدنا أنفسنا من الصعوبة بمكان انها لو جمعت بكتاب لكان أجزاء وأجزاء؛ لأنها امتدت لتشمل كل أمور الشعب ومجريات الحياة وتفصيلها الدقيقة.

إستولى النظام البعثي الفاشي على الحكم بعد إنقلاب على حكم عبد الكريم قاسم سنة ١٩٦٣ م، وبقيادة عبد السلام عارف واحمد حسن البكر، فما كان من صدام حسين إلا أن عاد الى العراق _ إذ كان خارج العراق _ بعد هذا الإنقلاب المشؤوم، (وواصل نشاطه في خلايا الحزب وأجهزته القمعية في مدة إبعاد عبد السلام عارف للبعثيين عن السلطة، وفي سنة ١٩٦٨ م شارك صدام حسين التكريتي - كما كان يعرف آنذاك - مشاركةً مهمةً في الإنقلاب البعثي على حكم عبد الرحمن عارف، وكان من أركان هذا الإنقلاب الذي رسخ اقدام البعثيين في السلطة على حساب جميع منافسيهم كل من (أحمد حسن البكر، صالح مهدي عماش، و حردان التكريتي) وأصبح صدام - (الرجل الدموي) في الظل وهو في سن ال (٣١) - نائباً لأحمد حسن البكر رئيس مجلس قيادة



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الثورة ونائبا لرئيس الجمهورية سنة ١٩٧٣ م، وفي عام ١٩٧٩ (١٢ تموز) وفي عملية دموية داخل حزب البعث تسلم صدام الحكم بعد مجزرة قاعة الخلد الشهيرة.

حارب صدام حسين منذ اليوم الأول من توليه السلطة الدين ورجالاته؛ لأنه كان يرى ان (الشعب العراقي من اكثر شعوب المنطقة اطلاعا على الأفكار المستحدثة التي طالما تفاعل معها بالنقد والتصويب الذي جعله من الشعوب التي يصعب على افراده تبني فكرة بعينها؛ ويعود ذلك الى جملة أسباب لعل أهمها سعة اطلاعه وعمقه الثقافي وحضارته الضاربة في القدم التي دعمت شخصية الفرد العراقي وزادت من قوتها وصلابتها؛ لذلك كان من الصعب على أية جهة حزبية كانت أم غير حزبية أن تفتح مجتمعا كاملا بأفكارها وأن تلزمه بتطبيقاتها حتى لو كان قسرا، فما كان منه إلا أن حارب عقائد الناس من الصميم بل وضربها بالصميم وطرح بدلها أفكارا حزبية فاشية، معلنا أن حزبه يرعى الحريات ويصون شرف المجتمع العراقي وكرامته، في الوقت الذي يقمع ويعتقل ويعذب قادة الرأي في المجتمع الذين كانوا بمثابة مشاعل للمعرفة والعلم، فقام بكل ما من شأنه القضاء على العلم والعلماء، خذ من ذلك:-

- ١- إغلاق الصحف والمجلات ووسائل الاعلام الإسلامية ومنع دخول الصادر منها في الخارج.
- ٢- إحتكار وسائل التربية والتعليم كلها والسيطرة على برامج المدارس والجامعات العراقية، حتى قام أخيرا وبعد أحداث ١٩٩١ بإغلاق كلية الفقه العريقة، بعد ان اتهم أساتذتها وطلبتها بإثارة الشغب من داخل الكلية، بل اتهم الكلية بأنها أصبحت مقرا للثوار، وهو ادعاء عار عن الصحة؛ لأنه وبعد أحداث ١٩٩١م أغلقت المدارس والجامعات جميعا وهرب الناس، فمتى أصبحت مقرا للثوار؟؟!!
- ٣- الحد من انتشار الكتب الإسلامية ومحاربتها؛ وذلك بمنع طبعها واستيرادها وتوزيعها وتداولها.
- ٤- إغلاق جميع المؤسسات الإسلامية للتربية والتعليم، كالمدارس والثانويات والكليات والجمعيات الخيرية وغيرها.
- ٥- منع بث الشعائر الإسلامية وصلاة الجمعة والمراسيم الدينية من الإذاعة والتلفزيون.
- ٦- منع إقامة كثير من الشعائر الدينية.
- ٧- ربط أئمة المساجد والخطباء بأجهزة السلطة بفرض رواتب شهرية عليهم، وتحديد الموضوعات التي يتحدثون فيها، وإعدادها من قبل دوائر الأمن العاملة تحت اسم وزارة الأوقاف.



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- ٨- حظر المحاضرات الدينية، فطارد وحارب واعتقل وسحل وأعدم رجال المنابر والخطباء والمؤلفين والمفكرين والشعراء، فهجر الكثير منهم كالشيخ احمد الوائلي ومحمد باقر المقدسي وغيرهما.
- جرى مفعول النقاط الأربع الأخيرة (٥-٦-٧-٨) لعلم النظام البعثي المقبور بأن الشعب العراقي شعب محب للعلم والمعرفة، بل هو كذلك يحب ان يطبق ما يسمعه بحذافيره او بعضا منه، هذه الجنبه أقلقت أعلام النظام فقرروا التضيق على كل ما هو مفيد يزرع الوعي في نفوس الشباب، حتى أنهم في أحيان كثيرة قد وضعوا مواصفات لرجل الدين الذي يلقي المحاضرة _ ولو ان الكل رفضها _ وهي:
- ١- أن يكون انتماؤه وولائه للحزب والثورة.
 - ٢- لا يخوض بما يثير الفضول وحب الاستطلاع لدى الشباب أو يثير علامات استفهام لديهم قد تجر الى ما لا يحمد عقباه.
 - ٣- الالتزام بوقت محدد لإلقاء المحاضرة مع حضور رجال الأمن البعثي وقت المجلس.
 - ٤- إن لم يلتزم الخطيب بما هو أعلاه عرض نفسه للاعتقال والمساءلة التي قد تؤدي بالبعض الى الإقامة الجبرية او السجن، ثم الإعدام او الإغتيال.
- نتيجة لهذا انكمش عدد المحاضرات الدينية، بل انعدمت في بعض المناطق، وهذا السلوك لم يكن مع الطائفة الشيعية فحسب بل حتى في المناطق السنية والكردية لكنها مورست على نطاق واسع في المناطق الشيعية؛ بوصفها الطائفة التي عانت من ويلات البعث وعنجهياته أكثر من غيرها.
- ان الإجراءات السابقة التي قام بها النظام السابق كان الهدف منها القضاء على روح الدين بما يجعله اداة لتنفيذ افكاره وسياساته من خلال:
- ١- بث الروح الطائفية التي سلكها ازام النظام، فقد إمتازت السلطة السابقة بالطائفية فكانت لديهم نزعة الكراهية والبغض لبعض طوائف المسلمين.
 - ٢- العامل السياسي: فإن أزام النظام كانوا يعلمون علم اليقين أن الشعائر الدينية سوف تكون فعالة في استنهاض حماسة الجماهير الحاشدة.
- إن هذه الحماسة عامل محوري كان يتوجب قتله في نفوس الشباب العراقي وهي من جهة ثانية توطن العلاقة الروحية بين القواعد الجماهيرية ومرجعياتها الدينية.
- ٣- ان النظام البعثي رأى ان تلك الشعائر شكلاً من اشكال التهديد السياسي لوجوده؛ بوصفها وسيلة من الوسائل التي يمكن بها كسب الولاء السياسي، لا مجرد الولاء الديني.



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- ٩- محاربة الحجاب الإسلامي في المدرسة والجامعة والشارع ومعظم مرافق الدولة، وتشجيع السفور والخلاعة والابتذال ودعم عوامل نشرها وهذا تدخل سافر بالحري الشخصية.
 - ١٠- زيادة الطاقة الإنتاجية لمعامل المشروبات الكحولية، ومضاعفة استيراد هذه المواد من الخارج، والتشجيع على فتح حانات الخمور والبارات والملاهي وأماكن الرذيلة والمجون.
 - ١١- إنشاء مراكز الشباب والاتحادات ومنظمات (الطلائع) و(الفتوة) المختلطة، وجعلها بؤراً لانتزاع الدين والعقيدة من الاحداث والشباب من الجنسين وسلب كل ما لديهم من التزامات خلقية وعرقية.
 - ١٢- التركيز الكامل في القرى والأرياف والعشائر في محاولة مدروسة لتحويلها الى مجتمع منحرف لا يؤمن بأبسط المبادئ والالتزامات الدينية والعرفية، بوساطة افسادها وإشاعة مختلف الممارسات اللاأخلاقية فيها، وما يحصل اليوم في أريافنا العراقية لهو دليل على نجاح خطته المقيتة، فقد آتت خطته أكلها الآن.
 - ١٣- الضغط على كل من يتمسك بالممارسات العبادية والدينية واتهامه بمختلف الاتهامات كالرجعية والتخلف والتحجر، والاستهزاء به وتشويه سمعته والتشهير به.
 - ١٤- إصدار قوانين (مدنية) منافية للشريعة الإسلامية في المجال الاجتماعي، كقانون الأحوال الشخصية، ومسائل الإرث والزواج وغيرها، مما يضطر الجمهور الى ترك الالتزام بقوانين الشريعة
 - ١٥- حظر طباعة الكتب والمؤلفات الدينية، وكنهجه السابق مع كل ما يخص التربية والتعليم قام بحظر طباعة هذه الكتب حقداً منه على العلم والعلماء والدين معاً، فهو يحاول دائماً إشاعة الجهل والتجهيل خوفاً من التعلم والتعليم ظناً منه أن العلم سوف يبعث على إثارة الوضع ضده.
- الفرع الثاني: جرائم قتل العلماء والشباب المتدين وحظر الأحزاب الدينية**

مدخل

منذ ان إستولى حزب البعث على السلطة عبأ إمكاناته لضرب الحركة الإسلامية في العراق، هذه الحركة التي (تعد على المستوى التاريخي حالة متجذرة في تركيبة المجتمع العراقي؛ فقد تميز هذا البلد منذ القدم بأنه مادة التفاعلات التغييرية، وما تمخض عنها من ثورات وانتفاضات إسلامية تصحيحية).

وقد كانت ومازالت الحركة الإسلامية المعاصرة امتداداً واقعياً وطبيعياً للحركة الإسلامية العتيبة التي صنعها عظماء الأمة الماضين بدمائهم ودموعهم وعرقهم ومداد علمائهم.



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وقد عُرِفَت الحركة الإسلامية بأنها: (مجموعة الفعاليات التي تشكل المستويات القيادية والطليلية والجماهيرية في إطار حركة العمل على تطبيق الشريعة الإسلامية، بما في ذلك المرجعية الدينية والتنظيمات والمؤسسات الإسلامية) وهذه الحركة- ولله الحمد- يمتد عمقها التاريخي والفكري وحجمها وتأثيرها في الداخل العراقي والمحيط الإسلامي الى أعماق أعمق تاريخنا الإسلامي العتيق، ففي العراق يمتد وجودها من العام ١٩١٧م عندما دخل الجيش البريطاني العراق فواجه مقاومة قادها علماء دين أمثال السيد محمد سعيد الحبوبي (قائد معارك الشعبية) وآية الله السيد مهدي الحيدري وما تزال متباينة الى يومنا هذا.

أما حزب البعث فإنه ومنذ توليه السلطة فقد أخذ على عاتقه محاربة هذه الحركة مستفيداً من الدراسات التي قام بها البريطانيون إبان احتلالهم العراق، فقد ذكرت إحدى المصادر المطلعة أن (جورج ريمينغتون) سلم (صدام حسين) تقريراً مفصلاً _ يمثل عصارة خبرة البريطانيين في العراق _ يضم معلومات دقيقة عن حركة المجتمع العراقي، وكانت النقطة الجوهرية في ان الخط الإسلامي من أخطر ما يواجه الحكم. واقتنع ناظم كزار (مدير الامن العام) بشكل كامل بتقرير (ريمينغتون) في حين لم يكن (صدام) يفكر في ان الخط مازال يكمن في الحركة الإسلامية، ولكن تطورات عام ١٩٧١م أثبتت لصدام حسين بأن الحركة الإسلامية تهدد كيان النظام بالفعل، فأمر بوضع مخطط عملي لإبادةها بالكامل)، فقام صدام وأزلامه بالمهمة على أحسن وجه، ففضى على رموزها منذ العام ١٩٧١م الى عام ٢٠٠٣م عام سقوطه، فأول دعاة حاول ضربها المرجعية الدينية ثم توسعت نشاطاته لتشمل بقية المرافق.

أولاً: المرجعية الدينية والحوزة العلمية

وگرد فعل لنصيحة (جورج ريمينغتون) قام النظام بحصار المرجعية الدينية الشيعية والسنية على حد سواء، لكن مضايقاته للمرجعية الشيعية كانت أقسى وأمر، فضيق على رجالات الدين والحوزة العلمية بالذات الى أبعد الدرجات. من جملة مضايقات النظام السابق مصادرة الأموال المرصودة لجامعة الكوفة (الخيرية الأهلية) _ قيد الانشاء حينذاك في بدايات العقد السابع من القرن الماضي _ والتي تبلغ (٤,٥٣٠,٠٠٠) مليون دينار وسحب إجازتها، وقد تم ذلك تحت ستار القانون الذي أصدرته الحكومة بتأميم جميع المدارس الإسلامية. وهذه الجامعة لو قدر لها ان تتم لجعلت من العراق عاصمة الثقافة الإسلامية في ذلك الوقت.

إضافة الى إجراءات أخرى اتخذها الحزب في هذا المضمار منها



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١- تقرر (إختيار رفاق حزبيين لديهم الرغبة في ان يكونوا رجال دين وضمن مواصفات تؤهلهم لأداء هذه المهمة بشكل مؤثر في نفوس المواطنين ويعدّ هو الواجب الحزبي المسؤول عنه أمام الحزب):

٢- أصدر ديوان الرئاسة توجيهات الى وزارة الأوقاف والشؤون الدينية ووزارة التربية ووزارة التعليم العالي و البحث العلمي منها أن اللغة العربية هي التي يُقرأ بها القرآن الكريم، وعليه يجب أن يتعلم طلبة الدراسات الدينية اللغة العربية أولاً وقبل الشروع بالدراسة الدينية؛ لذلك يجب ان تكون السنة الأولى سنة تحضيرية لتعلم اللغة ومنع جميع مدرسي العلوم الدينية من التحدث باللغة سوى العربية وإبلاغ طلبة العلوم الدينية العرب والأجانب بعدم (مخالفة القوانين المرعية في البلاد وعدم المشاركة في الممارسات الخاطئة التي يعمل حزبنا القائد على تمكين أبناء الشعب من تجاوزها) كل هذه الإجراءات كان الهدف منها القضاء على الحوزة العلمية المباركة.

قد يكون العراق البلد الوحيد الذي يتمتع بتنوع الأديان والمذاهب والقوميات، وهذا التنوع لا نكاد نجد له نظيراً في الكثير من البلدان، فالذي حل بالشيعة من قبل النظام _ وان كان أكثر من غيره_ حل بغيرهم من الطوائف الأخرى، فقتل السني والكردي والآيزيدي والمسيحي على حد سواء، كون ان (صدام حسين ليس اول طاغية في التاريخ لكنه الأكثر بشاعة ممن عرفه تاريخ الشعوب، ليس في منطقة الشرق الأوسط فحسب بل نزعم انه كذلك على مستوى العالم) ، فقام بإعدام ثلة من علماء الإخوان السنة ومنهم الشيخ عبد العزيز البدري: أحاول ان انقل لكم طريقة إعدامه التي حصلت بعد مشادة كلامية بينه وبين صدام حسين. في ساعة متأخرة في احدى ليالي الصيف من العام ١٩٦٩ م .

وبعد محاورة وجدالٍ جرى بين (صدام) و (الشيخ عبد العزيز البدري) وجه رأس النظام اخاه (برزان) بقتل (الشيخ عبد العزيز البدري) فوراً.

كما قام بقتل الشيخ عبد الرؤوف البدري في العام نفسه. وقتل الكثير من العلماء الأكراد من رجالات الدين، وهذا إن دل على شيء فإنما يدل على دموية النظام البعثي.

هذا بشأن رجال الدين، أما الشباب المتدين أو المقيم لشعائر الإمام الحسين (عليه السلام)، فانه واجه مصيراً أسودّ كما واجهه رجال الدين، ففي انتفاضة صفر في العام ١٣٩٧هـ، ١٩٧٧م وجدنا رجالاً وقفوا بوجه رجالات البعث عدت انتفاضتهم إحدى فصول ثورة الإمام الحسين (عليه السلام) وامتداداً لثورته المباركة وهي كغيرها من الثورات والانتفاضات يتوقف الحكم عليها بالنجاح أو الفشل على ما تتركه من آثار في المجتمع الذي انفجرت



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فيه وفي جهاز النظام الحاكم، قام بها رجال أشاوس، فهي ورغم أنها لم تجتِح العراق كله إلا أنها كانت صغيرة في حجمها كبيرة في محتواها ومدلولاتها السياسية والتغييرية، فكانت منعطفاً للتاريخ بل صارت مبدأً لصفحة جديدة في التاريخ، بل إشعاراً بميلاد جديد في التاريخ او ميلاد فعليّ في التاريخ، نعم لقد كانت (انتفاضة صفر الإسلامية نموذجاً آخر من صراع الحق مع الباطل، هذا الصراع المرير الذي ابتدأ من هابيل وقابيل الى ما شاء الله، فتجسد هذه المرة في أنصار الإمام الحسين "عليه السلام" من جانب وصبية البعث الجهلة من جانب آخر)، هذه الانتفاضة لم تفشل أبداً لأنها خرجت بنتائج جمة كان منها: -

- ١- رفعت القناع الإسلامي عن وجه النظام الذي كان مستتراً به، وحطمت الإطار الديني المزيف الذي أطر به حكمه، وأظهرته على حقيقته للأمة، عدواً لدوداً للإسلام والمسلمين.
- ٢- كان لها أثر واضح على المجتمع الديني، فقد كانت منبهاً للجماهير وعاملاً على إيقاظها وتوعيتها، إذ لوحظ إقبال منقطع النظير على الإسلام ومشاركة فعالة في تعظيم شعائره.
- ٣- كشفت عن القدرات والقابليات الكبيرة والمعنويات العالية التي تملكها الأمة وإمكانية منازل الطغاة وتركيعهم باستخدام سلاح الإيمان فقط، وان جند الأعداء كل إمكانياتهم البشرية والمادية والعسكرية.
- ٤- كانت بداية لسلسلة انتفاضات شهدتها مدن العراق.
- ٥- ولدت هذه الانتفاضة حالة من الاستياء والتذمر في القوات المسلحة، فقد تعاطف بعض أفرادها مع المتظاهرين.
- ٦- اضطر النظام الى رفع يده _ بعض الشيء _ عن الجماهير والتباطؤ في محاربة الشعائر الحسينية وان لم يطل ذلك كثيراً.
- ٧- آمنت الجماهير بمبدأ (ضرورة حمل السلاح) وانه الأسلوب الأفضل لإسقاط الطواغيت.
- ٨- هذه الإنتفاضة كانت السبب في تمزيق أوصال حزب البعث الحاكم، فقد حدثت مشاجرات في اجتماعات حزبية طرد على إثرها أعضاء من الحزب.
- ٩- كشفت عن ضعف النظام وتهوره عندما أقدم على اعتقال الآلاف من الشباب والشيوخ والنساء والأطفال عراقيين وغير عراقيين بطريقة هستيرية كاقترام البيوت بتسلقها من الخارج او محاصرة الشوارع واعتقال كل من فيها. راح ضحية هذه الانتفاضة والانتفاضات التالية لها الكثير من الشباب الرسالي، والقائمة عريضة طويلة مليئة بأسمائهم وجهادهم المرير ثم استشهادهم بإحدى طرق الموت التي أوجدها أزلام النظام، علماً إن (الحرية



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الدينية وممارسة الطقوس العبادية والصلاة في الجوامع والكنائس وغيرها من أماكن العبادة من الحقوق التي أقرتها المواثيق الدولية وتحمى بقوانين شرعت لذلك، لكن الذي حصل في العراق لا يتماشى مع التشريعات الدولية، فنظام صدام قد ضرب كل القوانين والتشريعات عرض الجدار.

ثانياً: حظر الأحزاب بصورة عامة، والدينية بصورة خاصة:

يقع العراق في مركز العالم الإسلامي، ولموقعه الجغرافي أهمية في العالم على مر العصور التاريخية وخصائص مهمة جعلت له مكانة خاصة في قلوب المسلمين، ومازال تاريخه يتفاعل مع الحياة فيه وفي أكثر البقاع الإسلامية، ولكن التفاعل يتكشف داخل بقعته أكثر إذ يؤثر في الحياة الاجتماعية ويجعل للمجتمع العراقي مميزات لها قيمة وتأثير في واقع وحركة الأمة وتفكيرها ومشاعرها .

وفي العراق مشاهد مقدسة عند عامة المسلمين لم تجتمع في إقليم آخر - سوى مدينة الرسول (صلى الله عليه واله) - موزعة على مدن عديدة، وفيه عاشت أكبر المدارس الفكرية وأنشئت أكبر الجامعات العلمية الإسلامية في اوقات رئيسية من التاريخ الإسلامي، وفيه جامعة النجف الأشرف الدينية العريقة الكبيرة، وفي كربلاء توجد جامعة إسلامية دينية تناوبت الزعامة والقيادة مع زميلتها النجفية في القرون الأخيرة ومشاركتها في مهامها، ومنها مهمة الربط الاجتماعي بين الشعوب الإسلامية، ومهمة التصدي للغزو المتعدد الجوانب، كذلك في العاصمة بغداد هناك مرافد الأمام الأعظم أبو حنيفة النعمان الذي يعد قبلة للكثير من المسلمين في العالم، والشيخ عبدالقادر الجيلاني(رضي الله عنهما)، كذلك مرقد الامامين الكاظمين موسى الكاظم، ومحمد الجواد (عليهما السلام).

حزب البعث ومنذ تأسيسه وتوليه السلطة فيما بعد كان يخطط للانفراد بالسلطة، وهذا السلوك بالطبع يحتاج إلى تصفية جميع الأحزاب والتيارات الموجودة في الساحة، فقام بإصدار قوانين للعقوبات الهدف منها القضاء على تلك الأحزاب، فاصدر المادة (١٥٦) من قانون العقوبات التي تنص على ما يأتي:(يعاقب بالإعدام من ارتكب عمداً فعلاً بقصد المساس باستغلال البلاد ووحدتها او سلامة أراضيها وكان الفعل من شأنه أن يؤدي الى ذلك) وقد قام بإدراج كل الأحزاب السياسية ضمن الكيانات التي تمس بأمن الدولة وتم حظرها وتطبيق عقوبة الإعدام على من انتسب إليها، وبهذا صفى الحزب مناوئيه كلهم بعد اتهام أي شخص بانتمائه لأحد هذه الأحزاب، فاعدم الكثير من الشباب المؤمن وهجر الكثير إلى الدول المجاورة، تحت ذرائع شتى وجرف الكثير من الأراضي الزراعية في مناطق مختلفة مثل الدجيل في محافظة تكريت و(جيزان الجول) في محافظة ديالى



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بحجة محاولات إغتيال حصلت في هذه المناطق، فلم يسلم من بطشه لا الإنسان ولا الحيوان ولا الشجر والمدر. وعلى هذا يمكن ان نصف هذا الحزب بأنه:

- ١- حزب دكتاتوري فردي بكل ما تحمل هذه التسمية من دلالات قانونية وسياسية.
- ٢- إن إسقاط النظام الدكتاتوري في العراق وإقامة البديل الديمقراطي التعددي التداولي هو حالة صحية تنطق على إجماع شعبي للتغيير، هذا الإجماع من قبل شعب لم يشهد تاريخ العراق السياسي الحديث مثيلاً له تجاه أي من الأنظمة السياسية التي تعاقبت على حكم العراق.
- ٣- كانت علاقة النظام البعثي البائد بالمستوى العربي والإقليمي سيئة جداً، فقد كان شبه معزول سياسياً، خصوصاً بعد احتلاله دولة الكويت الشقيقة.
- ٤- على المستوى الدولي واجه نظام البعث إدانة شبه كاملة من قبل المجتمع الدولي، خذ من ذلك قرار مجلس الأمن الدولي رقم (٦٨٨) الذي أعرب عن قلقه إزاء القمع السياسي للشعب العراقي، بما في ذلك أولئك الموجودون في كردستان العراق، فأدان المجلس القمع الذي يتهدد السلم والأمن وطالب بان يضع العراق حدا للقمع ويحترم الحقوق الإنسانية لشعبه.

المبحث الرابع: الثقافة والاعلام وعسكرة المجتمع

المحور الاول: عسكرة المؤسسة التعليمية:

بدأ البعث البائد فور نجاح إنقلابه في ١٩٦٨/٧/١٧ بخطة شاملة لتبعيث كل مفاصل الحياة، فأخذ يملأ الوزارات والدوائر الحكومية بصور تجمع (أحمد حسن البكر، وصدام).

وهكذا، أخذت شعارات البعث طريقها للشوارع والجدران والبيوت، فضلاً عن المهرجانات والفعاليات الثقافية التي تمجد النظام وقادته؛ وقد كان للقصيدة والأغنية والأنشودة وحتى المسلسلات التلفزيونية الدور الكبير في اشاعة مفردات الحزب وتلقين طلبة المدارس وحثهم على التغني بشعارات الانقلابيين.

ثم بدأت عسكرة المجتمع بنشر الكتب الدراسية المنهجية وكان الطالب حين يفتح كتابه يرى في أول صفحة صورة رمزي النظام (البكر، وصدام)، التي إقتصرت لاحقاً على صورة (صدام) فقط.

إن اللون والصورة والانشودة وسائل اعتمدها البعثيون للتلاعب بالوعي المجتمعي، فأين ما تلتفت ترى شعاراً أو صورة تخض السلطة؛ ولم يكتف البعثيون بهذا بل أخذوا يلقنون أطفال المدارس ويلوون عقولهم بألفاظ مثل



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(الأب القائد) وكانت مخصصة للبكر، قبل أن تشيع فيما بعد عبارة (بابا صدام) التي حفظها ورددتها الأطفال في المدارس.

لقد كانت قصائد العنف والقصائد التي تتغنى بمنجزات البعث تملأ الكتب المدرسية، ومن هنا بدأت عسكرة المجتمع، فطالب الابتدائية يحفظ ما يريده البعثيون إلزاماً، ثم يتم إغراء التلاميذ الصغار بملابس عسكرية جديدة، وزجهم بتنظيم ناشئ يسمى الطلائع، وفي هذا التنظيم يتلقى التلاميذ جرعات مضاعفة من التشويه الثقافي والتشجيع على العنف، فقد علموا الطالب الصغير أن قبعة الرأس العسكرية (الكاسكيتة) تمثل شرفه العسكري ويجب أن لا تقع، وهكذا وهبوا قطعة أو خرقة قماش قداسة تسلب وعي الصغار الذين سيكبرون وهم مقتنعون بهذه البدعة.

حين يتحول الطالب الى الدراسة المتوسطة يكون قد ارتفع رتبة ليغادر مرحلة الطلائع ويدخل مرحلة الفتوة وهي مرحلة ما قبل المستقبل العسكري الحتمي ، وتستمر معه الأناشيد ويتم تشجيع الطلبة على نوع من استقلالية الرأي عن أهلهم لأن السلطة حريصة عليهم ، كما يروج البعثيون، وهكذا يستعد الطالب لإستخدام السلاح بدلا من القلم ، بعد أن شاع شعار(للقلم والبنديقية فوهة واحدة) وهو شعار تولي سالب للعقل والتفكير ، وسرعان ما قام البعثيون بزج الطلبة في قواطع تدريب على السلاح وخفارات في الفرق الحزبية، وصار بيد الطلبة سلاح يجعلهم يتمردون على سلطة العائلة وأخلاقها.

تضافرت الروابط المتينة بين البكر وصدام حسين مع دهاء صدام وقسوته المطلقة في فتح الطريق أمام الأخير للعودة من موقع حامل الذكر نسبيا عام ١٩٦٦ إلى موقع الشخص الثاني في آلة الدولة في ثلاث سنوات فقط، وبعيدا عن روايات المؤسسة البعثية عن دور صدام في الانقلابات وكونه قياديا ومخططا وما إلى ذلك ، تشير أغلب المصادر إلى أن صدام حسين ليس أكثر من قاطع طريق او فرد من أفراد العصابات و (الشقاوات) وقد استخدمه البعثيون للتصفيات الجسدية التي مارسوها ضد خصومهم، ويرى المراقبون لشخصية صدام تأثيرا واضحا لخاله خير الله طلفاح الذي كان متأثرا جدا بالنازية وميالا لطروحاتها.

ومما لاشك فيه أن الدكتاتور لا يمكنه أن يصنع نفسه بمفرده، فضلاً عن تبعيته والدعم الخارجي الذي تلقاه، توجد عوامل أخرى مهمة شاركت في صنع شخصية صدام الدكتاتورية (من نوعين من الممارسة السياسية: الأولى تمثلت في اجادته عمليات التصفية السياسية للأفراد والجماعات الحزبية داخل تنظيمات الحزب وخارجها بتركيز السلطات كلها بيده، مستندا في الحكم على حلقات ضيقة جدا من الأقارب والأصدقاء المقربين



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الذين لا يملكون صفات علمية أو مهنية تؤهلهم لشغل مراكز قيادية في الدولة العراقية). الثانية: (عسكرة الحياة)، وقد بدأها عندما كان نائبا بقيادته للأجهزة الأمنية.

المحور الثاني: عسكرة الخطاب الاعلامي

إن إستنساخ التجارب الدكتاتورية كاملةً، بدا واضحا منذ الوهلة الأولى على سلوك إنقلابي ١٧ تموز ١٩٦٨؛ ذلك لأنها التجربة النموذج لديهم، لأن المؤسسة البعثية في العراق اتبعت الطرق التي استقطب بها الشعراء، ومنها ان يكون الشعر سلاحا في المعركة (المفترضة)، وقبل ذلك إحتواء الأدباء وكسب مودتهم من خلال إطلاق سراح السجناء والسماح للمنفيين بالعودة للبلاد، وإغراء كبارهم.

ولأن القصيدة لم تعد قصيدة، ولأنها ستعرض للعزلة وعدم القبول من الجمهور، قامت المؤسسة الثقافية باستنفار جهودها للترويج لقصيدة السلطة على حساب غيرها، وظهر التثقيف لأدب بعثي، وظهر الناقد البعثي لتكتمل أدوات السلطة في تحقيق الثقافة الشمولية وهي ثقافة حزب البعث .

بدأت السلطة بالعمل على أدب وخطاب بعثي بعد مدة قصيرة من إنقلاب ١٧ تموز، (ففي البداية كان البعثيون بدون مثقفين تقريبا، يعانون من عزلة شعبية واسعة ... ولكي ينجحوا في مسعاهم ذاك تبنا لغة اليسار...) ، فأخذ الخطاب التقدمي بصيغته البعثية يتسيد المشهد الثقافي قبل السياسي ، وبعد أن تمت استمالة كبار الشعراء صار لزاما عليهم أن يردوا الدين ، بادئ ذي بدء ، ثم أن يلتزموا بالوظيفة الشعرية والواجب الشعري التوثيقي جزاءً لما يناولون من عطاء ومكافآت .

وإذا كان الانقلاب . هنا . ايدلوجيا أو " وطنيا" ضمن مفهوم البعث البائد، فإن الإنقلاب الذي يعنينا هنا هو الإنقلاب الشعري الفني، وصار الترويج لنظرية نقدية بعثية.

المحور الثالث: عسكرة الادب والفن

ظهر مصطلح (الناقد البعثي) واحداً من ابتكارات المؤسسة البعثية ؛ فلقد سعوا جاهدين إلى تبعية ما يتوافق مع رؤيتهم السلطوية ؛ فقد نشر عزمي محمد شفيق في جريدة الثورة بتاريخ ١٩٧٧/٩/٢٠ مقالا بعنوان: (الحركة الشعرية والحاجة إلى منهج نقدي بعثي) ، وقد يقال إن هو إلا مقال واحد أريد به التقرب للسلطة ، لكننا نتساءل كيف برسالة ماجستير في كلية الآداب سنة ١٩٨٢ لطالب الماجستير (مصعب حسون الراوي)



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عنوانها: (ملاحم المنهج البعثي في الأدب) وقد صارت بعد ذلك ، سنة ١٩٨٤ - تحديدا - كتابا صدر عن دائرة الشؤون الثقافية .

لقد إتخذت الثقافة البعثية مبدأ إقصاء او إسكات الآخر، فإنها نجحت لأنها ثقافة تقارير حزبية وتجسس، فالناقد حين يمتدح شاعراً على وفق منهج (مصعب حسون الراوي) يكون قد منحه شهادة حسن سيرة وسلوك، وشهادة ولاء للثورة والمبادئ، وشهادة نضال ضد الامبريالية. وكلها شهادات سياسية، علاقتها بالإبداع كعلاقة قضية فلسطين بالقادة العرب، يرفعون تحريرها شعارا لبقاء سلطتهم.

كانت قضايا الثقافة تدار من قبل (المكتب القومي للثقافة والإعلام) الذي أسسه (صدام) في بداية السبعينيات، وظل يشرف عليه، ثم بدأت الأوامر تأخذ حيز التطبيق والترحيب والتصفيق، بعد إدخالها إلى الماكينة الثقافية، لتخرج بأشكال مختلفة، من قصيدة إلى قصة ورواية ، ونشيد وأغنية ولوحة ؛أو الثقافة بشكل عام ، فالوزارة في بداية سلطة البعث لم تكن وزارة ثقافة ، إنما وزارة إعلام ، والإعلام من بين مهامه إصدار المجلات الثقافية ، ويكون رئيس تحريرها عنصراً سلطوي الولاء وفعالاً في الوسط الثقافي ؛ هذا ما جرى تماما.

فلا بد من وجود عدو مفترض من كل هذا التراث، وانجازات قومية إعلامية. ولا أغرب من ان تعنى وزارة الإعلام بالمخطوطات والدراسات! فماذا بقي للثقافة التي لم تنل الاهتمام ولم تكن بمنزلة الاعلام لدى السلطة؟ لأن العصر عصر اعلام والحرب حرب اعلام، والثقافة عليها ان تكون إعلامية، والشاعر عليه ان يحيي المناسبات ويدعمها إعلاميا، فتتكئ المناسبات على شهرة الشاعر، ويتكئ الشاعر على اعلام السلطة واهتمامها بالمناسبة فيحقق انتشارا اوسع ، فضلا عما يحصل عليه من رعاية حكومية. ويتأقلم الشعراء مع السلطة الجديدة، وكأن هذه السلطة لم تكن عدوةً للشعب في الأمس القريب.

لم يكتف البعثيون باستعمار العقول والألسن وتوظيفها لخدمة سلطتهم وتعزيز وجودهم، بل أخذوا يلاحقون ذهن المواطن في مفاصل حياته كلها؛ فالمستشفى الذي يراجعه المواطن يحمل اسم البعث أو صدام، ومدينة الطب صار اسمها مدينة صدام الطبية ؛ حتى مطار بغداد الدولي صار بأمر المقبور (مطار صدام الدولي) ، وكذلك الجامعات وكلياتها وقاعاتها ، فضلا عن مستشفى (عدنان خير الله) ، وتسمية أغلب شوارع العراق وأحيائه بأسماء من مثل (البعث) (الثورة) (٧ نيسان) ليتمكنوا من إغتصاب كل الحياة الاجتماعية بعد أن إغتصبوا اللغة والأدب والثقافة والإعلام.



الفصل الثالث

أثر القمع والحروب على البيئة والسكان

تعد المشكلات البيئية التي واجهت العراق بسبب النظام البائد وسياسته القمعية على العراق من الأسباب التي أدت إلى ارتفاع معدلات التلوث وما صاحبه من اختلال كبير في التوازن البيئي بعد أن كان العراق يسمى في ماضيه (أرض السواد) لشدة خصوبته، إذ يتدفق رافداه بلا انتهاء، ليحولاه إلى جنة خضراء، باتت أرض الرافدين اليوم تعاني من اتساع رقعة المناطق الصحراوية فضلاً عن العديد من مسببات التلوث الأخرى مثل مصانع الأسلحة العراقية السابقة في زمن النظام السابق ومواقع وكالة الطاقة الذرية واستخدام مختلف أنواع الأسلحة والذخائر في الحروب، وتزايد حالات تلوث الهواء وتردي نوعيته بشكل لافت للانتباه. إذ يعاني العراق من أربع كوارث كبرى تجعل البيئة العراقية واحدة من أكثر بيئات العالم خطورة وخراباً وأذى للإنسان المتمثلة بتجفيف الأهوار، التلوث الحربي والإشعاعي، سرقة وتدمير الآثار، وموت بساتين النخيل وتجريفها. ومن المعلوم أن الكوارث البيئية التي تصيب أوطان المعمورة، يكون بعضها لأسباب طبيعية، وبعضها لأسباب بشرية. إن هذه الكوارث البيئية العراقية الأربع كلها جاءت نتيجة عوامل بشرية تمثلت بسياسة النظام البائد على العراق^(١).

المبحث الأول: استعمال الأسلحة المحرمة دولياً والتلوث البيئي

تم استعمال الأسلحة المحرمة في أماكن مختلفة من العراق ومن بين أهم المدن التي أُجرم فيها النظام البعثي باستعمال هذه الأسلحة مدينة (البصرة) في جنوب العراق، ومدينة (حلبجة) في شماله. وتُعدان من أكثر المدن تعرضاً للهجوم بالأسلحة المدمرة مما أدى إلى تلوث النظام البيئي لتلك المناطق وتخریبها.

أولاً: مدينة حلبجة

تقع مدينة (حلبجة) شمال العراق، وتبعد عن الحدود الإيرانية (٨ - ١٠) أميال وعن بغداد (١٥٠) ميلاً وتقع في الجنوب الشرقي لمدينة السليمانية. لتجعل من هذه المدينة شبه جزيرة بين الماء والجبال، مما يعطيها مناخاً مناسباً ولطيفاً^(٢). تعد المدينة من المحطات المهمة للمسافر من جنوب العراق ووسطه إلى شماله. وأيضاً هي في طريق القوافل المتجهة إلى تركيا وقارة أوروبا. وإن غالبية هذه القوافل كانت تحتوي في الماضي على التمر ولذلك سميت إحدى نواحي مدينة حلبجة باسم ناحية (خورمال) التي تعني مخزن التمر، إذ كانت تجارة التمر هي التجارة السائدة في العصور القديمة^(٣).



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تعرضت المدينة التي كان يسكنها نحو (٨٠ ثمانين) ألف شخص الى القصف بالأسلحة الكيماوية اثناء الحرب العراقية الايرانية، وقد تسبب في مقتل الآلاف من أهالي المدينة، وفي وقتها ادعى العراق أن الهجوم قامت به القوات الإيرانية على البلدة. في آخر أيام حرب الخليج الأولى من ١٦-١٧ آذار ١٩٨٨. إذ قام (نظام صدام حسين) بإرسال عدد من الطائرات أمطرت المدينة بالقنابل الكيماوية. وأدى ذلك الى مقتل العديد من السكان غالبيتهم من النساء والأطفال، ولقي الآلاف بعد ذلك مصرعهم بسبب المضاعفات الناجمة عن استخدام السلاح الكيماوي^(٤). وذهب ضحية الهجوم فوراً (٣٢٠٠ - ٥٠٠٠) شهيد وأصيب منهم (٧٠٠٠ - ١٠٠٠٠) شخص، وهي أكبر هجمة كيماوية وُجّهت ضد سكان مدنيين من عرق واحد حتى اليوم في تاريخ البشرية، وما يزال الكثير من عوائل الضحايا تحاول العثور على جثث أطفالها وشيوخها ورجالها الذين فقدوا أثناء القصف، ويعتقد أن الغازات التي استخدمها نظام (صدام حسين) ضد المدينة الكردية كان من بينها (الساارين) وهو مادة سائلة أو غازية مشلة للعقل والجسم تسبب الموت أو التلف أو الضرر للإنسان والحيوان والنبات، أو تكون مادة دخانية وهو قاتل في الحال إذ يعوق عمل خلايا المخ والأعصاب^(٥). وقد أكد الخبراء في السميات أن تحاليل العينات (أثبتت استخدام ثلاثة أنواع من الغازات: السيانيد، وغاز الخردل وغازات تؤثر في الأعصاب منها السارين). أن هذا الغاز السام مصنف على أنه أحد أسلحة الدمار الشامل فقد حُظر بشكل أساسي على أنه أحد الأدوات المروعة للحرب.

وإن هجوم حلبجة من الأحداث التاريخية التي لا تنسى فقد كانت جزءاً من حملة صدام ضد الإنسانية. وقد تم عرض صور للضحايا ممن نجوا من الكارثة لكن بقوا معاقين ومشوهين بفعل التسمم، بما يعكس فداحة الجريمة ووحشيتها المنفلتة من كل عقاب، لدرجة أن النظام البيئي عامة في منطقة حلبجة ما زال يعاني من آثار التسمم الكيماوي الى الآن، وإن آثاره على الانسان والبيئة يبقى حتى بعد عدة سنوات، علما ان بروتوكول جنيف لعام ١٩٢٥ يحرم استخدام الأسلحة الكيماوية في ميادين الحروب^(٦).

من أبرز الأسباب الكامنة وراء تدمير معالم الطبيعة الحروب المتعددة ولا سيما الأسلحة الكيماوية التي أتلقت العديد منها، و مكنت من التخريب الواسع لمعالم البيئة في أغلب مناطق العراق، أن ما تعرض له العراق من أشكال الإرهاب بكل انواعه في زمن النظام البائد قد أحدث كارثة بيئية خطيرة انعكست على الإنسان والبيئة بصورة مباشرة إذ نجد إنتشارا للملوثات بمختلف الأشكال والأحجام ضمن بنية البيئة وعناصرها ومواردها المختلفة، كما أننا نجد عبر ما نلاحظه من انقراض لموارد البيئة النباتية والحيوانية بشكل عشوائي وفوضوي ليس سوى وليد السلوك الفوضوي الذي خلفه النظام البائد، وهذا الأمر ليس سوى انعكاس للأداء السلبى الذي



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مارسه في إنتهاكه لقوى الطبيعة دون حساب ودون أي إدراك لما تحدثه هذه السلوكيات العشوائية من إجرام بحق الانسان و البيئة ومواردها, فاستخدام الاسلحة المحرمة كان خطرا كبيرا وخلف اضرارا لا حصر لها على عناصر البيئة كافة ، فقد قامت بقتل الانسان و الحيوان و النبات، وذلك عن طريق دخول هذه الكيماويات إلى الجسم بالاستنشاق أو تناول عن طريق الفم أو ملامستها للعيون أو الجلد، وكذلك ملامستها اوراق النباتات أو تسربها لجذورها في التربة, وبقايا الاسلحة الكيماوية يؤدي إلى انتقال هذه المواد المسممة إلى البيئة، سواء من المياه أو عن طريق الهواء، إذ يتم استنشاقها وكذلك يؤدي الى تلوث التربة الزراعية، وتلوث الموارد المائية فتنتقل هذه المواد السامة إلى الاسماك وحيوانات الماشية واللحوم والطيور ثم تنتقل إلى الانسان عبر السلاسل الغذائية مخلفة أضرارا مختلفة^(٧).

بناء على ما تقدم يمكن ان نلخص أهم الاثار البيئية التي تعرضت لها بيئة منطقة حلبجة من عمليات تخريب وتدمير منظمة شملت جوانب عديدة، اهمها تدمير مصادر البيئة كافة مما ادى الى ابادة بشرية للمنطقة. لأن العمليات الإجرامية والسياسات غير العادلة التي مارستها الحكومة العراقية آنذاك بتدميرها الالاف من القرى والقصبات في مناطق عديدة منها ونقل سكانها قسرا إلى مجتمعات سكنية أشبه بالمعسكرات، لا تتوفر فيها أبسط وسائل العيش الأساسية، ورافق ذلك قطع الأشجار وحرق المزارع و الغابات بهدف الغاء الحياة الريفية والبنية الاقتصادية في المنطقة، اذ لا ينحصر تأثيره على الانسان والحيوان والنبات بل يمتد الى عناصر الماء والهواء والتربة، لذا كان استخدام النظام البائد للأسلحة الكيماوية في حلبجة تدميرا كاملا لجميع عناصر البيئة إذ أشارت منظمة الصحة العالمية بان الاسلحة الكيماوية التي استخدمت في الابادة وتدمير البيئة تجاوزت الحدود المسموح بها عالميا^(٨).

ناهيك عن الآثار المادية و الجسدية التي تعرض لها الناس من الإبادة الجماعية التي ماتزال اثارها مرئية من أمراض الولادة وأمراض السرطان والجروح وتشوهات خلقية لدى الاجنة وحديثي الولادة اضافة الى تعرض نساء حلبجة الى العقم والاجهاض وموت الاطفال خاصة في المناطق التي تعرضت الى استخدام كبير للسلاح الكيماوي والاشعاعات اذ لا تكتفي الحروب بقتل الاحياء وتشويهم بل تمتد آثارها الى الاجنة وهم في بطون امهاتهم وتقتلهم قبل أن يبصروا النور او تصيبهم بعاهات وتشوهات وامراض مختلفة ، فضلاً عن الآثار النفسية التي ما تزال تتبع الضحايا وقد تستمر لمدة غير معروفة من الزمن تركتها تلك المأساة وترك الاثر النفسي في حالة الفرد وحياته الاجتماعية الذي سيطر عليها الحزن والإكتئاب^(٩).



ثانياً: البصرة

تقع محافظة البصرة على نهر شط العرب جنوب العراق بين الكويت وإيران. تعد البصرة الميناء الرئيسي للعراق، على الرغم من أنه ليس لديها مدخل مياه عميقة. تشترك البصرة بحدود دولية مع كل من السعودية والكويت جنوباً وإيران شرقاً، والحدود المحلية لمحافظة البصرة تشترك مع كل من محافظة ذي قار وميسان شمالاً، والمثنى غرباً. تزخر البصرة بحقول النفط الغنية، وبحكم موقعها إذ تقع في سهول وادي الرافدين الخصيبة، فإنها تعد من المراكز الرئيسية لزراعة نخيل التمر، والشعير، والحنطة، ومحاصيل أخرى، وتشتهر بتربية قطعان الماشية. تقع على أرض اما سهلية رسوبية أو صحراوية.

ان استمرار وجود اليورانيوم المنضب في المناطق السكانية في البصرة يعد مصدر تلوث إشعاعي مستمر إذ إنه يؤدي إلى تعرض السكان مع مرور الوقت لمزيد من الجرعة الإشعاعية والسّميّة من المسالك البيئية المختلفة مثل الهواء فكلما هبت عواصف ترابية في المنطقة يستنشق السكان ويتعرضون لمزيد من الجرعة الإشعاعية وكذلك من السلسلة الغذائية والماء، مما يؤدي زيادة الجرعة الإشعاعية وتراكمها في جسم الإنسان^(١٠).

نتيجة السياسات العشوائية للنظام البائد، استخدمت القوات المسلحة الأمريكية والبريطانية ذخائر اليورانيوم المنضب في مناطق مأهولة بالسكان، خاصة في جنوب العراق؛ مما أدى إلى تلوث المناطق بالمواد المشعة التي يعتقد انها بقايا اليورانيوم المنضب الذي استعمل كذخيرة خلال الحرب العراقية-الإيرانية عام ١٩٨٠ والقصف الأمريكي في حرب الخليج الثانية ١٩٩١ واحتلال العراق عام ٢٠٠٣، واجريت دراسات حول تقييم المخاطر الصحية للمناطق المكتظة بالسكان التي تبلغ مساحتها نحو (١٢٠٠ كم^٢)، وتشمل مدن (سفوان ، والزبير، وغرب البصرة) والتي تعرضت لجرعات إشعاعية عالية بسبب تلوث اليورانيوم المنضب، وأوضحت نتائج هذه الدراسات أن أهم مصدر للتعرض الإشعاعي في هذه المناطق هو استنشاق هواء اليورانيوم المنضب وأكاسيده في الأشهر الأولى من العمليات العسكرية لعام ١٩٩٠ . وأستمر انبعاث اشعاعات اليورانيوم المنضب وأكاسيده من مواقع الآليات العسكرية المدمرة جنوب وغرب البصرة والناصرية.

إن اليورانيوم عنصر ثقيل فضلاً عن انه عنصر مشع، فإن التسمم به كبقية العناصر الثقيلة، داخل جسم الإنسان يسبب مشاكل صحية تتمثل بالتسمم الحاد باليورانيوم والضعف الصحي العام والتشوهات الخلقية وأمراض السرطان.

استعملت أسلحة اليورانيوم المنضب بكثافة لتدمير الدبابات والمعدات العسكرية لقطععات الجيش العراقي التي كانت تنسحب من الكويت، واستمر هجوم القوات العسكرية الأمريكية وحلفائها داخل المناطق والمدن



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المكتظة بالسكان من بينها البصرة، ومن مصادر التعرض الأخرى للإشعاعات التعرض لشظايا الدروع المدمرة المتأينة و نويدات سلسلة انحلال اليورانيوم المنبعثة منها مثل الثوريوم، والراديووم وغاز الرادون وكذلك من التربة الملوثة المتبقية بالقرب من الأهداف المدمرة بهذه الأسلحة، إذ إنها بقيت في مناطق البصرة وما حولها مدة طويلة، ثم بدأت حملة إخلائها وتجميعها في مناطق قريبة سُميت مقبرة الدبابات^(١١). ويمثل استخدام الذخيرة التي تحتوي على اليورانيوم المنضب تهديدًا كيميائيًا كبيرًا من الممكن أن تلوث آلاف الهكتارات الزراعية بالمواد الخطرة في أعقاب الصراع الحربي فزادت العوالق وتراكيز الملوثات في مصب شط العرب والمياه المحيطة به ، فضلاً عن تلوث المياه الجوفية مما زاد في تلوث مياه الآبار المستخدمة في سقي جميع المحاصيل الزراعية"، وقد أكد خبراء البيئة والصحة، أن "هناك أكثر من إثني عشر موقعا ملوثا في محافظة البصرة بمادة الكادميوم وملوثات بيئية أخرى مختلفة، وتلوث بيئة المحاصيل الزراعية بسبب السقي بالمياه الملوثة ولاسيما في قضاء الزبير. وبذلك يلاحظ ان هذه الأسلحة والذخائر الملوثة باليورانيوم تركت أثرا كبيرا على صحة المواطنين في هذه المحافظة الجنوبية^(١٢).

المبحث الثاني: سياسة الارض المحروقة

تعد سياسة الأرض المحروقة إحدى الطرائق والوسائل البشعة التي تم إتباعها لتدمير بيئة العراق وهي في الأساس **مصطلح** عسكري أي سياسة عسكرية تقوم على إحراق كل ما يمكن أن يستفيد منه العدو في عملياته العسكرية مثل عمليات التوغل والحصار والسيطرة. تشتمل تلك المنظومة العسكرية على خطة التدمير الكامل لأي وسائل عسكرية أو لوجستية من الممكن أن تستفيد منها القوات المعادية مثل الأسلحة العسكرية والطرق الممهدة للثكنات العسكرية أو المدنية، التحصينات والخنادق، والمزارع كيلا يفيد منها العدو في تقديم المؤن الغذائية و مصادر المياه العذبة من آبار ومياه مخزنة، بل وصل الأمر في بعض الأماكن إلى تلوث مصادر المياه العذبة وتدمير الآبار النفطية وحرقتها لكي لا يتمكن العدو من الاستفادة منها. إذ تم إحراق أو تفجير أو تسميم مياه الشرب أو ردم الآبار أو إحراق المحاصيل الزراعية أو قتل الماشية والحيوانات أو تدمير المون الغذائية وحرقتها من جراء عمليات زراعة الألغام للأراضي كي تؤثر في الحياة البشرية لأنها تقع في المناطق السكنية مما يؤدي الى تعرضهم للهلاك.



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مهما كانت الدوافع أو الأبعاد فإن التاريخ مليء بالكثير من هذه الأحداث التي طبقت بها هذه النظرية المدمرة غير الإنسانية سواء قديماً أو حديثاً، إذاً، إن تلك الاساليب لسياسة الأرض المحروقة يمكن تفسيرها بتدمير مقومات الحياة البشرية كلها حتى تتحول الأرض إلى منطقة دمار لا حياة فيها^(١٣). واستعملت هذه الاستراتيجية كثيراً في العراق للأسباب التي ذكرت و أيضاً لتفادي اجهزة الرؤية الحرارية والصواريخ الموجهة بصريا وحراريا اذ امر النظام البائد بحرق ابار النفط الكويتية بعد انسحابه منها ١٩٩١ إذ قامت القوات العراقية قبل انسحابها من الكويت بتفجير ما يقارب (١٠٧٣) بئراً نفطياً، مما أدى إلى إحتراق نحو (٧٣٧) بئراً مسبباً غيمة سوداء غطت سماء الكويت ومناطق وسط العراق وجنوبه والدول المجاورة لهما وخلفت ما يعرف (بالأرض المحروقة) التي سببت خسائر كبيرة واضرار بيئية لكلا الدولتين^(١٤).

المحور الأول: معركة نهر جاسم وتأثيرها على البيئة

جرت المعركة للمدة من ٨ يناير ١٩٨٧ وحتى ٢٦ فبراير ١٩٨٧ وتعد أكبر معركة في الحرب العراقية-اليرانية من ناحية الخسائر المادية والبشرية، اذ تم عمل حاجز صناعي هو عباره عن بحيره إصطناعيه سميت بـ (بحيره الاسماك) وقد تم جلب الماء لهذه البحيرة من شط العرب عن طريق قناة مائية تسمى "نهر جاسم" إذ تم كهربية مياه البحيرة وحفر الخنادق والملاجئ وحقول الالغام والاسلاك الشائكة حول النهر كما تم وضع المدفعية والدبابات في الخطوط الخلفية وبذلك تركت تلك المعركة مخلفات واثار بيئية كبيرة وطويلة الامد لذلك النهر إذ تلوث النهر بمخلفات الحرب من المتفجرات والألغام ورفاة الموتى وإختلط ماء النهر بدماء الضحايا وبمخلفات البترول الناتج من انفجار وحرق الحقول النفطية القريبة منه وانخفض منسوب الماء لدرجة كبيرة، وزاد وضعه سوءاً وعدم رفع الأوحال المستقرة في قاع النهر بسبب الألغام أدى بهذه المواد إلى أن تصبح سامة، فتأكسد بقايا الأسلحة وتفاعل النفايات الصناعية والطبية تولد سموماً قد تبقى نشطة لعقود وتنفذ إلى أجسام الناس وكل هذا قد يتسبب بانتشار حالات سرطانية بين الناس الذين يعيشون بالقرب من النهر ويعتمدون عليه في معيشتهم. كما قد يؤدي ذلك إلى زيادة انتشار الأمراض المنقولة عن طريق المياه الملوثة^(١٥).

المحور الثاني: حرق آبار النفط

ان من بين الاضرار بالبيئة بسبب سياسات النظام البائد التلوث الناجم عن قصف آبار النفط وحرقتها، مما يتسبب في هطول أمطار حامضية تهدد الزراعة والغابات بما تحمله من سموم تؤثر في كيمياء التربة وتقتل الزروع والنباتات. أي أن الحرائق طويلة الأجل للنفط في العراق ستؤثر سلبيًا في المناخ والبيئة، يمكن أن يؤدي التلوث



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النفطي أيضًا إلى تلوث الأرض والمياه الجوفية والمياه السطحية الناجم عن النفط المتسرب على الأرض واستمرار تلوث التربة. وإن احتراق النفط يؤدي إلى انبعاث العديد من الغازات التي تؤدي إلى تلوث الهواء. واثبتت العديد من الدراسات أن التأثيرات الناجمة من حرق آبار النفط تكون ذات سمية شديدة وتأثير خطير في الكائنات الحية والتربة والمياه وتسبب أضراراً بيئية. كذلك تؤثر بدرجة كبيرة في النشاط الميكروبي لتحلل النفايات والمخلفات العضوية وهذا يؤدي إلى تراكمها ونشوء الأمراض والابوئة بسبب انفجار آبار النفط في مناطق مختلفة من الحدود ما بين العراق والكويت لا يقتصر تأثيرها في الإنسان فحسب بل تمتد لتشمل النبات والحيوان والتربة والماء والهواء^(١٦).

المحور الثالث: حقول الألغام والمخلفات الحربية

لا تزال الألغام الأرضية والذخائر غير المنفجرة وغيرها من بقايا قصف الحرب المميته تشكل تهديداً خطيراً في العراق عامة، وفي البصرة خاصة وهي تضيف صعوبة أخرى إلى الصعوبات العديدة التي يتعين على المدنيين العراقيين مواجهتها بسبب عقود من النزاع المسلح. وتنتشر مخلفات الحرب القابلة للانفجار في أماكن مختلفة، وتشير التقديرات الصادرة عن الدراسة الدولية التي أجريت بين عامي ٢٠٠٤ و ٢٠٠٦ بعنوان (مسح أثر الألغام الأرضية) إلى أن (١٧٣٠) كيلومتراً مربعاً من الأراضي العراقية ملوثة بشكل كبير، وتشمل هذه المساحة (١٣) محافظة. وتعد محافظة البصرة من أكثر المحافظات زرعاً بالألغام، ونتيجة لذلك أصبح الخطر يُهدد بسلامة أكثر من (١,٦) مليون عراقي ويهدد سبل عيشهم ويقع معظم التلوث الناتج عن الاضطرابات الداخلية والنزاع الدولي على طول الحدود العراقية مع إيران وتركيا^(١٧).

وهذه المخلفات من أهم الأسباب التي أودت بحياة الناس نتيجة الأمراض الصحية المختلفة الناجمة عنها، ومن أهمها الأمراض السرطانية ويعزي مختصون الأمر إلى مخلفات الحرب ولا سيما (اليورانيوم) وسواه من الأسلحة التي استخدمتها القوات العسكرية الأجنبية التي دخلت البصرة في عهد النظام البائد فضلاً عن الملوثات البيئية. وهناك آثار أخرى هي انفجار الألغام المتروكة مخلفة ضحايا، وبعض أنواع هذه المخلفات هي الألغام المضادة للأشخاص والألغام المضادة للدروع والقنابل والقنابل العنقودية والذخائر غير المنفجرة^(١٨).

ومن أكثر الأماكن التي توجد فيها المخلفات الحربية: قضاء الفاو وقضاء شط العرب وقضاء أبو الخصيب وقضاء الزبير وقضاء المدينة وقضاء الدير في المناطق التي تكون أطراف مدينة البصرة التي كانت أماكن عسكرية دارت فيها بعض المعارك.



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هنالك أضرار أخرى غير منظورة لحقت بالتربة، إذ اثبتت بعض التحليلات للتربة في هذه المناطق التي وجدت فيها هذه المخلفات أن لها آثاراً سلبية بليغة على المنتجات الزراعية كما هو الحال في منطقة سفوان والزيبر. ولا تشمل المناطق الملوثة الأراضي الزراعية الخصبة فقط وإنما أيضاً المناطق الريفية أو الصحراوية التي قصدها الأسر المعوزة والنازحة للعيش فيها بسبب عدم توافر خيار أفضل.

إن الألغام الأرضية لا تشكل سوى جانب واحد من المشكلة لأن القذائف المدفعية غير المنفجرة، وقذائف الهاون وغيرها من مخلفات الحروب السابقة تشكل خطراً كبيراً^(١٩).

إن قضاء شط العرب واحد من بين أهم المناطق التي تأثرت بالقصف وبمخلفات الألغام إذ كانت مزارع النخيل والحبوب وكل أشكال المزروعات متضررة بذلك، ولكنه بعد عقد الثمانينات شهد مثلما شهدت كل مدن العراق ويلات الحروب كانت ضحيتها مزارع شط العرب وبساتينه التي تحولت إلى أراضٍ جرداء قاحلة لا تنبت فيها الزروع ولا توجد فيها غير الألغام والأسلاك الشائكة وتركزت الألغام ضمن حدود القضاء في مناطق من أبرزها السليمانية والشلامجة والدعيجي ونهر جاسم^(٢٠).

مما عُرض في اعلاه من خطورة المخلفات الحربية في البصرة يجب زيادة الوعي البيئي ومعرفة خطورة هذه المخلفات وعدم الاقتراب منها، ومازالت تلك الملوثات تهدد البيئة في البصرة فضلاً عن الصحة العامة.

المحور الرابع: قصف المدن العراقية

كان العراق ساحة معركة لثلاث حروب كبيرة خاضها النظام البائد وهي حربا الخليج والحرب العراقية الإيرانية إذ استعمل فيها كثير من أنواع الأسلحة و القنابل فضلاً عن تفجير أنابيب النفط خاصة في مدينة البصرة وتعرضت العديد من مدن العراق بالقصف المدمر الذي أدى إلى تدمير النظام البيئي بشكل كبير، إذ إن المواد السامة كانت ذات نسب عالية جداً في تلك المناطق مما سبب مشاكل واسعة النطاق في النظام البيئي، وتعد المناطق الجنوبية خاصة ضحية هذه الحروب التي خلفت العديد من نفايات المواد الخطرة والمشعة، وبقايا الدبابات والأسلحة والألغام والمعامل التي ظلت مدمرة في مسارح العمليات العسكرية فضلاً عن بقايا الصواريخ التي أطلقتها القوات الأمريكية على مجموعة من الأهداف العسكرية^(٢١).

يمتاز جنوب العراق بتنوع سكانه وموارده الطبيعية إذ يضم عدداً كبيراً من المسلمين وكذلك بعض الديانات من المسيح والصابئة الذين يقطنون مناطق ضفاف النهار والأهوار^(٢٢).

للबصرة تاريخ حافل بالعطاء والعلماء رغم آلامها وانتكاساتها وخرابها وما دار فيها من حروب فكانت البصرة على مدار ثماني سنوات من الحرب العراقية- الإيرانية مسرحاً للقتال العنيف بين الطرفين، وساحة للكر والفر



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والقتل بشتى الأسلحة والقصف المتبادل ليل نهار، وما إن وضعت الحرب أوزارها في الثامن من أغسطس عام ١٩٨٨ حتى وجد البصريون أنفسهم أمام أحياء ومناطق مدمرة بالكامل، فالحرب التي دارت رحاها في مدينتهم خلفت مئات الآلاف من القتلى والجرحى والمعاقين، حتى النخيل لم يسلم، فما يقرب من عشرة ملايين نخلة كانت ضحية هذا النزاع العسكري الأطول عالمياً في القرن العشرين.

وخراب البصرة لم يقف عند حد الحرب العراقية الإيرانية! فبعد عامين بالتمام والكمال عاد البصريون إلى ان يشهدوا خراباً أعم وأكبر يتمثل في غزو الكويت واحتلالها وضمها إلى العراق على مدى أشهر حتى تحوّل العراق كله والبصرة أولاً إلى كرة نارٍ من جديد، فجراء هذه المغامرة السياسية للنظام البائد دمرت بنية البلاد التحتية مجدداً، ودمرت المباني والجسور والمراكز الحيوية والحياة العامة، ودخل العراق في متاهات اللعبة الدولية والحصار الاقتصادي وما تلاه من انهزومات نعيش آثارها حتى اليوم، ولم يكن أمام الناس سوى أن يستذكروا ما دار عليهم وهم يحصون قتلاهم وحجم الخراب الذي حلّ بهم منذ مطلع التسعينيات، فالبيئة في البصرة كانت وما تزال طاردة بسبب المخاطر الأمنية وبقايا الحروب وصعوبة العيش وسوء الخدمات، وهي عوامل جعلت البصريين غير قادرين على تحمل الواقع الذي أفرزته مواسم الحروب الطاحنة، ولافتات الشهداء المغدورين، ناهيك عن حجم التلوث بكل أنواعه نتيجة حرق الغاز والدخان السام الناتج عن حرق النفط، وهو مؤثر كبير على الأضرار البيئية الواسعة النطاق التي سببتها الحرب. وإن حملات القصف قد تسببت في تلوث بيئي واسع وخطير وأضرار مادية أدت إلى تفاقم التدهور البيئي الموجود بالفعل. كما ان زيادة التلوث البيئي الناتج من النشاط الإشعاعي المستخدم بحرب الخليج عام ١٩٩١ والغزو الأمريكي للعراق عام ٢٠٠٣، وتلوث الانبعاثات الغازية من الآبار النفطية بالبصرة أدى إلى زيادة الإصابة بالسرطان في العراق عموماً والبصرة خصوصاً^(١٣).

من خلال ذلك لقد غدا واضحاً انه على طول حدود البصرة التي قدرت بـ (٢٠٠) كم كانت الارض ملأى بالمخلفات الحربية وقضاء الفاو يعد أكثر الأفضية الملوثة بالمخلفات الحربية إذ يحتوي على أكثر من (١٧٠) موقعاً ملوثاً من مجموع أكثر من (٥٠٠) موقع ملوث في عموم البصرة، وإن أغلب المخلفات الحربية في مناطق البصرة تعود للحرب العراقية الإيرانية وحروب الخليج في زمن النظام البائد. إن المخلفات الحربية في العراق ممكن أن تؤثر في البيئة من ثلاث نواحٍ، الناحية الأولى:

تأثيرها في التربة لأنها مدفونة في التربة، والناحية الثانية تأثيرها في الحياة الحيوانية، وآخرها تأثيرها في الإنسان بشكل مباشر أو غير مباشر وبذلك يمكن ان يستنتج بأنه ما من مدينة خُربت في التاريخ مثل البصرة، فهي أكثر مدن العرب خراباً في التاريخ القديم والحديث، على الرغم من قدمها الحضاري منذ إنشائها سنة ١٤ للهجرة،



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فهي جبل من نار توالى عليها الحروب من جميع جهاتها^(٢٤). ومثال آخر على قصف المدن هو ما حدث في وقت الانتفاضة الشعبانية وبعدها خصوصا عندما سمح لقوات النظام البائد باستخدام اسلحته العسكرية كلها لإبادة المنتفضين اذ استخدمت طائرات الهليكوبتر لقصف بيوت الناس وتدميرها على ساكنيها بغض النظر عن اشتراكهم او عدم اشتراكهم في الانتفاضة مما أدى إلى دمار هذه البيوت وكذلك بيوت العبادة والعتبات المقدسة وهذا كان جليا خصوصا في العام ١٩٩١ اذ دمرت مناطق الجنوب ومنها ذي قار والعمارة والبصرة والكوت والسماوة والديوانية وبابل والنجف وكربلاء ومدن اخرى اذ قصفت هذه المدن وجرفت بساكنيها وغيرت طوبوغرافيتها بالكامل مما اثر سلبا على البيئة التي كانت موجودة في هذه المدن ولعلّ اظهر جُرم.

المبحث الثالث: تجفيف الاهوار والهجرة القسرية

المحور الأول: المفهوم والاهمية:

الاهوار عبارة عن نظام بيئي متكامل مكون من مسطحات مائية بأعماق مختلفة تصل في بعض الأحيان إلى عمق أربعة أمتار، تقع في الجزء الجنوبي من العراق في المنطقة الواقعة ما بين مدينة العمارة شمالا والبصرة جنوبا والناصرية غربا، وتنقسم على ثلاثة أقسام رئيسة هي هور الحويزة وهور الحمار والاهوار المركزية. وتتغير مساحة هذه الاهوار من سنة لأخرى ومن موسم لآخر تبعا لكمية المياه الواصلة إليها من مياه دجلة والفرات وبعض الأنهار المتفرعة عنهما^(٢٥).

والاهوار غنية بتنوعها الحيوي وقادرة على دعم الاحتياجات الحياتية لسكانها منذ الاف السنين اذ اختار سكان الأهوار هذه الأرض لتكون سكنا لهم وتمركزت حياتهم وأعمالهم الاقتصادية حول هذه المنطقة البيئية إذ يعيش سكان الاهوار على صيد الأسماك والطيور والبط ويقومون بزراعة الرز وتربية الحيوانات وخاصة الجاموس وعمل بعض الصناعات الشعبية ويعيشون في بيوت مربعة على الماء وينتقلون بواسطة الزوارق المحلية الصنع (المشحوف) فضلا عن قيامهم بالإفادة من نبات القصب الذي يستعمل في صنع (الحصير) و(البواري) وعمل الأسيجة والمقاعد وبناء المساكن كما يدخل مادة خامة في صناعة الورق ، وتمثل الاهوار والأراضي الرطبة العراقية نظاما بيئيا غاية في الأهمية على الصعيد المحلي والإقليمي والعالمي إذ تجتذب الاهوار أعدادا هائلة من الطيور المستوطنة والمهاجرة إضافة إلى أنواع عديدة من اللبائن والأسماك والنباتات، إن وجود النباتات والبيئة الطبيعية ووفرة الأسماك كلها عوامل توفر الحماية الطبيعية ومصادر الغذاء والماء لآلاف بل



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لملايين الطيور المهاجرة في أثناء فصل الشتاء في هجرتها ما بين أوروبا وآسيا وأفريقيا. كما أن الاهوار موطن للعديد من الأصناف المستوطنة.

تعد منطقة الأهوار ذات أهمية كبيرة من الناحية الزراعية لسكان المنطقة كما أنها تستخدم لصيد السمك وصيد الطيور ورعي الماشية، وتعد منطقة حضانة وتفقيس لبعض الاسماك والطيور والاحياء الاخرى التي تعد ذات أهمية تجارية وبيئية وتعمل بيئة المنطقة على ترشيح الملوثات الطبيعية وغير العضوية من المياه وعليه تصبح المياه التي تصب في المنطقة الشمالية من الخليج العربي أكثر نقاوة من مثيلاتها في تلك البيئة^(٢٦).

المحور الثاني: دور النظام البائد في تجفيف الأهوار

لم يتردد نظام (صدام حسين) في تدمير مصادر الثروة المائية للأهوار، إذ قام مبكراً (منذ العام ١٩٨٥) بخطوات لتجفيفها مقدماً لمشروع أكبر أدى إلى تدمير هذا المستنقع المائي الشاسع. فقد كشف الدكتور (جيمس يراز نكتون) الأستاذ في قسم الجغرافيا في جامعة كامبريدج البريطانية عن قيام السلطات العراقية بأعمال هندسية جديدة لتجفيف ما تبقى من مياه أهوار الحويضة المتاخمة للحدود العراقية. الإيرانية في العام (١٩٨٥) وفي حقبة التسعينيات بعد انتهاء حرب الخليج قام النظام الحاكم بحملة هندسية واسعة ومبرمجة لتجفيف أهوار الجنوب العراقي وقد اشترك جيشه بكل قدراته التنفيذية على مستوى الجهد الهندسي وإمكانات دوائر الري وقد رافق ذلك إجلاء قسري لسكان القرى الواقعة ضمن المشروع بالقوة وهدم البيوت والقتل والقصف المدفعي وقد تم تنفيذ هذا المشروع بإنشاء سدود ترابية لمنع تدفق المياه من الأنهر التي تغذي الأهوار ، ثم توجيهها لتصب في نهر الفرات وتحويل مجرى الفرات من موقعه الحالي شرق الناصرية إلى مجرى المصب العام أو ما عرف بنهر (صدام) الذي كان في الأصل مبرلاً للمياه المالحة إلى خور الزبير فالخليج العربي بالإضافة إلى إنشاء سدّة ترابية بين قضاء المدينة ومحافظة الناصرية لمنع تدفق مياه الفرات إلى هور الحمار بواسطة الروافد مع سدود ترابية داخل الأهوار نفسها لتسهيل تجفيفها بسرعة^(٢٧).

المحور الثالث: الاثار المترتبة على تجفيف الاهوار

إن هذه العملية الاجرامية للنظام البائد أدت إلى تحطيم نظام حياة بيئي استمر أكثر من (٥٠٠٠) سنة وتقليص مساحة الأهوار التي كانت تمتد إلى (١٥٠٠٠ - ٢٠٠٠٠) كيلومتر إلى أقل من (٢٠٠٠) كم^٢ وتدمير الأهوار المركزية بنسبة (٩٧%) وتحولت إلى أراض جرداء ما صاحبه انخفاض مجموع السكان من (٤٠٠,٠٠٠) مواطن إلى نحو (٨٥٠٠٠) مواطن أما الذين نجوا وأصبحوا تحت ضغط الإبادة فتم تهجيرهم إلى المدن وجاءت هذه



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العملية مع انخفاض شديد في منسوبي نهري دجلة والفرات. ادت عمليات تجفيف الاهوار إلى تدمير البيئة النباتية والحيوانية لان عمليات التجفيف أثرت بصورة مباشرة في الحياة النباتية والحيوانية، وانطوت على تدميرها، فهو أحد الأسباب الرئيسة لخسارة التنوع البيولوجي، وأثر سلبا في عدد الأصناف النباتية الموجودة فيها وانواعها. حيث تتواجد في الاهوار أنواع عديدة من النباتات أهمها القصب والبردي وعدد من الأصناف النباتية المستوطنة. وإضافة إلى القيمة الغذائية لبعض النباتات (الحميرة، الجولان، سلق الماء، الشمبلان) إذ تغيرت نوعية الغطاء النباتي و اختفت مجتمعات نباتية وظهرت مجتمعات نباتية جديدة تلاءمت مع البيئة الصحراوية الجديدة مثل الطرفة والطريع والشويل و العجرش، واصيبت بساتين النخيل وكثير من بساتين الفاكهة التي كانت تشتهر بها المنطقة بالأمراض الكثيرة التي أدت الى هلاك مساحات شاسعة منها، وما تبقى اصبح عديم الجدوى الاقتصادية، اضافة الى ظهور اصابات بحشرة الارضة في بساتين النخيل ولاسيما في شمال البصرة وكانت هذه البساتين تعيش في بيئة مغمورة بمياه يتعذر على الحشرة اختراقها والانتقال من مكان الى اخر بسهولة، واطافة الى ان النباتات التي كانت تعيش في البيئة المائية توفر الاوكسجين الضروري للمياه الذي يبعث الحيوية والنشاط، أما الحياة الحيوانية ، فلقد أدى التجفيف الى التأثير سلبا في العديد من الحيوانات البرية والداجنة التي تعيش فيها (ابن آوى، الثعلب الأحمر، الضبع، القنفذ وغيرها من الحيوانات)(^{٢٨}).

ويعد الجاموس من أشهر الحيوانات الموجودة في المنطقة إذ يقضي معظم وقت النهار في الماء وهو من الحيوانات المهمة اقتصاديا للسكان وإن تجفيف الاهوار ادى الى انقراض أنواع لا حصر لها من الحيوانات، والاسماك والطيور إذ كان هناك ما يقارب (٢٧٨) نوعاً من الأنواع النادرة، والرائعة كالخضيري والحذاف التي كانت تعد الاهوار محطة اساسية تستعملها ملايين الطيور في خطوط هجرة الطيور من سيبيريا الى افريقيا، وانقرضت انواع نادرة من الحيوانات التي لا يوجد مثل لها في اي بيئة مائية اخرى. واكد بعض الخبراء أن (كلب البحر) العراقي الذي اكتشفه علماء الحياة المائية في عام (١٩٥٠) م وهو لا يعيش في اي مكان آخر في العالم وقد انقرض هذا الحيوان بعد تجفيف الأهوار ، ولا يبدو ان اعادة المياه الى الأهوار ستعني عودته. اما الجاموس فقد تعرض للموت إما بالقذائف او لقلة المياه وجفافها وعدم امكانية الخروج من المستنقعات الطينية، واصبحت هناك مقابر جماعية للجاموس كما تعرض العديد من اللبائن والأسماك المستوطنة في الاهوار إلى الانقراض ، واصبح (٦٠ ستون) نوعا من الطيور في خطر. ومن الحيوانات النادرة التي لم تعد موجودة في الاهوار يمكن الإشارة إلى قاذف السهام الأفريقي، أبو منجل، البجع الدلماس، النسر الملكي، قط الأدغال، ثعلب الماء والذئب الرمادي (^{٢٩}).



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- إن قلة المياه وتقلص مساحة الأراضي الرطبة، وقلة المصادر الغذائية وأماكن التعشيش سيؤثر في أعداد الطيور المستوطنة والمهاجرة. إذ يعيش في الاهوار أكثر من (٣٠٠) نوع من الطيور وتتغير أعدادها من موسم لآخر إذ يصل عددها إلى أكثر من (مليون) طير من مختلف الأنواع في موسم الهجرة الذي يمتد من شهر كانون الأول إلى شهر شباط، وتصل الطيور المهاجرة إلى الاهوار من مناطق مختلفة وبعيدة مثل غابات سيبيريا وبحر الاورال واسيا الوسطى والبحر الأسود وتركيا والصين والبلدان الإسكندنافية وأفريقيا وجنوب شرق آسيا.

- انّ تجفيف الاهوار ادى الى ارتفاع درجات الحرارة وانخفاض نسبة الرطوبة مما زاد الطلب على المياه للمحاصيل الزراعية واحتياج الثروة الحيوانية للمياه بكميات اكبر , وهذا يحدث خللاً في الاتزان المائي إذ أدى استنزاف خصوبة التربة - بسبب تطاير الحبيبات الدقيقة من غرين وطين وكذلك المادة العضوية الموجودة أصلاً بالتربة الى انتشار الاملاح ، وتكون قشرة ملحية على السطح؛ لان المنطقة كانت مغمورة بالمياه، مما ادى الى ارتفاع تركيز الاملاح الذائبة في التربة مثل كلوريدات وكبريتات وبيكاربونات الصوديوم والمغنسيوم والكالسيوم بسبب ارتفاع مستوى الماء الارضي والمناخ الجاف وظروف الصرف الرديئة التي صارت عوامل ادت الى تدمير التربة وتفكك جزئياتها حتى تدمير البنية البيئية بكل محاورها لان هبوط مناسب المياه الجوفية واختفاء المسطحات المائية يعني تحول مساحات من الأراضي المتماسكة الرطبة إلى أرض جافة مفككة قابلة للانجراف بفعل الرياح مما يعني تهيئة الظروف لانتشار العواصف الرملية والترابية وانتقال الرمال ناحية الكويت بفعل الرياح الشمالية الغربية السائدة وناهيك عما تحمله الرياح من أملاح ومتبخرات تنتقل مع الرمال والأترربة في اتجاه الكويت(٣٠).

في ضوء ذلك يمكن ان نلخص الاثار البيئية الناتجة من تجفيف الاهوار والمشاكل التي نتجت بسبب ذلك التجفيف اذ تعرضت المنطقة لأنواع من الضغوط، والمتغيرات البيئية التي أثرت في هذا النظام البيئي وموارده الطبيعية فقد كانت الاهوار تؤدي وظيفة مهمة في حماية البيئة وتحسينها، واعتدال درجات الحرارة لكثافة الغطاء النباتي فيها، وبعد التجفيف اختل هذا التوازن البيئي وتغيرت طبيعة المنطقة، والظروف المناخية المحلية، فإن تجفيف مساحة قدرها أكثر من (٩٠٠٠ كم٢) من الاهوار والبحيرات بصورة سريعة سيكون تأثير مباشر في المناخ المحلي للمنطقة، فالتجفيف ادى الى ارتفاع درجات الحرارة، وزيادة مظاهر التصحر، فأصبحت المنطقة ذات بيئة جافة، ولاسيما في أثناء فصل الصيف الحار، ومع هبوب الرياح الجافة، ودرجات حرارة تصل الى أكثر من(٤٠) درجة، فالتصحر عملية هدم، أو تدمير للأرض التي يمكن أن تؤدي في النهاية إلى



ظروف شبه صحراوية، وهو مظهر من التدهور الواسع للأنظمة البيئية الذي يؤدي إلى تقلص الطاقة الحيوية للأرض المتمثلة في الإنتاج النباتي والحيواني، ثم التأثير في إعالة الوجود البشري هناك^(٣١).

قرى مناطق هور الحمار والجبايش (قرية ال جوير وقرى بني اسد انموذجا)

إن من أسوء ما تعرضت له البيئة العراقية عملية تجفيف الاهوار اذ أشرنا في المقدمة الى انها قد بدأت منذ منتصف الثمانينات لأهداف سياسية انتهجها رأس النظام البعثي البائد من اجل تصفية خصومه السياسيين دون النظر الى الاثر الذي سيولده هذا الاجراء في المستقبل في البيئة العراقية وما تحوية منطقة الاهوار من روافد اقتصادية مهمة فبعد ان تم تجفيف الاهوار سنحت الفرصة الى النظام البائد بان يقمع ويمحو قرى بأكملها من الوجود لأنها رفضت سياسة البعث الاقصائية والتجويعية ومنها قرية (آل جوير) الواقعة على ضفاف نهر الفرات جنوب مدينة سوق الشيوخ في ذي قار وعلى ضفاف أهوار الحمار الشمالية اذ كان اهلها يعتاشون على الزراعة عموما ، وعلى محصول الرز (الشلب) خصوصا، وزراعة النخيل وصيد الاسماك والطيور وتربية المواشي الا ان الابداء الجماعية التي تعرضوا لها بمسح قريتهم كاملةً والزج برجالاتهم ونسائهم بالسجون واعدام معظم ابناء القرية وتجريف بساتينهم وقتل مواشيهم بعملية عسكرية بشعه لليوم آثارها باقية على ابناء القرية الذين عادوا بعد زوال النظام البعثي والمثال الآخر هم ابناء عشيرة (بني أسد) التي كانت تقطن مدينة الجبايش ، وكانوا يعتمدون في قوام حياتهم على تربية الجاموس، وعند تجفيف الاهوار فقدوا جميع مواشيهم مما اجبرهم على الهجرة الداخلية في البلد حتى انتقلوا الى مدن الفرات الاوسط وخاصة في اطراف مدينة كربلاء للسكن هناك والحفاظ على ما تبقى من حيواناتهم . والى اليوم لم تعد بيئة الاهوار كما كانت عليه بيئة صالحة لتربية الجاموس كما في السابق اذ يعد الجاموس ثروة وطنية اهدرت بفعل سياسات البعث المقبور.

المبحث الرابع: تدمير البيئة الزراعية والحيوانية والتلوث الإشعاعي

لقد كان العراق من البيئات النظيفة في العالم ، ولكنه صار مسرحاً مر بحروب كارثية، وشهدت البيئة الزراعية والحيوانية والتربة العراقية تلوثاً معقداً ومستمرًا في دائرة مغلقة لبقية عناصر البيئة الأخرى (التربة والهواء والمياه) مخترقه كل عناصر السلسلة الغذائية والنباتية والمنتجات الحيوانية وهذا ما ترجمته بكل وضوح التدهور الكارثي للحالة الصحية المروعة للإنسان المتمثلة بظهور ظاهرة الأمراض السرطانية والتشوهات



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الخلقية والعقم ، هذا الخراب الذي لحق بالتربة في أثناء الحرب وفي نهايتها ، ومن مهام الامن^٧ البيئي تحديداً المشاكل الامنية الناجمة عن المجتمعات البشرية وتأثيرها السلبي على البيئة ويمكن التركيز على اهم المدن العراقية التي تعرضت الى التدمير البيئي ومن ضمنها البصرة وخاصة جنوبها ومنطقة الدجيل التي كان عليها التأثير الاكبر في ذلك الدمار^(٣٢) .

المحور الأول: الدجيل

تعد الدجيل احدى مدن محافظة صلاح الدين وتعد تاريخيا من المناطق الزراعية المعروفة في العصر العباسي وكان العباسيون يمنحونها لمن يريد تضمينها. تبعد الدجيل مسافة (٦٠) كم إلى الشمال من بغداد، وتحيط بها بلدات الضلوعية وقضاء بلد من الشمال وناحيي التاجي والطارمية من الجنوب الشرقي، وفي الجنوب الغربي يوجد ذراع دجلة ومنطقة سبع البور و النباعي وفي الغرب تحاذيها منطقة الثرثار وهي أرض منخفضة ويبلغ عدد ساكنيها نحو (١٠٠,٠٠٠) نسمة. تشتهر ببساتينها وأراضيها الزراعية الخصبة بزراعة أنواع عديدة من الأشجار كالبرتقال والرمان والعنب. والدجيل عبارة عن بستان كبير لكنها مدينة صغيرة وعلى الرغم من ان الاراضي الزراعية تحيط بها من كل مكان فان بيوتها ليست كبيوت القرى، ويشقها نهر صغير يطلق عليه اسم (مشروع الدجيل)، وتكثر فيها اشجار الحمضيات بكل انواعها والكروم والنخيل غير ان النظام البائد أقدم على تجريفها وحولها فيما بعد الى ارض قاحلة^(٣٣).

لعل إحدى أبرز الجرائم البشعة التي ارتكبتها نظام (صدام حسين) المستبد بأمر مباشر منه جريمة تدمير قرية الدجيل إبان محاولة اغتياله سنة(١٩٨٢) فيها , تكمن بشاعة هذه الجريمة في الرد العنيف وغير المبرر الذي لحق بأهالي قرية الدجيل بسبب حادثة محاولة الإغتيال تلك، إذ قام بعدها بتهجير وتدمير المئات من سكان القرية رجالاً ونساءً وأطفالاً، وتم إعدام جموع من المواطنين لتورطهم المزعوم في العملية، و تم نفي المئات الآخرين وتدمير منازلهم ومزارعهم وممتلكاتهم وكانت الحجة التي يقدمها أنصار النظام البائد هي أنهم قاموا بتدمير تلك المزارع (التي استعملها منفذو محاولة الاغتيال كغطاء أثناء الهجوم) لمنع حدث مماثل في المستقبل. هذه الجرائم ادت الى تهجير سكانها وتدمير بساتينهم ومزارعهم مما اثر ذلك سلبا في النظام البيئي جراء تدمير الاراضي الزراعية من جهة، وترك اهلهما وهجرتهم لها من جهة اخرى مما أحدث خللاً في التوازن البيئي لتلك المنطقة ومن المحتمل أن يتم الشعور بالآثار البيئية عبر مجموعة من الموائل والنظم البيئية التي تعرضت

(*) (ال جويبر) ، و (بنو اسد) مثالان ظاهران للاستشهاد على جرم النظام السابق والحقيقة ان العشائر العراقية والقرى العراقية كافة قد نالها من جور النظام السابق ما نال



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للتدمير وانقراض للأنواع المختلفة من الكائنات الحية الحيوانية والنباتية، وأن بيئة ما بعد الحرب في أي منطقة ستكون ملوثة بشدة. ومن الممكن أن يكون هناك أضرار لا يمكن إصلاحها^(٣٤).

المحور الثاني: تجريف بساتين النخيل

تغطي مزارع النخيل مساحات واسعة من البلاد ومن ضمنها منطقة الدجيل البستان الكبير الذي تحول الى اراضٍ جرداء خالية من النخيل بعد تجريف النخيل وتدميرها إنتقاما من الاهالي بعد حادث الإغتيال ولم يبق منها سوى بقايا جذوع ميتة بعد ان كانت تشبه الغابة باتت اليوم خاوية الا بعض ما تبقى من الاشجار التي اصابها الجفاف وخلت من الثمار.

لم يقتصر الأمر على تناقص أعداد النخيل بسبب التجريف فحسب، وإنما أدى الى اختفاء أنواع من التمور أو انقراضها إذ لم تعد تزرع اليوم، كالقنطار والحويز والديري ضمن (٢٥) نوعا إختفت من المزارع والأسواق، من الاثار والاضرار البيئية التي خلفتها ظاهرة تجريف النخيل لأنها تؤدي الى زيادة مخاطر العواصف الترابية نتيجة تعرية التربة وانعدام الحزام الاخضر الذي يصد تلك العواصف ويؤثر التجريف على التنوع البيولوجي واختفاء انواع مختلفة من الكائنات الحية التي تعد الاشجار موطنها الأصلي.

وقد أدى تجريف النخيل الى ارتفاع درجات الحرارة وزيادة ظاهرة الاحتباس الحراري , وأثرت عملية تجريف النخيل في تغيير الواقع البيولوجي والبيئي للمنطقة و فوق عدد كبير من الحيوانات التي تعيش في داخل هذه البيئة وهجرة عدد آخر منها وتغير نوعية الحيوانات التي تعيش على وفق المتغيرات الجديدة التي اضافتها وتجريف البساتين اسهم في زيادة تأثير هذه العواصف وزيادة شدتها على المناطق الزراعية والسكنية في الدجيل وان تجريف بساتين النخيل الكثيفة واشجار الفاكهة التي تعيش في ضلالها شكلت عاملا مهما في التأثير في نقاء الجو وصفائه حيث انها تعمل على التقليل من التلوث وخلق بيئة نظيفة لها اثار ايجابية على الحياة البيئية وكذلك على الانسان^(٣٥).

المحور الثالث: البصرة

أدت الحرب العراقية – الايرانية الى تدمير شبه كامل لأكبر غابات النخيل في العالم, تلك الممتدة على طول شط العرب. و(مسؤولية) الحرب تأتي عن مستويين: الأول (مباشر) إذ أحالت القذائف الايرانية والعراقية - على السواء- ملايين النخلات الى جذوع محترقة ، فحين كانت القوات الايرانية لم تعبر (شط العرب) بعد كانت القذائف تنهال على القطعات العراقية المرابطة على الشاطئ الآخر من الشط بعد ان احتلت ايران الفاو وشريطا



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طويلاً من شط العرب كانت القذائف العراقية تنهال على البقية الباقية من النخيل لطرد المعتدين, والمستوى الثاني الذي دمّرت الحرب بموجبه غابات النخيل في البصرة (غير مباشر) هو ملوحة الأراضي المتزايدة، وهذه نتجت إثر قيام السلطات العراقية في الحرب بردم أكبر أقنية للتصريف الطبيعي للمياه الممتدة ما بين شط العرب وبساتين النخيل، وذلك لتهيئة الأرض لحركة المدرعات والمدفعية وعجلات القوات المسلحة المتمركزة في المنطقة. وشاركت أحداث الثأر من السلطة العراقية المركزية بعد انسحاب الجيش العراقي من الكويت وهزيمته في الحرب ١٩٩١ في صب المزيد من النار على بساتين النخيل، فقد وظفها المقاتلون الثائرون على النظام العراقي مناطق اختباء لهم بعد انسحابهم من البصرة وضواحيها، وهذا جعلها هدفاً للقطعات المطاردة لهم^(٣٦).

لقد كانت الحروب التي خلفها النظام البائد أساس الكارثة البيئية التي يعاني منها العراق الآن من تجريف النخيل وتدميره، وتراجع انتاج التمور وتدهوره حتى ثمانينات القرن الماضي.

ان الظروف الصعبة التي مرت في المنطقة وحروب النظام البائد التي قضت على الكثير من البساتين وخصوصا في البصرة والمناطق المجاورة لإيران والممتدة حتى محافظة ديالى، ثم الحصار الاقتصادي والعقوبات الدولية وتجفيف الأهوار والإهمال الذي أصاب بساتين النخيل في السنوات الأخيرة، وكذلك الأمراض وتلوث المياه، كلها عوامل أدت الى تقليل أعداد النخيل فضلاً عن الأضرار بالتنوع الأحيائي واندثار الكثير من أنواع التمر. فبالإضافة الى حروبه التي قطعت أعناق آلاف النخيل كان يأمر بتدمير البساتين لمجرد انطلاق اطلاقا معارضة منها. وموقفه هذا منسجم مع موقفه ازاء الاهوار عندما أمر بتجفيفها. فقد حصدت القنابل عددا كبيرا من هذه الأشجار فضلاً عن قيام الجيش آنذاك بتجريف مساحات واسعة من البساتين لتسهيل مرور القطعات العسكرية وإنشاء الثكنات والسواتر وشمل التجريف مناطق زراعية عدة ابتداء من الفاو الى أبي الخصيب والجهة الشرقية لشط العرب. وتوالت الأزمات فكان للحروب الأخرى اثرها أيضا لأن الأسلحة المستخدمة فيها سببت تلوثاً بيئياً أسهم بشكل فاعل في تراجع الزراعة من بينها النخيل، وبعد انتهاء الحروب بأعوام قليلة نشأت أزمة السكن التي أدى تفاقمها إلى تجريف المئات من بساتين النخيل وإنشاء أحياء سكنية في محلها، ثم تعرض هذا القطاع إلى هزة عنيفة بسبب ملوحة مياه شط العرب والمشكلة ناجمة عن تغلغل مياه الخليج الشديدة الملوحة في مجرى الشط الذي تروى من مياهه معظم البساتين^(٣٧).



المبحث الخامس: المقابر الجماعية وقصف دور العبادة

ان المقابر الجماعية هي احدى اكبر الجرائم التي واجهها المجتمع العراقي اذ بلغ عدد المقابر الجماعية ٣٤٦ مقبرة في عموم العراق من غير تلك التي لم تكتشف بعد ، بحسب (وزارة شؤون الشهداء) في حكومة إقليم كردستان. والإحصائية تبين المقابر المكتشفة في المدة من (٢٠٠٣ ولغاية ٢٠١٠)، وتعود لعهد يمتد من عام (١٩٨٠) لغاية (٢٠٠٣) وتبين إن المقابر الجماعية تركزت في المناطق الشمالية والغربية من العراق، وتحديداً محافظات نينوى، وكركوك، وصلاح الدين، والأنبار، وديالى وفي بابل كذلك. وتشير تقديرات مكتب مفوضية حقوق الإنسان السامية في الأمم المتحدة إلى أنّ أعداد المدفونين في تلك المقابر الجماعية يتراوح من (٦٠٠٠) إلى (١٢٠٠٠) إنسان، بينهم نساء وأطفال وكبار سن وذوو إعاقة ، فضلا عن عناصر اخرى ويذكر أن السلطات العراقية اكتشفت مقبرة جماعية تحتوي على أكثر من (٣٠٠٠) جثة بالقرب من منطقة المحاويل (٦٠) كلم جنوب بغداد تعود الى النظام البائد).

وقد عثر على مقبرة جماعية في محافظة الانبار غربي العراق، ويعتقد أن تلك الجثث تعود إلى الحرب العراقية الإيرانية (١٩٨٠-١٩٨٨)، وتقول جماعات حقوقية إن هناك المئات من المقابر الجماعية في العراق التي تحتوي جثث نحو (٣٠٠) ألف شخص قتلوا طوال حكم النظام البائد.

وعدت منظمة حقوق الانسان المقبرة الجماعية ((من أبشع جرائم النظام السابق وانتهاكها كبيرا لحقوق الانسان)).

واضافت ((نعتقد أن الضحايا كانوا من قطاعات مختلفة من المجتمع العراقي وذلك بواسطة بقايا الملابس وأشياء أخرى. وان بعض الخنادق تحتوي على نساء وأطفال وأخرى تحتوي على جنود بملابس عسكرية أو رياضية)).

وأوضحت ايضا أن البقايا التي عثر عليها ارسلت بعضها إلى وزارة الصحة لإجراء اختبارات عليها لمضاهاتها بالمعلومات المتوافرة عن الجنود والاشخاص الذين فقدوا خلال الحرب العراقية الإيرانية، ومن الممكن كذلك أن يكون الضحايا من الأكراد الذين شن عليهم (صدام) حملات عسكرية في عقدي الثمانينات والتسعينات، أو من الشيعة الذين قاموا بانتفاضة ضد صدام عام ١٩٩١ (٣٨).

وتبين أن المقابر الجماعية هي احدى المشكلات المستعصية التي تواجه المجتمع العراقي عامة والكردي خاصة بعد تعرضهم للأنفال فهي المأساة الكبرى التي تعرضوا لها وقدرتهم على تخطي الظروف القاسية التي تمر على الانسان العراقي على المستوى الاجتماعي والنفسي والثقافي ، إذ بدأت مرحلة ما بعد المأساة مع اكتشاف المقابر



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الجماعية التي اعلنت بداية لتاريخ ترميل جماعي للنساء في المجتمع ، وخاصة بعد ما عادت اعداد كبيرة من ارامل الانفال من سجن (نقرة السلمان) وقد اكتشفت القوات العسكرية الامريكية بالقرب من كركوك نحو (١٥٠٠) قبر ليس عليها اسماء تقع قرب المنطقة الصناعية في كركوك ، وكذلك عثر على اكثر من (٢٦٠) مقبرة جماعية في العراق قتل ودفن فيها الالاف من الكرد في عمليات الانفال من رجال واطفال ونساء ، وعثرت على مقبرة بجانب بناية قوات الطوارئ داخل مدينة السليمانية فيها مجموعة من القبور دفن فيها رجال ونساء واطفال ، ويمكن تحديد ثلاثة مواقع لقبور جماعية بواسطة شهادات بعض الناجين يقع أحدها بالقرب من الضفة الشمالية لنهر الفرات والقريبة من مدينة الرمادي والمجاورة لمخيم يأوي الكرد الفيليين الذين رحلوا قسرا في المراحل المبكرة من الحرب العراقية- الايرانية ، وتوجد مقبرة أخرى تقع قرب موقع الحضر الاثري جنوب مدينة الموصل ، والمقبرة الثالثة تقع في الصحراء خارج بلدة السماوة . كان بعض المجموعات من المسجونين يوقفون في صف واحد ويطلق عليهم الرصاص من الامام ثم يسحبون الى داخل قبور جماعية حفرت لهم سلفا وكانت الجرافات ترمي التراب فوق الجثث وتغطيها . واستمرت الاعتقالات والاعدامات حتى على الاشخاص الذين كانوا في الحجز ابان صدور العفو العام حتى وصلت اعداد المعدومين على حسب بعض الوثائق الى الالاف , كانت اعداد السجناء المعتقلين في سجن ابو غريب تقدر بالآلاف، وان هذه الاعداد الضخمة لا تستطيع الحصول على ابسط مستلزمات الحياة من الاكل والملبس والاغذية واكثرهم يموتون جوعا وبردا واستُخدم قسمٌ من السجناء السياسيين في تفجير حقول الالغام ابان الحرب العراقية - الايرانية، وكانت السلطات الحكومية تجمع الجثث وتنقلها الى مقبرة كبيرة قريبة من السجن إذ تقع في شرقها ببضعة امتار وترمي فيها الجثث وعثرت على مقبرة للأكراد ضمت نحو(الفين وخمسمائة) (٢٥٠٠) قبر في الجانب الجنوبي من مدينة كركوك والقتلى المدفونون قد دفنوا على صفوف طولية (٣٩).

وهناك مقبرة أخرى وجدت في كربلاء وتم اكتشافها من قبل منظمة حقوق الانسان فرع كربلاء ، إذ كانت تجرى عملية دفن البشر وهم احياء ومن مختلف الفئات والاعمار في كردستان وكربلاء والبصرة والعمارة وذي قار والنجف وواسط، الى جانب دفن الاسرى المحجوزين وهم احياء وهناك احصائية لمنظمة العفو الدولية تؤكد اكتشاف موقع يحتوي على (ثلاثة آلاف) جثة ، منهم (خمسة عشر ألف) جثة لمفقودين عراقيين من الذين إعتقلوا وأعدموا فوراً في اعقاب انتفاضة عام(١٩٩١) في الجنوب . وتقوم هذه المنظمة بجمع المعلومات حول المفقودين عموما من المقابلات التي تجريها مع اقربائهم واصدقائهم ومن بينهم اشخاص فقدوا واعتقلوا منذ عام (١٩٨٠) في تشرين الاول، و تم العثور على قبر جماعي آخر يضم (سبعين) شخصا أعدمتهم السلطات



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الحكومية بعد سحب الدم منهم ، ويقع هذا القبر على طريق(سد بادوش) الجديد من مدخل مدينة الموصل باتجاه دهوك، وهذا القبر عبارة عن حفرة عريضة عمقها (ثلاثة أمتار) وفوقها كومة من التراب بإرتفاع (ستة) امتار، وقد شوهد مع جثث الموتى الاجهزة الطبية الخاصة بسحب الدم مشدودة الى ايديهم وسواعدهم وقد عصبت أعينهم قبل أن تعدهم السلطات العسكرية ومعظم الجثث كانت من سكان نينوى واطراف الموصل والقرى التابعة للشيوخان وكانت تجري عملية سحب الدم من الاشخاص الذين تسميهم السلطات الحكومية آنذاك بالمخربين ، وتتم العملية في مخازن الصويرة قسم وحدة المجازر البشرية ، وكانت هذه الدماء تستخدم للتجارب ولاختبار الاسلحة الكيماوية على جسم الانسان وهنالك مقبرة اخرى وجدت بالقرب من بلدة المسيب على بعد (أربعين) ميلا الى الجنوب من بغداد ، إذ اخرج السكان المحليون (ستمائة وخمسين) ضحية معصوبة الأعين، مربوطة الأيدي وعليهم طلقات نارية ، هذا الى جانب مقبرة أخرى عثرت عليها منظمة (ميدل ايست ووج) التابعة للأمم المتحدة تعود الى النظام البائد.

تبين أن هناك العديد من العسكريين والمدنيين الذين سخرهم النظام السابق حقلاً للتجارب على الاسلحة الخاصة بالدمار الشامل في عهده بعد اكتشاف المقابر الجماعية المتعددة في جميع أنحاء العراق، وهنالك معلومات على وجود مقبرة جماعية قرب مدينة بعقوبة بحسب ما أورده جريدة الشرق الاوسط في المقال المنشور في التاسع من نيسان عام(٢٠٠٣) الذي كان بعنوان (رحلة الموت الكيماوي من حميرين الى بعقوبة عام ١٩٨٧). وهناك العديد من المقابر لم يتم كشفها بعد ومن هنا يتضح بان عهد النظام البائد لم يتوان في قتل الابرياء من المدنيين والعسكريين قتلا جماعيا إضافة الى اجراء التجارب المخبرية عليهم دون اي رحمة ، ودون عَدَهم من البشر ولهم كيانهم الخاص وكرامتهم المصونة في لوائح حقوق الانسان وفي الكتب المقدسة وفي عام (١٩٩١) تم قصف مدن جنوب العراق ووسطه كاملة ومنها دور العبادة والمقدسات مما خلف دماراً شاملاً لها خصوصا في مدينتي النجف ، وكربلاء المقدستين^(٤٠).

الملخص:

ظهر في السنوات الأخيرة تدهور كبير في البيئة الطبيعية العراقية ، ابتداءً بتلوث الهواء وانتهاءً بتلوث التربة والمياه ، لقد كبر حجم الكارثة البيئية في السنوات الاخيرة وخاصة بعد ثلاث حروب مدمرة خلفها النظام السابق أفضت الى دمار هائل في مكونات البيئة الطبيعية حتى بات من غير الممكن للدولة العراقية وبإمكانياتها المتواضعة ان تضع حلولاً منفردة دون المساعدة من دول الجوار المعنية مباشرة بالأمر والمتضررة من هذا



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التدهور ، وبمساعدة المنظمات الدولية المعنية واشرفها ، وما يزال العراق يعاني من التلوث البيئي والاشعاعي الذي خلفته تلك الحروب وما زالت الآثار تتسع على البيئة بانعدام مساحات واسعة من الاراضي الزراعية في جنوب العراق ووسطه وشماله التي تعرضت الى الضرب الكيميائي العسكري ، وعدم قدرتها على انتاج المحاصيل ، بالإضافة الى التشوهات الخلقية في الاطفال والامراض السرطانية والمخلفات الخطرة التي تركها النظام البائد . إن تلوث مكونات البيئة الطبيعية كلها ، كتلوث الهواء والماء (السطحي والجوفي) والتربة والتصحر وانتشاره في مساحات واسعة ، وتجفيف الاهوار ادى الى حدوث خلل في التوازن الطبيعي في المنطقة ، وزيادة تراكم فضلات المدن والمعامل ، وما خلفته الحروب المستمرة وما قامت به الحكومة العراقية السابقة او لجان التفتيش الدولية من اتلاف لأسلحة الدمار الشامل في الاراضي العراقية المأهولة بالسكان ، خلف تلوثاً اشعاعياً وكيميائياً هائلاً. وكذلك التلوث الذي سببه القصف بالصواريخ والقذائف طوال حربين مدمرتين استعملت فيها قوات الحلفاء القنابل المضادة للدروع والمغلقة بطبقة من اليورانيوم المستنفذ وكذلك نتيجة لحرق الدبابات والمركبات التي تغلف جدرانها الخارجية باليورانيوم المستنفذ، الذي حل محل التيتانيوم المستعمل سابقا في تغليف القنابل والدبابات لحمايتها وهو ما أدى إلى درجات عالية جدا من التلوث .

ان البحث في كل هذه المشكلات المتشعبة التي خلفها النظام البائد والحروب امر غير ممكن في بحث قصير كهذه ، ولكن هدفنا هو تسليط الضوء على مخلفات الحروب الكيميائية والاشعاعات واسلحة الدمار الشامل وآثارها في العراق في عهد النظام البائد ، ومدى خطورتها على البيئة العراقية والمواطن العراقي ، والتذكير بأهمية هذا الموضوع وسرعة التحرك من قبل المنظمات الدولية والحكومة العراقية بعد ان لاحظنا ان هذا الامر بات ضمن الإجراءات الروتينية ، بدل ان تأخذ هذه الكارثة الاولوية القصوى على كل المشكلات التي عانى منها العراق^(٤١).

هنالك آثار نتجت من جراء الحروب على أرض العراق خلفت وراءها العديد من الآثار من بينها^(٤٢):

- ١- تسببت الحروب في تدمير التربة الزراعية مما أثر في خصوبة هذه التربة وكذلك حرق الغابات والأشجار ثم انتهاء الحياة النباتية في بعض الأماكن ، وهو ما أدى إلى مزيد من التلوث وزيادة نسبة ثاني أكسيد الكربون في الجو، وظهور الاحتباس الحراري المؤثر في مناخ الأرض حالياً.
- ٢- أدت الحروب إلى اختلاف بنية الغلاف الجوي بسبب زيادة المواد الكيميائية التي نتجت عن الانفجارات ومن الاسلحة الكيميائية والاشعاعات وهو ما ادى إلى خلل في نسبة الغازات في الغلاف الجوي الذي اثر في الإنسان والحيوانات والنباتات أيضاً.



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- ٣- تؤثر الحروب في الماء إذ تسبب المواد الكيميائية قتل الكائنات البحرية الموجودة في المياه ، كذلك تتأثر الأنهار بالحروب والمواد السامة التي تزداد بسبب الانفجارات والمفاعلات النووية والطوربيدات من السفن وغيرها من العمليات العسكرية
- ٤- تؤدي الحروب الى اقتلاع الاشجار وتجريف الاراضي وتدمير آبار المياه والمنشأة الزراعية ، وطوال مدة الحروب او العمليات العسكرية (داخل المدن) غالبا لا تهتم الآليات العسكرية لمن يقف امامها لذا تجرف الاخضر واليابس ، حتى الصخور الرملية التي تحتاج لعشرات السنوات كي تتكون وتثبت ككتل او صخور رملية فهي بمجرد حركة الدبابات او الطائرات او العسكر الراجلة تتفتت ، وتؤهل تلك المساحة من الصحراء للزحف نحو المدن والاراضي الزراعية والقضاء على التنوع البيولوجي عبر العواصف الترابية وتؤول إلى تهديد الامن الغذائي .
- ٥- للحروب كلها استراتيجية أساسية واحدة هي: تدمير النظم المؤازرة للحياة بحيث تدعن الجيوش والشعوب. وهي تستعمل القصف الشامل للمدن والبنى التحتية والحرق والتدمير الكيميائي والآلي ، والتدابير التي تجعل الحياة مستحيلة في مساحات كبيرة.
- ٦- يؤدي استعمال الأسلحة الكيميائية الى محو الحياة البرية الأرضية ، وخسائر في أسماك المياه العذبة وتدهور في الثروة السمكية ويتفاوت التأثير في البشر من حالات التسمم العصبي الى الإصابة بالالتهاب الكبدي وسرطان الكبد والإجهاض التلقائي والتشوهات الخلقية.
- ٧- أسفرت الحرب التي دارت على أراضي الكويت عام (١٩٩١) عن إنسكاب نفطي كبير وحرائق شاسعة في آبار النفط وانبعاثات غازية انتشرت فوق مساحة كبيرة من الخليج، وألحق هذا الانسكاب الضرر بالمناطق الساحلية في بعض البلدان وأثر في الحياة البرية والأحياء المائية.
- ٨- تبقى - بعد توقف المعارك - ملايين الألغام والشراك الخداعية وأنواع الذخائر والقنابل التي لم تنفجر ولا يتوافر عموما سوى مقدار ضئيل جداً من المعلومات عن عدد هذه المخلفات ومواقعها مما يجعل تطهيرها مهمة صعبة وخطيرة، ويعرض الناس والثروة الحيوانية والحياة البرية للخطر، ويعوق تنمية مساحات شاسعة من الأرض.
- ٩- تخلف الحروب والمنازعات للسكان خسائر اقتصادية وتمزقاً في نسيجهم الاجتماعي، وحياتهم ويعيش كثير منهم في مخيمات المناطق الحدودية إذ تقسو الظروف المعيشية وتنتشر الاضطرابات الاجتماعية في بعض الحالات فتصبح عودتهم الى أماكنهم الأصلية مستحيلة، فيواصلون العيش في بؤس لعدة أجيال.



المصادر والمراجع

- ١- سليم مطر , موسوعة البيئة العراقية , الطبعة العربية الاولى , ٢٠١٠ , ص ٨١.
- ٢- د.علي حنوش .العراق مشكلات الحاضر وخيارات المستقبل (دراسة تحليلية عن مستويات تلوث البيئة الطبيعية والبيئة الاجتماعية , ط١, دار الكنوز الادبية ,بيروت - لبنان , ٢٠٠٠, ص٥٦.
- ٣- سعاد ناجي العزاوي , بهاء الدين حسين ,مقدم محمود صالح وآخرون , الاضرار الناجمة عن استخدام العدوان الامريكي الاسلحة الاشعاعية ضد الانسان والبيئة في العراق عام ١٩٩١ , تقرير فني غير منشور , جامعة بغداد , كلية الهندسة , قسم الهندسة البيئية للدراسات العليا , سنة ١٩٩١ , ص١٥٧.
- ٤- وليد مجيد الحلي , تأثير استخدام الاسلحة الاشعاعية على الهواء والتربة في مناطق منتخبة من جنوب العراق , رسالة ماجستير , بغداد , قسم الهندسة البيئية للدراسات العليا , كلية الهندسة , جامعة بغداد , ١٩٩٩, ص٥٤.
- ٥- سعاد ناجي العزاوي , تقدير مخاطر استخدام اليورانيوم المنضب في العراق , ج ١ ,المجلة العربية للبحث العلمي , العدد ٢٤, ٢٠٢٠ , ص٥.
- ٦- معروف بهاء الدين حسين , التلوث باليورانيوم المستنفذ في العراق , مجلة الثقافة الجديدة , العدد ٢٩٦ , ٢٠٠٠, ص٣٤.
- ٧- طارق كامل ,انقراض ثلثي النخيل , مجلة الفنون والادب والعلوم الانسانية والاجتماع , العدد ٨, ٢٠٢٠, ص٣٥.
- ٨- أ.د.م. علي ناصر عبد الله الصرايفي, اثر التلوث البيئي في تغيير مساحات الاراضي الزراعية في محافظة البصرة, مجلة الفنون والادب والعلوم الانسانية والاجتماع , ٢٠٢١ , الموقع الالكتروني https://www.researchgate.net/publication/275099600_ahwar
- ٩- اقبال عبد الحسين ابو جري, الآثار البيئية لتجفيف الاهوار في جنوب العراق , اطروحة الدكتوراه, كلية التربية /ابن رشد /جامعة بغداد , ٢٠٠٧, ص١١
- ١٠- معاهدة حظر الأسلحة الكيميائية على الموقع الالكتروني : الموسوعة الحرة ويكيبيديا <https://ar.wikipedia.org/wiki/>
- ١١- فخرية علي امين ,الكرد وحملات الانفال , جامعة كرميان /خانقين / مجلة لارك للفلسفة والعلوم الاجتماعية , العدد ١١, سنة ٢٠١٣ , ص٤٠.



منهاج جرائم حزب البعث البائد المحظور

- ١٢- صباح حسن عزيز , جريمة التهجير القسري (دراسة مقارنة) رسالة ماجستير , كلية الحقوق , جامعة النهرين , سنة ٢٠١٥, ص٥٥.
- ١٣- اياد عبد النادر وعمر الشخيلي, البيئة الضحية المنسية للنزاعات المسلحة, مقال منشور في ٥ حزيران ٢٠١٩/ في الموقع الالكتروني <https://www.icrc.org/ar/document/natural-environment-neglected-victim-armed-conflict>.
- ١٤- أ.م.د. آدم سيمان ذياب, جرائم التهجير القسري للسكان , مجلة جامعة تكريت القانونية , العدد ٢٣, سنة ٢٠١٤, ص ١٠.
- ١٥- سالم افاري, الآثار البيئية لاستعمال اسلحة الدمار الشامل في الحروب الدولية, مجلة الاجتهاد للدراسات القانونية والاقتصادية, مجلد ٩, العدد ١, ٢٠٢٠, ص ٨٦٤.
- ١٦- يونس حمد , التاريخ لن ينسى اباداة الكرد, مقال منشور في ٧ تموز / ٢٠٢٠ في الموقع الالكتروني , <https://shafaq.com/ar/%D9%85>.
- ١٧- سالم افاري, الآثار البيئية لاستعمال اسلحة الدمار الشامل في الحروب الدولية, مصدر سابق, ص ٨٧٠.
- ١٨- فخرية علي امين, الكرد وحملات الانفال, مصدر سابق, ص ٥٥.
- ١٩- د. ايمن عبد العزيز سلامة, المسؤولية الدولية عن ارتكاب جريمة الابادة الجماعية, ط ١, دار العلوم للنشر والتوزيع, القاهرة, ٢٠٠٦.
- ٢٠- د. نعمان حمود جبار, التلوث البيئي في العراق في حدوده الكارثية, بحث منشور في ٢٦ يونيو ٢٠٠٦ في الموقع الالكتروني <https://www.gilgamish.org/2008/06/26/10538.html>.
- ٢١- أ.د.م. علي ناصر عبد الله الصرايفي, اثر التلوث البيئي في تغيير مساحات الاراضي الزراعية في محافظة البصرة, مجلة الفنون والادب والعلوم الانسانية والاجتماع, ٢٠٢١, ص ٦٥.
- ٢٢- محمد صادق امين, الاشعاع في العراق, بحث منشور في مجلة البيان في الموقع الالكتروني <http://islamport.com/w/amm/Web/135/4460.htm>.
- ٢٣- علي ناصر عبد الله الصرايفي, اثار التلوث البيئي في التنوع الاحيائي في محافظة البصرة, اطروحة دكتوراه, كلية التربية للعلوم الانسانية, جامعة البصرة, ٢٠١٦, ص ٥٦.
- ٢٤- سالم افاري, الآثار البيئية لاستعمال اسلحة الدمار الشامل في الحروب الدولية, مصدر سابق, ص ٧٩٧.
- ٢٥- سليم مطر, موسوعة البيئة العراقية, الطبعة العربية الاولى, ٢٠١٠, ص ٨١.



منهاج جرائم حزب البعث البائد المحظور

- ٢٦- حسن الخياط , جغرافية اهورار ومستنقعات جنوبي العراق ,المطبعة العالمية, القاهرة ,١٩٧٥, ص ١٧
- ٢٧- اقبال عبد الحسين ابو جري, الآثار البيئية لتجفيف الاهوار في جنوب العراق , اطروحة دكتوراه, كلية التربية /ابن رشد /جامعة بغداد ,٢٠٠٧, ص١١ .
- ٢٨- الدكتور عبد المطلب محمد عبد الرضا ,الاهوار العراقية ، بحث منشور في شبكة النبا للمعلوماتية ، في الموقع الإلكتروني <https://annabaa.org/arabic/environment/17491>.
- ٢٩- يوسف محمد علي حاتم الهذال , تجفيف الاهوار واختلاف الخصائص المناخية لجنوبي العراق , كلية التربية /ابن رشد /قسم الجغرافية , مجلة ديالى ,العدد ١٤ , ٢٠٠٩ , ص٣-٤ .
- ٣٠- اقبال عبد الحسين ابو جري, الآثار البيئية لتجفيف الاهوار في جنوب العراق, مصدر سابق, ص ٧٠ .
- ٣١- هبة المعمار, سحر يونس جاسم ,ثائر العامري, اهورار جنوب العراق كمحميات طبيعية للتراث الانساني والتوازن البيئي العالمي ,حالة دراسية في محافظة ميسان , مقال منشور في شبكة الانترنت في الموقع الإلكتروني https://www.researchgate.net/publication/275099600_ahwar
- ٣٢- اقبال عبد الحسين ابو جري, الآثار البيئية لتجفيف الاهوار في جنوب العراق, مصدر سابق, ص٧٣-علي حسن موسى, التلوث البيئي ,دار الفكر ,دمشق, ٢٠٠٠, ص٢٠١ .
- ٣٣- د.علي حنوش .العراق مشكلات الحاضر وخيارات المستقبل (دراسة تحليلية عن مستويات تلوث البيئة الطبيعية والبيئة الاجتماعية, مصدر سابق , ص٨٧ .
- ٣٤- سعاد ناجي العزاوي ,بهاء الدين حسين ,مقدم محمود صالح وآخرون , الاضرار الناجمة عن استخدام العدوان الامريكي الاسلحة الاشعاعية ضد الانسان والبيئة في العراق عام ١٩٩١ , مصدر سابق, ص١٦٦ .
- ٣٥- د. زايد محمد, دور الاتفاقيات الدولية في تحديد المسؤولية عن الاضرار البيئية ,مجلة الاجتهاد للدراسات القانونية والاقتصادية ,المجلد ٩ ,العدد ٢ , سنة ٢٠٢٠ , ص١٧ .
- ٣٦- فخرية علي امين ,الكرد وحملات الانفال , مصدر سابق, ص٧٧ .
- ٣٧- نبيلة احمد ابو معزة, المواجهة الدولية لمخاطر اسلحة الدمار الشامل , اطروحة دكتوراه, كلية الحقوق ,جامعة عبد الرحمن ميرة , ٢٠١٧ , ص٤٥ .
- ٣٨- محمد الامين, التلوث في العراق, بحث منشور في مجلة المعرفة في الموقع الإلكتروني <https://ar.m.wikipedia.org/wiki/>



منهاج جرائم حزب البعث البائد المحظور

- ٣٩- د.علي حنوش .العراق مشكلات الحاضر وخيارات المستقبل (دراسة تحليلية عن مستويات تلوث البيئة الطبيعية والبيئة الاجتماعية, مصدر سابق ,ص١٥٤ .
- ٤٠- د. احسان هندي ,قوانين الاحتلال الحربي ,حقوق السكان المدنيين في المناطق المحتلة وحمايتها , الادارة السياسية ,دمشق , ١٩٧٢ , ص.
- ٤١- سعاد ناجي العزاوي ,بهاء الدين حسين ,مقدم محمود صالح وآخرون , الاضرار الناجمة عن استخدام العدوان الامريكي الاسلحة الاشعاعية ضد الانسان والبيئة في العراق عام ١٩٩١ , مصدر سابق ,ص١٧٠ .
- ٤٢- د. محمد الفاضل , الجرائم على أمن الدولة ,ط٤ , المطبعة الجديدة ,دمشق , ١٩٧٨ ,ص١٩ .



الفصل الأول أنواع الحكومات

تمهيد وتقسيم:

إن الكلام في أنواع الحكومات يفرض علينا التعرض لمسألتين أولاهما هي: ما المقصود بالحكومة؟ و ثانيهما هي: ما الفرق بين شكل الدولة وشكل الحكومة؟.

إن الحكومة مصطلح يطلق على معانٍ عدة تتدرج من السعة إلى الضيق^١؛ فقد يقصد بمصطلح الحكومة نظام الحكم أو شكل الحكومة، أي كيفية ممارسة السلطة العامة في الدولة، وهذا هو أوسع المعاني للحكومة^٢، و قد يطلق مصطلح الحكومة على مجموع الهيئات العامة العليا التي تدير الدولة أو نظام الحكم في الدولة^٣، وهي كل من الهيئة التشريعية؛ و هي السلطة المختصة بتشريع القوانين. و الهيئة التنفيذية وهي السلطة المختصة بتنفيذ تلك القوانين. و الهيئة القضائية و هي السلطة المختصة بتطبيق القوانين على المنازعات الناشئة من تنفيذ القوانين. كما قد يستعمل مصطلح الحكومة بمعنى السلطة التنفيذية فقط (رئيس الدولة + الوزارة)، و هذا هو المعنى الضيق للحكومة^٤، و قد اعتاد الناس استعمال لفظ الحكومة بهذا

^١ د. سعد عصفور، المبادئ الأساسية في القانون الدستوري و النظم السياسية، منشأة المعارف بالإسكندرية، ١٩٨٠، ص ١٣٣. و ينظر أيضاً: د. عبد الغني بسيوني،

النظم السياسية، الدار الجامعية، دون سنة طبع، ص ١٨١

^٢ د. عبد الغني بسيوني، المصدر السابق، ص ١٨١.

^٣ د. سعد عصفور، المصدر السابق، ص ١٣٣. و ينظر أيضاً: د. محسن خليل، القانون الدستوري والنظم السياسية، دون مكان طبع، ١٩٨٧، ص ٣٦٥. و د.

عبد الغني بسيوني، المصدر السابق، ص ١٨١

^٤ د. عبد الغني بسيوني، المصدر السابق، ص ١٨١.

المعنى لما تمتاز به السلطة التنفيذية من دوام اتصالها المباشر بالأفراد^١. وأخيراً قد يراد بالحكومة الوزارة، وهذا هو أضيق المعاني للحكومة، وقد جرى العرف على استعمال لفظ الحكومة بهذا المعنى في الدول ذات النظام البرلماني، فيقال مثلاً أن الحكومة مسؤولة أمام البرلمان^٢. ودراستنا للحكومة بصفة عامة و الحكومة الديمقراطية بصفة خاصة ستكون بحسب المعنى الأوسع للحكومة أي نظام الحكم.

وقبل بيان الفرق بين شكل الدولة و شكل الحكومة يستحسن تعريف الدولة بعد تعريفنا للحكومة، فالدولة هي جماعة من الناس تعيش على بقعة محددة من الأرض في ظل نظام سياسي^٣، أي حكومة. و من تعريف الدولة يتبين بان الدولة لها ثلاثة أركان: الشعب و الإقليم و الحكومة، و أن هذه الأخيرة هي ركن من أركان الدولة. أما الفرق بين شكل الدولة و شكل الحكومة فيتجلى من خلال معرفة الأساس المعتمد للتمييز بين كل من أشكال الدول و أشكال الحكومات ، فالتمييز بين أشكال الدول قائم على أساس وحدة القانون و السلطة أو تعددهما^٤، و وفقاً لذلك تتنوع الدولة إلى دول بسيطة أو موحدة ، و دول مركبة أو اتحادية؛ و الدولة البسيطة أو الموحدة هي تلك الدولة البسيطة في تركيبها الدستوري، حيث تكون السلطة فيها واحدة و تكون فيها وحدة بشرية متجانسة تخضع لدستور واحد ، وقوانين واحدة داخل إقليم الدولة الموحد^٥. أما الدولة المركبة أو الاتحادية فهي تلك الدولة التي تتكون من دولتين أو أكثر بحيث يربط بينها نوع من أنواع

^١ د. شمران حمادي ، النظم السياسية ، ط٢، شركة الطبع والنشر الأهلية ، بغداد ١٩٦٩-١٩٧٠، ص٥٧.

^٢ المصدر نفسه ، ص٥٧.

^٣ د. حميد حنون خالد ، الأنظمة السياسية ، مطبعة الفائق ، بغداد ، ٢٠٠٨، ص٢.

^٤ د. عبد الغني بسيوني ، مصدر سابق ، ص١٨٣.

^٥ المصدر نفسه ، ص٨٩.

الاتحاد، بحيث تخضع لسلطة سياسية مشتركة^١. و يعد الاتحاد المركزي او الفدرالي من أقوى أنواع الاتحاد لأنه يقوم على دستور لا على معاهدة . ولكن ما المقصود بالدستور ؟ الدستور هو مجموعة من القواعد القانونية التي تبين نوع نظام الحكم وشكله، و تنشأ الهيئات العامة و تحدد اختصاصات كل منها و العلاقة فيما بينها، كما تحدد الحقوق والحريات العامة. لذلك يعد الدستور قانون السلطة أو قانون النظام السياسي، و يوصف بأنه قانون ذو طابع سياسي.

أما التمييز بين أشكال الحكومات فهو قائم على أساس كيفية إسناد رئاسة الدولة؛ فإذا كانت وسيلة إسناد الرئاسة الوراثة كان شكل الحكومة ملكياً، و إذا كانت الوسيلة الانتخاب كان شكل الحكومة جمهورياً. و بذلك فان الحكومات تتنوع من حيث الشكل إلى حكومات ملكية و حكومات جمهورية. و بناء على ما تقدم يختلف شكل الدولة عن شكل الحكومة ؛ فقد تتفق دولتان في شكلها سواء كانت بسيطة أو مركبة ، و لكنهما تختلفان في شكل الحكم او الحكومة ، فمثال الدول البسيطة مصر و المغرب ؛ فكلتاها دولة بسيطة، و لكن شكل الحكومة في مصر جمهوري، في حين أن شكل الحكومة في المغرب ملكي. و مثال الدول المركبة الإمارات العربية المتحدة و الولايات المتحدة الأمريكية، فكلتا الدولتين اتحادية أو مركبة لأنها دول فدرالية، و لكن شكل الحكم في الإمارات ملكي بينما شكل الحكومة في الولايات المتحدة جمهوري. و قد تختلف دولتان في شكلهما، ولكنهما تتفقان في الشكل الحكومي، مثال ذلك الجزائر و سويسرا؛ فالأولى دولة بسيطة بينما الثانية دولة مركبة لأنها من الدول الفدرالية، و لكن شكل الحكومة في كل منهما جمهوري. ولم نتطرق إلى العراق في الأمثلة السابقة لأنه اخذ

^١ د. عبد الغني بسيوني، مصدر سابق، ص ٩٤.

بالفدرالية ووضع أرضية لها بموجب الدستور الحالي، و لكن التطبيق الحالي لا يستقيم مع فكرة النظام الفدرالي^١.

أما موضوع أنواع الحكومات أو تقسيماتها فهو موضع اهتمام فقهاء القانون الدستوري منذ عهد أرسطو و أفلاطون بحيث تعددت تقسيماتهم تبعاً للزاوية التي ينظر منها كل منهم إليها ، بيد أن أهم تقسيم للحكومات في الوقت الحاضر يتمثل في تقسيمها إلى أربعة تقسيمات وفقاً للأسس مختلفة؛

١- حيث تنقسم على أساس خضوعها للقانون من عدمه إلى حكومة استبدادية و حكومة قانونية. ٢- و تنقسم من حيث تركيز السلطة أو توزيعها إلى حكومة مطلقة و حكومة مقيدة . ٣- كما أنها تنقسم من زاوية كيفية إسناد رئاسة الدولة إلى حكومة ملكية و حكومة جمهورية. ٤- و أخيراً تنقسم على أساس مصدر السلطة أو كيفية ممارستها إلى حكومة فردية، و حكومة أقلية أو حكومة الهيئة، و حكومة أغلبية أو ما تسمى بحكومة الشعب أو الحكومة الديمقراطية^٢. و سندرس أنواع الحكومات في أربعة مباحث؛ حيث نخصص لكل تقسيم مبحثاً مستقلاً.

^١ د. فائز عزيز اسعد، نظرة في النظم الدستورية و السياسية العراقية ، شركة الأطلس

للطباعة المحدودة، بغداد ، ٢٠٠٥، ص ٨٩

^٢ د. عبد الغني بسيوني، مصدر سابق ، ص ١٨٤.

المبحث الأول

الحكومة الاستبدادية والحكومة القانونية

سلف القول بأن الحكومة تتنوع من حيث خضوعها للقانون من عدمه إلى حكومة استبدادية و حكومة قانونية نتناولهما تباعاً:
أولاً: الحكومة الاستبدادية: هي ذلك النوع من الحكومات التي لا يخضع الحاكم أو الحكام فيها لحكم القانون، فإن إرادته هي القانون الذي يلزم غيره ولا يلزمه هو^١. و بذلك فإن خصائص^٢ هذه الحكومة هي:

١. أنها لا تخضع للقانون بل تكون فوقه، و أن إرادتها هي القانون الوحيد الذي تخضع له.

٢. إن مصلحتها الخاصة مقدمة على المصلحة العامة.

٣. انه يجوز لها إهدار الحقوق و الحريات الفردية ما دام أن لها الحق في التحلل من حكم القانون.

و قد ساد هذا النوع من الحكومات في اغلب ملكيات العالم حتى القرن الثاني عشر، و لكونه غير ملائم لروح العصر فقد اندثر في الوقت الحاضر^٣.

ثانياً: الحكومة القانونية: هي تلك الحكومة التي يخضع الحاكم أو الحكام فيها لحكم القانون^٤. و يقصد بالقانون الذي تخضع له هذه الحكومة هو القانون بالمعنى الواسع؛ و هو مجموعة القواعد القانونية السارية أيّ كان

^١ د. شمران حمادي ، مصدر سابق، ص ٥٩.

^٢ د. محسن خليل ، مصدر سابق ، ص ٣٨٧. و د. عبد الغني بسيوني ، مصدر سابق ، ص ١٨٥.

^٣ د. شمران حمادي ، مصدر سابق، ص ٥٩.

^٤ المصدر نفسه، ص ٦٠.

مصدرها، سواء أكان الدستور أم التشريع أم العرف... الخ^١. و خضوع الحكومة للقانون لا يمنع من حقها في تعديله أو استبداله أو إلغائه، لان القانون لا يوضع إلا لسد حاجة من حاجات المجتمع القابلة للتغير بتغير الظروف و الزمان. ولهذا لا يمكن إضفاء صفة الأبدية على القانون لان ذلك يؤدي الى عدم تحقيق الغاية المرجوة منه وهي المصلحة العامة^٢. ولذلك فان خصائص^٣ الحكومة القانونية تختلف عن خصائص الحكومة الاستبدادية تماماً وتتمثل في :

١. أنها حكومة تخضع للقانون و تنقيد بأحكامه في قراراتها وتصرفاته.
٢. أنها تسعى إلى تحقيق المصلحة العامة.
٣. وطالما أنها تحترم القانون فهي أيضاً تحترم الحقوق و الحريات العامة. و الحكومة القانونية تنقسم بدورها وفقاً لتركيز السلطة او توزيعها إلى: حكومة مطلقة و حكومة مقيدة^٤.

^١ د . عبد الغني بسيوني ، مصدر سابق ، ص ١٨٦.

^٢ د. شمران حمادي ، مصدر سابق، ص ٦٠.

^٣ د. عبد الغني بسيوني ، مصدر سابق ، ص ١٨٦.

^٤ د. شمران حمادي ، مصدر سابق، ص ٦٠.

المبحث الثاني

الحكومة المطلقة والحكومة المقيدة

تتنوع الحكومة من حيث تركيز السلطة أو توزيعها إلى حكومة مطلقة وحكومة مقيدة نبحثهما فيما يلي:

أولاً: الحكومة المطلقة: هي الحكومة التي تتركز السلطات فيها بيد فرد واحد أو هيئة واحدة، بأن يجمع الحاكم بيده جميع السلطات من تشريعية وتنفيذية وقضائية^١. ومن هذا التعريف يتضح بان للحكومة المطلقة نوعان:

حكومة الفرد وحكومة الهيئة أو الأقلية. أما خصائص هذه الحكومة فهي :

١. أنها تقوم على مبدأ تركيز أو دمج السلطات (التشريعية، التنفيذية، القضائية) بيد فرد واحد أو هيئة واحدة.

٢. لا توجد أي رقابة في هذه الحكومة؛ سياسية كانت أم قضائية لاحتمار الحاكم جميع السلطات.

أما الأمثلة على الحكومة المطلقة فكثيرة؛ منها قديمة؛ كالحكومات الملكية التي سادت في العراق القديم، و مصر في عهد الفراعنة، و روما في عهد القياصرة. ومنها حديثة كالملكيات المطلقة التي حكمت اغلب دول العالم في القرنين السابع عشر والثامن عشر^٢.

ثانياً: الحكومة المقيدة: هي الحكومة التي تتوزع السلطات فيها بين عدة هيئات، تتبادل الرقابة كل منها على الأخرى^٣. ومن تعريف الحكومة المقيدة يظهر بأنها تتسم بخصائص تختلف عن خصائص الحكومة المطلقة تتمثل في:

^١ د. محسن خليل ، مصدر سابق ، ص ٣٩١.

^٢ د. محمد كاظم المشهداني، النظم السياسية، جامعة الموصل، ١٩٩١م، ص ١١.

^٣ د. شمران حمادي ، مصدر سابق، ص ٦٠.

١) أنها تقوم على مبدأ توزيع السلطة بين عدة هيئات، أو ما يسمى بمبدأ الفصل بين السلطات.

٢) هناك رقابة في هذه الحكومة، سواء كانت سياسية أم قضائية أم كليهما معاً. و الرقابة السياسية تتولاها كل من السلطة التشريعية والسلطة التنفيذية فيما بينهما، أما الرقابة القضائية فتمارسها السلطة القضائية على أعمال السلطتين السابقتين.

و تتمثل الحكومة المقيدة في الحكومات البرلمانية و الرئاسية القائمة على مبدأ الفصل بين السلطات؛ حيث نجد السلطات فيها موزعة بين رئيس الدولة و المجلس النيابي^١.

^١ د. شمران حمادي ، مصدر سابق، ص ٦٠.

المبحث الثالث

الحكومة الملكية والحكومة الجمهورية

تنقسم الحكومة من حيث كيفية تولي رئاسة الدولة أي من حيث شكل الحكم إلى حكومة ملكية و حكومة جمهورية ندرسهما في الفقرات الآتية:

أولاً: التعريف بالحكومة الملكية والحكومة الجمهورية:

١. الحكومة الملكية: هي الحكومة التي يتولى فيها رئيس الدولة منصبه عن طريق الوراثة، لمدة غير محددة، على اعتبار أن له الحق الشخصي في منصبه الذي يتلقاه بالوراثة^١. و قد يسمى رئيس الدولة هنا الملك أو الإمبراطور أو القيصر أو السلطان أو الدوق أو الأمير أو غير ذلك من الألقاب.

٢. الحكومة الجمهورية: هي الحكومة التي يتقلد فيها رئيس الدولة منصبه عن طريق الانتخاب، بحيث يتمتع بمركزه هذا لمدة محددة. ويطلق على رئيس الدولة هنا رئيس الجمهورية^٢.

ثانياً: الفروق الجوهرية بين الحكومة الملكية و الحكومة الجمهورية :

تتجلى الفروق الأساسية بين الحكومتين في عدة نقاط ، نلخصها فيما

يأتي:

أولاً: من حيث وسيلة تولي رئاسة الدولة: يتولى رئيس الدولة في الحكومة الملكية رئاسة الدولة بالوراثة^٣، حيث تتم وراثة العرش أباً عن جد في نطاق

^١ د. محسن خليل ، مصدر سابق ، ص٣٦٧.

^٢ المصدر نفسه ، ص٣٦٧.

^٣ المصدر نفسه ، ص٣٦٨.

عائلة معينة، بينما يستمد رئيس الجمهورية حقه في رئاسة الدولة عن طريق إرادة المواطنين بالانتخاب^١.

ثانياً: من حيث الاستحقاق و المساواة في تولي الرئاسة: يعد تولي الحكم أو الرئاسة في الحكومة الملكية حقاً شخصياً يمكن توارثه و لا يستحقه احد من غير أفراد الأسرة المالكة، و بذلك لا توجد مساواة في تولي الرئاسة في الحكومة الملكية. في حين يكون تولي الرئاسة في الحكومة الجمهورية حقاً عاماً لجميع المواطنين الذين تتوافر فيهم الشروط الدستورية وعلى أساس المساواة التامة^٢.

ثالثاً: من حيث مدة رئاسة الدولة: ان تولي الرئاسة في الحكومة الملكية يكون لمدة غير محددة و بذلك تكون لمدى حياة الملك ، في حين يكون تولي الرئاسة في الحكومة الجمهورية لمدة محددة قابلة او غير قابلة للتجديد حسب الدستور ، و لا يجوز ان تكون لمدة الحياة^٣.

رابعاً: من حيث مدى السلطات: بصورة عامة سلطات رؤساء الجمهوريات أوسع عادةً من سلطات الملوك في النظم الديمقراطية، بعد اندثار اغلب الملكيات المطلقة^٤.

^١ د. محسن خليل، مصدر سابق ، ص ٣٦٩.

^٢ د. عبد الغني بسيوني ، مصدر سابق ، ص ١٨٨

^٣ د. محسن خليل ، مصدر سابق ، ص ٣٧٤-٣٧٧. وجاء فيه ايضاً: لا يجوز ان ينص الدستور ابتداءً على ان تكون المدة غير محددة او لمدى الحياة ، لان ذلك يتعارض مع جوهر النظام الجمهوري، و يجعل الحكومة ملكية بصورة غير مباشرة، و تنص بعض الدساتير على ذلك لأفراد معينين بالذات بالاسم كونهم أدوا خدمات جليلة للبلاد، كما هو الحال في الدستور التونسي لسنة ١٩٥٧ بعد تعديله عام ١٩٧٥، و الدستور اليوغسلافي لعام ١٩٧٤.

^٤ د. شمران حمادي ، مصدر سابق، ص ٦٦

خامساً: من حيث مسؤولية رئيس الدولة: تقرر الدساتير الملكية عدم مسؤولية الملك بشكل مطلق، حيث تنص عادةً على أن: ((ذات الملك وحقوقه لا تمس))^١. و قد نشأت هذه القاعدة من القاعدة الانكليزية القائلة: ((أن الملك لا يمكنه أن يخطئ))^٢ ، فبالنسبة للمسؤولية الجنائية فالملك غير مسؤول عن الجرائم السياسية؛ وهي الجرائم المتعلقة بالوظيفة كجريمة الخيانة العظمى، و غير مسؤول عن الجرائم العادية وهي الجرائم التي ترتكب خارج الوظيفة والتي يعاقب القانون الأفراد على ارتكابها، كجريمة القتل. أما بالنسبة للمسؤولية السياسية فهو غير مسؤول عن تصرفاته في شؤون الحكم، حيث تقع المسؤولية على الوزارة و الوزراء^٣. و قد نص على هذه القاعدة دستور العراق الملكي لسنة ١٩٢٥ في المادة ٢٥ منه.

أما رئيس الجمهورية فهو مسؤول عما يرتكبه من جرائم عادية مثل بقية أفراد الشعب، كما يسأل جنائياً عن الجرائم السياسية كجريمة الخيانة العظمى. وتختلف الدساتير بالنسبة لتقرير المسؤولية السياسية لرئيس الجمهورية؛ فبعضها يعفيه منها اكتفاءً بتقرير المسؤولية الجنائية كالدستور المصري لسنة ١٩٧١ الملغى^٤. وبعضها يقرر المسؤولية السياسية لرئيس الجمهورية^٥، كالدستور العراقي الحالي لسنة ٢٠٠٥. و جزاء المسؤولية السياسية يتمثل في إعفاء رئيس الجمهورية من منصبه قبل انتهاء مدة رئاسته.

^١ د . محسن خليل ، مصدر سابق ، ص ٣٨٠. و ينظر : د. عبد الغني بسيوني ، مصدر سابق ، ص ١٨٨.

^٢ د. سعد عصفور ، مصدر سابق، ص ١٣٣.

^٣ د. محسن خليل ، مصدر سابق ، ص ١٨٠-١٨١.

^٤ المصدر نفسه ، ص ٣٨٣.

^٥ د. شمران حمادي ، مصدر سابق، ص ٦٧.

طرائق اختيار رئيس الجمهورية:

تختلف الدساتير في طريقة اختيار رئيس الجمهورية، إلا أن طرائق اختيار رئيس الجمهورية تنحصر في ثلاثة، نشرحها باختصار فيما يلي:

١- اختيار رئيس الجمهورية بواسطة الشعب:

نقصد بالشعب في هذا الموضوع و غيره من دراستنا هذه الشعب بمفهومه السياسي؛ أي الأفراد الذين يحق لهم مباشرة الحقوق السياسية ومنها الانتخاب. و وفقاً لهذه الطريقة يتم اختيار رئيس الجمهورية بواسطة الشعب بالانتخاب؛ و هذا الانتخاب إما أن يكون بشكل مباشر أي على درجة واحدة؛ بان يقوم الناخبون بانتخاب الرئيس مباشرةً كما هو الحال في الدستور التونسي لسنة ١٩٥٧ والدستور الفرنسي الحالي لعام ١٩٥٨. أو بشكل غير مباشر؛ أي على درجتين؛ بان يقوم الناخبون بانتخاب مندوبين عنهم في المرحلة الأولى ليقوم المندوبون بانتخاب الرئيس في المرحلة الثانية. كما هو الحال في دساتير الولايات المتحدة و الأرجنتين والبرجواي^١. و تنتقد هذه الطريقة بشكليها على أساس أن الرئيس المنتخب من الشعب قد يستأثر بالسلطة، و يطغى على اختصاصات البرلمان، باعتباره يستمد سلطته من الشعب كما هي الحال بالنسبة للمجلس النيابي، مما يؤدي إلى تحول النظام إلى نظام دكتاتوري غالباً. كما حصل في العديد من دول أمريكا اللاتينية، و في فرنسا بعد انتخاب نابليون رئيساً للجمهورية الفرنسية الثانية طبقاً لدستور ١٨٤٨^٢.

^١ د. محسن خليل، مصدر سابق، ص ٣٧١-٣٧٢. و د. شمران حمادي، مصدر سابق، ص ٦٣.

^٢ د. شمران حمادي، مصدر سابق، ص ٦٤. و د. محسن خليل، مصدر سابق، ص ٣٧٢. و د. عبد الغني بسيوني، مصدر سابق، ص ١٨٩-١٩٠.

٢- انتخاب رئيس الجمهورية بواسطة البرلمان:

تعطي بعض الدساتير للبرلمان وحده حق انتخاب رئيس الجمهورية، كما في دستور الجمهورية الثالثة الفرنسي لسنة ١٨٧٥، والرابعة لسنة ١٩٤٦، والدستور اللبناني لسنة ١٩٢٦، و الدستور التركي لسنة ١٩٨٢، و الدستور العراقي الحالي لسنة ٢٠٠٥. و يؤخذ على هذه الطريقة أنها تجعل رئيس الجمهورية خاضعاً لمن انتخبه، مما يؤدي الى إضعاف مركز رئيس الدولة في مواجهة البرلمان، كما أنها قد توقع البلاد في أزمات سياسية حادة، كما حدث في ظل دساتير فرنسا السابق ذكرها^١.

٣- اشتراك الشعب والبرلمان في انتخاب رئيس الجمهورية:

لتفادي عيوب الطريقتين السابقتين و تحقيق مزايا كل منهما أخذت بعض الدساتير بحل وسط ، بأن جمعت بين الطريقتين السابقتين ؛ بحيث لا ينفرد الشعب أو البرلمان في انتخاب رئيس الجمهورية، بل يشتركان في ذلك، و هذا الاشتراك يكون في صورتين: الأولى؛ أن يقوم البرلمان بترشيح شخص لرئاسة الجمهورية، ثم يطرح اسمه على الشعب في استفتاء عام، كما في دستور مصر لسنة ١٩٧١. أما الصورة الثانية فتتمثل في تكوين هيئة مشتركة من أعضاء البرلمان وعدد مساوي لهم من المندوبين المنتخبين من الشعب، وقد اخذ بهذه الصورة دستور فرنسا الحالي قبيل تعديله، و دستور اسبانيا لسنة ١٩٣١^٤.

^١ د. محسن خليل ، مصدر سابق ، ص ٣٧٠

^٢ منصور عبد الحكيم ، الصنم اليهودي الذي هو مصطفى كمال ، ط١، دار الكتاب العربي (دمشق-القاهرة)، ٢٠١٠، ص ٤٣١.

^٣ د. شمران حمادي ، مصدر سابق، ص ٦٢. و د. محسن خليل ، مصدر سابق ، ص ٣٧١. و د. عبد الغني بسيوني ، مصدر سابق ، ص ١٩٠.

^٤ د. شمران حمادي ، مصدر سابق، ص ٦٤-٦٥. و د. محسن خليل ، مصدر سابق ، ص ٣٧٣-٣٧٤. و د. عبد الغني بسيوني ، مصدر سابق ، ص ١٩٠-١٩١.

ثالثاً: موازنة بين الحكومة الملكية و الحكومة الجمهورية:

إن الموازنة تعني المفاضلة ما بين الحكم الملكي والحكم الجمهوري وذلك بتقييمهما وفقاً لمحاسن و مساوئ كل منهما للوصول بعد ذلك إلى تحديد الأفضل منهما للحكم. وسنستعرض محاسن كل نظام وما يقابلها من مساوئ في النظام الآخر في ذات الوقت وكما يلي:

أولاً: محاسن النظام الملكي:

أما محاسن أو مزايا^١ الحكم الملكي التي ذكرها أنصاره فتتمثل فيما يأتي:

١. أنه يكفل بطريقة الوراثة الهادئة الهدوء و الاستقرار في تولي رئاسة الدولة بلا نزاعات حزبية، بخلاف الحكم الجمهوري.
٢. أنه يضمن استقلال رئيس الدولة عن الأحزاب السياسية لأنه لا يأتي بتأييد حزب معين، ليكون الحكم و الناصح الأمين بين السلطات و الأحزاب المختلفة، مما يحقق التوازن و التوافق فيما بينها، وهذا ما لا يتحقق في النظام الجمهوري.
٣. يمتاز الملوك بحصولهم على تربية معينة و إعداد خاص لتولي مهام الحكم، وهذا ما يفتقر إليه رؤساء الجمهوريات.
٤. ينال الملوك خبرة واسعة في شؤون الحكم نتيجة لاستقرارهم فوق عروشهم طوال حياتهم، وهذا ما يندر حصوله بالنسبة لرؤساء الجمهوريات.
٥. إنه يجنب الدولة جهود و نفقات في انتخاب أو تجديد انتخاب رؤساء الجمهورية، بخلاف النظام الجمهوري.

^١ د. سعد عصفور ، مصدر سابق، ص١٣٧. و د. محسن خليل ، مصدر سابق ، ص٣٨٤-٣٨٥. و د. عبد الغني بسيوني ، مصدر سابق ، ص١٩٣.

ثانياً: محاسن الحكم الجمهوري:

ذكر أنصار الحكم الجمهوري عدة محاسن أو مزايا للحكم الجمهوري نختصرها فيما يأتي :

١- إن الانتخاب هو وسيلة ديمقراطية في تولي الرئاسة لأنه يراعي إرادة الشعب، بخلاف النظام الملكي.

٢- إن الحكم الجمهوري يكفل المساواة بين أفراد الشعب في تقلد منصب رئاسة الدولة، بعكس الحكم الملكي.

٣- أنه يراعي اختيار الأصلح لتولي رئاسة الدولة بخلاف النظام الملكي؛ حيث لا يولي أهمية لصلاحيه الملك فمادام هو وريث العرش فهو يستحق الرئاسة سواءً كان بالغاً أو قاصراً ، كفاءً أو غير كفاء، ذكياً أو غيبياً، كامل التفكير أو ضعيف التفكير.

٤- إن توقيت مدة الرئاسة يكفل رقابة الشعب على مدى صلاحية رئيس الدولة، و ذلك بتجديد أو عدم تجديد انتخابه بعد انتهاء مدة الرئاسة، وهذا ما لا يتحقق في النظام الملكي.

من جانب آخر يرى الاتجاه الراجح في الفقه الدستوري ان عقد المفاضلة بين النظامين الملكي و الجمهوري بهذا الشكل تتسم بالطابع النظري؛ لان أفضلية نظام على آخر لا تنقرر بالمناقشة و المفاضلة بل طبقاً للظروف و الحقائق التاريخية و السياسية و الاقتصادية و الاجتماعية التي تختلف من دولة الى أخرى ، و ان خير نظام للحكم هو الذي يتلاءم مع ظروف الدولة و إمكاناتها ، و أحوال شعبها و تاريخه و تجربته السياسية الخاصة به و وعيه السياسي^(١). و مجرد قيام نظام ملكي في دولة ما لا يعني أنها اقل ديمقراطية، كما أن مجرد قيام نظام جمهوري في دولة أخرى لا

^١ د. شمران حمادي ، مصدر سابق، ص ٢١ و د. سعد عصفور ، مصدر سابق، ص ١٣٨ و د. محسن خليل ، مصدر سابق ، ص ٣٨٦-٣٨٧. و د. عبد الغني بسيوني ، مصدر سابق ، ص ١٩٣.

^٢ د. سعد عصفور ، مصدر سابق ، ص ١٣٨.

يعني أنها أكثر ديمقراطية، و قد ترى دولة ملكية كانكلترا الإبقاء على الحكم الملكي ما دام أنها استطعت أن تقيم في ظلّه نظاماً ديمقراطياً برلمانياً، و بقي النظام الملكي مجرد شكل خارجي متفق مع تقاليدّها التاريخية و مؤمن في نتائجه بدلاً لها من التحول إلى نظام جمهوري لا تدرى نتائجه و لا تؤمن عواقبه^(١).

^١ د. سعد عصفور ، مصدر سابق ، ص ١٣٨.

المبحث الرابع

الحكومة الفردية و حكومة الأقلية و حكومة الشعب

تنقسم الحكومات على أساس مصدر السلطة أو كيفية ممارستها إلى حكومة فردية و حكومة أقلية و حكومة أغلبية أو حكومة ديمقراطية، نتناولها فيما يلي :

أولاً: الحكومة الفردية (الحكومة المونوقراطية)^١ : هي ذلك النوع من الحكومات التي يمارس السلطات فيها شخص واحد يعتبر سلطته مستمدة من نفسه، أو من قوة أعلى من إرادة البشر كما كان يدعي الملوك في الماضي، سواء كان قد وصل إلى منصبه بالوراثة أم بالقوة الذاتية^٢. و من التعريف السابق يمكن القول أن للحكومة الفردية نوعان؛ حكومة ملكية إذا كانت الوراثة هي طريقة الوصول للحكم، و حكومة دكتاتورية إذا كان الحاكم قد وصل إلى الحكم بمقدرته الذاتية و كفاءته الشخصية^٣. و الحكومة الفردية الملكية تأخذ شكلين؛ الملكية الاستبدادية التي لا تخضع للقانون، والملكية المطلقة التي تحترم القانون^٤. و قد بحثنا هاتين الحكومتين فيما سبق، لذا سنقتصر هنا على دراسة الحكومة الدكتاتورية فقط.

^١ المونوقراطية مصطلح إغريقي الأصل يتكون من لفظين يونانيين : Monos وتعني واحد و Cratos وتعني حكم ، اي حكم الفرد الواحد . ينظر : د.صالح جواد كاظم و د. علي غالب العاني ، الأنظمة السياسية ، دار الحكمة ، بغداد ، ١٩٩١، ص١٣.

^٢ د. شمران حمادي ، مصدر سابق، ص ٦٧ . و د. عبد الغني بسيوني ، مصدر سابق ، ص ١٩٤.

^٣ د. عبد الغني بسيوني ، مصدر سابق ، ص ١٩٤.

^٤ المصدر نفسه ، ص ١٩٤.

الحكومة الدكتاتورية^١: هي الحكومة التي تقوم على تركيز السلطات في يد فرد واحد هو الدكتاتور صاحب الأمر في شؤون الحكم دون مراجعة أو مساءلة^٢. و الدكتاتورية لها نوعان: دكتاتورية مذهبية، و دكتاتورية تجريبية أو واقعية. أما الأولى فهي القائمة على فكر او مذهب معين كالنازية في ألمانيا. أما الثانية فهي القائمة على التجربة و لا تستند الى مذهب معين^٣، و لذلك فهي أسرع سقوطاً من الأولى ، ومثالها الحكومات العسكرية الانقلابية.

و تتميز الحكومة الدكتاتورية بخصائص^٤ معينة نوجزها فيما يأتي:

١. إن الحكم الدكتاتوري يأتي كقاعدة عامة عن طريق وسيلة استبدادية هي القوة^٥.
٢. أنها نوع من أنواع الحكم الفردي تقوم على مبدأ تركيز السلطة بيد الحاكم.
٣. أنها حكومة شخصية لأنها تعتمد أساساً على شخصية الدكتاتور وما يتمتع به من كفاءة و مقدرة.

^١ ان أصل تعبير الدكتاتورية يرجع إلى أصول لاتينية ، فكلمة Dictator آتية من الفعل Dictate الذي يعني فرض . ينظر: د. محمد كاظم المشهداني ، مصدر سابق، ص ١٢.

^٢ د. سعد عصفور ، مصدر سابق ، ص ١٤١

^٣ د. محسن خليل ، مصدر سابق ، ص ٣٩٥-٣٩٧.

^٤ د. شمران حمادي ، مصدر سابق، ص ١٨ و د. سعد عصفور ، مصدر سابق، ص ١٤١-١٤٥ و د. محسن خليل ، مصدر سابق ، ص ٣٩٦-٤٠٩. و د. عبد الغني بسيوني ، مصدر سابق ، ص ١٩٥-١٩٦. و د. صالح جواد كاظم و د. علي غالب العاني ، مصدر سابق ، ص ١٨. و د. حميد حنون خالد ، مصدر سابق ، ص ١٤-١٦.

^٥ الاستثناء هو حكم هتلر الذي جاء بطريقة ديمقراطية هي الانتخاب سنة ١٩٣٢ . ينظر: د. محسن خليل ، مصدر سابق ، ص ٤٠٢.

٤. تعتمد الدكتاتوريات سياسة القوة والعنف لاجل إحكام سيطرتها على السلطة والاستمرار فيها.
٥. تتميز الدكتاتوريات بأنها نظام جماعي موجه؛ ومعناه توجيه الأنشطة والمصالح الفردية لخدمة مصلحة الجماعة، أي مصلحة الدكتاتور في حقيقة الأمر.
٦. تتسم الدكتاتوريات و لاسيما الدكتاتوريات المذهبية بأنها نظام شمولي كلي؛ بمعنى أن للسلطة الحق في أن تستغرق كل شيء و تتدخل في جميع جوانب حياة الأفراد، إذ لا شيء خارج الدولة و لا شيء ضد الدولة و لا شيء فوق الدولة؛ التي يجب على الأفراد تقديسها كما يرى أنصار هذا النظام.
٧. ان حقوق وحرريات الأفراد أمر غير وارد في ظل الحكم الدكتاتوري، و حتى و ان نصت عليها بعض الدساتير الدكتاتورية فإنها تكون ظاهرية؛ بمعنى أنها لا تباشر إلا في حدود مصلحة نظام الحكم.
٨. أنها تعتمد نظام الرأي الواحد و الحزب الواحد، فلا حزب و لا رأي إلا حزب و رأي الدكتاتور.
٩. أن الدكتاتور يعتمد غالباً سياسة المغامرة في العلاقات الدولية، و سياسة العزة و الكرامة في الداخل.
١٠. انعدام الرقابة أو المساءلة أو المراجعة في الحكومة الدكتاتورية.
١١. يتميز الحكم الدكتاتوري بأنه نظام استثنائي و نظام مؤقت؛ فهو استثنائي لأنه يأتي في ظروف استثنائية تستدعي قيامه؛ قد تكون سياسية كهزيمة عسكرية، أو اقتصادية كالبؤس و الفقر، أو اجتماعية كالفوضى الاجتماعية. وهو مؤقت لان ينتهي أما بانتهاء الظروف التي استدعته، أو بانتهاء الدكتاتور نفسه وهذا هو الغالب.

ومن الأمثلة البارزة على الحكم الدكتاتوري في القرن العشرين؛ فاشية موسوليني في إيطاليا من سنة ١٩٢٢، و نازية هتلر في ألمانيا من سنة ١٩٣٣، و حكم فرانكو في اسبانيا عقب الحرب الأهلية الاسبانية، و حكم سالازار في البرتغال ، و حكم كمال أتاتورك في تركيا^١ .

ثانياً: حكومة الأقلية^٢: وهي الحكومة التي تتركز فيها السلطة بيد فئة قليلة من الأفراد على اعتبار أنهم أحسن الناس و أصلحهم للحكم^٣. و تكون هذه الحكومة على نوعين: حكومة اوليجارشية^٤؛ و هي حكومة بعض الأفراد المنتمين إلى الطبقة البرجوازية أو طبقة الأغنياء وتسمى أيضاً حكومة الأغنياء أو الأثرياء. و حكومة ارستقراطية؛ وهي الحكومة التي يمارس السلطة فيها عدد من الأفراد المنتمين إلى فئة العلماء أو رجال الدين أو

^١ د. عبد الغني بسيوني ، مصدر سابق ، ص ١٩٦.

^٢ ان نظام الأقلية بعد ان اندثر بشكله القديم ظهر بأشكال جديدة كحكم الأقلية البيضاء العنصرية في روديسيا، و لعل احدث أشكال حكم الأقلية هو حكم الحزب الواحد القائم على أساس أحقية النخبة المختارة في ممارسة السلطة ، الا ان اختيار النخبة هنا لا يقوم على أساس الثروة او النسب كما في الحكومات الارستقراطية او على أساس العنصر كما في الحكومات العنصرية ، و انما على أساس مدى إطاعة العضو لأوامر الحزب ودرجة إخلاصه له. للمزيد من التفصيل ، ينظر: د. شمران حمادي ، مصدر سابق، ص ٧٠.

^٣ المصدر نفسه، ص ٦٩.

^٤ هناك من يسميها الحكومة البلوتوقراطية او البلوتارشية من باب الدقة و يسمي حكومة الأقلية الحكومة الأوليجارشية. ينظر: د. سعيد زيداني، أطالة على الديمقراطية الليبرالية، بحث منشور في كتاب: المسألة الديمقراطية في الوطن العربي، ط١، مركز دراسات الوحدة العربية، بيروت، ٢٠٠٠م. ولكن جرياً مع الغالب اتبعنا التسميات المذكورة في أعلاه.

النبلاء^١ أو أصحاب المركز الاجتماعي المرموق، و تسمى أيضاً حكومة الفضلاء أو العلماء أو العظماء^٢.

و تعتبر حكومة الأقلية مرحلة انتقال أو مرحلة وسطى بين الحكومة الفردية و الحكومة الديمقراطية، و يضرب الفقه مثلا على ذلك بانكلترا؛ إذ تطور الحكم فيها من الملكية المطلقة إلى الملكية الارستقراطية المكونة من الملك و البرلمان المؤلف للوردات و كبار رجال الدين، إلى الحكومة الديمقراطية^٣.

ثالثاً: الحكومة الديمقراطية: هي الحكومة التي تسند مصدر السلطة إلى الشعب، فهو صاحب السلطة الحقيقي، ولذلك أطلق على الحكومة الديمقراطية حكومة الشعب^٤. و هي محور دراستنا في الفصول الآتية.

^١ أي الفرسان.

^٢ د. عبد الغني بسيوني ، مصدر سابق ، ص١٩٦. و د. محسن خليل ، مصدر سابق ، ص٤٠٩-٤١١. و د. شمران حمادي ، مصدر سابق، ص٧٠. و د. حميد حنون خالد ، مصدر سابق ، ص٢٠-٢١.

^٣ د. شمران حمادي ، مصدر سابق، ص٦٩-٧٠. و د. عبد الغني بسيوني ، مصدر سابق ، ص١٩٧.

^٤ د. محسن خليل ، مصدر سابق ، ص٤١٢.

الفصل الثاني

الحكومة الديمقراطية

تمهيد وتقسيم:

إن دراسة الحكومة الديمقراطية تحتم علينا ابتداءً بيان أصل مصطلح الديمقراطية، و تعريفها، و توضيح نشأتها.

أصل و معنى كلمة الديمقراطية: الديمقراطية مصطلح يوناني مكون من كلمتين: Demos و معناها الشعب، و Cratos و معناها حكم أو سلطة، ليكون معنى الكلمة: (حكم أو سلطة الشعب)^١.

تعريف الديمقراطية: تعرف الديمقراطية التقليدية وفقاً لأصل اللفظة على أنها حكم الشعب بالشعب لمصلحة الشعب^٢. أي أن يصبح الشعب حاكماً و محكوماً في ذات الوقت. و لاستحالة تطبيق هذا المفهوم في الماضي والحاضر و المستقبل بإجماع الدارسين، و الذي يصلح ان يكون غاية الديمقراطية أكثر منه تعريفاً لها، فقد أعيد صياغة تعريف الديمقراطية المعاصرة على أنها حكم الكثرة^٣.

نشأة أو تاريخ الديمقراطية: و قد ظهرت للديمقراطية في أول أمرها في اليونان و تحدث عنها و ناقش فيها الفلاسفة الإغريق مثل أفلاطون

^١ د.صالح جواد كاظم و د. علي غالب العاني، مصدر سابق، ص ٢٠.

^٢ هذا التعريف قال به رجل الدولة الأثيني (كليون) وأخذه عنه أبراهام لنكولن الرئيس الأسبق للولايات المتحدة. ينظر: د. خالد بن عبد العزيز الشريدة، رؤية نقدية لإشكالية الشورى والديمقراطية، بحث منشور في كتاب الديمقراطية والتربية في الوطن العربي، ط١، مركز دراسات الوحدة العربية، بيروت، ٢٠٠١م، ص ٣٩.

^٣ علي خليفة الكواري، مفهوم الديمقراطية المعاصرة، بحث منشور في كتاب: المسألة الديمقراطية في الوطن العربي، ط١، مركز دراسات الوحدة العربية، بيروت، ٢٠٠٠م، ص ١٥.

و أرسطو ، و قد طبقت الديمقراطية في المدن اليونانية القديمة مثل أثينا، وقد سميت الديمقراطية القديمة او المباشرة^١. مع التنبيه الى أن المجتمعات القديمة الأخرى عرفت أيضا تطبيقاً لفكرة الديمقراطية، كما هو الحال في بلاد الرافدين؛ حيث وجدت في مملكة سومر جمعيات تمثيلية منذ الألف الثالث قبل الميلاد ، وكان البرلمان السومري يتكون من مجلسين هما مجلس الشيوخ و مجلس آخر أدنى منه يضم المواطنين القادرين على حمل السلاح^٢. كما عرفت روما و طبقتها عن طريق اللجان و المجالس الشعبية في العهدين الملكي و الجمهوري^٣، على أنها كانت في كل من أثينا و روما ديمقراطية طبقية لاقتصارها على طبقة الأحرار فقط، وهي اقرب إلى الارستقراطية وفقاً للمدلول الحديث للديمقراطية^٤. إن قيام حكم القياصرة في روما قضى على كل تطبيق ديمقراطي، و أصبحت الديمقراطية شيئاً منسياً لفترة زمنية طويلة^٥. و في العصور الوسطى كانت أوروبا في ظل الإقطاع تحكم من ملوك مستبدين يستندون في حكمهم إلى قواعد دينية كقاعدة " الحق الإلهي المقدس"، و كانت شخصية الملك آنذاك تختلط بشخصية الدولة كما عبر عن ذلك لويس الرابع عشر ملك فرنسا بقوله: ((أنا الدولة و الدولة أنا)) وكان هذا النمط من الحكم سائداً أيضاً في آسيا و إفريقيا. و في أوروبا يعاون الملوك في تثبيت سلطاتهم أمراء الإقطاع، وحيال هذا الوضع لم تغير الكنيسة في أوروبا شيئاً، بل وفتت موقفاً سلبياً لأنها لم تحاول تطبيق شرع

١ د.صالح جواد كاظم و د. علي غالب العاني ، مصدر سابق، ص ٢٢.

٢ د. حميد حنون خالد ، مصدر سابق ، ص ٢٢.

٣ د.صالح جواد كاظم و د. علي غالب العاني ، مصدر سابق، ص ٢٢. و د . حميد حنون خالد ، مصدر سابق ، ص ٢٢.

٤ د. حميد حنون خالد ، مصدر سابق ، ص ٣٤. و د. شمران حمادي ، مصدر سابق، ص ٧٥.

٥ د.صالح جواد كاظم و د. علي غالب العاني ، مصدر سابق، ص ٢٢.

الله تعالى، بل زاحمت سلطتها سلطة الملك ؛ حيث كانت تفرض العشور والإتاوات والصكوك الغفرانية^١ والتجنيد في جيوشها لتأديب الخارجين على حكمها. هذه المظالم المتراكمة على الشعب من سلطتي الدين والدنيا فجرت أوضاعاً من الحقد و البغضاء في نفوس الناس لتلك السلطتين، لكن أوربا حين تفجرت ثورتها لم تكن في وضع يسمح لها بأن تستبدل بالجاهلية التي ثارت عليها دين الله الحق؛ لأن الحملات الصليبية وحملات التنفير الديني والثقافي بينها وبين الإسلام وقفت حاجزاً بينها وبين الإسلام ، فارتدت إلى تراثها الإغريقي و وقع اختيار أوربا على الديمقراطية بدلاً عن الإقطاع^٢، التي ظهر ذكرها مجدداً في كتابات الفلاسفة أمثال جان جاك روسو و جون لوك ، الذين ركزوا على دور الشعب في ممارسة السلطة و انه هو صاحب السيادة ، وكان الغرض من ذلك محاربة استبداد الملوك والحكام في ذلك العهد. و ازدهرت الديمقراطية عملياً وأصبحت مبدأً قانونياً عند قيام الثورة الفرنسية عام ١٧٨٩ حين تبني رجالها مبادئ الديمقراطية و ثبتوا أسسها في دساتير الثورة و إعلان حقوق الإنسان و المواطن عام ١٧٨٩^٣. و هكذا كما كانت العلمانية بالنسبة للغرب انتصاراً ضد طغيان الكنيسة، كانت الديمقراطية انتصاراً ضد استبداد الملوك في القرون الوسطى؛ لذا اقترنت

^١ يحكى في مهزلة بيع صكوك الغفران والجنة ، أن رجلا عرض على رجال الدين شراء النار بمبلغ كبير ، فتشاور القساوسة واتفقوا على بيعها ، فلما استلم الصك منهم ، نادى في الناس : أيها الناس إنني قد اشتريت النار، واني أعلن لكم أنني لن ادخل فيها أحدا . ينظر: د. خالد بن عبد العزيز الشريدة، مصدر سابق، ص٤٣هامش٣٧.

^٢ د. خالد بن عبد العزيز الشريدة، مصدر سابق، ص٤٢-٤٤.

^٣ د. محسن خليل ، مصدر سابق ، ص٤١٨-٤٢٠. و د. حميد حنون خالد ، مصدر سابق ، ص٣٤.

هذه بتلك بصيحة الثورة الفرنسية: "اشنقوا آخر ملك بأمعاء آخر قسيس"،
ولذلك كان ميلاد الديمقراطية مصاحباً لميلاد العلمانية^١.
و سوف نركز دراستنا في هذا الفصل على خصائص الديمقراطية
و تمييزها عن الشورى و عن الديمقراطية التوافقية و هذا سيكون في
المبحث الأول، و صور الحكومة الديمقراطية أو أنواعها و ذلك سيكون في
المبحث الثاني.

^١ د. خالد بن عبد العزيز الشريدة، مصدر سابق، ص ٤٢..

المبحث الأول

خصائص الديمقراطية و تمييز بعض المصطلحات عنها

بعد أن عرفنا أصل الديمقراطية و معناها و كيفية نشأتها، يبقى علينا معرفة خصائصها و التي سنعدد الكلام فيها في المطلب الأول، كما انه من الضروري تمييز الشورى عن الديمقراطية و بيان حقيقة الأخيرة، و هذا ما سنبحثه في المطلب الثاني. كما يجب تمييز الديمقراطية التوافقية عن الديمقراطية التقليدية وذلك في المطلب الثالث.

المطلب الأول

خصائص الديمقراطية التقليدية

تتميز الديمقراطية التقليدية بعدة خصائص نوجزها فيما يأتي:

١. الديمقراطية مذهب سياسي لا اجتماعي و لا اقتصادي: بمعنى أن الديمقراطية التقليدية أو السياسية-في أول نشأتها- تسعى لتحقيق الحقوق السياسية للأفراد؛ بمعنى ممارسة الشعب^١ السلطة بنفسه أو بواسطة نوابه أو بالاشتراك معهم ، وفقاً لتعريفها بأنها: " كل شيء بالشعب"، فهي مسألة إيمان و عقيدة بفكرة سياسية تتمثل في إسناد شؤون السلطة الى الشعب، بخلاف الديمقراطية الاجتماعية التي نادى بها الفكر الاشتراكي الذي يعلي الجماعة على الفرد، الرامية إلى تحقيق الحقوق الاقتصادية والاجتماعية للأفراد، التي تعني: " كل شيء للشعب". و لقصور الديمقراطية و فشلها في تحقيق المساواة المادية -لقيامها على المذهب الفردي؛ وهو المذهب الذي يقوم على أساس الفرد الذي استقى منه أسمه، و يعتبره غاية النظام السياسي، و يعلي حقوقه على حقوق الجماعة. و تأثرها بالمذهب الاجتماعي

^١ يقصد بالشعب هنا الشعب بمفهومه السياسي على المعنى الذي حددناه سلفاً.

الذي يتوسط بين الفردي و الاشتراكي - فقد تغير مفهومها الحديث في الغرب ليشمل الحقوق الاجتماعية و الاقتصادية و الدينية^١.

٢. أنها تقوم على المذهب الفردي : قامت الديمقراطية كما ذكرنا على المذهب الفردي الذي يقدر الفرد و يسعى إلى تحقيق سعادته، و وفقاً لذلك ترمي الديمقراطية إلى إشراك الأفراد في شؤون الحكم بصفتهم أفراداً تربطهم رابطة المواطنة فقط، دون اعتبار لمراكزهم أو انتمائهم الاجتماعي أو الاقتصادي^٢.

٣. أنها تقرر المساواة السياسية و القانونية: يراد بالمساواة السياسية أن جميع الأفراد يتمتعون بنفس الحقوق السياسية المتمثلة في اشتراكهم في شؤون الحكم^٣، أما المساواة القانونية فتعني أن جميع الأفراد يتمتعون بذات الحماية القانونية المقررة^٤، و هذه الميزة هي نتيجة للميزة السابقة؛ فمادامت الديمقراطية تنظر للأفراد بصفتهم مواطنين فإنه لا بد أن يكون لكل واحد منهم حقوق سياسية و قانونية واحدة؛ لأن الجميع متساوين في المواطنة^٥. ولكن تقرير الديمقراطية المساواة السياسية و القانونية لا يعني أنها تسعى إلى تحقيق المساواة المادية التي تطمح إليها المذاهب الاشتراكية^٦. و قد تغير الأمر في الوقت الحاضر كما قلنا، و أصبحت الديمقراطية المعاصرة تهتم بالمساواة المادية الفعلية بين الأفراد.

^١ د. شمران حمادي ، مصدر سابق، ص ٧٤-٧٥. و د. حميد حنون خالد، مصدر

سابق، ص ١٩. و د. محسن خليل ، مصدر سابق ، ص ٤٢٢-٤٢٦.

^٢ د. عبد الغني بسيوني ، مصدر سابق ، ص ١٣٠. و د. شمران حمادي ، مصدر السابق، ص ٧٣.

^٣ د. شمران حمادي ، مصدر سابق، ص ٧٤.

^٤ د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٠٠.

^٥ د. شمران حمادي ، مصدر سابق، ص ٧٤.

^٦ د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٠٠.

٤. الديمقراطية مذهب الحقوق والحريات السياسية: قامت الديمقراطية- كمبدأ- لمحاربة الحكم المطلق واستئثار الحكام بالسلطة من دون غالبية المواطنين، ومنع الاعتداء على حقوق وحريات الأفراد. و لهذا فان الديمقراطية- كمذهب أو نظام حكم -ترمي إلى كفالة الحقوق والحريات الفردية ووضع ضمانات لها في الدستور، وعلى الأخص الحرية السياسية^١. ولا وجود للنظام الديمقراطي إذا لم يكن للشعب أو لنوابه حق مراقبة الحكام ومحاسبتهم من طريق إطلاق حريات القول، والمناقشة، والمعارضة، وتتطوي هذه الحماية على وضع حد لتدخل الدولة في ممارسة هذه الحقوق والحريات، بحيث تقوم بتنظيمها و تحديدها دون المساس بمضمونها، لان الحرية بون نظام تؤدي إلى الفوضى، والفوضى تؤدي إلى القضاء على الحرية ذاتها، مع عدم المبالغة في التحديد لئلا تنقلب الديمقراطية إلى دكتاتورية^٢.

المطلب الثاني

تمييز الشورى عن الديمقراطية

تعرف الشورى على أنها استطلاع رأي الأمة أو من ينوب عنها من المختصين في أمر لم ينص عليه الشرع^٣. و في الحقيقة هنالك فروق كثيرة بين مبدأ الشورى في الإسلام و الديمقراطية الغربية، و لكننا سنكتفي ببيان الفروق^٤ الجوهرية فقط؛ كي نزيل الخلط و اللبس الحاصل بين الفكرتين وكما يأتي:

^١ د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٠٠-٢٠١.

^٢ د. شمران حمادي ، مصدر سابق، ص ٧١-٧٢.

^٣ د. خالد عبد العزيز الشريدة، مصدر سابق، ص ٣٨.

^٤ المصدر نفسه، ص ٦٠-٦٢.

١. في الديمقراطية الشعب هو صاحب السيادة، و القوانين هي تعبير عن إرادته، أما في شريعة الشورى فان الخالق سبحانه هو صاحب السيادة؛ فالدين ما اوجب، والحلال ما أحله، والحرام ما حرمه^١.
٢. الديمقراطية ليست فقط مجلساً نيابياً يشرع القوانين، و إنما تمتد بمفهومها الحديث لتشمل أوجه الحياة كلها؛ الفكرية، والسياسية، والاجتماعية، و الاقتصادية، والأخلاقية، وعلى هذا فهي عقيدة و فلسفة حياتية، بينما الشورى هي مبدأ من مبادئ الحكم في الشريعة الاسلامية تبقى في دائرة المباحات.
٣. الحق في شريعة الشورى مرجعه النص الشرعي، لكن الحق في الديمقراطية مرجعه الكثرة مقابل القلة.
٤. القوانين التي تقرها الحكومات الديمقراطية قابلة للتغيير، لان الشعب أو من ينوب عنه هو من أنشأها، أما في شريعة الشورى فلا حكم إلا حكم الله تعالى و رسوله (ﷺ)، وما استجد من أمر فمرده إلى الله تعالى و رسوله (ﷺ).
٥. لا حدود لدور العقل في الديمقراطية؛ فهو منشئ للأحكام في كل شأن من شؤون الحياة، بينما في شريعة الشورى العقل كاشف للأحكام لا منشئ، و دائرة المباح يجتهد فيها المختصون في إطار الشريعة.
٦. لا صلة في الديمقراطية بين النظام و الدين، في حين ان هناك صلة وثيقة بينهما في نظام الشورى.
٧. الحقوق في شريعة الشورى مقيدة بضوابط شرعية، وتتحول إلى واجبات اجتماعية تحقق مصلحة الفرد والجماعة. و في الديمقراطية لا يقيد بها إلا عدم الأضرار بالغير، و فيها مغالاة في الجانب الفردي.

^١ وفي نفس المعنى ينظر: رجا بهلول ، حكم الله وحكم الشعب (حول العلاقة ما بين الديمقراطية و العلمانية)، دار الشروق ، ٢٠٠٠م، ص٧٨.

٨. في الديمقراطية تتعدد الأحزاب؛ منها المؤيد و المعارض، لكن شريعة الشورى تتحزب للحق فقط.

٩. الديمقراطية- كما تعلن عن نفسها بأنها حكم الأغلبية- قد تهضم كثيراً من حقوق الأقلية، أما شريعة الشورى فوسيلة لتحقيق العدل والوصول إلى الحق، لا تفرق بين: غني و فقير و لا قليل و لا كثير.

١٠. في شريعة الشورى لا بد من الاجتماع بعد الاختلاف لأن نتيجة الشورى ملزمة، بينما في الديمقراطية قد يستمر الخلاف و يستمر النقد بلا وازع يجمع أو معيار يوحد.

المطلب الثالث

تمييز الديمقراطية التوافقية عن الديمقراطية التقليدية

إن مصطلح الديمقراطية مصطلح نسبي ، فليس هناك نموذج واحد للديمقراطية ، بل يعتمد الأمر على عامل الزمن والبلد ومستوى التطور الاقتصادي ومقدار الانشطارات الفئوية في المجتمع. فالديمقراطية عملية تفاعلية و ليست وصفة جاهزة. ولذلك هناك نموذجان للديمقراطية؛ الديمقراطية بمعناها التقليدي (موضوع الدراسة)، والديمقراطية التوافقية. ولكن ما الفرق بين هذين النموذجين؟.

ولدت الديمقراطية التقليدية- التي تحولت الى ديمقراطية الأكثرية أو الأغلبية في الوقت الحاضر- في بلدان متجانسة قومياً بصورة ما، وهو تجانس لا يقسمها الى أقليات و أكثريات دينية او ثقافية او عرقية او لغوية كما في انكلترا و فرنسا وأميركا. لكن مبدأ الأغلبية سيتحول في المجتمعات المنقسمة طائفاً او قومياً الى أغلبية وأقلية قومية او طائفية مما يخلق استبداد الأكثرية. لذلك نشأت الديمقراطية التوافقية في بلدان أوربية غربية ذات مجتمعات منقسمة من الناحية القومية والدينية مثل بلجيكا و هولندا وسويسرا

والنمسا ، وهذا النشوء لم يكن عن نظرية مسبقة بل كان وليد حاجات عملية في تلك الدول^١.

ويمكن تعريف الديمقراطية التوافقية استناداً إلى أربعة عناصر^٢ تشكل في ذات الوقت عناصر مميزة لها عن الديمقراطية التقليدية وهذه العناصر هي:

- ١- حكومة ائتلاف واسعة تشمل حزب الأغلبية و سواه.
 - ٢- مبدأ التمثيل النسبي في الوزارات والمؤسسات والإدارات والانتخابات أساساً.
 - ٣- حق الفيتو (الاعتراض) المتبادل للأكثرية والأقلية على حد سواء، لمنع احتكار السلطة.
 - ٤- الإدارة الذاتية للشؤون الخاصة لكل جماعة.
- من هنا تكمن أهمية الديمقراطية التوافقية في بلدان العالم الثالث ذات التنوع القومي والديني والثقافي.

^١ شاكر الانباري، الديمقراطية التوافقية (مفهومها ونماذجها) عن كتاب الديمقراطية التوافقية في مجتمع متعدد للمفكر الهولندي " آرنت ليبهارت"، ط١، معهد الدراسات الإستراتيجية، بغداد، ٢٠٠٧م، ص ٦- ٨.

^٢ شاكر الانباري، المصدر نفسه، ص ٦- ٨.

المبحث الثاني

صور الحكومة الديمقراطية

سبق تعريف الحكومة الديمقراطية بأنها الحكومة التي يكون مصدر السلطة فيها هو الشعب. أما صور هذه الحكومة فتتدرج من ممارسة الشعب للسلطة بنفسه بما يعرف بالديمقراطية المباشرة ، الى اشتراك الشعب مع النواب المنتخبين منه في الحكم وتلك هي الديمقراطية شبه المباشرة، الى تولي هؤلاء النواب المسؤولية كاملة ، وهذه هي الديمقراطية النيابية. وسوف نعرض لدراسة هذه الصور الثلاث في ثلاثة مطالب متعاقبة.

المطلب الأول

الديمقراطية المباشرة

إن الإلمام بموضوع الديمقراطية المباشرة يتطلب منا تعريفها، و إيضاح مضمونها أي كيفية تطبيقها، و استعراض تطبيقاتها، و أخيراً تقييمها، أي عرض مزاياها وعيوبها.

تعريف الديمقراطية المباشرة: هي صورة من صور الحكومة الديمقراطية التي تقوم على أساس ممارسة الشعب السلطة مباشرةً دون وسيط^١ (أي دون نواب).

مضمون الديمقراطية المباشرة: علمنا من تعريف الديمقراطية المباشرة أنها تقضي بأن يباشر الشعب بنفسه جميع شؤون السلطة من تشريعية و تنفيذية و قضائية، فلا يكون هناك برلمان أو وزارة أو قضاء. و لكن كيف يتم ذلك؟ يتم ذلك من خلال اجتماع الشعب بمفهومه السياسي في شكل جمعية

^١ د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٠٢.

شعبية عامة- التي هي عبارة عن الشعب بأكمله- في ميدان عام؛ حيث يقوم بوضع القوانين بنفسه، و يتولى اختيار الموظفين الذين يعهد اليهم ممارسة السلطة التنفيذية ، و يختار القضاة المكلفين بممارسة السلطة القضائية. فضلاً عن ذلك يقوم الشعب بالفصل بنفسه في القضايا الهامة دون إحالتها إلى القضاة المختصين^١.

تطبيقات الديمقراطية المباشرة:

١- تطبيق الديمقراطية المباشرة في أثينا و روما: طبقت الديمقراطية المباشرة قديماً في أثينا و روما^٢؛ حيث كان المواطنون الذكور الأحرار الذين بلغوا سن العشرين يجتمعون بصفة دورية في شكل جمعية عامة للموافقة على مشروعات القوانين المعروضة عليها من السلطة التنفيذية، و تعيين كل من الموظفين المكلفين بمباشرة السلطة التنفيذية، و القضاة الذين يمارسون السلطة القضائية بأسلوب القرعة، كما تقوم بعقد المعاهدات و تقرير السلام و فرض الضرائب^٣.

٢- تطبيق الديمقراطية المباشرة في سويسرا: تطبق الديمقراطية المباشرة في العصر الحديث في ثلاث مقاطعات سويسرية، حيث يجتمع مواطنو المقاطعة البالغين سن العشرين في هيئة جمعية شعبية كل عام لمباشرة

^١ د. شمران حمادي ، مصدر سابق، ص ٧٥.

^٢ كانت كل من أثينا و روما عبارة عن دويلات مستقلة تسمى كل منها دولة المدينة، وهي تقابل الدولة بالمفهوم الحديث.

^٣ د. سعد عصفور ، مصدر سابق ، ص ١٦٥. و د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٠٣. و د. حميد حنون خالد، مصدر سابق، ص ٣٢.

الشؤون الخاصة بالمقاطعة، و اختيار القضاة و أعضاء مجلس المقاطعة الذي يمارس السلطة التنفيذية^١.

تقييم الديمقراطية المباشرة: يكون تقييم الديمقراطية المباشرة من خلال استعراض مزاياها و عيوبها و كما يلي:

أولاً: مزايا الديمقراطية المباشرة: و أهم هذه المزايا هي :

١. أنها اقرب صور الحكومة الديمقراطية إلى المبدأ الديمقراطي؛ و هو مبدأ سيادة الشعب الذي يقضي بأن الشعب هو صاحب السيادة و السلطة، كونها تمكن الشعب من حكم نفسه بنفسه دون نيابة^٢.

٢. أنها أكثر الصور تمثيلاً مع العقل و المنطق؛ لان مصدر السيادة- التي هي عبارة عن الإرادة العامة للشعب- في الدولة هو الشعب ، فهو وحده الذي من حقه ممارسة هذه السيادة أو الإرادة العامة، و لا يمكن أن تنتقل منه إلى من ينوب عنه، و إن انتقلها معناه فناؤها^٣.

٣. أنها ترتفع بمعنويات الشعب كونها ترتفع بمستوى مشاركته في تحمل المسؤوليات العامة^٤.

٤. أنها تترك آثاراً طيبة في الشعب؛ فتجعله واقعيّاً في اتخاذ القرارات و وضع الحلول العملية للمشاكل العامة دون خضوع لنزاعات حزبية أو تأثر بدعايات انتخابية كما يحصل في النظام النيابي^٥.

^١ د. شمران حمادي ، مصدر سابق، ص٧٧. و د. عبد الغني بسيوني ، مصدر سابق ،

ص٢٠٣. و د. محسن خليل ، مصدر سابق ، ص٥٠٣.

^٢ د. شمران حمادي ، مصدر سابق، ص٧٨. و د. عبد الغني بسيوني ، مصدر سابق

، ص٢٠٣.

^٣ د. شمران حمادي ، مصدر سابق، ص٧٨.

^٤ د. عبد الغني بسيوني ، مصدر سابق ، ص٢٠٣.

^٥ المصدر نفسه ، ص٢٠٣.

٥. يتمتع المواطنون في ظلها بحرية حقيقية لا حرية نظرية كما في الديمقراطية النيابية^١.

ثانياً: عيوب الديمقراطية المباشرة: و أهم هذه العيوب هي:

١. أنها اقرب الصور إلى الديمقراطية المثالية أو المبدأ الديمقراطي من الناحية النظرية لا من الناحية العملية؛ و ذلك لصعوبة تطبيقها في الدول المعاصرة ذات الكثافة السكانية المرتفعة و المساحات الإقليمية الشاسعة، و المشكلات الاقتصادية و الاجتماعية المعقدة بخلاف الحال في المدن اليونانية و الرومانية و المقاطعات السويسرية التي تتميز بقلّة سكانها و صغر حجمها و بساطة مشاكلها^٢.

٢. عدم إمكانية مناقشة الأمور و مشروعات القوانين المعروضة على الجمعيات الشعبية مناقشة وافية و جدية؛ و ذلك لكثرة المشتركين و قلة درايتهم في الأمور العامة^٣.

٣. يؤدي طرح الموضوعات العامة المتعلقة بسلامة الدولة و أمنها للمناقشة إلى أضرار نتيجة لإفشاء أسرار هذه الموضوعات^٤.

٤. إذا أمعنا النظر في تطبيق الديمقراطية المباشرة في أثينا و روما فإننا نجدها ديمقراطية طبقية اقرب إلى الارستقراطية بالمفهوم الحديث؛ لاقتصار الحكم فيها على المواطنين الأحرار فقط. و من جهة ثانية فان عملهم كان

^١ د. محمد كاظم المشهداني، مصدر سابق، ص ٢١.

^٢ د. شمran حمادي ، مصدر سابق، ص ٧٥. و د. سعد عصفور ، مصدر سابق ، ص ١٦٥. د. عبد الغني بسيوني ، مصدر السابق ، ص ٢٠٤.

^٣ د. شمran حمادي ، مصدر سابق، ص ٧٩.

^٤ د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٠٤.

محصوراً في المجال التشريعي فقط؛ لقيامهم بتعيين الموظفين و القضاة
اللازمين للوظيفة التنفيذية و الوظيفة القضائية^١.

٥. أما بالنسبة لتطبيق الديمقراطية المباشرة في بعض المقاطعات السويسرية
فيمكن القول بأنها ديمقراطية مباشرة صورية^٢ للأسباب الآتية:

أ- إن هذه المقاطعات تمتاز بكونها مقاطعات جبلية نائية صغيرة المساحة
قليلة السكان^٣.

ب- ان الاختصاصات التي تباشرها الجمعيات الشعبية في هذه
المقاطعات هي بسيطة ومحدودة، لان الحكومة الاتحادية السويسرية
تتولى جميع أعمال الدولة الهامة الداخلية و الخارجية. وهذه
الاختصاصات محصورة في الجانب التشريعي فقط، و في الأمور
البسيطة فقط. وهذا يخالف الديمقراطية المباشرة التي تتطلب أن
يمارس الشعب جميع سلطاته كهيئة حاكمة لا محكومة^٤.

ج- إن المشتركين في اجتماعات الجمعية الشعبية هم المواطنين الذكور
البالغين سن العشرين فقط^٥.

د- قلة دراية المشتركين في الجمعية الشعبية في الأمور الفنية. و سيطرة
الاعتبارات العاطفية على مناقشاتهم. و خضوعهم لضغوط رجال

^١ د. حميد حنون خالد، مصدر سابق، ص٣٤. و د. سعد عصفور ، مصدر سابق ، ص١٦٥.

^٢ د. حميد حنون خالد، مصدر سابق، ص٣٦.

^٣ د. سعد عصفور ، مصدر سابق ، ص١٦٧.

^٤ د. شميران حمادي ، مصدر سابق، ص٧٨. و د. عبد الغني بسيوني ، مصدر سابق
، ص٢٠٤. و د. حميد حنون خالد، مصدر سابق، ص٣٦.

^٥ د. شميران حمادي ، مصدر سابق، ص٧٧.

الدين و رجال الأعمال، و هذا يتعارض مع الحرية السياسية التي تقوم عليها الديمقراطية المباشرة^١.

و بناءً على تقييمنا للديمقراطية المباشرة يتضح بان فرضية الأخذ بها قديماً وحديثاً لا تعدو عن كونها فرضية ، و إذا ما أخذنا بهذه الفرضية فإنها إن طبقت فلا تتجاوز المجال التشريعي و في الدول الصغيرة فقط ؛ لاستحالة تطبيقها في المجالين التنفيذي و التشريعي، وحتى في المجال التشريعي سيكون تطبيقها صورياً في تلك الدول لان الجمعيات الشعبية تفتقر إلى الموضوعية في مناقشة القضايا المعروضة، إضافة إلى أن تعقد وظائف الدولة و تشعبها جعل القضايا التشريعية في غالبها ذات صبغة فنية دقيقة تحتاج الى علم وخبرة ودراية و مستوى مقبول من الثقافة. وهذا ما دفع بعض الكتاب الى القول بأن الديمقراطية المباشرة أصبحت في الآونة الحديثة مجرد "طرافة تاريخية" تركتها لنا بعض الأفكار النظرية السابقة، و بعض النظم التي سادت مدن اليونان القديمة^٢.

المطلب الثاني

الديمقراطية غير المباشرة أو النيابية (النظام النيابي)

إن الديمقراطية غير المباشرة و الديمقراطية النيابية و النظام النيابي هي مصطلحات مترادفة تعطي نفس المعنى، و البحث في هذه الصورة من صور الحكم الديمقراطي يستوجب تعريفها، و بيان كيفية نشأتها و تطورها، و عرض خصائصها، و أركانها، و أنواعها، و أخيراً تقييمها بذكر مزاياها و عيوبها .

^١ د. سعد عصفور ، مصدر سابق ، ص١٦٧. و د. شمران حمادي ، مصدر سابق، ص٧٩-٨٠.

^٢ د. محسن خليل ، مصدر سابق ، ص٥٠٧.

تعريف الديمقراطية غير المباشرة أو النيابية أو النظام النيابي: هي صورة من صور الحكومة الديمقراطية التي تقوم على أساس قيام الشعب بانتخاب من يمثله لمباشرة شؤون السلطة نيابةً و استقلالاً عنه لمدة محددة^١. و يسمى الأشخاص المنتخبين من الشعب النواب، والبرلمان المنتخب هو محور الديمقراطية النيابية، و قد يتكون من مجلس واحد او من مجلسين و لا يشارك الشعب البرلمان في ممارسة السلطة^٢.

نشأة النظام النيابي وتطوره: ومن الجدير بالذكر انه لم يكن نشوء النظام النيابي و تطوره ضمن خطة معينة أو من صنع التنظير الفكري، و إنما هو وليد معاناة الشعب الانكليزي من استبداد حكامه، و قد وصل الى الصورة التي نشاهدها في الوقت الحاضر بشكل تدريجي و ليس طفرةً واحدة^٣.

أركان او خصائص النظام النيابي : للنظام النيابي عدة خصائص أو أركان يقوم عليها هي:

آ- وجود هيئة نيابية (برلمان) تمارس سلطات فعلية: حيث يقوم النظام النيابي على فكرة النيابة ؛ بوجود هيئات تباشر مظاهر السيادة نيابة عن الشعب، ومن أهم هذه الهيئات الهيئة التشريعية التي ينتخب الشعب أعضائها بغية التوفيق بين النظام النيابي و المبدأ الديمقراطي الذي يقرن السيادة بالشعب، و لا تعد الهيئة نيابية إلا إذا تحقق فيها معنى النيابة؛ إي يلزم تشكيلها بطريق الانتخاب من الشعب، و لذلك فان أي هيئة تشكل على أساس آخر غير الانتخاب كالوراثة أو التعيين لا تعد هيئة نيابية، كما في نظام المجلسين المطبق في بعض الدول حيث يكون احد المجلسين- المكونين للسلطة التشريعية- مشكلاً بطريق الوراثة أو التعيين. إضافة الى ذلك يجب

^١ د. محسن خليل ، ص ٥٢٠. و د. حميد حنون خالد، مصدر السابق، ص ٣٦.

^٢ د. حميد حنون خالد، مصدر سابق، ص ٣٦.

^٣ د. حميد حنون خالد، مصدر سابق، ص ٣٦. و د. سعد عصفور ، مصدر سابق ، ص ١٧٩.

إن يباشر البرلمان سلطات فعلية و ليست اسمية فيما يتعلق بالوظيفة التشريعية، و لذلك لا وجود لنظام نيابي إذا كان دور البرلمان أو المجلس النيابي استشارياً^١.

ب. النائب يمثل الأمة أو الشعب: أصبح من القواعد الأساسية في النظام النيابي أن النائب يمثل الأمة كلها وليس دائرته الانتخابية. وقد ذهبت معظم النظم السياسية الحديثة إلى تدوين هذا المبدأ في دساتيرها أو في القوانين التي تنظم عمل البرلمان، وقد نص الدستور العراقي لسنة ١٩٢٥ على ذلك في المادة ٤٨ منه حيث نصت على انه ((يعتبر النائب ممثلاً للبلاد العراقية عامة لا لمنطقته التمثيلية خاصة)). مع الإشارة إلى ان هذا المبدأ الذي بدأ في الانتشار بعد نجاح الثورة الفرنسية لم يكن مألوفاً في الماضي، حيث كان النائب يعد ممثلاً لدائرته الانتخابية فقط، مما أدى إلى خضوع النائب لإرادة ناخبيه^٢.

ج. نيابة البرلمان المؤقتة عن الأمة أو الشعب: ذكرنا ان النواب يمثلون الأمة وهم مستقلون عن الناخبين خلال مدة النيابة وحتى يكون هناك توافق بين الموضوعين (تمثيل الأمة والاستقلال في اتخاذ القرار) لا بد ان يكون هذا التمثيل لمدة محددة، لكي تستطيع الأمة صاحبة السيادة ان تراقب وتقيم أداء من يمثلها ومن ثم يعود لها امر تجديد الثقة في النائب أو سحبها منه تبعاً لأدائه خلال الفصل التشريعي المنصرم. ويلاحظ ان تقدير مدة العضوية في البرلمان مسألة نسبية تختلف من دستور لآخر، الا ان الاتجاه الغالب في الدساتير الحديثة يجعل مدة العضوية في البرلمان متوسطة

^١ د. سعد عصفور ، مصدر سابق ، ص١٨١. و د. حميد حنون خالد، مصدر سابق، ص٤١.

^٢ د. حميد حنون خالد، مصدر سابق، ص٤٢. و د. عبد الغني بسيوني ، مصدر سابق ، ص٢١٠.

تتراوح بين اربع أو خمس سنوات^١. وقد أخذ الدستور العراقي لسنة ٢٠٠٥ بهذا الاتجاه حيث حدد فترة عمل مجلس النواب بأربع سنوات تقويمية. وهو ما اخذ به دستور العراق لسنة ١٩٢٥ ايضاً^٢.

د. **استقلال البرلمان عن هيئة الناخبين:** تتحصر مهمة الناخبين في النظام النيابي باختبار من ينوب عنهم في مباشرة السلطة ولا يجوز لهم التدخل في أعمال البرلمان. اذ سبق وذكرنا ان النظام النيابي يقوم على أساس استقلال البرلمان عن الناخبين ومن ثم ينتهي دور الناخبين بانتهاء عملية الانتخاب. حيث يستقل البرلمان بمباشرة مظاهر السيادة المناطة به دستورياً خلال المدة النيابية عن جمهور الناخبين، ولا يحق لهم الاشتراك في مباشرة اي مظهر من تلك المظاهر. فليس لهم حق اقتراح القوانين أو الاعتراض عليها كما هو الحال في الديمقراطية شبه المباشرة كما سنرى لاحقاً^٣.

أنواع النظام النيابي:

اذا كانت وظائف الدولة تتولاها السلطات العامة المتمثلة في السلطات التشريعية والتنفيذية والقضائية ، فان العلاقة بين هذه السلطات تحتاج الى تنظيم ، ولهذا برز مبدأ مهم يعتبر قطب الرحى في تنظيم هذه العلاقة ؛ هو **مبدأ الفصل بين السلطات** . وكان تأثير هذا المبدأ واضحاً في النظام النيابي (الديمقراطية النيابية) ، حيث تنوع الى ثلاثة أنواع رئيسة تبعاً لطريقة تنظيم

^١ د. حميد حنون خالد، مصدر سابق، ص٤٣ . و د. عبد الغني بسيوني ، مصدر سابق ، ص٢٠٩ .

^٢ د. حميد حنون خالد، مصدر سابق، ص٤٣ .

^٣ د. حميد حنون خالد ، مصدر سابق ، ص٤٣-٤٤ . و د. عبد الغني بسيوني ، مصدر سابق ، ص٢١٠-٢١١ .

العلاقة بين السلطات العامة في الدولة ، وخاصة التشريعية والتنفيذية. و هذه الأنواع^١ هي:

أولاً: النظام المجلسي: وهو النظام النيابي الذي يقوم على أساس تبعية السلطة التنفيذية للسلطة التشريعية واندماجها فيها . و أهم تطبيقاته في الوقت الحاضر النظام السياسي في سويسرا.

ثانياً: النظام الرئاسي: وهو النظام النيابي القائم على أساس الفصل التام بين السلطات العامة الثلاث ؛ التشريعية ، والتنفيذية ، والقضائية ، بحيث تكون كل منها مستقلة عن الأخرى في ممارستها لوظيفتها المحددة بالدستور مع غلبة السلطة التنفيذية في بعض الأحيان، ويقوم على أساس وجود رئيس جمهورية منتخب من الشعب يجمع بين رئاسة الدولة و رئاسة الحكومة.

و أهم تطبيقاته في الوقت الحاضر النظام السياسي في الولايات المتحدة الأمريكية.

ثالثاً: النظام البرلماني: وهو النظام النيابي الذي يقوم على أساس التعاون والتوازن والمساواة بين السلطة التشريعية والسلطة التنفيذية. فهو نظام وسط بين النظام المجلسي والنظام الرئاسي.

و أهم تطبيقاته؛ النظام السياسي في انكلترا و النظام السياسي في العراق حالياً.

تقييم النظام النيابي^٢: للنظام النيابي مزايا ذكرها أنصاره و عيوب ذكرها معارضوه نتناولها فيما يأتي:

^١ د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٦٠- ٢٦٢.

^٢ د. شمران حمادي ، مصدر سابق، ص ٩٦- ٩٨.

اولا : مزايا النظام النيابي:

قال أنصار النظام النيابي ان هذا النظام من أكثر صور الديمقراطية انتشارا لما يتمتع به من مزايا أهمها ما يأتي:

١- انه نظام ديمقراطي: لأنه يعطي للشعب حق ممارسة السلطة بواسطة نوابه، وهؤلاء وان كانوا مستقلين عن الشعب في ممارسة السلطة إلا انه للشعب حق تغييرهم عندما لا يعبروا عن إرادته تعبيراً صحيحاً.

٢- انه اقرب الى الواقع العملي من النظام المباشر، لأنه لا يقضي بأن يقوم الشعب بممارسة السلطة بنفسه مباشرة بل بواسطة نوابه المنتخبين لهذه الغاية.

٣- انه يراعي الخبرة والكفاءة والسرية في ممارسة وظائف الدولة المعقدة؛ لأنه يجعل السلطة بيد النواب الذين يملكون الكفاءة والدراية بخلاف عامة الشعب، كما انه لا يشرك جميع المواطنين في مناقشة في الأمور العامة ولاسيما الأمور التي تتطلب السرية لتعلقها بأمن وسلامة الدولة.

ثانيا: عيوب النظام النيابي: لقد هوجم النظام النيابي من معارضيه بشدة لما ينطوي عليه من عيوب ، اهمها:

١- انه يتعارض مع المبدأ الديمقراطي؛ لان هذا المبدأ يقوم على أساس ان من خصائص السيادة (الإرادة العامة) عدم قابليتها للانتقال ،وان انتقالها من الشعب الى أي فرد أو هيئة معناه فناؤها ،حتى وان كان هذا الفرد او هذه الهيئة منتخبة من الشعب.

٢- ان النظام النيابي لا يعد من الناحية العملية حكومة شعب ولا حتى حكومة أغلبية الشعب وإنما حكومة أقلية للأسباب الآتية:

آ- لا يشارك في الانتخابات سوى عدد محدود من الأفراد دون الباقين.

ب- ان الطريقة الشائعة للتصويت (لفرز الأصوات) هي التصويت بالأغلبية، وهي طريقة لا تؤدي إلى تمثيل حقيقي للشعب.

ج- ان اجتماعات المجلس النيابي تنعقد بحضور الأغلبية من النواب (النصف+١)، والقوانين تُقر بناءً على الأغلبية من الحاضرين (النصف+١) ، وهذا ما يؤدي إلى تشريع القوانين من عدد من النواب لا يمثل سوى أقلية من الناخبين.

٣- و على فرض ان النظام النيابي هو حكومة أغلبية ، فإنه لا يفهم لماذا تستأثر الأغلبية بالسلطة !!! ولماذا تكون سلطة الأغلبية شرعية!!!.

٤- وقيل انه نظام لا تتوفر فيه الكفاءة و لا يأخذ بمبدأ التخصص؛ فالنواب في الغالب تنقصهم الخبرة والكفاءة في ادارة الشؤون العامة هذا من جهة ومن جهة ثانية انه نظام لا يأخذ بمبدأ التخصص؛ فقد يتولى طبيب وزارة الدفاع، وقد يتولى محامي وزارة الصحة.

المطلب الثالث

الديمقراطية شبه المباشرة (شبه النيابية)

تقوم الديمقراطية المباشرة على فكرة تولي الشعب مظاهر السيادة كافة، حيث يتولى التشريع والتنفيذ والقضاء بنفسه دون وسيط، وعندما تبين للجميع ان ذلك ضرب من الخيال، اتجهت الشعوب للأخذ بالنظام النيابي حيث يختار الشعب من ينوب عنه في ادارة شؤون الدولة. الا ان تطور الشعوب من الناحيتين السياسية والثقافية جعلها تشعر بابتعاد النظام النيابي عن الصورة المثلى للديمقراطية والتي تقترض مباشرة الشعب السلطة بنفسه، مما ادى إلى المطالبة بتطوير النظام النيابي وذلك من خلال إشراك الشعب مع البرلمان في مباشرة التي تعني قيام الشعب بانتخاب من ينوب

عنه في تولي السلطة مع وجوب العودة إلى الشعب في بعض القضايا الهامة ليتخذ فيها القرار بنفسه.

تعريف الديمقراطية شبه المباشرة: هي نظام وسط بين الديمقراطية المباشرة والديمقراطية النيابية حيث تقوم على وجود برلمان منتخب كما هو الشأن في النظام النيابي مع احتفاظ الشعب لنفسه ببعض مظاهر السيادة يمارسها وفقا لوسائل (مظاهر) معينة يحددها الدستور¹.

مظاهر أو وسائل الديمقراطية شبه المباشرة:

تتعدد مظاهر الديمقراطية شبه المباشرة وتختلف في أهميتها وفقا للموضوع الذي تتصدى له فمنها ما يتصل بالوظيفة التشريعية (كالاستفتاء، واقتراح القوانين، والاعتراض عليها أو الموافقة عليها) ولذلك اسماها البعض مظاهر قانونية، وهي مظاهر حقيقية للديمقراطية شبه المباشرة باتفاق الفقهاء. ومنها ما يتصل بمراقبة أداء الحكام ومن ثم تقرير مسؤوليتهم (كحل المجلس النيابي، وعزل النائب، و عزل رئيس الجمهورية) ولذلك سميت مظاهر سياسية، وهي محل اختلاف في الفقه من حيث اعتبارها او عدم اعتبارها مظاهر حقيقية للديمقراطية شبه المباشرة. ويذهب رأي في الفقه إلى تقسيم مظاهر الديمقراطية شبه المباشرة إلى مظاهر مباشرة و أخرى غير مباشرة فيعد المظاهر الثلاثة الأولى مباشرة في حين يعد المظاهر الثلاثة الأخيرة مظاهر غير مباشرة. وسنتناول دراسة ذلك بإيجاز.

أولاً- الاقتراح الشعبي: وله صورتان؛ الصورة الأولى تسمى اقتراح مشروع قانون. وهي تتم بقيام الناخبين بإعداد مشروع قانون يعالج مسألة محددة ثم

¹ د. شمران حمادي، مصدر سابق، ص ٤٥. و د. عبد الغني بسيوني، مصدر سابق،

يعرض على البرلمان لمناقشته وفي الغالب يشترط الدستور توقيع عدد محدد من الناخبين على المشروع بغية مناقشة البرلمان له. اما الصورة الثانية فتسمى اقتراح فكرة مشروع قانون؛ وبموجبها لا يقدم الناخبون مشروع قانون كامل ومبوب وإنما يقترحون فكرة الموضوع أو مضمونه الذي يراد تنظيمه بموجب تشريع، ويتولى البرلمان مهمة الصياغة القانونية^١.

ثانياً- الاستفتاء^٢ الشعبي: ويراد به عرض موضوع معين على الشعب بمفهومه السياسي لغرض معرفة وجهة نظره فيه. وللاستفتاء الشعبي صور متعددة وفقاً لأسس مختلفة وعلى التفصيل الآتي:

أ. من حيث الموضوع: قد يكون الاستفتاء متعلقاً بمشروع قانون عادي فيطلق عليه الاستفتاء التشريعي، وقد يتعلق بإقرار دستور جديد أو إجراء تعديل على دستور نافذ فيسمى الاستفتاء الدستوري. وفي بعض الحالات يؤخذ رأي الشعب في مسألة سياسية هامة كالموافقة على عقد معاهدة دولية أو قرار سياسي مهم فيسمى الاستفتاء السياسي. وقد يكون الاستفتاء متعلقاً بشخصية سياسية مهمة، كحالة طرح اسم المرشح لرئاسة الدولة على الشعب لغرض موافقته على إشغال المرشح للمنصب الرئاسي من عدمه فيسمى الاستفتاء الشخصي.

ب. من حيث وجوب إجرائه: يكون الاستفتاء إجبارياً أو اختيارياً. فإذا أُلزم الدستور السلطات المختصة بعرض مسألة ما على الشعب فإنها ملزمة بإجرائه، فيكون الاستفتاء إجبارياً. أما إذا ترك الدستور تقدير الأمر

^١ د. حميد حنون خالد، مصدر سابق، ص ٤٥-٤٧. و د. عبد الغني بسيوني، مصدر

سابق، ص ٢١٥-٢١٧.

^٢ د. حميد حنون خالد، مصدر سابق، ص ٤٥-٤٧. و د. عبد الغني بسيوني، مصدر

سابق، ص ٢١٥-٢١٧.

للسلطة المختصة فهي حرة في اجراء الاستفتاء من عدمه، فهنا يكون الاستفتاء اختيارياً.

ج. من حيث توقيت إجرائه: ويقسم إلى استفتاء سابق على القانون وذلك في حالة عرض مشروع القانون أو فكرته على الشعب قبل إقراره من البرلمان. أما اذا عرض مشروع القانون على الاستفتاء بعد اقرار البرلمان له فيسمى استفتاء لاحق، وفي الصورتين لا ينفذ مشروع القانون إذا لم يوافق عليه الشعب.

د. من حيث قوة الالتزام: يكون الاستفتاء إلزامياً اذا نص الدستور على وجوب تقيد السلطات التي اجرتة بنتيجته، اما اذا لم يلزم الدستور تلك السلطات بنتيجة الاستفتاء فيكون استشارياً. الا انه من الناحية العملية لا يمكن للسلطات الهامة تجاهل رأي الشعب حتى وان كان غير ملزم لها من الناحية الدستورية، وذلك انسجاماً مع المبادئ الديمقراطية. ولما قد يترتب على ذلك من نتائج سياسية وخيمة.

ثالثاً- الاعتراض^١ الشعبي: ويراد به حق الشعب في الاعتراض على نفاذ قانون اقره البرلمان، الا ان هذا الاعتراض يجب ان يقدم من عدد محدد من الناخبين، وان يتم خلال مدة محددة (ثلاثون أو ستون يوماً مثلاً).

و في حالة انقضاء المدة التي حددها الدستور للاعتراض دون استعماله فيستمر نفاذ القانون ولا يجوز الاعتراض عليه بعد ذلك. اما إذا حصل الاعتراض وفقاً للضوابط التي وضعها الدستور فيجب عرض القانون على الشعب لبيان رأيه فيه. فاذا وافق عليه تأكد نفاذه، اما اذا لم تحصل موافقته سقط القانون وبأثر رجعي. حيث تزول جميع الآثار التي رتبها قبل الاعتراض.

^١ د. حميد حنون خالد، مصدر سابق، ص ٤٥-٤٧. و د. عبد الغني بسيوني، مصدر سابق، ص ٢١٥-٢١٧.

رابعاً- اقالة^١ الناخبين للنواب: يجوز للناخبين عزل الناخب الذي انتخبوه، وذلك وفق الآلية التي يرسمها الدستور. حيث تقوم الدساتير التي تنص على هذا المظهر بتنظيم استخدامه من حيث الشروط والآثار، اذ لا يجوز اقالة النائب الا اذا طلب ذلك عدد محدد من الناخبين. كان يكون رُبع العدد الإجمالي للناخبين أو خمسهم. وفي بعض الدساتير يجوز للنائب المعزول ان يرشح نفسه في الانتخابات القادمة، وفي حالة فوزه يتحمل من اقترحوا عزله مصاريف حملته الانتخابية، ولذلك يلزمون بتقديم كفالة مالية عندما يطالبون بعزل النائب. وقد طبق هذا النظام بعض دساتير الولايات الأمريكية، كدستور (كاليفورنيا) لسنة ١٩١١.

خامساً- الحل الشعبي: ويراد به حق الشعب في حل المجلس النيابي. ويشترط ان يقدم طلب الحل عدد محدد من الناخبين، ومن ثم يعرض الأمر على الشعب لاستفتاءه فيه. وفي حالة موافقة اغلبية المصوتين أو اغلبية الناخبين على الطلب يحل المجلس. ويجب تحديد موعد لانتخاب مجلس جديد، اما اذا رفض اغلبية المصوتين أو الناخبين الطلب عد ذلك بمثابة تجديد للثقة بأعضاء المجلس النيابي. ونظرا لخطورة الموضوع يرى جانب من الفقه ان الدساتير التي تأخذ بذلك تشترط موافقة أغلبية الناخبين جميعهم ولا تكتفي بأغلبية المصوتين.

وقد أخذت بهذا الأسلوب بعض المقاطعات السويسرية وكذلك بعض دساتير الولايات الألمانية التي صدرت بعد الحرب العالمية الأولى.

سادساً- عزل رئيس الجمهورية: قد يجيز الدستور للشعب عزل رئيس الجمهورية اذا تبين له ان الرئيس ليس على قدر المسؤولية والأمانة

^١ د.حميد حنون خالد، مصدر سابق، ص٤٥-٤٧. و د. عبد الغني بسيوني، مصدر سابق، ص٢١٥-٢١٧. بعضهم يستعمل (طلب إعادة الأنتخاب) بدل (أقالة النائب).

المناطقين به ولم يؤد واجباته الدستورية كما ينبغي. وقد اخذ بهذا المظهر دستور (فيمر) الألماني لسنة ١٩١٩ الذي اجاز عزل رئيس الجمهورية ولكن بعد مراعاة إجراءات معينة.

وأخيرا يجب الإشارة إلى ان الفقه الدستوري لا يرى ضرورة الأخذ بجميع مظاهر الديمقراطية شبه المباشرة حتى يتحقق قيام هذه الصورة من صور الديمقراطية، وانما يكفي الأخذ بمظهر واحد أو اكثر منه. وفي الغالب لا تنص الدساتير التي تأخذ بهذه الصورة على جميع مظاهرها وإنما تقتصر على تقرير بعض تلك المظاهر. وقد لاحظنا ان معظم الدساتير الحديثة اتجهت نحو الأخذ بمظهر الاستفتاء الشعبي دون الأخذ بالمظاهر الأخرى^١.

تقييم الديمقراطية شبه المباشرة:

للميمقراطية شبه المباشرة كغيرها من الصور الأخرى مزاياها وعيوبها ، وسنذكر هذه المزايا والعيوب باختصار وذلك لوضوحها و بدايتها.

اولاً: مزايا^٢ الديمقراطية شبه المباشرة:

١- انها اقرب الى الديمقراطية من الديمقراطية النيابية وذلك لان الشعب بموجبها يتمتع باختصاصات اكثر مما هي في النظام النيابي.

٢- انها تحول دون استبداد المجلس النيابي (البرلمان) لان الشعب بموجبها يملك مراقبته ومحاسبته.

٣- أنها تؤدي الى أن تكون القوانين موافقة لرأي أغلبية الناخبين الأمر الذي يترتب عليه احترام الشعب لها والحرص على تطبيقها؛ لان أي قانون لا يصبح نافذاً إلا بعد اخذ رأي الشعب فيه.

^١ د. حميد حنون خالد، مصدر سابق، ص ٥٥.

^٢ د. شمران حمادي ، مصدر سابق، ص ١١١-١١٣.

٤- أنها تساعد على استقرار نظام الحكم لن الشعب بموجبها يستطيع إبداء وجهة نظره في أعمال الحكومة والبرلمان عن طريق الاستفتاء الشعبي والاعتراض الشعبي دون الحاجة الى إحداث الاضطرابات ووسائل عنف.

ثانيا: عيوب الديمقراطية شبه المباشرة:

١- عدم توفر الكفاءة والخبرة في أغلبية الناخبين التي تؤهلهم للمشاركة في التشريع وإدارة الشؤون العامة. وهو نفس العيب الذي اخذ على الديمقراطية المباشرة.

٢- قيل ان تصويت الناخبين على القوانين لا تسبقه مناقشات جدية وكافية كما هي الحال في المجالس النيابية.

٣- ان كثرة دعوة الناخبين لإبداء رأيهم في القوانين ومسائل الحكم يدعو الى الملل وضياح الوقت.

٤- أنها تؤدي الى ضياح هيئة المجالس النيابية.

و يرى البعض أن نجاح هذا النظام (الديمقراطية شبه المباشرة) يتوقف إلى حد كبير على مدى النضج السياسي والثقافي للشعوب (حكام ومحكومين).

^١ د. شمران حمادي ، مصدر سابق، ص ١١١-١١٣.

الفصل الثالث

إسناد السلطة في النظام الديمقراطي

تتنوع وسائل إسناد السلطة الى نوعين رئيسيين: وسائل ديمقراطية و وسائل غير ديمقراطية . أما الوسائل غير الديمقراطية فتتمثل في الوراثة، والاختيار الذاتي، والقوة سواء كانت ثورة أو انقلاب. أما الوسائل الديمقراطية فتكاد تنحصر في وسيلة واحدة أساسية هي الانتخاب، الذي سيكون محور هذا الفصل.

وبما ان موضوع دراستنا هو النظام الديمقراطي فإننا سنركز فقط على وسيلة إسناد السلطة فيه ألا وهو الانتخاب، وبشكل أكثر تحديدا فان صور او أنواع النظام الديمقراطي التي تعتمد وسيلة الانتخاب هي كل من النظام النيابي و الديمقراطية شبه المباشرة؛ حيث يعتمد أسلوب الانتخاب في اختيار ممثلي الشعب الذين يمارسون السلطة نيابة عنه في النوع الأول ، و بالمشاركة معه في النوع الثاني.

وسنبحث موضوع الانتخاب في مبحثين؛ الأول ندرس فيه الوصف القانوني للانتخاب، و أساليبه، و الإجراءات التمهيدية له . والثاني نتناول فيه نظم الانتخاب.

المبحث الأول

الوصف القانوني للانتخاب وأساليبه والإجراءات التمهيدية له

وسنتناول دراسة الوصف أو التكييف القانوني في مطلب اول ، ثم أساليبه في مطلب ثاني ، ثم الإجراءات التمهيدية له في المطلب الثالث.

المطلب الأول

الوصف أو التكييف القانوني للانتخاب

تباينت آراء الفقه السياسي والدستوري حول تكييف الانتخاب، فهناك رأي يذهب إلى عده حق شخصي، في حين يذهب رأي آخر إلى عده وظيفة اجتماعية.

أ- الانتخاب حق شخصي: يقوم هذا الرأي على أساس مبدأ المساواة بين الأفراد في الحقوق المدنية والسياسية، وتأسيساً على ذلك فإن الانتخاب حق مكفول لكل فرد يتمتع بصفة المواطنة. ويستندون في ذلك إلى مبدأ سيادة الشعب، إذ أن السيادة وفقاً لأنصار هذا المبدأ مجزأة بين المواطنين، ولذلك يجوز لكل مواطن له حصة في السيادة المشاركة في الانتخاب، وهو حق من حقوقه الطبيعية التي لا يجوز أن يحرم من مباشرتها¹.

والأخذ بهذه النظرية يرتب نتائج عدة منها:

١- **تقرير مبدأ الاقتراع العام:** حيث ان الانتخاب حق لكل فرد بصفته عضواً في الجماعة صاحبة السيادة ومن ثم لا يجوز حرمان أي شخص من مباشرته، إلا في حالة عدم توفر شروط الانتخاب فيه.

¹ د. حميد حنون خالد، مصدر سابق، ص ٥٧-٥٩. د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٢٢-٢٢٤.

٢- حرية استعماله: اذا كان الانتخاب حقا مقررًا لمصلحة المواطن فله حرية المشاركة في التصويت أو الإمتناع عن ذلك، لأن التصويت وفقا لهذه النظرية اختياريًا وليس إجباريًا. ومن الجدير بالملاحظة ان هذه النظرية تتفق مع نظرية (روسو) في السيادة.

ب- الانتخاب وظيفية: يذهب رأي في الفقه إلى القول ان الانتخاب وظيفية وليس حقا، ويستندون في ذلك إلى مبدأ سيادة الأمة، اذ وفقا للمبدأ المذكور السيادة وحدة واحدة غير قابلة للتجزئة وتعود للأمة، والأمة شخص معنوي يختلف عن الأفراد الذين يتكون منهم. وعليه لا يجوز للفرد الادعاء بحق له في مباشرة الانتخاب، لأنه لا يمتلك جزءا من السيادة، حيث لا يمكن تقسيمها على الأفراد في الانتخاب كما يدعي أصحاب نظرية الانتخاب حق، اما مباشرة الافراد للانتخاب فان ذلك لا يتأتى من كونهم شركاء في السيادة، وإنما يباشرونه لأنه وظيفة اجتماعية تتجسد في اختيارهم ممثلي الأمة الذين يمارسون السلطة نيابة عنها^١. والأخذ بهذه النظرية يرتب النتائج الآتية:

١. حرية الأمة في تحديد من يباشرون الانتخاب: فالأمة حرة في تحديد الأفراد الذين يجوز لهم المشاركة في الانتخاب بواسطة القانون، وهذا يعني أن الأمة حرة في الأخذ بمبدأ الاقتراع المقيد أو الاقتراع العام.
٢. إلزام المواطن بالتصويت: حيث يجوز للأمة (وفقا لهذه النظرية) ان تجبر الأفراد على المشاركة في الانتخاب، بما انه وظيفة، ولها أن تفرض في القانون الجزاء المناسب على من يمتنع عن التصويت، ومعنى ذلك ان التصويت إجباري وليس اختياريًا كما يرى أصحاب نظرية الانتخاب حق.

^١ د. حميد حنون خالد، مصدر سابق، ص ٥٧-٥٩. د. عبد الغني بسيوني، مصدر سابق، ص ٢٢٢-٢٢٤.

ج- الانتخاب مكنة قانونية (الرأي الراجح): اتضح لنا من خلال بيان النظريتين السابقتين استناد أنصارهما إلى حجج و أسانيد، ونستطيع القول ان كلا النظريتين لا تسلمان من النقد، فإذا قيل أن الانتخاب حق، ألا يكون لصاحبه حرية الاختيار في استعماله أو تركه؟ وكذلك أليس له أن يتنازل عن حقه لشخص آخر أو أن يبيعه؟ وتأسيساً على ما تقدم لا بد من وجود أداة لتنظيم استعمال هذا الحق وتلك الأداة هي القانون، والقانون من صنع السلطات العامة في الدولة. وهذا القول ينطبق أيضاً على القائلين بان الانتخاب وظيفة، حيث يجب تنظيم مباشرة تلك الوظيفة، وحتما سيتم اللجوء إلى القانون لتحقيق ضوابط وشروط تلك المباشرة^١.

لذلك فان الرأي الراجح فقهاً يتمثل في توصيف الانتخاب على انه مكنة (سلطة) قانونية ينظمها المشرع بما يتفق وتطور المجتمع في مجالات الحياة كافة، ومن ثم لا يجوز التعسف في استخدام القانون كأداة لحرمان الأفراد من مباشرة الحقوق السياسية. لان هذه المكنة مقررة لمصلحة الفرد والجماعة، ومن ثم يجب ان يكون هناك توازن وتناسب بين هاتين المصلحتين. فلا يصح حرمان الفرد من مشاركة في النشاط السياسي بحجة ان الانتخاب مقرر لمصلحة الجماعة، ولا يصح أيضاً ترك هذه المساهمة سائبة دون تنظيم بذريعة كون الانتخاب مقرراً لمصلحة الفرد. وهذا ما دعى بعض الكتاب الى القول بان **التكييف الصحيح** يجب ان يبحث في نوع هذه المشكلة؛ وهي كما تبدو ليست مشكلة قانونية بقدر ما هي مشكلة سياسية يتوقف حلها على طبيعة النظام السياسي^٢.

^١ د. حميد حنون خالد، مصدر سابق، ص ٥٧-٥٩. د. عبد الغني بسيوني، مصدر

سابق، ص ٢٢٢-٢٢٤.

^٢ د. محمد كاظم المشهداني، مصدر سابق، ص ٦٤.

المطلب الثاني

أساليب الانتخاب (تكوين هيئة الناخبين)

اختلفت النظم الانتخابية في كيفية تكوين هيئة الناخبين وذلك وفقاً لتوجه المشرع في تضيق أو توسيع نطاق مشاركة الأفراد في التصويت، وقد يعزى ذلك إلى تأثير المشرع بإحدى النظريات التي سبق ذكرها. وهذا ما يلاحظ بجلاء عند متابعة التطور التاريخي للانتخاب، حيث كانت النظم الانتخابية في البداية تغلب مبدأ أو أسلوب الاقتراع المقيد، ثم أدى انتشار المبادئ الديمقراطية ومطالبة الشعوب بضرورة توسيع مشاركتها في المجال السياسي إلى رجحان مبدأ أو أسلوب الاقتراع العام، وسنبين أساس ومضمون كلا منهما.

أولاً: أسلوب الاقتراع المقيد: ومعناه تقييد مباشرة الانتخاب بقيود معينة كالنصاب المالي، والكفاية العلمية. وهو نتيجة من نتائج نظرية الانتخاب وظيفية.

ويراد بالنصاب المالي وجوب أن يكون للناخب قدراً معيناً من الثروة، أو أن يكون ممن يدفعون ضريبة ما، قد يحدد مقدارها بمبلغ معين أو لا يحدد. أو أن يكون مالكا أو حائزاً أو شاغلاً العقار. أما الكفاية العلمية، فيقصد بها وجوب حصول الناخب على درجة علمية معينة أو أن يكون ممن يجيدون القراءة والكتابة^٢.

وقد كانت معظم الدساتير والتشريعات الانتخابية تأخذ بمبدأ الاقتراع المقيد استناداً إلى مبررات معينة. ففي العراق كان قانون انتخاب مجلس النواب لسنة ١٩٢٤ يأخذ بشرط النصاب المالي. ولكنه الغي عند صدور

^١ تطلق هيئة الناخبين على الأفراد الذين تتوافر فيهم شروط الانتخاب.

^٢ د. حميد حنون خالد، مصدر سابق، ص ٦٠-٦٢. و د. عبد الغني بسيوني، مصدر سابق، ص ٢٢٦-٢٢٨.

قانون انتخاب النواب رقم ١١ لسنة ١٩٤٦. ويلاحظ ان آثار هذا القيد ظلت في بعض دساتير الولايات الأمريكية حتى منتصف القرن العشرين.

أما بالنسبة لقيد الكفاءة العلمية فلا تزال بعض الولايات الأمريكية الجنوبية تأخذ به، حيث تشترط بعض دساتيرها ان يكون الناخب ملماً بالكتابة والقراءة، او أن يكون قادراً على قراءة الدستور وتفسيره تفسيراً معقولاً^١.

هذا ومن الجدير بالملاحظة أن دساتير كثيرة كانت تضع قيوداً أخرى يتعلق بالجنس، فالنساء كانت تُمنع من الانتخاب على أساس أن ذلك لا يتعارض مع مبدأ الاقتراع العام، ووفقاً لحجج معينة. إلا ان التطور السياسي للمجتمعات دفع غالبية النظم السياسية إلى إشراك المرأة في الحياة السياسية. **ثانياً: أسلوب الاقتراع العام:** وهو الأسلوب الذي لا يسمح بفرض أية قيود تمنع المواطن من المشاركة في الانتخاب. وتتجه معظم الدساتير في الوقت الحاضر نحو الأخذ بالاقتراع العام،

والقول بان الاقتراع عام لا يعني عدم جواز تنظيم السلطات له في الدولة، لان ذلك سيؤدي إلى التطابق بين مفهومي الشعب السياسي والاجتماعي، ومعنى ذلك السماح لكل الافراد بالتصويت بصرف النظر عن أعمارهم أو صلاحيتهم العقلية أو الأدبية.

^١ د. حميد حنون خالد، مصدر سابق، ص ٦٠-٦٢. و د. عبد الغني بسيوني، مصدر سابق، ص ٢٢٦-٢٢٨.

وهذا يتعارض مع المنطق السليم، لذلك يرى الفقه الدستوري ان
الأخذ بمبدأ الاقتراع العام لا يتعارض مع وجود بعض الشروط¹ التي ترمي
إلى تنظيمه. ومن هذه الشروط ما يأتي:

١. الجنسية: حيث يشترط في الناخب ان يكون من مواطني الدولة اذ لا
يجوز للاجنبي ان يتمتع بهذه المكنة، والرابطة التي تربط المواطن
بوطنه رابطة قانونية، يطلق عليه اصطلاحا الجنسية. وهي التي تبين
انتماء الفرد إلى هذه الدولة أو تلك. ويلاحظ ان بعض الدول تذهب
إلى التمييز بين المواطن الأصيل والمواطن بالتجنس، فلا يسمح
للأخير مباشرة الحقوق السياسية الا بعد مضي مدة معينة على اكتسابه
الجنسية، قد تكون خمس سنوات أو اكثر. وتعد بمثابة اختبار له لبيان
مدى ولاءه لوطنه الجديد.

٢. العمر (سن الرشد السياسي): ان النص على هذا الشرط لا يتعارض
مع مبدأ الاقتراع العام . فكما ان سن الرشد المدني لازم لمباشرة
الحقوق المدنية، فان سن الرشد السياسي مطلوب لمباشرة الحقوق
السياسية؛ حيث لا يصح السماح للمواطن مباشرة الانتخاب الا في
حالة وصوله إلى مستوى من النضوج العقلي والفكري يمكنه من
المساهمة البناءة في الشؤون العامة وتقدير الأمور بشكل صائب. وقد
تباينت التشريعات الانتخابية في تحديد عمر الناخب، فمنها من يحدده
بإحدى وعشرين سنة أو أكثر واخر يحدده بثمانية عشرة سنة، والعمر
الأخير هو الذي أخذت به معظم التشريعات الانتخابية. مع الإشارة إلى
ان معظم النظم الانتخابية توحد بين السن المدني و السن السياسي في
الوقت الحاضر. وقد أخذت التشريعات العراقية التي صدرت في العهد

¹ د. حميد حنون خالد، مصدر سابق، ص ٦٠-٦٢. و د. عبد الغني بسيوني ، مصدر
سابق ، ص ٢٢٦-٢٢٨.

الجمهوري بهذا الاتجاه، حيث وحدت بين سني الرشد المدني والسياسي وجعلته ثماني عشرة سنة. على عكس ما كان معمولاً به في تشريعات العهد الملكي حيث كان سن الانتخاب عشرين عاماً.

٣. الأهلية: الأهلية هي الصلاحية ولها صورتان، عقلية وأدبية، أما الأهلية العقلية فمعناها اكتمال العقل، فهي شرط يجب توافره في الشخص الذي يشارك في الحياة السياسية. فلا يصح ان يشترك في اختيار من يتولى السلطة العامة من كان غير قادر على التمييز بين النافع والضار والذي لا يسمح له وفقاً لقواعد القانون الخاص بالمعاملات اتخاذ القرارات التي تتعلق بذاته، فمن باب أولى ان لا يسمح له بالمشاركة في الأمور التي تتعلق بالصالح العام. وتأسيساً على ذلك تنص القوانين الانتخابية على حرمان المجانين والمصابين بأمراض عقلية من مباشرة الحقوق السياسية. وأما الصلاحية الأدبية فمعناها اكتمال الاعتبار ويراد بها عدم إدانة الناخب بحكم قضائي نتيجة لارتكابه جريمة مخلة بالشرف (كجرائم السرقة، النصب وخيانة الأمانة). لان اقرار مثل هذه الجرائم يمس بالاعتبار الأدبي لمقترفيها ولذلك لا يجوز ان يباشروا الانتخاب الا في حالة رد الاعتبار إليهم من خلال صدور عفو شامل أو صدور حكم قضائي بذلك. وقد اشترط قانون الانتخاب رقم (١٦) لسنة ٢٠٠٥ في الناخب ان يكون كامل الأهلية، ولم يشر إلى الصلاحية الأدبية.

المطلب الثالث

الإجراءات التمهيدية للانتخابات

ان إجراء الانتخابات يستلزم تهيئة وسائل إقامتها، ويمكن تلخيصها بإعداد جداول الناخبين وتحديد عدد الدوائر الانتخابية في البلاد.

أولاً: اعداد جداول الناخبين: لاحظنا أن الأخذ بمبدأ الاقتراع العام لا يعني تقرير مكنة الانتخاب لجميع الأفراد وإنما هناك شروط معينة يحددها القانون يجب توافرها لاكتساب صفة الناخب، وهذا ما يوجب على السلطات المختصة ان تتحقق من توافرها هذه الشروط في الناخب قبل إجراء الانتخابات، ولغرض تحقيق ذلك تلجأ السلطات إلى إعداد ما اصطلح على تسميته **(الجدول أو القوائم الانتخابية)** ؛ ويقصد بها الجداول التي تسجل فيها أسماء المواطنين كافة في الدولة الذين تتوفر فيهم شروط الناخب. وتتولى هذه المهمة لجان خاصة يحددها وينظم طريقة عملها القانون. و يجب على هذه اللجان مراجعة جداول الناخبين بصفة دورية، لمراقبة ديمومة سلامتها أو تعديلها بما يتفق وأحكام القانون، وذلك بإضافة أسماء المواطنين الذين توافرت فيهم الشروط المطلوبة، وحذف أسماء المتوفين وكذلك من فقد شرطاً من الشروط المطلوبة. و من اجل ضمان حقوق المواطنين نصت القوانين الانتخابية المقارنة على بعض الضمانات التي تكفل للأفراد مراقبة أعمال تلك اللجان، كالنص على وجوب نشر القوائم سنويا ولمدة محددة، وذلك لفسح المجال أمام المواطنين للتأكد من صحة المعلومات المدونة في القوائم. و في حالة وجود خطأ في هذه القوائم (كإهمال قيد اسم دون وجه حق، إدراج اسم شخص متوفى أو إدراج اسم شخص لا تتوافر فيه شروط الناخب) يجوز لأي مواطن أن يطلب من الجهة التي حددها القانون تصحيح هذا الخطأ. وبعد انقضاء هذه المدة تصبح

الجداول نهائية^١. مع التأكيد على ان قيد المواطن في جداول الناخبين شرط شكلي أساسي لمباشرة الانتخاب، ومن ثم لا يجوز للمواطن الذي لم يقيد اسمه في الجداول ان يدلي بصوته حتى وان كانت الشروط كافة متوفرة فيه. **ثانياً: الدوائر الانتخابية:** تذهب القوانين الانتخابية في الغالب إلى تقسيم الدولة إلى دوائر انتخابية عدة، بحيث تنتخب كل دائرة نائباً واحداً أو أكثر وفقاً للنظام الانتخابي المعمول به.

وتقسيم البلاد إلى دوائر يتم بوسائل متباينة، فقد يحدد الدستور عدد أعضاء المجلس النيابي، ومن ثم تقسم البلاد إلى عدد من الدوائر مساوياً لعدد النواب إذا كان الانتخاب فردياً، أما إذا كان النظام المطبق هو الانتخاب عن طريق القائمة، فتقسم الدولة إلى عدد من الدوائر الانتخابية الكبيرة بحيث يخصص لكل دائرة أكثر من نائب. وقد لا يحدد الدستور عدداً ثابتاً للنواب، وإنما يتركه عرضة للزيادة أو النقصان بحسب التغيرات التي تطرأ على عدد السكان، سلباً أو إيجاباً، كأن ينص الدستور على أن يمثل كل خمسين ألف نسمة نائباً واحداً، وهذا ما يؤدي إلى عدم ثبات عدد الدوائر الانتخابية، وذلك ما أخذ به الدستور العراقي لسنة ١٩٢٥، حيث نصت المادة السادسة والثلاثون منه على أنه: ((يتألف مجلس النواب بالانتخاب بنسبة نائب واحد كل عشرين ألف نسمة من المذكور)).

أما بخصوص تحديد الدوائر الانتخابية فقد اتبعت القوانين التي صدرت خلال نفاذ الدستور السابق سياقاً واحداً وهو عد كل قضاء لا يقل عدد الذكور المسجلين فيه عن خمسة عشر ألفاً ولا يزيد على سبعين ألفاً منطقة انتخابية واحدة.

^١ د. حميد حنون خالد، مصدر سابق، ص ٦٦-٦٨.

اما الدساتير التي صدرت في العهد الجمهوري ونصت على ايجاد مجلس نيابي فقد قامت بتحديد عدد أعضاء المجلس سلفا من خلال القانون الذي نظم كل ما يتعلق بشؤون العضوية.

أما دستور العراق لسنة ٢٠٠٥ فحدد أعضاء مجلس النواب على أساس مقعد واحد لكل مائة ألف نسمة من نفوس العراق وأحال إلى قانون الأنتخاب تنظيم كل ما يتعلق بالانتخاب. وقد حدد قانون الانتخاب رقم ١٦ لسنة ٢٠٠٥ عدد أعضاء مجلس النواب بمائتين وخمسة وسبعين عضواً، واعتبر كل محافظة دائرة انتخابية تختص بعدد من المقاعد يتناسب مع عدد الناخبين المسجلين في المحافظة حسب انتخابات الثلاثين من كانون الثاني لسنة ٢٠٠٥.

ومن اجل منع تدخل السلطة التنفيذية في التأثير على نتائج الانتخابات يجب ابعادها عن عملية تقسيم الدوائر، وعليه يجب اناطة تلك المهمة بالقانون، اذ قد يؤدي تدخل السلطة التنفيذية إلى انحيازها لمؤيديها مما يدفعها إلى تفتيت الدوائر الموالية لخصومها السياسيين، بحيث تصبح أقلية لا تأثير لها في نتيجة الانتخاب^١.

^١ د. حميد حنون خالد، مصدر سابق، ص ٦٦-٦٨.

المبحث الثاني نظم الانتخاب

تباينت التشريعات الانتخابية في الأخذ بهذا النظام الانتخابي أو ذلك، تبعاً للتطورات التي تحدث في المجتمعات وتؤثر في كافة مجالات الحياة ولعل من أهمها المجالين السياسي والثقافي. ويلاحظ أن للنظم الانتخابية صور متعددة وذلك تبعاً للهدف المتوخى من هذه الصورة أو تلك. فهناك نظام يهدف إلى تحديد درجة الانتخاب (مباشر أو غير مباشر)، ومنها ما يهدف إلى توسيع قاعدة التمثيل أو تضيقها (نظام الأغلبية ونظام التمثيل النسبي) وأخيراً هناك ما يهدف إلى تحديد عدد الدوائر الانتخابية (الانتخاب الفردي والانتخاب بالقائمة).

أولاً: نظام الانتخاب المباشر وغير المباشر: يكون الانتخاب مباشراً إذا اختار الناخبون ممثليهم مباشرة دون وسيط. في حين يكون الانتخاب غير مباشر إذا كان دور الناخبين يقتصر على اختيار مندوبين يتولون مهمة اختيار النواب نيابة عنهم. فالانتخاب المباشر يكون على درجة واحدة، أما الانتخاب غير المباشر يكون على درجتين أو أكثر. وهذا هو **الفرق الجوهري** بين الاثنين.

ويلاحظ أن معظم الدساتير تأخذ بالانتخاب المباشر في الوقت الحاضر حتى يمكننا القول بأنه أصبح القاعدة في النظام النيابي، لما يتمتع به من مزايا فهو يتفق مع مبدأ الاقتراع العام وشيوع المبادئ الديمقراطية والتي من أهم أهدافها جعل قرار اختيار الحكام مناطاً بالشعب مباشرة لأنه صاحب السيادة. فضلاً عن أن الأخذ بالانتخاب المباشر يؤدي إلى رفع مستوى

الوعي السياسي لدى الشعب ويزيد من اهتمامه في الشؤون السياسية والعامّة^١.

أما مزايا الانتخاب غير المباشر فتتمثل في انه يجعل الانتخاب بيد فئة اقل تأثراً بالدعايات المضللة و أكثر قدرة وتأهيلاً في اختيار الأصح، كما انه أكثر صلاحية في البلدان حديثة العهد في النظام النيابي، كما انه أصلح لانتخاب أعضاء المجلس النيابي الثاني في كثير من الدول التي تأخذ بنظام المجلسين، وأخيراً هو يستخدم لانتخاب أعضاء السلطة التنفيذية ولاسيما رئيس الجمهورية كما هو الحال في الولايات المتحدة^٢.

وقد أخذت فرنسا في دساتيرها التي صدرت عقب الثورة بأسلوب الانتخاب غير المباشر، وحتى سنة ١٨١٤ حيث أخذت بالانتخاب المباشر، الا ان الانتخاب غير المباشر بقى معمولاً به حتى الوقت الحاضر في اختيار أعضاء مجلس الشيوخ.

اما العراق فقد اخذ بأسلوب الانتخاب غير المباشر في التشريعات الانتخابية التي صدرت للفترة من ١٩٢٢ وحتى ١٩٥٢، حيث تم انتخاب أعضاء المجلس التأسيسي العراقي بطريقة الانتخاب غير المباشر، وهو ما طبق أيضاً في انتخاب أعضاء مجلس النواب في دوراته المتتالية، وحتى صدور مرسوم انتخاب النواب رقم ٦ لسنة ١٩٥٢ والذي قرر في المادة الأولى منه اعتماد مبدأ الانتخاب المباشر في اختيار النواب.

^١ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني، مصدر سابق، ص ٢٣٣-٢٣٥. د. شمران حمادي، مصدر سابق، ص ٢٦-٢٨.

^٢ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني، مصدر سابق، ص ٢٣٣-٢٣٥. د. شمران حمادي، مصدر سابق، ص ٢٦-٢٨.

ثانياً: الانتخاب الفردي والانتخاب بالقائمة:

آ- الانتخاب الفردي: يقصد به ان يختار ناخبو كل دائرة انتخابية نائباً واحداً، اي ان الناخب يعطي صوته لمرشح واحد فقط ولذلك سمي بـ (الانتخاب الفردي). ومثال على ذلك، اذا كان عدد اعضاء مجلس النواب ٢٧٥ نائباً وفقاً للدستور العراقي لسنة ٢٠٠٥، فاذا اخذنا بهذا الاسلوب يقسم العراق إلى ٢٧٥ دائرة انتخابية، وينتخب من كل دائرة انتخابية نائباً واحداً من بين المرشحين فيها. و لذلك يتم تقسيم البلاد إلى دوائر انتخابية صغيرة، يكون عددها مساوياً لعدد أعضاء المجلس النيابي.

ب- الانتخاب بالقائمة: والمراد به أن يختار الناخبون عدداً محدداً من بين المرشحين في كل دائرة انتخابية وحسب العدد المحدد لها، وهذا يعني ان الناخب لا يعطي صوته لمرشح واحد وإنما يختار عدد من المرشحين بقدر العدد المحدد لدائرتهم الانتخابية، ويكتب قائمة بأسماء المرشحين الذين يختارهم من بين القوائم ولذلك سمي نظام الانتخاب بالقائمة. ولذلك فانه وفقاً لهذا الأسلوب تقسم البلاد إلى دوائر انتخابية كبيرة نسبياً.

هذا ومن الجدير بالذكر ان للانتخاب بالقائمة طرائق ثلاث^١ تبعا لما

يتمتع به الناخب من حرية في تغيير القوائم الانتخابية ومنها ما يأتي:

١- طريقة القوائم المغلقة: حيث يلتزم الناخب وفقاً لهذه الطريقة بالتصويت على إحدى القوائم، ولا يجوز له إدخال إي تعديل عليها، اذ يتوجب عليه التقيد بتسلسل الأسماء الذي وضعه الحزب.

٢- طريقة القوائم المغلقة مع التفضيل: يستطيع الناخب وفقاً لهذا الأسلوب ان يعيد ترتيب تسلسل المرشحين في القائمة المغلقة وذلك حسب قناعاته

^١ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني، مصدر سابق، ص ٢٣٣-٢٣٥. د. شمران حمادي، مصدر سابق، ص ٢٦-٢٨.

الشخصية بالمرشحين. وفي هذه الحالة يكون للناخبين قدرة التأثير على خيارات الأحزاب السياسية في مسألة التفضيل بين المرشحين داخل القائمة.

٣- **طريقة المزج (القوائم المفتوحة):** وبموجبها يحق للناخب أن ينظم قائمة بأسماء المرشحين الذين يفضلهم ولو كانت أسماؤهم مدونة في قوائم مختلفة، وهذا الأسلوب يتيح للناخب حرية أكبر في اختيار المرشحين الذين يفضلهم على عكس النظام المغلق، إلا أن إجراءاته تتسم بالتعقيد، ولذلك يرى بعض الفقه عدم صلاحيته إلا في البلاد التي بلغ شعبها مدى من النضج يسمح له بتفهم الشؤون السياسية.

مزايا وعيوب الانتخاب الفردي والانتخاب بالقائمة:

لكل من هذين النظامين مؤيدون ومعارضون، حيث يذهب مؤيدو الانتخاب الفردي إلى بيان مزاياه التي من أهمها معرفة الناخبين للمرشحين بشكل جيد لصغر الدائرة الانتخابية، ومن ثم القدرة على حسن المفاضلة بينهم واختيار المرشح الأفضل دون التأثير بضغوط الأحزاب السياسية ودعايتها، فضلا عن اتسامه بالسهولة والبساطة^١.

إلا أن معارضي هذا النظام يعدون معرفة الناخبين للمرشحين من أهم مساوئ النظام، لأن المفاضلة ستتم على أسس شخصية، وليس على أساس المبادئ والبرامج، فضلا عن ذلك فإن الانتخاب الفردي يسهل الرشوة وتدخل الهيئات الإدارية في سير الانتخابات مثلما يدعون^٢.

أما أنصار الانتخاب بالقائمة فيرون أن من مزاياه دفع النائب للاهتمام بالمسائل العامة ثم الصالح العامة دون الاهتمام بمصلحة دائرته

^١ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني، مصدر سابق، ص ٢٣٣-٢٣٥. د. شمران حمادي، مصدر سابق، ص ٢٦-٢٨.

^٢ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني، مصدر سابق، ص ٢٣٣-٢٣٥. د. شمران حمادي، مصدر سابق، ص ٢٦-٢٨.

الانتخابية فحسب، لان المفاضلة بين المرشحين تتم على أساس المبادئ والبرامج وليس على أساس الشخصية التي تقدم للدوائر. كذلك يؤدي هذا النظام إلى مضاعفة حقوق الناخب اذ سيكون له اختيار عدد من المرشحين، على عكس الانتخاب الفردي الذي يختار فيه الناخب مرشحا واحدا. ويؤدي أيضا إلى تخفيف ضغط الإدارة على الناخبين وتقليل الرشوة الانتخابية^١.

إلا ان معارضي هذا النظام اخذوا عليه بعض العيوب و هي؛ عدم قدرة الناخب على تكوين الحكم السليم على عدد المرشحين في دائرة كبيرة، وهذا ما يؤدي إلى التأثير الفعلي للأحزاب السياسية على إرادة الناخبين وتوجيههم الاتجاه الذي يخدم مصالح الحزب. فضلا عن أن هذا النظام يضعف فرص تمثيل الأقليات السياسية بسبب كبر الدائرة الانتخابية وشدة التنافس بينها^٢.

و الحقيقة أن الأخذ بأي صورة من صور النظم الانتخابية يرتبط إلى حد كبير بظروف كل بلد، ووفقا للنضج السياسي والثقافي للمواطنين فيه، فضلا عن كفاءة النظام الحزبي في البلاد. فالنظام الفردي يتفق مع البلدان حديثة العهد بالانتخابات، للبساطة والسهولة التي يتميز فيهما، في حين ان طريقة الانتخاب بالقائمة تتطلب مستوى رفيع من الثقافة والنضج السياسي، ولذلك لا يصح اعتمادها إلا في الدول التي بلغت شعوبها ذلك المستوى، مع ملاحظة ان بعض الدول التي بلغت شعوبها مرحلة متقدمة من الوعي السياسي لا زالت تطبق الانتخاب الفردي (كبريطانيا والولايات

^١ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٣٣- ٢٣٥. د. شمران حمادي ، مصدر سابق، ص ٢٦- ٢٨.

^٢ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٣٣- ٢٣٥.

المتحدة الأمريكية) ومما يتقدم يتضح أن العيب ليس في نوع النظام الانتخابي وإنما في هيئة الناخبين.

وتجدر الإشارة إلى أن النظام الانتخابي في العراق أخذ بأسلوب الانتخاب الفردي في العهد الملكي وكذلك في العهد الجمهوري للفترة من ١٩٨٠-٢٠٠٣، وإن كان يسمح للناخب أن يختار أكثر من مرشح وفقاً للعدد المحدد لدائرتة الانتخابية. إلا أن العراق عرف نظام القائمة في الانتخابات التي جرت في الثلاثين من كانون الثاني لسنة ٢٠٠٥ على أساس القائمة المغلقة، وكذلك الانتخابات التي جرت سنة ٢٠١٠ وفقاً لقانون انتخاب مجلس النواب رقم ٦ لسنة ٢٠٠٥ الذي أخذ بالقائمة المفتوحة بعد تعديله بموجب القانون الصادر في عام ٢٠١٠ (وهي في الحقيقة قائمة مغلقة مع التفضيل). ويلاحظ أن هذه الطريقة لم تلاق نجاحاً في التطبيق العملي لعدم انسجامها مع الواقع السياسي والثقافي في العراق.

ثالثاً: نظام الأغلبية ونظام التمثيل النسبي:

آ- نظام بالأغلبية: ويراد بهذا النظام تحديد الفائز بالانتخابات سواء أكان مرشحاً واحداً (الانتخاب الفردي) أو مرشحين عدة (الانتخاب بالقائمة) حيث يحصل على عضوية البرلمان من حصل على أغلبية الأصوات إذا كان الانتخاب فردياً. وتحصل القائمة على جميع المقاعد المخصصة للدائرة إذا كان الانتخاب بالقائمة في حالة حصولها على أغلبية أصوات الناخبين.

ولنظام الأغلبية صورتان، هما الأغلبية النسبية والأغلبية المطلقة.

١. الأغلبية البسيطة (النسبية): وفقاً لهذه الصورة يفوز بالمقعد أو المقاعد المخصصة للدائرة المرشح أو مرشحو القائمة التي نالت العدد الأكبر (أو الكبير) من الأصوات بصرف النظر عن باقي الأصوات التي حصل عليها المرشحون الآخرون.

مثال ذلك لو فرضنا ان دائرة انتخابية جرى فيها الانتخاب على أساس الأغلبية البسيطة مع الأخذ بالنظام الفردي، وكان عدد المرشحين ثلاثة وكان عدد الأصوات التي حصلوا عليها كالاتي:

الأول: حصل على ١٠٠٠ صوت.

الثاني: حصل على ٨٠٠ صوت.

الثالث: حصل على ٦٠٠ صوت.

فيكون المرشح الأول هو الفائز بالمقعد النيابي، على الرغم من ان باقي المرشحين حصلوا على أكثر من نصف الأصوات المعطاة.

ولو افترضنا ان الانتخاب يجري على أساس القائمة وان الدائرة مخصص لها ثلاثة مقاعد، وكانت الأصوات التي حصلت عليها القوائم الحزبية كالاتي:

قائمة الحزب (أ) حصلت على ١٠٠٠ صوت.

قائمة الحزب (ب) حصلت على ٨٠٠ صوت.

قائمة الحزب (ج) حصلت على ٦٠٠ صوت.

فستكون قائمة الحزب (أ) هي الفائزة بالمقاعد النيابية الثلاثة.

مزايا نظام الأغلبية البسيطة وعيوبه:

لنظام الأغلبية النسبية عدة مزايا؛ فهو يمتاز بالبساطة والوضوح، وسرعة إعلان النتائج حيث يمكن إعلان النتائج الانتخابية في اليوم نفسه الذي جرت فيه الانتخابات. ويؤدي إلى تضخيم فوز الأحزاب القوية حيث يزداد عدد المقاعد التي تحصل عليها، فضلا عن استقرار الحكومة، والتقليل من الصراعات السياسية والحزبية، لان هذا النظام يعتمد في الغالب نظام الثنائية الحزبية. أما عيوبه فتكمن أساسا في ظلم الأقليات السياسية ومجافاته

للعدالة. وقد طبق هذا النظام في انكلترا والولايات المتحدة الأمريكية. و قد أخذت النظم الانتخابية في العراق حتى عام ٢٠٠٣ بنظام الأغلبية البسيطة. حيث يفوز في الانتخابات من حصل على أكثر الأصوات عدداً على التوالي وذلك في حدود عدد المقاعد المخصصة للمنطقة الانتخابية^١.

٢. **الأغلبية المطلقة:** لغرض فوز المرشح أو القائمة في الانتخاب يجب الحصول على أكثر من نصف الأصوات الصحيحة المعطاة اي أكثر من خمسين بالمائة ومهما كان عدد المرشحين، وفي حالة عدم حصول احد المرشحين على الأغلبية المطلقة في الدور الأول تعاد الانتخابات بين المرشحين الذين حصلوا على اكبر عدد من الأصوات ويفوز في الانتخاب من يحصل على الأغلبية البسيطة. و وفقاً للمثالين السابقين يجب إعادة الانتخاب بين المرشحين الأول والثاني، أو بين القائمتين (أ) و(ب) ويكون الفوز على من يحصل على أكثرية الأصوات. وهذا الأسلوب مطبق في فرنسا ومصر^٢.

عيوب نظام الاغلبية المطلقة:

يؤخذ على هذا النظام استغراقه وقتاً طويلاً مما يستلزم ان تبذل جهوداً مضيئة وان تتفق أموالاً كثيرة، وكذلك يؤخذ عليه عدم تكوين أغلبية برلمانية قوية، حيث يتعذر في الغالب حصول حزب ما على الأغلبية المطلقة في البرلمان مما يدفع الأحزاب إلى تشكيل حكومة ائتلافية، وهو ما

^١ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٣٣- ٢٣٥.

^٢ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٣٣- ٢٣٥.

يؤدي إلى عدم الاستقرار السياسي وذلك لصعوبة المحافظة على الانسجام بين القوى المؤتلفة^١.

عيوب نظام الأغلبية بصورتيه:

لم يسلم نظام الأغلبية وبصورتيه (البسيطة والمطلقة) من النقد حيث ذكر بأنه يؤدي إلى ظلم الأقليات السياسية، إذ لا يعطيها تمثيلاً يتناسب مع القوة العددية للأصوات التي حصلت عليها، ومن ثم لا يقيم وزناً للأصوات التي أعطيت لتلك الأحزاب، مما يؤدي إلى إهدارها وهذا يتنافى مع مبادئ العدالة^٢.

ومن أجل تحقيق العدالة وتمثيل القوى السياسية بما يتناسب وحجمها الشعبي دعا بعض من الفقه الدستوري والسياسي إلى الأخذ بنظام التمثيل النسبي.

ب- نظام التمثيل النسبي:

ويقوم هذا النظام على أساس الأخذ بنظام الانتخاب بالقائمة حيث لا يصلح للانتخاب الفردي. ووفقاً لنظام التمثيل النسبي توزع المقاعد المخصصة لكل دائرة انتخابية على القوائم المتنافسة، وعلى أساس نسبة الأصوات التي صوتت لكل منها.

ومثال ذلك، لو فرضنا تخصيص عشرة مقاعد لدائرة انتخابية، وتقدمت للانتخاب ثلاثة أحزاب وكانت النتيجة وفق الآتي:

القائمة (أ) حصلت على ٢٠٠٠ صوت.

^١ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني، مصدر سابق، ص ٢٣٣-٢٣٥. د. شمران حمادي، مصدر سابق، ص ٢٦-٢٨.

^٢ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني، مصدر سابق، ص ٢٣٣-٢٣٥. د. شمران حمادي، مصدر سابق، ص ٢٦-٢٨.

القائمة (ب) حصلت على ١٦٠٠ صوت.

القائمة (ج) حصلت على ٤٠٠ صوت.

فتوزع المقاعد العشرة على الأحزاب وفقا للأصوات التي حصل عليها كل منها، حيث يحصل الحزب (أ) على خمسة مقاعد، الحزب (ب) على أربعة مقاعد، والحزب (ج) على مقعد واحد. ولو طبقنا نظام الأغلبية لكانت النتيجة مختلفة تماما، إذ ستكون كل المقاعد من نصيب الحزب (أ).

أنواع التمثيل النسبي:

للتمثيل النسبي نوعان: فأما ان يكون شاملا لكل دولة أو جزئيا (على مستوى المناطق الانتخابية) وذلك وفق الآتي:

أ- التمثيل النسبي الشامل: ويمكن تطبيق هذا النوع سواء أخذنا بنظام الدائرة الانتخابية الواحدة أو الدوائر المتعددة، حيث يتم استخراج المعدل الوطني من خلال احتساب أصوات الناخبين في كل البلاد وتقسيمها على عدد مقاعد المجلس النيابي، وناتج هذه القسمة يمثل المعدل الوطني (العدد الموحد) والذي يقابله مقعدا نيابيا واحدا، ويتضاعف عدد المقاعد التي تحصل عليها الأحزاب بقدر تضاعف المعدل الوطني.

ب- التمثيل النسبي الجزئي (على مستوى الدوائر الانتخابية): حيث توزع المقاعد على أساس القاسم الانتخابي لكل دائرة إذ يستخرج من خلال قسمة عدد الأصوات الصحيحة المعطاة في الدائرة الانتخابية على عدد المقاعد المخصصة لتلك الدائرة. فإذا كان عدد الأصوات الصحيحة المعطاة في الدائرة ١٢٥٠٠٠ صوت، وكان عدد المقاعد المخصصة لها خمسة مقاعد، فإن القاسم الانتخابي = عدد الأصوات الصحيحة على عدد المقاعد = $125000 \div 5 = 25000$ صوت، وهذا القاسم الانتخابي يمثل الحد الأدنى

^١ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢.

اللازم بغية الحصول على مقعد واحد. ويتم توزيع المقاعد المخصصة للدائرة الانتخابية على القوائم بقدر عدد المررات التي تحصل فيها كل قائمة على القاسم الانتخابي.

مثال ذلك: لو فرضنا أن ثلاثة أحزاب تقدمت للانتخابات وهي (أ)، (ب)، (ج). وحصل كل حزب على الأصوات الآتية:

الحزب (أ) حصل على ٦٠٠٠٠ صوت فتكون حصته من المقاعد $2 = 25000 \div 60000$ (مقعدان) ويتبقى له ١٠٠٠٠٠ صوت.

الحزب (ب) حصل ٤٦٠٠٠ صوت فتكون حصته من المقاعد $1 = 25000 \div 46000$ (مقعد واحد) ويتبقى له ٢١٠٠٠ صوت.

الحزب (ج) حصل على ١٩٠٠٠ صوت فتكون حصته من المقاعد $0 = 25000 \div 19000$ صفر ويتبقى له ١٩٠٠٠ صوت.

ويتضح مما تقدم ان نتيجة الانتخابات كانت كالآتي:

الحزب (أ) حصل على مقعدين، والحزب (ب) حصل على مقعد واحد، والحزب (ج) لم يحصل على اي مقعد لعدم وصوله إلى القاسم الانتخابي.

ويبدو أن ثلاثة مقاعد وزعت و بقي مقعدان فكيف يتم توزيعهما؟ هناك طرق متعددة توزيع المقاعد المتبقية على القوائم الحزبية ومن أهمها الطريقتان الآتيتان:

١- طريقة الباقي الأكبر: وفقاً لهذه الطريقة تعطى المقاعد المتبقية إلى القائمة التي لديها أكبر باقي من الأصوات، ووفقاً للمثال الذي سبق ذكره يكون للقائمة (ب) مقعداً إضافياً لأن لديها ٢١٠٠٠ صوت وهو أكبر البواقي، ثم يليها القائمة (ج) فتحصل على المقعد الخامس إذ لديها ١٩٠٠٠

صوت وهو أكبر البواقي بعد القائمة (ب)، وسيكون التوزيع النهائي وفقا لهذه الطريقة كالآتي:

القائمة (أ) مقعدان، القائمة (ب) مقعدان ، القائمة (ج) مقعد واحد.

٢- طريقة المعدل الأقوى (أكبر المتوسطات): تعطى المقاعد المتبقية وفقا لهذه الطريقة للقوائم التي حصلت على أقوى معدل، وللحصول على المعدل الأقوى، يعطى مقعدا إضافيا افتراضيا لكل قائمة ثم يحسب معدل كل قائمة بقسمة عدد الأصوات التي حصلت عليها القائمة على عدد المقاعد التي حصلت عليها على أساس القاسم الانتخابي مضافا إليه المقعد الانتخابي، والقائمة التي يكون لها أقوى معدل هي التي تحصل على مقعد إضافي. وفي حالة بقاء مقاعد أخرى بعد عملية التقسيم تكرر عملية القسمة إلى ان يتم توزيع جميع المقاعد، ووفق الصيغة الآتية:

المعدل الأقوى = عدد الأصوات الصحيحة ÷ عدد المقاعد التي حصلت عليها القائمة + مقعد إضافي.

وبالنسبة للمثال السابق ستكون النتيجة وفق الآتي:

الحزب (أ) حصل على ٦٠٠٠٠ صوت فتكون النتيجة

$$\text{صوت} \quad 20000 = \frac{60000}{1 + 2}$$

الحزب (ب) حصل على ٤٦٠٠٠ صوت فتكون النتيجة

$$\text{صوت} \quad 23000 = \frac{46000}{1 + 1}$$

الحزب (ج) حصل على ١٩٠٠٠ صوت فتكون النتيجة

$$\text{صوت} \quad 19000 = \frac{19000}{1 + 0}$$

و نتيجة للقسمة المذكورة يكون المقعد الرابع للحزب (ب) لأنه حصل على المعدل الأقوى (٢٣٠٠٠ صوت). ويبقى المقعد الخامس، و يجب إتباع ذات الخطوات السابقة لغرض تحديد الحزب الذي يستحقه ووفق الآتي:

الحزب (أ) له :

$$\text{صوت} \quad 20000 = \frac{6000}{1 + 2}$$

الحزب (ب) له :

$$\text{صوت} \quad 15333 = \frac{4600}{1 + 2}$$

الحزب (ج) له :

$$\text{صوت} \quad 19000 = \frac{1900}{1 + 0}$$

ونتيجة لما تقدم يكون المقعد الخامس من نصيب الحزب (أ) لأنه حصل على أقوى معدل وهو ٢٠٠٠٠ صوت.

ويبدو مما تقدم ان طريقة المعدل الأقوى تختلف عن طريقة الباقي الأكبر حيث لم تحصل القائمة (ج) على مقعد وفقا للطريقة الأولى (طريقة المعدل الأقوى)، وهذا يعني ان طريقة المعدل الأقوى قد تفيد الأحزاب الكبيرة في حين ان طريقة الباقي الأكبر قد تفيد الأحزاب الصغيرة.

وقد اخذ قانون الانتخاب العراقي رقم ١٦ لسنة ٢٠٠٥ بنظام التمثيل الجزئي، واخذ كذلك بطريقة المعدل الأقوى في توزيع المقاعد المتبقية بالنسبة للمقاعد المخصصة للدوائر الانتخابية والتي عددها ٢٣٠ مقعدا، في حين يتم توزيع المقاعد التعويضية التي عددها ٤٥ مقعدا على أساس المعدل الوطني، والذي يستخرج من خلال تقسيم مجموع الأصوات

الصحيحة في العراق على عدد مقاعد مجلس النواب. (المادتان ١٦، ١٧ من القانون المذكور).

مزايا وعيوب نظام التمثيل النسبي:

من مزايا^١ نظام التمثيل النسبي ما يلي :

- ١- انه يعتبر وسيلة ضرورية لتحقيق النظام الديمقراطي النيابي الصحيح الذي يكون ترجمة صادقة لرغبات الشعب فيمن ينوبون عنه.
 - ٢- انه يحقق لعدالة بين القوى السياسية، حيث يعطى لكل حزب ما يوازي رصيده الشعبي وبالتالي يحد من هيمنة الأحزاب الكبيرة.
 - ٣- انه يحافظ على وجود الأحزاب الغيرة ويصون استقلالها في مواجهة الأحزاب الكبيرة.
 - ٤- وهناك من يرى أن هذا النظام يفسح المجال أمام الأحزاب الصغيرة والاتجاهات المختلفة للحصول على بعض المقاعد في المجلس مما يسمح بتكوين معارضة قوية في البرلمان.
- أما عيوب^٢ نظام التمثيل النسبي فتتمثل في :
- ١- صعوبة تطبيقه لالتسامه بالتعقيد والغموض ولاسيما عند توزيع المقاعد المتبقية من المرحلة الأولى، مما يؤدي إلى تأخير إعلان نتائج الانتخابات واحتمال التلاعب فيها.
 - ٢- إن الأخذ بالنظام المذكور يؤدي إلى تضائل دور الناخب ولاسيما في حالة القوائم المغلقة.
 - ٣- انه يؤدي إلى عدم الاستقرار الحكومي وذلك لكثرة الأحزاب في البرلمان مما يضعف من فرص قيام حكومة أغلبية مستقرة. والعيوب الأخير يعد أخطر ما يواجه هذا الأسلوب.

^١ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٣٣- ٢٣٥.

^٢ د. حميد حنون خالد، مصدر سابق، ص ٧٠-٧٢. د. عبد الغني بسيوني ، مصدر سابق ، ص ٢٣٣- ٢٣٥.

وهذا ما كان يلاحظ في فرنسا في القرن الماضي حيث اتسمت الحكومة خلال نفاذ دستور ١٩٤٦ بعدم الاستقرار. ويلاحظ أن الكثير من الدول لا تميل إلى الأخذ بنظام التمثيل النسبي للأسباب التي سبق ذكرها. و الواقع أن نجاح أي نظام مرهون بالظروف السياسة الخاصة بكل دولة، ومدى نجاحه في التطبيق العملي. لذلك فان نظام التمثيل النسبي نجح بعض الدول الأوروبية التي تأخذ بالديمقراطية التوافقية كسويسرا وهولندا. وتبعها في ذلك العراق في القانون الحالي.

((انتهى بعون الله تعالى))



University of Telafer



College of Nursing

***Fundamentals of
Nursing (2)***

Semester Two

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Unit 1

Perioperative Nursing Management

PERIOPERATIVE NURSING MANAGEMENT

Outline

1.1 Pre-operative Nursing Management

1.2 Intra-operative Nursing Management

1.3 Post-operative Nursing Management

Perioperative Nursing Management

Surgery: is any procedure performed on the human body that uses instruments to alter tissue or organ integrity.

Perioperative: Refers to the management and treatment of the client during the three phases of surgery: preoperative, intraoperative, and postoperative.

- **Pre-operative** (before surgery) refers to the time interval that begins when the decision is made for surgery until the client is transferred to the operating room (OR).
- **Intra-operative** (during surgery) phase begins when the client is transferred to the OR and ends with client transfer to a post anesthesia care unit (PACU).
- **Postoperative** (after surgery) begins with admission of the patient to the post anesthesia area and ends when healing is complete.

Purposes of surgery:

1. Diagnostic —————>e.g. Biopsy
2. Exploratory —————>e.g. laparotomy
3. Curative —————> e.g. Excision of a tumor, Appendectomy.
4. Cosmetic —————>e.g. Mammoplasty.
5. Palliative —————>e.g. Relieve of symptoms as pain.

Categories of surgery

Surgeries are categorized according to the

A. Degree of urgency

Surgeries are categorized according to the Degree of urgency in to:

1. Emergency surgery is performed immediately to preserve function or the life of the client.

2- Urgent:

Must be performed within 24 to 48 hours (Bleeding of duodenal ulcer)

3- Planned

Scheduled weeks or months (e.g. cataract removal).

4- Elective

Not absolutely necessary (hernia)

5- Optional

Requested by the person (Mammoplasty)

B. Degree of risk

Surgeries are categorized according to the Degree of risk in to:

1. Major surgery involves a high degree of risk, it may be complicated or prolonged, such as open-heart surgery.

2.Minor surgery normally involves little risk, produces few complications, such as removal of tonsils.

Risk factors for surgical complications:

1. Age
2. Malnutrition, Obesity
3. Immobility
4. Location of condition (Heart/Brain).
5. Diabetes mellitus
6. Hepatic disease
7. Cardiovascular disease
8. Renal disease
9. Pulmonary disease.
- 10.Pregnant.

Pre-Operative Nursing Management

1. *Pre-operative assessment*
2. *Obtaining Informed Consent*
3. *Preoperative teaching*
4. *Psychological preparation of patient*
5. *Physical preparation of patient*

1. Preoperative Assessment:

- I. Review preoperative laboratory and diagnostic studies
- II. Review the client's health history
- III. Assess physical needs
- IV. Assess psychological needs

I. Review preoperative laboratory and diagnostic studies:

(Complete blood count CBC, Blood type and cross match, Serum electrolytes, Urinalysis, Chest X-rays, Electrocardiogram ECG, Fasting blood sugar).

II. Review the client's health history:

(Reason for surgery, History of present illness, Past history, Medical conditions, Present medications, Previous surgeries, History of any past problem with anesthesia, Allergies, Substance use: alcohol, tobacco).

III. Assess physical needs:

(Vital signs, Level of consciousness, Confusion, Drowsiness, Weight and height, Ability to move/ ambulate, Artificial limbs).

IV. Assess psychological needs:

(Emotional state, Level of understanding of surgical procedure, Level of understanding of preoperative and postoperative instruction).

2. Informed Consent

The nurse is responsible for ensuring that all necessary parties have signed the consent form and that it is in the client's chart before the client goes to the operating room (OR).

Anyone undergoing surgery must sign an operative permit. It protects the health care facility staff from legal action. If an adult client is confused, unconscious, is younger than 18 years of age, a family member must sign the consent form. In an emergency, the surgeon may have to operate without consent.

3. Pre-operative teaching

- Deep breathing and coughing exercises to prevent pneumonia.
- Incentive spirometer, Postoperative IV lines and NG tube.
- Position changes, turning & moving, leg exercise to prevent deep vein thrombosis (DVT).
- Getting out of bed.
- Pain management procedures.

4. Psychological Preparation of Patient

Psychosocial interventions include identifying and showing respect for cultural, spiritual, and religious beliefs, spiritual beliefs play an important role in how people cope with fear and anxiety.

5. Physical Preparation of Patient

Physical Preparation of Patient includes the following areas:

1. Nutrition and fluids
2. Elimination
3. Surgical skin preparation
4. Hygiene
5. Medications
6. Sleep
7. Care of valuables
8. Prostheses
9. Special orders
10. Vital signs

1. Nutrition and Fluids

Usually nothing by mouth after midnight because anesthetics depress gastrointestinal functioning and there was a danger the client would vomit and aspirate during the administration of a general anesthetic.

2. Bowel and bladder Elimination

Enemas may be ordered if bowel surgery is planned. The enemas help prevent contamination of the surgical area (during surgery) by feces. Prior to surgery an indwelling Foley catheter may be ordered to ensure that the bladder remains empty. This helps prevent injury to the bladder, particularly during pelvic surgery.

3. Skin Preparation

The surgical site is cleansed with an antimicrobial to remove soil and reduce the resident microbial count to sub pathogenic levels, remove the hair at the site of surgery.

3. Hygiene

In some settings, clients are asked to bathe or shower the evening or morning of surgery (or both) to reduce the risk of wound infection by reducing the amount of bacteria on the client's skin, all cosmetics should be removed so that the nails, skin, and lips are visible when circulation is assessed during the perioperative phases.

4. Pre-operative Medications

Preoperative medications are given to the client prior to going to the operating room may include (Antiemetic, Atropine sulfate, Sedatives, Antibiotics).

5. Sleep

Nurses should do everything to help the client sleep the night before surgery. Adequate sleep helps the client manage the stress of surgery and helps healing.

6. Care of valuables

Valuables such as jewelry and money should be sent home with the client's family or significant other.

7. Care of Prostheses

All artificial body parts such as (partial or complete dentures, contact lenses, artificial eyes, and artificial limbs and eyeglasses) must be removed before surgery.

8. Special Orders

The nurse checks the surgeon's orders for special requirements (e.g., the insertion of a nasogastric tube prior to surgery, the administration of medications, such as insulin).

10. Vital Signs

In the preoperative phase the nurse assesses and documents vital signs for baseline data. The nurse reports any abnormal findings, such as elevated blood pressure or elevated temperature

Intra-operative Nursing Management

Intraoperative phase

Begins when patient is transferred to operating room table, the intraoperative nurse is a vital member of the surgical team, because variety reason such as (advocating for the client, maintaining safety, maintain aseptic environment, provide surgeon with supplies and instruments, and continually assessing the needs of the client and the team).

Intraoperative nurse classified as

- a. Circulating nurse** (registered nurse who works in the operating room).
- b. Scrub nurse** (assist surgeon).

A-Circulating nurse:

1. Prepares operating room with necessary equipment and supplies.
2. Arrange sterile and non-sterile supplies.
3. Visits with client preoperatively; explains role, verifies operative permit, identifies client, and answers any questions.
4. Confirms client's allergies.
5. Checks medical record for completeness.
6. Counts sponges, needles, and instruments with scrub nurse before surgery.
7. Assists scrub nurse and surgeons by tying gowns and preparing client's skin.
8. Maintains continuous observations during surgery to expect needs of client, scrub nurse, surgeons, and anesthesiologist.
9. Observes sterile field closely for any breaks in aseptic technique and reports.
10. Cares for surgical specimen.
11. Documents operative record and nurses' notes.
12. Counts sponges, needles, and instruments when closure of wound begins.
13. Accompanies client to a recovery room and provides a report.

b. Scrub nurse

1. Arranges sterile supplies and instruments in manner prescribed for procedure.
2. Checks instruments for proper functioning.
3. Counts sponges, needles, and instruments with circulating nurse.
4. Maintains sterile field.
5. Observes progress of surgical procedure.
6. Hands surgeon instruments, sponges, and necessary supplies during procedure.
7. Identifies and handles surgical specimens correctly.
8. Watches sponges, needles, and instruments so none will be misplaced or lost in wound.

Anesthesia

Type of anesthesia

1. General anesthesia: is the loss of all sensation and consciousness.

General anesthesia act by blocking awareness centers in the brain so that amnesia (loss of memory), analgesia (insensibility to pain), hypnosis (artificial sleep), and relaxation (rendering a part of the body less tense) occur. General anesthesia usually administered by intravenous infusion or by inhalation of gases through a mask or through an endotracheal tube inserted into the trachea.

Complications of General Anesthesia

1. Overdose
2. Hypoventilation
3. Related to anesthesia agents
4. Malignant hyperthermia
5. Related to intubation

2. Regional (Local) Anesthesia is the temporary interruption of the transmission of nerve impulses to and from a specific area or region of the body. The client loses sensation in an area of the body but remains conscious.

Types of Regional Anesthesia

Several techniques are used:

- ❖ Spinal anesthesia (subarachnoid block –SAB-)
- ❖ Topical (surface) anesthesia
- ❖ Local anesthesia
- ❖ A nerve blocks
- ❖ Epidural anesthesia

Complications of Local/Regional Anesthesia:

- Anaphylaxis (over allergy)
- Administration technique
- Systemic absorption
- Over-dose

Spinal Anesthesia (subarachnoid block –SAB-)

➤ *Indications of Spinal Anesthesia*

1. Surgical procedures below the diaphragm
2. Patients with cardiac or respiratory disease.

➤ *Advantages of Spinal Anesthesia*

- Mental status monitoring.
- Shorter recovery.

➤ *Disadvantages of Spinal Anesthesia*

- Necessary extra expertise
- Possible patient pain

➤ *Spinal Anesthesia Complications*

1. Back pain
2. Hypotension
3. Bradycardia
4. Urine retention
5. headache

Post-operative Nursing Management

Post-operative Phase: The primary goal of nursing care during the immediate postoperative phase is to maintain the “A-B-Cs”: airway, breathing, and circulation.

Nursing management in the post anesthesia care unit (PACU)

I- Airway and Respiratory Status

- The primary objectives are to maintain pulmonary ventilation and prevent hypoxia.
- Adequacy of airway and return of gag, cough, and swallowing reflexes
- The nurse applies oxygen, and assesses respiratory rate and depth, oxygen saturation.

II- Maintaining cardiovascular stability

- The nurse assesses the patient's vital signs, cardiac rhythm, skin temperature, color and urine output.
- The primary cardiovascular complications include hypotension, shock, hemorrhage, hypertension, and dysrhythmias.

III- Relieving pain

- Assess the pain level, Location, intensity, and duration.
- Opioid analgesic.

IV- Neurologic Status

- Level of consciousness (Glasgow Coma Scale).
- Eye opening.
- Verbal response.
- Motor response

V- Assessing and managing the surgical site:

- The surgical site is observed for bleeding, type and integrity of dressing and drains.
- If drainage is present, reassess in 15-minute intervals.

VI- Assessing and managing gastrointestinal function:

- Nausea and vomiting are common after anesthesia.
- Check of peristalsis movement (contraction and relaxation of gastrointestinal).

VII- Assessing Fluid and Metabolic Status

- Urine retention after surgery can occur.
- Opioids and anesthesia interfere with the perception of bladder fullness.
- Estimate Intake and output.
- Patency of intravenous (IV) infusion (type, rate, and amount).
- Patency, amount of drainage (catheters, drains, or tubes).
- Signs of dehydration (skin integrity) or overload (edema).
- Inspect operative dressing (type, color and amount of drainage).

VIII- Encourage activity:

Most surgical are encouraged to be out of bed as soon as possible. Early ambulation reduces the incidence of post-operative complication (pneumonia, gastrointestinal discomfort and circulatory problem).

Post-Operative Complication:

1- Shock:

Is the response of the body to a decrease in the circulating volume of blood, tissue perfusion impaired, cellular hypoxia and death.

2- Hemorrhage

Is the escape of blood from a blood vessel.

3- Deep vein thrombosis. (DVT).

Occur in pelvic vein or in lower extremities, and it's common after hip surgery.

4- Pulmonary embolism.

It's the obstruction of one or more pulmonary arterioles by an embolus originating somewhere in the venous system or in the right side of heart.

5- Urinary Retention.

Urine retention after surgery can occur because opioids and anesthesia may interfere with the perception of bladder fullness, So the nurse should estimate Intake and output and notify the physician if any problem occurs

6- Wound infection.

The surgical site is observed for bleeding, type and integrity of dressing and drains and notify the physician if any problem occurs.

7- Intestinal obstruction.

Result in partial or complete impairment to the forward flow of intestinal content, nausea and vomiting.

Common Post-operative nursing diagnosis

1. Ineffective Airway Clearance related to:

- Anesthesia (diminished cough reflex).
- Increased pulmonary congestion

2. Ineffective Breathing Pattern related to

- Pain
- Decreased energy/fatigue.

3. Ineffective Tissue Perfusion related to:

- Anesthesia.
- Position or immobility

2. Deficient Fluid Volume related to:

- Active fluid volume loss.
- Inadequate fluid intake

3. Imbalanced Nutrition: Less than body requirements related to:

- Anesthesia.
- Surgical manipulation of intestines

4. Urinary Retention related to:

- Anesthesia.
- Surgical manipulation of the bladder

5. Acute Pain related to:

- Surgical incision

6. Risk for Infection related to:

- Impaired skin integrity from surgical wound.
- Deficient knowledge of wound or drainage tube care.

7. Low Self-Esteem related to:

- Altered body image, effects of surgery.
- Dependence on others during recuperation from surgery.

Unit 2

Drug Administration

Outline

1.1 Routes of Drug Administration

1.2 Types of Injection

Drug Administration

- ❖ **Medication:** is a substance administered for the diagnosis, cure, treatment, or relief of a symptom or for prevention of disease
- ❖ **Generic name** is assigned by the United States Adopted Names (USAN) Council and is used throughout the drug's lifetime.
- ❖ **Trade name** (brand name) is the name given by the drug manufacturer and identifies it as property of that company.
- ❖ **The official name** is the name under which a drug is listed in one of the official publications (e.g., the *United States Pharmacopeia*).
- ❖ **The chemical name** is the name by which a chemist knows it; this name describes the constituents of the drug precisely.
- ❖ **The therapeutic effect (desired effect)** is the primary effect intended, that is, the reason the drug is prescribed.
- ❖ **A side effect** is unintended effect, is usually predictable and may be either harmless or potentially harmful.
- ❖ **adverse effect** is severe side effects, or reactions, may justify the discontinuation of a drug.
- ❖ **Drug toxicity** harmful effects of a drug on an organism or tissue results from over dosage.
- ❖ **A drug allergy** is an immunologic reaction to a drug.
- ❖ **Drug misuse** is the improper use of drugs that lead to toxicity.
- ❖ **Drug Abuse** is inappropriate intake of a substance.

Routes of Administration

A. Oral: the drug is swallowed orally, most common, safe method.

B. Sublingual: a drug is placed under the tongue. The medication should not be swallowed. Nitroglycerin is one example of a drug commonly given in this manner.

C. Topical: Topical applications are those applied to a circumscribed surface area of the body. Topical applications include the following:

1. Dermatologic preparations —————> applied to the skin
2. Instillations and irrigations —————> applied into body cavities or orifices, such as eyes, ears, nose, rectum, or vagina.
3. Inhalations ———> administered into the respiratory tract by a nebulizer

D. Parenteral: done by injection

An injection is a way of administering a sterile liquid form of medication into tissues of the body under the skin, usually using a sharp, hollow needle or tube.

Types of Injection

1. Intradermal Injection (ID)

The most superficial site is intradermal, which requires inserting a needle into the dermis, the layer of tissue just below the skin. Absorption of fluid is very slow from this site and it is often used to test for allergies

2. Subcutaneous Injection (SC)

Is inserting the drugs to the subcutaneous tissue, the layer of fat below the dermis, there are a number of blood vessels here that absorb the fluid and deliver it into the systemic circulation. These can be given with small, fine needles, and so are only minimally uncomfortable. Injections that can be given subcutaneously vaccines, insulin, heparin, and fertility treatment.

3. Intravenous mean injections (IV)

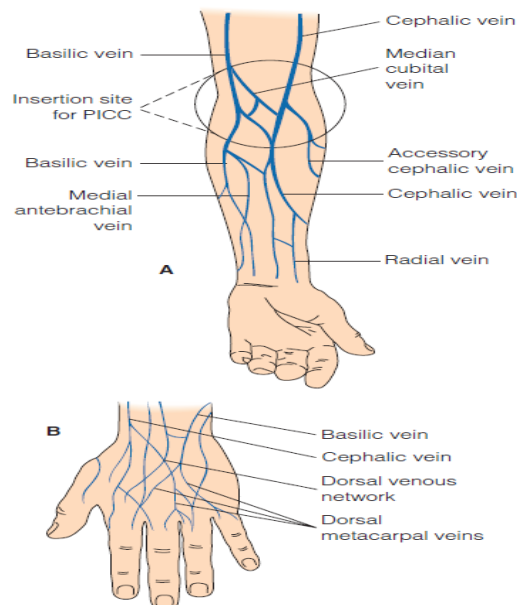
The fastest way to get a drug into a patient's system by delivering it directly into their bloodstream. Medications given via IV injections are usually done through a cannula to ensure that medication is administered into a patient vein and to avoid any leakage of medication into other tissues.

Administering medications intravenously include the following:

- Large-volume infusion of intravenous fluid.
- Intermittent intravenous infusion (piggyback).
- Volume-controlled infusion (often used for children).
- Intravenous push (IVP) or bolus.
- Intermittent injection ports (device).

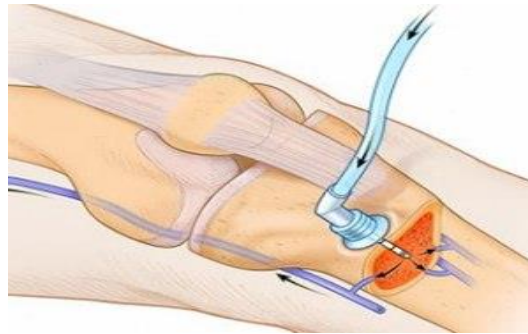
Peripheral Venipuncture Sites

The site chosen for venipuncture varies with the client's age, length of time an infusion is to run, the type of solution used, and the condition of veins. For adults, veins in the arm are commonly used; for infants, veins in the scalp and dorsal foot veins are often used. The metacarpal, basilic, and cephalic veins are common venipuncture sites.



4. Intraosseous Injection (IO):

Intraosseous injections are usually used in emergencies where medication or fluids need to get into the bloodstream quickly and venous access is difficult or impossible. A small cannula is inserted through the skin into the bone marrow, often in the bony part of the shin just under the knee. This allows quick and easy administration of emergency medications and large volumes of resuscitation fluids.



5. Intramuscular Injection (IM):

Intramuscular injections are injections into a muscle. Muscles are vascular; they have a good supply of blood vessels, which means that medications given into the muscle are absorbed quickly. Intramuscular injections should be given into as large a muscle as possible to avoid damage to a larger blood vessel or a nerve.

1. Ventrogluteal site

The ventrogluteal site is in the gluteus medius muscle, which lies over the gluteus minimus.

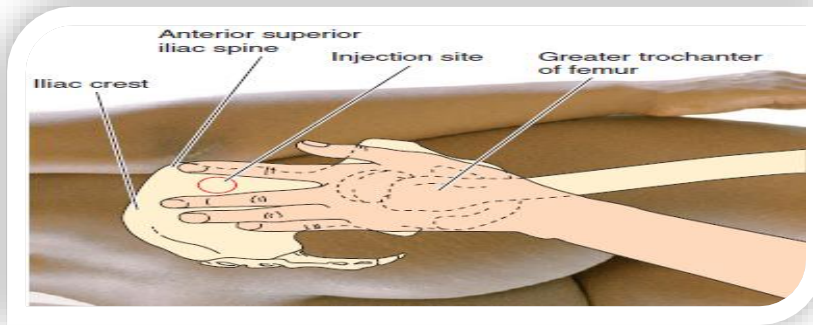
Is the preferred site for intramuscular injections because:

- Contains no large nerves or blood vessels.
- Provides the greatest thickness of gluteal muscle.
- Contains consistently less fat than the buttock area.

To establish the exact ventrogluteal site (using the Z-track method)

1. The nurse places the heel of the hand on the client's greater trochanter, with the fingers pointing toward the client's head.
2. The index finger on the client's anterior superior iliac spine.

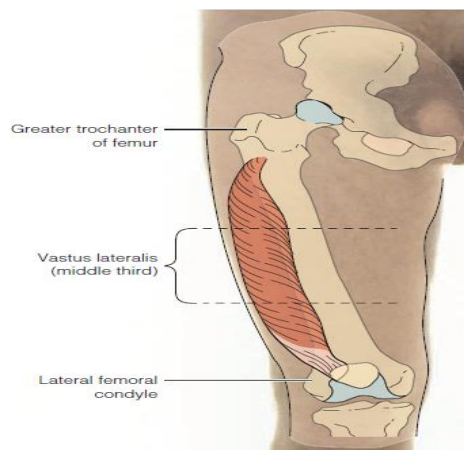
3. The nurse stretches the middle finger dorsally (toward the buttocks), palpating the crest of the ilium and then pressing below it.
4. The triangle formed by the index finger is the injection site.



2. Vastus lateralis site

Is usually thick and well developed in both adults and children. It is recommended for infants and young children because it is the largest muscle mass and there are no major blood vessels or nerves in the area.

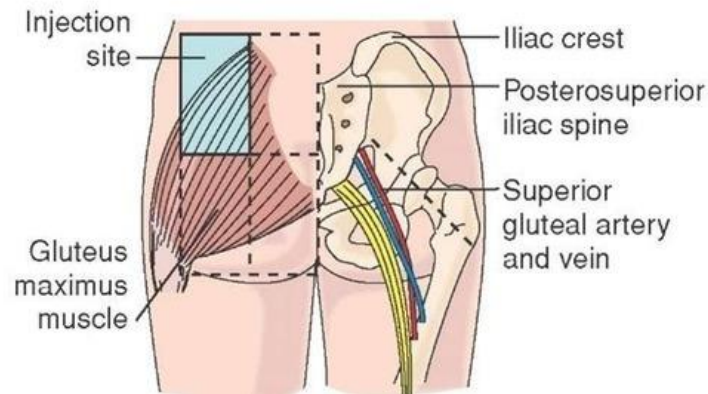
In the adult, the landmark is established by dividing the area between the greater trochanter of the femur and the lateral femoral condyle into thirds and selecting the middle third.



3. Dorsogluteal site

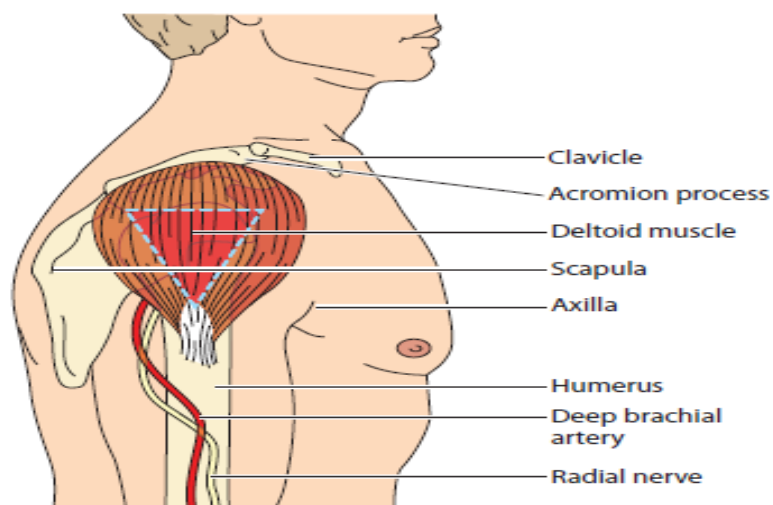
The dorsogluteal site is primarily used for intramuscular injections. This site is close to the sciatic nerve and the superior gluteal nerve and artery. As a result, complications (e.g., numbness, pain, paralysis) occurred if the nurse injected a medication near or into the sciatic nerve. In addition, there

tends to be more subcutaneous tissue at the dorsogluteal site. As a result, the medication may be injected into the subcutaneous tissue instead of the muscle, which can then affect the intended therapeutic effect.



4. Deltoid site

The deltoid muscle found on the lateral aspect of the upper arm. Is a relatively small muscle and is very close to the radial nerve and radial artery. It is sometimes considered for use in adults because of rapid absorption from the deltoid area, but no more than 1 mL of solution can be administered. The nurse locates the upper landmark for the deltoid site by placing four fingers across the deltoid muscle with the first finger on the acromion process. A triangle indicates the deltoid muscle about 5 cm below the acromion process.



Potential Complications of Injections

1. Infection

Any procedure which involves puncturing the skin led to introducing microbes into the body, so developing infections. This risk can be minimized with proper cleaning and the use of aseptic. Venous cannulas should be monitored regularly for signs of infection. Localized infections in deeper tissues can create an abscess within the body which may require antibiotics and surgical drainage.

2. Reaction

Almost all medications carry a risk of an adverse reaction – this can range from a minor allergic reaction to in sever allergy requiring emergency medical treatment.

3. Pain

Any sharp object puncturing the skin can be uncomfortable, but using the smallest possible needle before injecting minimize pain. There is a small risk that intramuscular injections could hit a nerve and cause long-lasting damage, but when proper injection technique is used and injection sites are chosen carefully.

4. Administration Error

The injection might accidentally be given into or leak into the wrong kind of body tissue. As muscles contain blood vessels, there is a chance that an intramuscular injection could be given into a vein. This possibility is reduced by drawing back with the syringe after insertion to check that no blood can be withdrawn. Medications given intravenously can leak out of the vein this can cause the wrong dose of medication to be absorbed or can mean that absorption is unpredictable.

5. Needle stick Injuries

Needle stick injuries are one of the most common occupational injuries exposure by healthcare providers have procedures in place to reduce the risk of sharps injury. Any sharp equipment should dispose of in special boxes called safety boxes in order to prevent transmitting blood-borne diseases like hepatitis.

Unit 3

Skin Integrity & Wound Care

Outline

1.1 Types of wound

1.2 Pressure Ulcers

1.3 Nursing Management for wounds

SKIN INTEGRITY AND WOUND CARE

Introduction

The skin is the largest organ in the body and serves a variety of important functions in maintaining health and protecting the individual from injury.

Skin integrity

Intact skin refers to the presence of normal skin and skin layers uninterrupted by wounds. The appearance of the skin and skin integrity are influenced by internal factors such as genetics, age, and the underlying health of the individual as well as external factors such as activity.

Types of wounds

Body wounds are either intentional or unintentional.

Intentional trauma occurs during therapy. Examples are operations or venipunctures.

Type	Cause
Incision	Sharp instrument (e.g., knife or scalpel)
Contusion	Blow from a blunt instrument
Puncture	Penetration of the skin and often the underlying tissues by a sharp instrument
Laceration	Tissues torn apart, often from accidents (e.g., with machinery)
Penetrating wound	Penetration of the skin and the underlying tissues, usually unintentional (e.g., from a bullet or metal fragments)

Pressure ulcers

Pressure ulcers consist of injury to the skin and/or underlying tissue, usually over a bony prominence, as a result of force alone or in combination with movement. Pressure ulcers were previously called *decubitus ulcers*, *pressure sores*, or *bedsores*.

Etiology of pressure ulcers

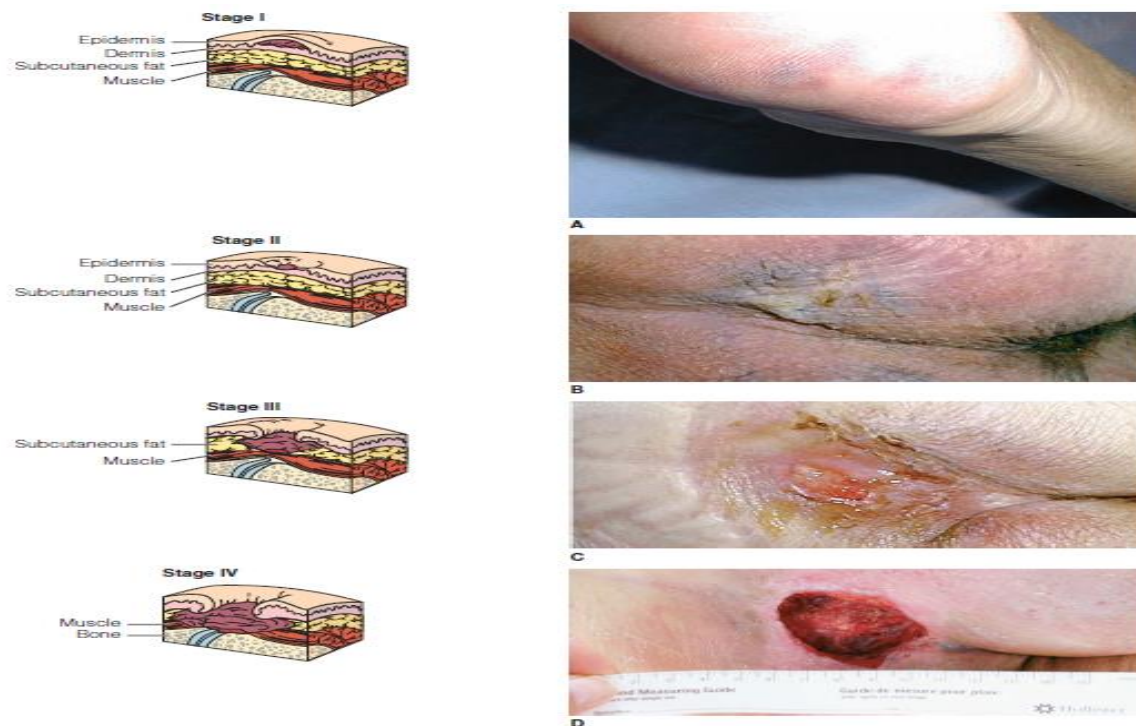
Pressure ulcers are due to localized ischemia, a deficiency in the blood supply to the tissue. The tissue is compressed between two surfaces, usually the surface of furniture such as the bed or chair and the bony skeleton.

Risk factors

Several factors contribute to the formation of pressure ulcers:

Advanced age, Friction with clothes, Immobility, Inadequate nutrition, Fecal and urinary incontinence, Decreased mental status, Diminished sensation, Presence of certain chronic conditions.

Stages of pressure ulcers



Wound healing

Healing is a quality of living tissue; it is also referred to as regeneration (renewal) of tissues.

Phases of Wound Healing

1. Inflammatory phase

Begins immediately after injury and lasts 3 to 6 days. Two major processes occur during this phase: hemostasis and phagocytosis. Hemostasis (the cessation of bleeding) results from vasoconstriction of the larger blood vessels in the affected area.

2. Proliferative phase

Extends from day 3 or 4 to about day 21 post injury. Fibroblasts (connective tissue cells) which migrate into the wound starting about 24 hours after injury, begin to synthesize collagen. As the amount of collagen increases, so does the strength of the wound. If the wound is sutured, a raised “healing ridge” appears under the intact suture line. In a wound that is not sutured, the new collagen is often visible. Fibroblasts move from the bloodstream into the wound, depositing fibrin. As the capillary network develops, the tissue becomes a translucent red color. This tissue, called granulation tissue, is fragile and bleeds easily.

3. Maturation phase

Begins on about day 21 and can extend 1 or 2 years after the injury. Fibroblasts continue to synthesize collagen. During maturation, the wound is remodeled and contracted. The scar becomes stronger but the repaired area is never as strong as the original tissue. In some individuals, particularly dark-skinned individuals, an abnormal amount of collagen is laid down. This can result in a hypertrophic scar, or keloid.

Wound Exudate

Exudate is material, such as fluid and cells, which has escaped from blood vessels during the inflammatory process and is deposited in tissue or on tissue surfaces. The three major types of exudate are serous, purulent, and sanguineous (hemorrhagic).

1. A serous exudate: consists chiefly of serum derived from blood and the serous membranes of the body, such as the peritoneum. It looks watery and has few cells. An example is the fluid in a blister from a burn.

2. A purulent exudate is thicker than serous exudate because of the presence of pus, which consists of leukocytes, liquefied dead tissue debris, and dead and living bacteria.

3. A sanguineous (hemorrhagic) exudate consists of large amounts of red blood cells, indicating damage to capillaries that is severe enough to allow the escape of red blood cells from plasma.

Complications of Wound Healing

Several untoward events can interfere with the healing of a wound. These include:

- ✓ Hemorrhage.
- ✓ Infection.
- ✓ Dehiscence and evisceration.

Factors Affecting Wound Healing

- ✚ Age.
- ✚ Nutritional status.
- ✚ Lifestyle.
- ✚ Medications.

Nursing management

1. Assessment of Skin Integrity

The nurse conducts an examination as part of a routine regular care, notes the following:

- Location of the wound.
- Size of wound in centimeters. Measure greatest length, width, and depth. To measure depth, insert a sterile applicator swab at the deepest part of the wound, and then measure it against a measuring guide.
- Stage of the wound.
- Color of the wound and location of necrosis (dead tissue).
- Condition of the wound margins.
- Integrity of surrounding skin.
- Clinical signs of infection, such as redness, warmth, swelling, pain, odor, and exudate (note color of exudate).

2. Diagnosing

- ❖ *Risk for Pressure Ulcer.*
- ❖ *Risk for Impaired Skin Integrity*
- ❖ *Impaired Skin Integrity:* altered epidermis and/or dermis
- ❖ *Risk for Infection:* if the skin impairment is severe, the client is immunosuppressed, or the wound is caused by trauma
- ❖ *Acute Pain:* related to nerve involvement within the tissue impairment.

3. Implementing

The six major areas in which nurses can help clients develop optimal conditions for wound healing are:

1. Maintaining moist wound healing.
2. Providing sufficient nutrition.
3. Preventing wound infections.
4. Positioning.
5. Dressing wounds.
6. Supporting & immobilizing wounds.

❖ Moist Wound Healing

The dressing and frequency of change should support moist wound bed conditions. Wound beds that are too dry or disturbed too often fail to heal.

❖ Nutrition and Fluids

Clients should be assisted to take in at least 2,500 mL of fluids a day unless conditions contraindicate this amount, excessive doses of vitamins or minerals enhance wound healing, clients must receive sufficient protein, vitamins C, A, B1, B5, and zinc.

❖ Preventing Infection

There are two main aspects to controlling wound infection: preventing microorganisms from entering the wound, and preventing the transmission of blood borne pathogens to or from the client to others.

❖ Positioning

To promote wound healing, clients must be positioned to keep pressure off the wound (sometimes referred to as *off-loading*). Changes of position and transfers can be accomplished without shear or friction damage. In addition to proper positioning, the client should be assisted to be as mobile as possible because activity enhances circulation.

❖ Dressing Wounds

Dressings are applied for the following purposes:

- To protect the wound from mechanical injury.
- To protect the wound from microbial contamination.
- To provide or maintain moist wound healing.
- To provide thermal insulation.
- To absorb drainage or debride a wound or both.
- To prevent hemorrhage.
- To splint or immobilize the wound site and thereby facilitate healing.

❖ Supporting and Immobilizing Wounds

Bandages and binders serve various purposes:

- Supporting a wound (e.g., a fractured bone)
- Immobilizing a wound (e.g., a strained shoulder)
- Applying pressure (e.g., elastic bandages on the lower extremities to improve venous blood flow)
- Securing a dressing (e.g., for an extensive abdominal surgical wound)
- Retaining warmth (e.g., a flannel bandage on a rheumatoid joint).

Unit 4

Bowel & Urinary Elimination

Outline

- 1.1 Bowel Elimination**
- 1.2 Fecal Elimination Problems**
- 1.3 Urinary Elimination**
- 1.4 Altered Urine Production**

Bowel& Urinary Elimination

Bowel Elimination

Elimination of the waste products of digestion from the body is essential to health. The excreted waste products are referred to as **feces** or **stool**.

Defecation

Defecation is the expulsion of feces from the anus and rectum; it is also called a bowel movement. The frequency of defecation is highly individual, varying from several times per day to two or three times per week.

Feces: Normal feces are made of about 75% water and 25% solid materials.

Factors that affect defecation

1. Age

- Infants initially lack a pattern to their elimination. Control bowel movements can begin as early as 18 months of age but is typically not mastered until age 40 months.

2. Diet

- Sufficient bulk (cellulose, fiber) in the diet is necessary to provide fecal volume.
- Bland diets and low-fiber diets are lacking in bulk and therefore create insufficient residue of waste products to stimulate the reflex for defecation.
- Certain foods are difficult or impossible for some people to digest. This inability results in digestive upsets and, in some instances, the passage of watery stools.

3. Fluid

- Inadequate fluid intake, resulting in hard feces.
- Healthy fecal elimination usually requires a daily fluid intake of 2,000 to 3,000 ml.

4. Activity

- Activity stimulates peristalsis, thus facilitating the movement of chyme along the colon.
- Clients confined to bed are often constipated.

5. Psychological Factors

- Anxiety is increased peristaltic activity and subsequent nausea or diarrhea.
- Depressions slowed intestinal motility, resulting in constipation.

6. Defecation Habits

- If a person ignores this urge to defecate, water continues to be reabsorbed, making the feces hard and difficult to expel.
- Hospitalized' clients may suppress the urge because of embarrassment about using a bedpan, because of lack of privacy, or because defecation is too uncomfortable.

7. Medications

- Tranquilizers, morphine, codeine, cause decrease gastrointestinal activity through their action on the central nervous system.
- Laxatives stimulate bowel activity and so assist fecal elimination.
- Medications also affect the appearance of the feces.
 - ✚ aspirin products can cause the stool to be red or black.
 - ✚ Iron salts lead to black stool because of iron oxidation.
 - ✚ antacids can cause a whitish discoloration in the stool.

8. Diagnostic Procedures

- Before certain diagnostic procedures, such as visualization of the colon (colonoscopy). The client may be given a cleansing enema prior to the examination. In these instances, normal defecation usually will not occur until eating resumes.

9. Anesthesia and Surgery

- General anesthetics cause the normal colonic movements to cease or slow by blocking parasympathetic stimulation to the muscles of the colon. Clients who have regional or spinal anesthesia are less likely to experience this problem.

10. Pain

- Clients who experience discomfort when defecating (e.g., following hemorrhoid surgery) often suppress the urge to defecate to avoid the pain. Such clients can experience constipation as a result.
- Clients taking narcotic analgesics for pain may also experience constipation as a side effect of the medication.

Fecal Elimination Problems

Four common problems are related to fecal elimination: constipation, diarrhea, bowel incontinence, and flatulence.

1. Constipation

Constipation may be defined as fewer than three bowel movements per week. This infers the passage of dry, hard stool or the passage of no stool.

Causes and factors contribute to constipation.

1. Insufficient fiber, fluids intake
2. Insufficient activity or immobility
3. Lack of privacy
4. Irritable bowel syndrome (IBS)
5. Pelvic floor dysfunction or muscle damage
6. Neurological conditions (e.g., Parkinson's disease, stroke).
7. Emotional disturbances such as depression or mental confusion
8. Medications such as iron supplements, antihistamines, antacids, and antidepressants.

2. Diarrhea

Diarrhea refers to the passage of liquid feces and an increased frequency of defecation.

3. Bowel Incontinence

Bowel incontinence, also called fecal incontinence, refers to the loss of voluntary ability to control fecal and gaseous discharges through the anal sphincter.

4. Flatulence

There are three primary sources of flatus:

- a. Action of bacteria on the chyme in the large intestine.
- b. Swallowed air.
- c. Gas that diffuses between the blood stream and the intestine.

Urinary Elimination

Urination

Micturition, voiding, and urination all refer to the process of emptying the urinary bladder. Urine collects in the bladder until pressure stimulates special sensory nerve endings in the bladder wall called stretch receptors. This occurs when the adult bladder contains between 250 and 450 mL of urine. In children, a considerably smaller volume, 50 to 200 mL, stimulates these nerves.

Factors Affecting Voiding

1. Age

- Control over bladder can begin as early as 18 months of age but is typically not mastered until age 40 months.

2. Psychosocial Factors

- Privacy, normal position, sufficient time, and, occasionally, running water.

3. Fluid and Food Intake

- Fluids that contain caffeine (e.g., coffee, tea, and cola drinks) increase urine production.

4. Medications

- Diuretics (e.g., chlorothiazide and furosemide) increase urine formation by preventing the reabsorption of water and electrolytes from the tubules of the kidney into the bloodstream.

5. Pathologic Conditions

- Diseases of the heart, kidneys may affect the ability of the nephrons to produce urine.

Altered Urine Production

Although people's patterns of urination are highly individual, most people void about 5 to 6 times a day. People usually void when they first awaken in the morning, before they go to bed, and around mealtimes.

Polyuria: refers to the production of abnormally large amounts of urine by the kidneys, often several liters more than the client's usual daily output.

Oliguria is low urine output, usually less than 500 mL a day or 30 mL an hour for an adult.

Anuria refers to a lack of urine production.

Nocturia: is voiding two or more times at night.

Urgency: Urgency is the sudden strong desire to void.

Dysuria: means voiding that is either painful or difficult.

Enuresis: is involuntary urination in children beyond the age when voluntary bladder control is normally acquired, usually 4 or 5 years of age.

Urinary incontinence: is the uncontrolled loss of urine that constitutes a social or hygienic problem.

Urinary retention: is the inability to completely evacuate urine from the bladder during micturition.

Budget

- **Budgeting:** is the allocation of scarce resources on the bases of forecasted needs for proposed activities over a specified period of time. It is a numerical expression of an agency's expected outcome and planned expenditures.
- **Budget** is a tool for planning, monitoring and controlling cost. It is a plan that uses numerical data to predict or forecast the activities of an organization over a period of time.

Types of budget

1. personnel budget: it is the largest budget expenditure because, health care is labour intensive. It includes, actual worked time (productive time/ salary expense) and the time the organization pays the employee when not working.
2. Operating budget: it includes, daily expenses such as, electricity, water, repairs, maintenance, medical and surgical supplies.
3. Capital budget: this involved purchase of buildings, major equipment which has long life (5-10) years and is not used in daily operations. E.g., C-T Scanner, ventilators, dialysis machines, etc.

Evaluating

- Staff Evaluation is a continuous process and it starts with the first contact with the person is employed and ends with his retirement.

Definition

- A periodic formal evaluation of how well personnel have performed their duties during a specific period, it is a systematic, interpersonal, continuous process between manager, and employee involving job guidelines and objectives and job description.

Objectives

1. To determine Job competence
2. To select qualified individuals for promotion or transfer.
3. To establish and improve:
 - a. Communication between supervisors &subordinates.
 - b. Staff performance.

4. To determine:
 - a. Training and developmental needs of staff.
 - b. Salary standards and to award merit.
5. To provide the staff with recognition for accomplishment.
6. To discover the aspirations and talents of the staff.
7. To check the efficiency of staff development programs.
8. To identify unsatisfactory staff for demotion or termination.
9. To aid the manager in coaching and counselling.

Principles of Evaluation

1. the employee evaluation should be based on behaviourally stated performance standards, and the employees should be aware of them as their desirable performance goals.
2. an adequate representative sample of the nurse's job should be observed to provide a basis for evaluation.
3. the nurse should be given a copy of job description, performance standards, and performance evaluation form, to understand how she was evaluated.
4. when documenting the evaluation, the manager should indicate the satisfactory and the unsatisfactory areas of performance.
5. the evaluation interview should be scheduled in a proper time and environment.
6. the goal of evaluation should be to improve performance and satisfaction, rather than to punish.

Staff Evaluation Tools and Techniques

- Tools and techniques are used to compare output (staff performance) to goals. (Job description and individual goals).

Characteristics of Evaluation Tool

- All evaluation tool, to be effective, should be designed to reduce bias, increase objectivity and ensure validity and reliability.
1. Objectivity: is the ability to remove oneself emotionally from a situation so as to consider the facts without distortion by personal feelings.
 2. Validity: is the degree to which a tool measures what it intends to measure.
 3. Reliability: Concerns consistency of results, that is, whether several raters using the same tool to rate an employee produce the same or ratings or results. This is called Inter-rater reliability.

- Another reliability measure, Intra-rater reliability, is whether the same rater rates an employee with the same or similar results on two or more different occasions, assuming that the employee's performance has not changed. Reliability is important because a tool must be reliable before it can be valid.

The most commonly used evaluation tools are:

1. Rating Scale

- The most commonly used tool in nursing service. It consists of set of behaviours or characteristics to be rated and some types of scales for indicating the degree to which each is present. The scale may take several forms, numerical, graphic or descriptive.

2. Forced Choice Rating

- This technique requires the rater to select from groups of statements that best fit and least fit the individuals being rated. The statements are in behavioural terms and are weighed and scored.

3. Check-list

- The rater places a mark in the "Yes" or "No" column in accordance with the individual's behaviour. This tool is easier and tends to reduce bias but it needs time and effort to develop a valid checklist tool. The checklist is an efficient tool of assessing technical procedures and in handling large number of staff.

4. Peer Review

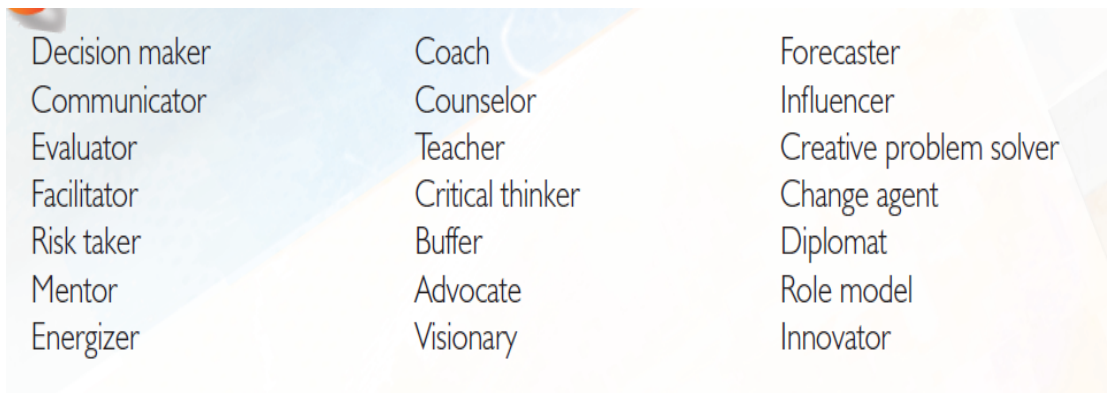
- In this method, the individual staff is evaluated at the same time by the immediate supervisor plus three or four other supervisors who have knowledge of that individual's work performance.

Evaluation Report

- The evaluation report is to be written jointly by the nurse manager and staff nurse.
- It should be reliable, valid, and accurate, showing progress made by the staff nurse and giving illustrations to substantiate value judgments.
- Any improvements are to be noted, and the staff nurse should know exactly where she/he stands.
- It may be necessary to tell her/him that she/he has to make certain improvements within a definite time period.

Nursing Management: Leadership**Definitions:**

- Leadership defined as “the art of motivating a group of people to act towards achieving a common goal.
- leader is the inspiration and director of the action. He or she is the person in the group who possesses the combination of personality and skills that makes others want to follow his or her direction”

Leadership roles:

Decision maker	Coach	Forecaster
Communicator	Counselor	Influencer
Evaluator	Teacher	Creative problem solver
Facilitator	Critical thinker	Change agent
Risk taker	Buffer	Diplomat
Mentor	Advocate	Role model
Energizer	Visionary	Innovator

Characteristics of leaders

1. Leaders often do not have delegated authority but obtain their power through other means, such as influence.
2. Leaders have a wider variety of roles than do managers.
3. Leaders may or may not be part of the formal organization.
4. Leaders focus on group process, information gathering, feedback, and empowering others.
5. Leaders emphasize interpersonal relationships.
6. Leaders direct willing followers.
7. Leaders have goals that may or may not reflect those of the organization.

HISTORICAL DEVELOPMENT OF LEADERSHIP THEORY (1900–PRESENT):**1. The Great Man Theory/Trait Theories (1900–1940):**

- The Great Man theory, asserts that some people are born to lead, whereas others are born to be led. It also suggests that great leaders will arise when the situation demands it.
- Trait theories assume that some people have certain characteristics or personality traits that make them better leaders than others.

Advantages

1. Identify the characteristics leaders.

Disadvantages

1. Neglect the impact of others on the leadership role
2. Neglect the impact situation on the leadership role

2. Behavioral Theories (1940–1980):

- leadership skills can be developed, not just inherited.
- placed emphasis on what the leader did—the leader’s style of leadership.
- Common *leadership styles*: authoritarian, democratic, and laissez faire.

The *authoritarian* leader is characterized by the following behaviors:

1. Strong control is maintained over the work group.
2. Others are motivated by coercion.
3. Others are directed with commands.
4. Communication flows downward.
5. Decision making does not involve others.
6. Emphasis is on difference in status (“I” and “you”).
7. Criticism is punitive.

Advantages

1. Well-defined group actions
2. High Productivity

Disadvantages

1. Reduce creativity,
2. Reduce self-motivation
3. Reduce autonomy.

Democratic Leadership:

The *democratic* leader exhibits the following behaviors:

1. Less control is maintained.
2. Economic and ego awards are used to motivate.
3. Others are directed through suggestions and guidance.
4. Communication flows up and down.
5. Decision making involves others.
6. Emphasis is on “we” rather than “I” and “you.”
7. Criticism is constructive.

Advantages

1. Appropriate for groups who work together for extended periods, promotes autonomy and growth in individual workers.
2. Effective when cooperation and coordination between groups are necessary.

Disadvantages

1. less efficient quantitatively than authoritative leadership.
2. Time consuming

Laissez-faire:

The *laissez-faire* leader is characterized by the following behaviors:

1. Is permissive, with little or no control.
2. Motivates by support when requested by the group or individuals.
3. Provides little or no direction.
4. Uses upward and downward communication between members of the group.

5. Disperses decision making throughout the group.
6. Places emphasis on the group.
7. Does not criticize.

Advantages

1. Creativity and productivity.
2. Appropriate when problems are poorly defined and brainstorming is needed to generate alternative solutions.

Disadvantages

1. Frustrating
2. Group apathy
3. Disinterest.

Leadership style Continuum

- During the late 1940s and early 1950s, theorists began to believe that most leaders did not fit a textbook picture of any one style but rather fell somewhere on a continuum between authoritarian and laissez faire.
- They also came to believe that leaders moved dynamically along the continuum in response to each new situation.
- This recognition was a forerunner to what is known as *situational* or *contingency* leadership theory

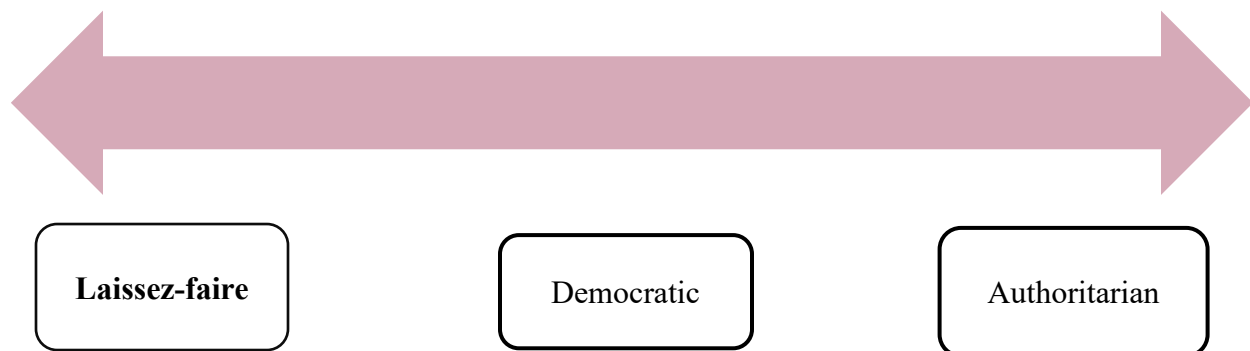


Figure 1: Leadership style Continuum

Situational and Contingency Leadership Theories (1950–1980):

- The idea that leadership style should vary according to the situation or the individuals involved

Interactional Leadership Theories (1970–Present):

- The basic premise of interactional theory is that leadership behavior is generally determined by the relationship between the leader's personality and the specific situation.
- Humans are a complex being whose working environment was an open system to which they responded.
- A *system* may be defined as a set of objects, with relationships between the objects and between their attributes.
- A system is considered open if it exchanges matter, energy, or information with its environment.
- To be successful, the leader must diagnose the situation and select appropriate strategies from a large repertoire of skills.

Introduction:

- Nurses work in many different types of health-care organizations and take on varying roles within each.
- An **organization** is a collection of people working together under a defined structure to achieve predetermined outcomes using financial, human, and material resources.
- The justification for developing organizations is both rational and economic.
- Coordinated efforts capture more information and knowledge, purchase more technology, and produce more goods, services, opportunities, and securities than individual efforts.

The four elements of organizations:

1. division and specialization of labor
2. organizational structure
3. chain of command
4. span of control.

Division and Specialization of Labor

- Dividing the work reduces the number of tasks that each employee must carry out, thereby increasing efficiency and improving the organization's product.

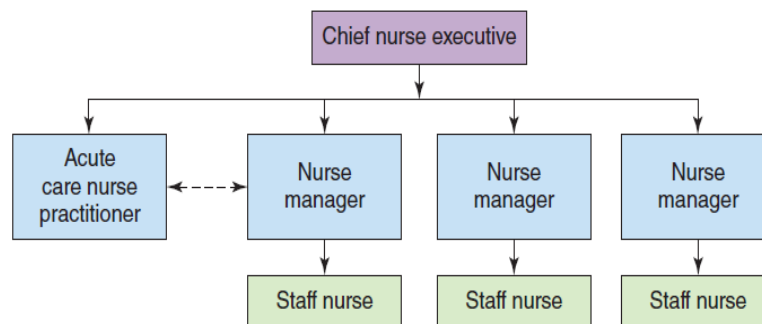
Organizational Structure

- The **organizational structure** concerns the arrangement of the work groups within the organization and is intended to support the organization's survival and success.
- The structure determines accountability and responsibility. It dictates who makes the decisions and who has authority and oversight of workers.
- The structure shows who reports to whom and gives a pictorial view of the organization.

Chain of Command

- The **chain of command** is the hierarchy of authority and responsibility within the organization.

- Authority is the right or power to direct activity, whereas responsibility is the obligation to attain objectives or perform certain functions.
- Both are derived from one's position within the organization and define accountability.
- One type of authority is **line authority**, the linear hierarchy through which activity is directed.
- Another type is **staff authority**, an advisory relationship; recommendations and advice are offered, but responsibility for the work is assigned to others.



Span of Control

- **Span of control** addresses the pragmatic concern of how many employees a manager can effectively supervise.
- Complex organizations usually have numerous departments that are highly specialized and differentiated; authority is centralized, resulting in a tall organizational structure with many small work groups.
- Less complex organizations have flat structures; authority is decentralized, with several managers supervising large work groups.

Traditional Organizational Structures

- Organizational structure refers to the way in which a group is formed, its lines of communication, and its means for channeling authority and making decisions.
- The optimal organizational structure integrates organizational goals, size, technology, and environment.
- Various organizational structures have been utilized over time. Examples include tall structures, flat structures, ad hoc structure and matrix structures.

Type of Organizational Structures

- Health-care providers should be familiar with the type of structure used within their organization. The structure affects communication patterns, relationships, and authority within the health-care setting.
- The structure provides stability for the mission, the vision, the values, and the goals of the organization.
- The structure aligns itself with the goals of the organization and provides efficiency for the organization.
- The structure provides stability for decision making within the organization.
- The structure determines how the decision will be made.
- The organization chart depicts the lines of authority and chain of command and identifies communication patterns and relationships for the employees of the organization.

TALL/CENTRALIZED/BUREAUCRACY

- The centralized structure, a tall structure, also known as the bureaucracy, is a hierarchical structure (Fig. 1).
- Decision making and power are held by a few people within the top level.
- Each person who has some power and authority is responsible for only a few people.
- There are many layers of departments, and communication tends to be slow as it travels through this type of a system.
- This type of structure is noted for its subdivision and specialization of labor.
- Advantages to this type of structure are that managers have a narrow span of control and can maintain close supervision of their employees.

- A disadvantage is that there may be a delay in decision making due to the many layers of people that the decision must pass through to get to the top administrative level. It predisposes leaders to an autocratic style of leadership because many decisions must go to the top of the organization or the higher-level supervisor for an answer.

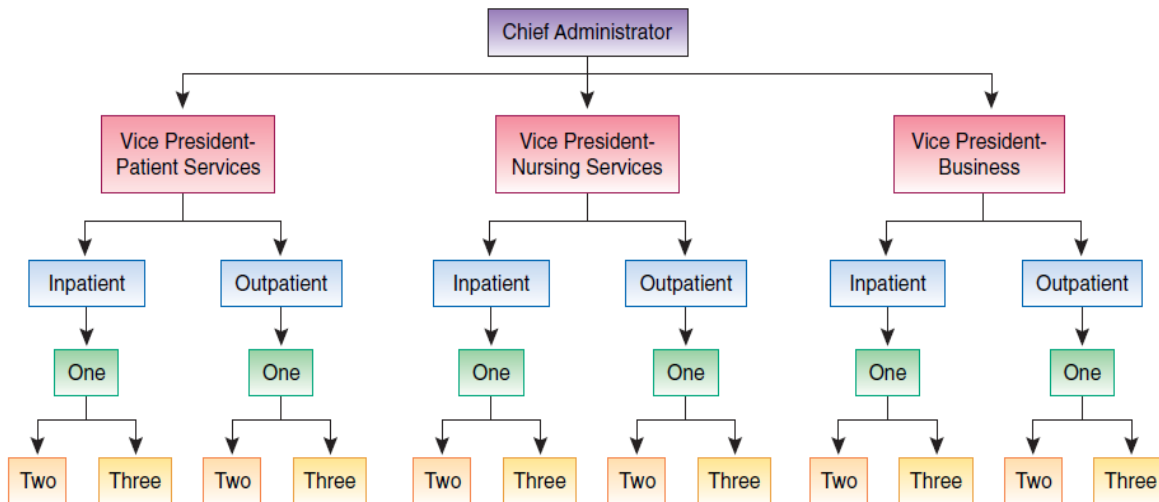


Figure 1: tall/centralized/bureaucracy structure

FLAT/DECENTRALIZED STRUCTURE

- The decentralized structure is flat in nature, and organizational power is spread out throughout the structure.
- There are few layers in the reporting structure, and managers have a broad span of control.
- Communication patterns are simplified, and problems tend to be addressed with ease and efficiency at the level at which they occur.
- Advantages: Employees have autonomy and increased job satisfaction within this type of structure.
- A disadvantage is:
 - the broad span of control, which may make it hard for management to process information quickly and efficiently for the employees.
 - Managers may be supervising areas with which they are not familiar or have limited working experience.

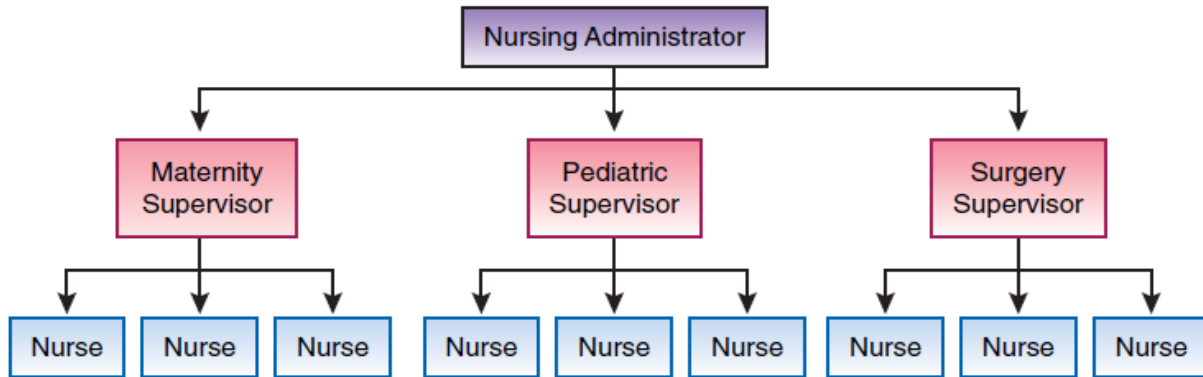


Figure 2: flat /decentralized structure

AD HOC/ADHOCRACY STRUCTURE

- The organic or **adhocracy structure** of organization is an open, free-form system.
- Advantages: This type of structure is used with specialized teams to complete a specific task.
- The major disadvantage of this type of structure is the lack of a formal chain of command. The teams work together, but when problems are encountered there is no assigned person within the structure on whom they can rely for resolution.

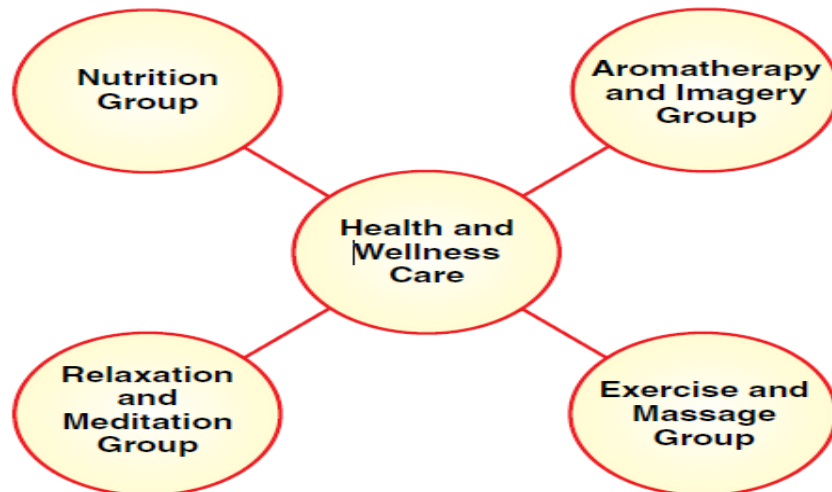


Figure 3: An organic organizational structure for a nontraditional wellness center.

MATRIX STRUCTURE

- The matrix structure is a combination of two structures, consisting of the product (output) and the function, linked into one structure.
- The function consists of all of the activities and duties needed to produce an end product, and the product is the result of the function.
- The structure works to balance the function and service of the organization into one operational outcome.
- The functions are the tasks required to complete the product.
- The manager of the product division works with the manager of the function division, creating two lines of authority, accountability, and communication.
- The team approach is incorporated, and there is a decrease in the number of formal rules for this type of structure.
- Disadvantages: Issues with the matrix structure include the vague chain of command and goal variation between the two structures.
- Advantages: This type of structure implements the use of resources efficiently.

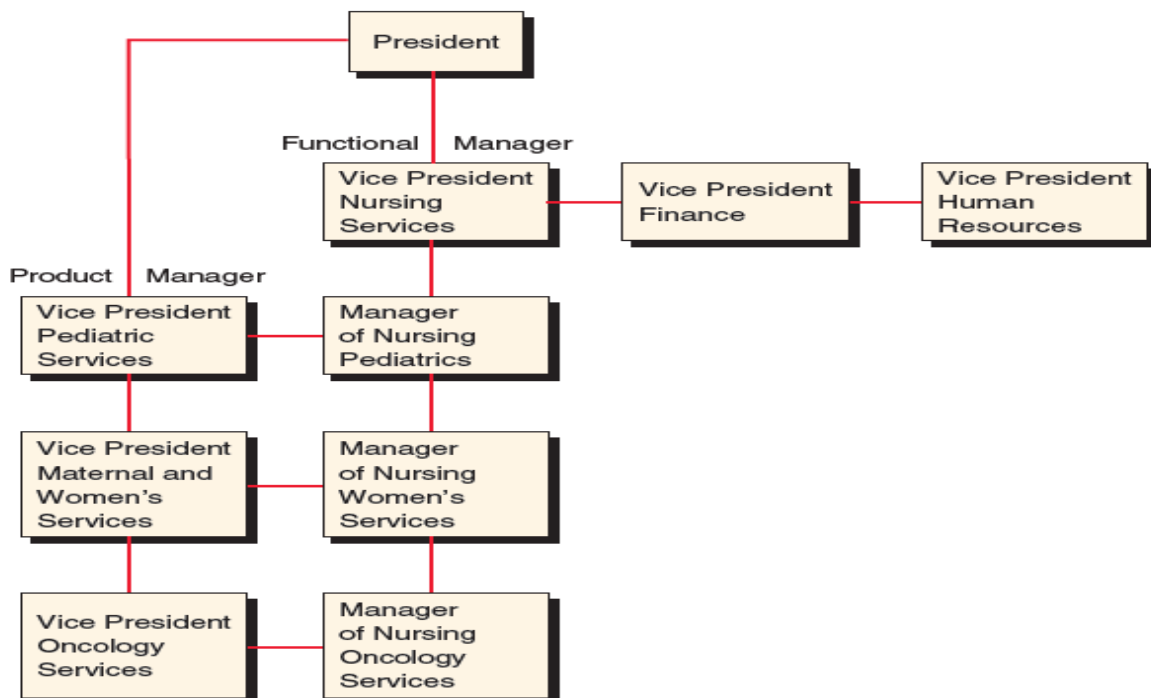


Figure 3: Matrix organizational structure

Staff Development

- Staff development refers to the processes, programs and activities through which every organization develops, enhances and improves the skills, competencies and overall performance of its employees and workers.

Objectives of Staff Development

1. Increase employee productivity .
2. Ensure safe and effective patient care by nurses .
3. Ensure satisfactory job performance by personnel .
4. Orient the personnel to care objectives, job duties, personnel policies.
5. Help employees cope with new practice role .
6. Help nurses to close the gap between present abilities and the scientific basis for nursing practice that is broadening through research .

Activities of Staff Development

1. Create a positive organizational climate.
2. Provide opens channels of communication.
3. Work to convey important organizational and individual values.
4. Assist staff with feeling more comfortable, knowledgeable, and confident in their ability to complete their tasks.
5. Provide staff with easy access to knowledgeable colleagues through meeting, workshops, social activities, etc.

Patient Care Need

- In predicting nursing work load a manager must calculate not only the total number of patients to be cared for but also the proportion in each category (self-care, minimal care, full care, intensive care), because care needs vary from category to another. Types of Care include:
 - a. Direct care: Is care given by nursing personnel while working in the patient presence and related to the patient physical and psychological needs . Direct care involves: feeding, hygiene, treatment, mobility, and medication, and the more dependent

the patient is on the nurse to carry out related activity, the more hours of nursing care is needed for that patient.

- b. Indirect care: Are those activities undertaken on the patient behalf but removed from his presence. Indirect care includes : assembling supplies and equipment, consulting with other healthcare team members, writing. and reading patient records, reporting, constructing discharge plans, preparation and cleaning up required before and after procedures, breaks etc.

IV: Time Management

- Time management is a misnomer. No one manages time itself. What is managed is how time is use .
- Definition: Time management is the optimum use of the available time .

Importance :

1. To know how to use time wisely .
2. To get more work done in less time .
3. To conserve time and energy .

Principles of time management

- The nurse manager may start a plan for maximizing the use of managerial time by the application of the following principles:

Selection of Staff

- Selection of well-qualified staff is critical for time saving because they require less supervisory time for development and corrective action .
- Also, staff who are adequately informed do not waste time wondering what to do.
- The availability of organizational charts and job descriptions save time to find out who is responsible to whom and for what, lines of authority, etc .

Goal Setting

Goals provide direction and vision for actions and a timeline in which activities will be accomplished. Five major questions about goals must be answered if the nurse manager is to manage time effectively .

- What specific unit objectives are to be achieved ?
- What specific activities are necessary to achieve these objectives ?
- How much time is required for each activity ?
- Which activities can be planned and scheduled for concurrent action and which must be planned and scheduled sequentially ?
- Which activities can be delegated to staff ?

Setting priorities

- Priorities should be established for activities to be performed by the nurse manager .

Daily planning and scheduling

- A "to-do" list should be prepared each day, either after work hours the previous day or early before work on the same day. Flexibility must be a major consideration in this plan: the nurse manager should leave some time uncommitted to deal with the unexpected emergencies that are sure to happen .

Delegation

- Delegation is the process by which responsibility, authority and accountability for performing tasks (functions, activities or decisions) are assigned to individuals .

Concepts related to delegation include:

- a. Responsibility means that the subordinate has an obligation to carry out the activities needed to accomplish the assigned task.
- b. Accountability is being held answerable for the results .
- c. Authority is the power to make final decision and to command.

Personal organization and self-discipline

The nurse manager must be personally well organized and possess self-discipline in order to be effective i.e., to focus in one task at a time, making sure to start with a high priority task by:

- a. Improve reading and memory: When listening for understanding, the nurse manager should be attentive, delaying judgment, maintaining eye contact, and using attentive body language. Distractions affect concentration and should be reduced. Listening and memory techniques save time.
- b. Transition time: Much time is spent in transition or waiting i.e. for meetings to start, or to talk to someone, etc .
- c. Use telephone calls: A long cord or cordless phone allows one to move around and work .
- d. Schedule office visits: The Secretary can schedule appointment for the appropriate time and inform the nurse manager of the purpose of the meeting without interruption .
- e. Say No

Most people find it difficult to say "no" to a responsible request. However, learning how to say "no" firmly and tactfully and with a pleasant facial expression saves time. Under the following conditions nurse should say no :

1. When the activity will not serve the manager's own professional goals .
 2. When the activity requires time and abilities that the manager does not have .
 3. When the activity holds no interest for the manager.
 4. When undertaking the activity will prevent the manager's involvement in more attractive or more rewarding activity.
- f. Use meetings effectively

Meetings should start on time. Stating the purpose of the meeting, should start with high priority items, control interruptions, restate conclusions, make assignments and deadlines clear and end the meeting on time.

g. Schedule Paperwork

Plan and schedule time for paper work i.e., time for recording, time to answer mails .

1. Sort paperwork for effective processing i.e., system of filing .
2. Share paperwork responsibilities with staff i.e., teaching staff members .

V: Coordinating

- Coordination: is the act of organizing, making different people or things work together to fulfill desired goals in an organization.
- Coordination: is a managerial function in which different activities of the business are properly adjusted and interlinked.

Role of Nurse Coordinator

1. Purchasing and distributing supplies.
2. Directing the work of administrative and nursing staff.
3. Ensuring that equipment and machinery are maintained and repaired as necessary.
4. Maintaining the security and safety of the facilities.
5. Planning budgets.
6. Making sure the organization adheres to government regulations.

VI: Reporting and Recording

- Record: A record is a permanent written communication that documents information relevant to a client's health care management, e.g., a client chart is a continuing account of client's health care status and need .
- Reports: are oral or written exchanges of information shared between caregiver or caregivers in number of ways.

Purposes of Record

1. Supply data that are essential for programme planning and evaluation.
2. Provide the practitioner with data required for the application of professional services for the improvement of health.

3. Records are tools of communication between health workers, the family, and other development personnel.
4. Effective health records show the health problem and other factors that affect health.
5. A record indicates plans for future.
6. Provides baseline data to estimate the long-term changes related to services.
7. Show the kind and number of services rendered over a specified period.
8. Illustrate progress in reaching goals.

Principles of Record Writing

1. Nurses should develop their own method of expression and form in record writing.
2. Records should be written clearly & appropriately.
3. Records should contain facts based on observation, conversation and action .
4. Select relevant facts and the recording should be neat, complete and uniform.
5. Records should be written immediately after an interview.
6. Records are confidential documents.

Characteristics of good Record

1. Records Should be Permanent, Secure, Traceable.
2. Sign and date every.
3. Keep books bound record, Number pages.
4. Use permanent ink.
5. Control storage
6. Maintain confidentiality records .
7. Limit access.
8. Protect from environmental hazards.

Nursing Report

- Reports are information about a patient either written or oral .
- A report is a summary of activities or observations seen, performed or heard .

Purposes of Writing Reports

1. To show the kind and quantity of service rendered over to a specific period.
2. To show the progress in reaching goals.
3. As an aid in studying health conditions.
4. As an aid in planning.
5. To interpret the services to the public and to other interested agencies.

Types of Reports

1. Change of shift report.
2. Telephone reports.
3. Telephone orders.
4. Transfer reports.
5. Incident reports.
6. Legal reports.

Criteria of Good Report

1. It can be made promptly Clear, concise and complete.
2. All pertinent, identifying data should include.
3. Mention all people concerned.
4. Situation and signature of person making report.
5. Easily understood.
6. Should emphasized on Important points.

Importance of Records in Hospital .**A: For the individual and family:**

1. Serve the history of the client.
2. Assist in continuity of care.
3. Evidence to support if legal issues arise.
4. Assess health needs, research and teaching

B: For the Doctor:

1. Serve the guide for diagnosis, treatment, follow-up and evaluation.
- Indicate progress and continuity of care.
2. Self-evaluation of medical practice.
3. Protect doctor in legal issues.

4. Used for teaching and research R S MEHTA, MSND 7

C: For the nurses:

1. Document nursing service rendered.
2. Shows progress- Planning and evaluation of service for future improvement.
3. Guide for professional growth- Judge the quality and quantity of work done.-
4. Communication tool between nurse and other staff involved in the care .
5. Indicate plan for future e recording system.

Therapeutic Nutrition

Unit I: Overview of nutrition

Nutrition:

is an important science for every human being regardless of age, gender, origin, season, or social status. Nutrition is considered the first line of defense to maintain healthy growth and prevent diseases during the different stages of life, and even the nutrition of the pregnant woman is very important for the growth of the fetus in its mother's womb before birth to grow healthy.

Nutrition is concerned with the nature of different foods and the nutrients in them, the transformations of these nutrients within the human body, and the role that all these nutrients play within the body.

Is there a difference between the terms food and nutrition?

Food:

It is everything that enters the body of food and drinks, whether orally or injected, which provides the body with energy and helps it grow, repair damaged tissues and regulate vital processes in the body.

Nutrition:

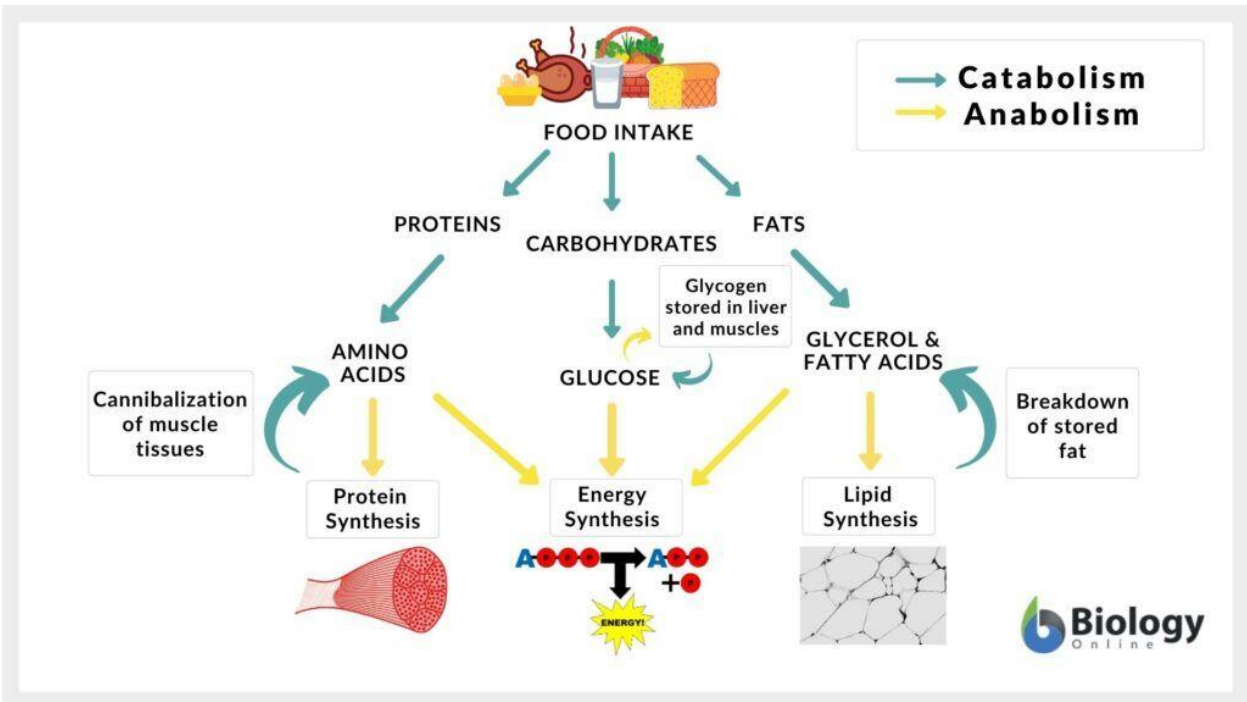
It is the science that studies nutrients in terms of their digestion, absorption, transport, metabolism, interaction, storage, and excretion. In the sense that nutrition science studies all the processes of construction and demolition that occur to food from the moment it is eaten to its expulsion from the body as waste.

Food metabolism means all the chemical and physiological processes that transform food elements into body elements within the body of an organism.

Metabolic reactions are divided into:

1- Catabolism reactions: where the main nutrients, whether carbohydrates, proteins, or fats, are broken down through different methods of vital reactions into simple molecules, and this results in obtaining energy.

2- Anabolism reactions: The simple molecules resulting from the demolition process can be used to build more complex materials, whether they are proteins or nucleic acids through a series of reactions in order to build tissues and consume energy in those reactions.



Nutrients :

They are substances obtained from food and used by the body to provide it with energy and help it grow, survive, repair, perform its functions and resist disease.

Classes of nutrients :

1. **Macronutrients:** they are needed in large amounts to provide energy which involve Carbohydrates, fats, and proteins.
2. **Micronutrients:** like vitamins and minerals which are required in small amounts to metabolize the energy providing nutrients.

The human body cannot manufacture these nutrients, so it is necessary to provide it with food to maintain its life. Carbohydrates, proteins, fats, and vitamins are considered organic nutrients, that is, they contain carbon atoms in their chemical structure and are synthesized by a living organism. While



the other elements, mineral salts, and water, are inorganic nutrients, that is, they do not contain carbon atoms in their chemical structure.

Transforming Food Elements into Body Elements inside the body:

Meat is digested inside the body and converted into amino acids that are used to build muscle and restore body tissues

Sugars and sweets are digested and converted inside the body into glucose that enters the cells to produce energy that turns into fats accumulated in the body if not consumed in activity and movement.

Functions of nutrients:

- 1- Supplying the body with the energy needed for various activities
- 2- Providing the body with the materials necessary for growth, building new tissues, and repairing damaged ones
- 3- Necessary to regulate vital processes (organ functions) inside the body.
- 4- Protecting the body from infectious diseases by raising the level of human immunity.

The stages that food goes through from entering the body to leaving it as waste:

For the body to benefit from food, it goes through several stages: Ingestion, Digestion, Absorption, Distribution, Metabolism and Excretion.

Malnutrition:

It means deterioration or weakness in health as a result of eating incomplete foods, either by increasing or decreasing one or more nutrients, and malnutrition includes the following:

A – overfeeding: This means an increase in energy or in one or more of the essential nutrients that hinder the body from performing its functions normally.

B - undernutrition :This means the presence of a lack of energy or in one or more of the essential nutrients, which hinders the body from performing its functions normally .



Complications of malnutrition:

Malnutrition leads to:

- 1- Weakened immune system.
- 2- Infection with nutritional diseases such as pellagra, osteomalacia, anemia, and rickets.
- 3- The high mortality rate among children.
- 4- Idle and lack of activity, affect the efficiency of the person's performance.

In general, undernutrition may be the result of several reasons, the most important of which is eating meals that are not integrated in terms of quantity and quality, or as a result of a defect in the processes of digestion, absorption, or metabolism within the body. While overfeeding comes as a result of overeating or overeating a certain type of food.

Factors Affecting Nutrition :

A person's choice of daily food depends on several factors, including the gender, prevailing food habits of the family and society, the availability of food, the economic status of the individual or the family, the person's religious beliefs, and other factors.

Adequate Diet:

It is the meal that provides the body with all the necessary nutrients and sufficient quantities to meet its needs, It is also called a balanced diet. This enhances one's vitality, alertness, and resistance to disease.

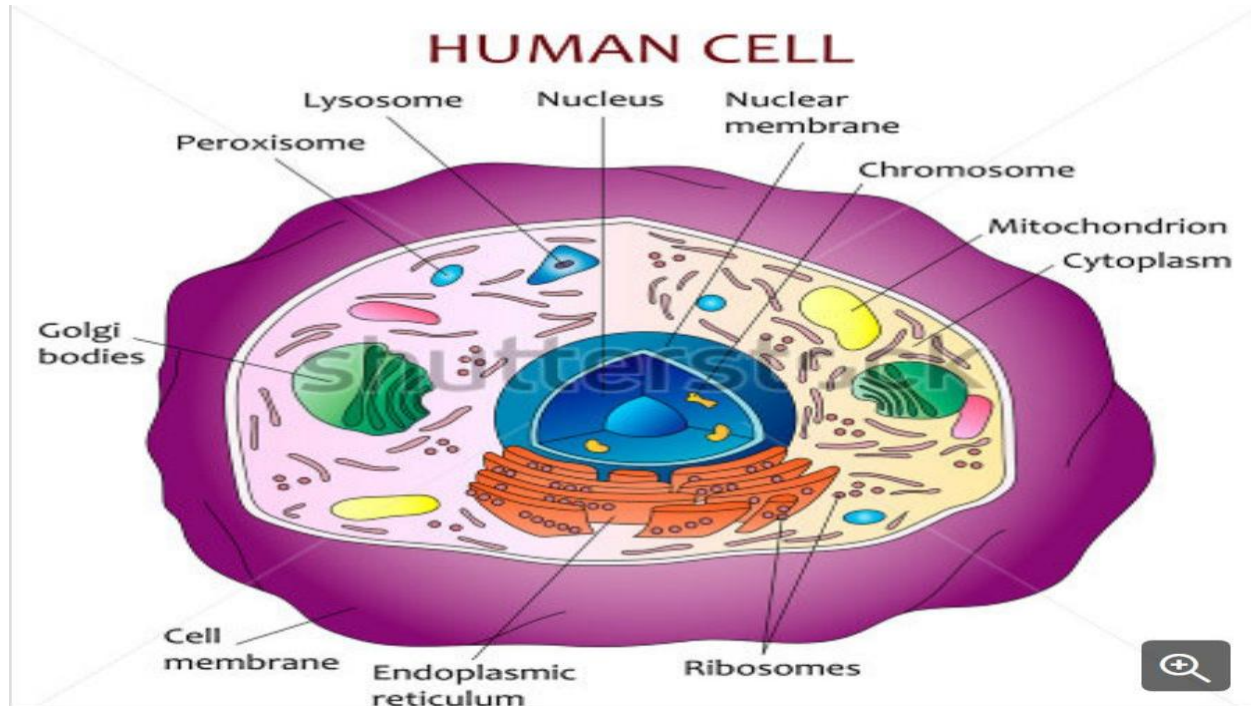
Junk Food:

Foods of low nutritional value and unbalanced in their content of nutrients, as well as foods that are harmful to health, such as foods rich in their content in salt, sugar or fat, are called Harmful Foods.

The cell:

- All living things are composed of one or more living cells.
- The cell is the smallest structural unit of the human body.

- The cell is able to carry out all chemical reactions and vital processes to maintain life.



Cell membrane:

- A thin membrane surrounds all components of the cell.
- The shape defines the cell.
- The membrane is made of protein and lipid (lipid).
- Regulates the uptake of extracellular substances.
- Regulates the excretion of waste products out of the cell in quantity and quality.

Nucleus:

- It consists of a membrane and a nucleolus.
- It contains nuclear DNA.



- DNA is responsible for its synthesis in the ranks of the roots and the genetic traits of cells belonging to the new cells.

Mitochondria:

- Circular or rod-shaped bodies of different sizes according to their activity.
- Double membranes.
- One cell contains from 50 to 2500 mitochondria.
- It is the main center of energy production from the oxidation of nutrients

Cytoplasm:

- It is the fluid of the cell that contains all the components of the cell except the nucleus.
- Glycolysis takes place inside the cytoplasm. It refers to the process of converting glucose into energy.

Ribosomes:

- They are small pellets
- Ribosomes are the main sites for protein synthesis within the cell.

Lysosome:

- Its shape is oval or spherical.
- They contain digestive enzymes to break down nutrients within a single cell into a soluble form.
- It kills bacteria that invade the body.
- Old and dilapidated cells and foreign bodies are broken down, degraded, and then excreted in the cytoplasm in a simple form.
- They are abundantly distributed in the leukocytes.



Therapeutic Nutrition

Unit Two: Metabolism of Nutrients and Energy Balance

Metabolic rate refers to the rate of heat liberation during chemical reactions; it is expressed in units called calories.

Calories are defined as the measure of energy that food supplies us with, and one calorie is the amount of heat needed to raise the temperature of one gram of water by one degree Celsius.

How many calories a person needs per day depends on several factors, including:

- **The age:** From birth to twenty years, the need for calories increases exponentially with age, but after twenty years your need for calories decreases by two percent for every ten years. With age, especially at the age of fifty, the physical exertion of a person decreases, and therefore his need for calories decreases.

- **Genetics:** Some people are highly efficient at burning calories, while others have a slower metabolism due to genetic factors.

- **Sex :** Males have more muscle mass than females, so the metabolism of males is faster.

- **Health history:**

- **Daily physical activity:**

Ranges of Caloric requirements of various types of work for an adult per day is as follows:

Light work 2100- 2600

Moderate work ... 2500-3000

Heavy work 3000-3500

Very heavy work 3500-4000

Energy Balance

Energy balance is the relationship between the energy derived from food and the energy used by the body. The body obtains energy in the form of calories from carbohydrates, protein, and fat. The body uses energy for voluntary



activities such as walking and talking and for involuntary activities such as breathing and secreting enzymes. A person's energy balance is determined by comparing his or her energy intake with energy output.

Energy Intake

The amount of energy that nutrients or foods supply to the body is their caloric value. The energy liberated from the metabolism of food has been determined to be:

1 gram of carbohydrates = 4 Calories

1 gram of protein = 4 Calories

1 gram of Fat = 9 Calories

Energy Output

Calories are fuel for your body, and the body uses them to perform everything from delicate internal cellular processes to sitting and sleeping, to running and lifting weights.

One kilogram of fat stored in your body equals about 7,700 calories, which means that to lose one kilogram of your weight, you have to make the energy balance equal to negative 7,700 calories.

For example, suppose that your daily body needs 2500 calories, and if you eat 1400 calories per day, this means that you will have a negative energy balance of 1100 calories per day, and then within a week you will lose one kilogram because 1100 multiplied in seven days equals 7700 calories. Movement is also an important factor. If a person sits at his desk all day, he consumes low energy and therefore should eat a small amount of food. If the movement increases, there will be a high energy requirement and a high energy conversion rate, and therefore more food can be eaten.

Basal Metabolic Rate (BMR)

The basal metabolic rate is the amount of energy the body needs while at rest.

As a basic metabolic rate, the body needs one calorie per kilogram of body weight and per hour, for example, a person weighing 70 kilograms needs a basic metabolic rate of 1680 calories (70 by 24).

The second method for calculating the basal metabolic rate

This method takes into account gender, age, and body dimensions in terms of height and weight, which are as follows:

For men: $66.47 + (13.7 \times \text{body weight (kg)}) + (5 \times \text{height (cm)}) - (6.8 \times \text{age})$



For women: $655.1 + (9.6 \times \text{body weight (kg)}) + (1.8 \times \text{height (cm)}) - (4.7 \times \text{age})$.

Knowing the basal metabolic rate helps us calculate the body's daily energy needs in the presence of the kinetic activity factor so that we can control weight through it.

- When you want to maintain weight or stabilize weight, you must eat the amount of food that provides the body with the same amount of energy it needs.
- When you want to lose weight, you must eat the amount of food that provides the body with less energy than the daily need of the body.
- When you want to gain weight, more energy is taken in than the daily requirement.

Factors affecting basal metabolic rate:

Body space effect

The metabolic rate increases with the increase in the area of the body, that is, the greater the weight or height, or the greater the person's size, due to the increase in the volume of tissues that carry out metabolic processes, as well as the increase in the volume of body fluids that must be preserved. Organs are also larger in larger people.

Age effect:

The metabolic rate slows down with age. Older people have a slower metabolism than young adults, and children and infants have a faster metabolism than young adults.

This is due to the loss of muscle mass with age, and also to the hormonal and neurological changes that occur naturally with age. The metabolism of infants and children is relatively rapid because of their need for energy to grow and maintain body temperature.

The influence of genetic factors

Genetic factors may affect the metabolic rate, that is, the cause of fast or slow metabolism may be genetic in the family. In this case, the metabolic rate cannot be affected by changing the living habits, but other factors that affect the metabolism can be affected by the habits and lifestyle.

Sex effect:

The metabolic rate is usually faster in men than in women, due to the increase in muscle mass in men, as women have less muscle mass compared to men, and women have a higher percentage of body fat than men.



Also, men are larger than women, which requires an increased metabolic rate.

Effect of hormonal and nervous factors

Since hormones regulate the body's metabolic processes, hormonal disorders may cause an increase or decrease in the metabolic rate. One of the hormones most affecting metabolism is thyroid hormones, as thyroid hormones control metabolic rates and the amount of energy that must be consumed in the body.

There are two types of thyroid hormone disorders:

The effect of hyperthyroidism on metabolism

Regardless of the cause of hyperthyroidism, this condition causes increased secretion of thyroid hormones that speed up metabolic rates, causing the patient to have increased appetite, weight loss, stress, and nervousness.

The secretion of thyroid hormones decreases when the thyroid is lazy or underactive, which leads to a slowdown in the patient's metabolic rates, so the patient may experience unexplained weight gain, depression, drowsiness, and constipation.

Low-iodine nutrition may cause thyroid laziness, which may lead to a slowdown in the metabolism of the body. In this case, the cause is not directly hormonal, but rather is due to a lack of iodine in the food.

The effect of physical activity:

As movement and physical activity increase, muscle mass increases, and muscle strength increases, resulting in a faster metabolic rate. Movement during exercise or during physical activity requires energy, which helps burn extra calories and speeds up the weight loss process.

The effect of the ratio of fat to muscle mass in the body:

The metabolism in adipose tissue is very slow, as fat burns fewer calories than other tissues in the body. On the other hand, the metabolic rate in the muscles is high and fast, so the more muscle mass in the body, the higher the metabolic rate and the speed of burning calories. Hence, we may be able to determine the relationship between body mass and metabolic rate, as the greater the mass due to the increase in fat percentage, the lower the metabolic rate.

In this case, it is necessary to exercise to increase muscle mass in the body and speed up the metabolic rate if one intends to lose weight.

Environmental factors:



The metabolism process is affected by environmental factors such as temperature. For example, when the temperature is greatly decreased, the body consumes a lot of energy to maintain body temperature, which leads to an acceleration of the metabolism process and an increase in the metabolic rate.

Pregnancy / Lactation:

The high metabolic rate to burn calories is one of the most important changes in the body during pregnancy, and the amount of energy consumed by the body during pregnancy increases significantly, especially with the increase in oxygen consumption, to keep pace with the changes that occur in the pregnant body, and to help nourish both the mother and the fetus. The metabolic rate increases dramatically with the beginning of the fifteenth week of pregnancy and reaches its peak in the third trimester, and a high metabolic rate may lead to a decrease in blood sugar. The metabolic rate decreases after birth, but remains above levels before pregnancy, and may continue to rise throughout infancy.

Body weight and body mass standards:

Maintaining a healthy or ideal body weight requires a balance between the expenditure of energy and the intake of nutrients. Generally, when the energy requirements of an individual equate with the daily caloric intake, the body weight remains stable.

Ideal body weight (IBW) is the optimal weight recommended for optimal health; however, many health professionals consider the **body mass index (BMI)** to be a more reliable indicator of a person's healthy weight.

BMI Calculator is used to calculating the body mass index (BMI) value which is a measure of body fat based on height and weight and can be applied to adult women and men.

The BMI calculator divides the weight in kilograms by the square of the height in meters to calculate the BMI value. The equation can be explained as follows:

$$\text{BMI} = \text{weight (kilograms)} / \text{square height (meters)}.$$

This value is widely used as an indicator of whether a person is at a healthy weight for their height. The resulting value is used to classify whether a person is overweight, underweight or of normal weight based on the range in which the value falls.



BMI	Weight status
Below 18.5	Underweight
18.5-24.9	Normal weight
25.0-29.9	Overweight
30.0-34.9	Obesity class I
35.0-39.9	Obesity class II
Above 40	Obesity class III

Assessment of Nutritional Status:

The nutrition care process is defined as a systematic problem-solving method that nutrition professionals use to critically think and make decisions to address nutrition-related problems and provide safe effective quality nutrition care. It is composed of the following four steps;

□ Assessment , Diagnosis , Intervention , Monitoring and evaluation

Nutrition assessment

The (ABCD) approach to nutrition assessment includes anthropometry, biochemical tests, clinical observation, and dietary evaluations.

Anthropometric measurements: Is a physical measurements of the human body used for health assessment , including height , weight , skin fold thickness , and circumference , head , hip , waist , wrist , mid arm muscle .

Biochemical tests include the following:

- Plasma proteins
- Liver enzymes (evaluate liver function)
- Blood urea nitrogen.
- Serum electrolytes (evaluate renal function)
- Urinary urea nitrogen excretion
- Complete blood count (evaluate for anemia)
- Fasting glucose (evaluate for high or low blood glucose levels)
- Total lymphocyte count (evaluate immune functions)



Clinical observations include the following

- Clinical signs of nutrition status
- Physical examination

Clinical signs of nutrition status

Clinical signs of nutrition status by observation of various areas of the patients , body may reveal signs of poor nutrition like, Weight and height according age , hair , skin (smooth , moist , good color) , lips (smooth , moist , good color) , eyes (bright , clear , shiny)□

Physical examination

Such evaluation include inspection of skin for the presence of edema and skin turgor, evaluation of nail integrity and assessment of body organ sounds in the intestine and lungs.

Evaluation of the diet includes the following assessments:

- ☐ Usual intake, current intake, restrictions, modification
- ☐ Nutrition supplements, vitamin or mineral supplements
- ☐ Foods allergies intolerances
- ☐ Activity level (average energy expended per day)

Therapeutic Nutrition

Unit Three: Carbohydrates

Carbohydrates, or what are called starches, are organic compounds and one of the main types of nutrients. Carbohydrates include many types of foods, including sugars, starch, and fiber.

Carbohydrates are one of the most important nutrients that the body needs in large quantities, in addition to protein and fats. As we mentioned, it is the main source of energy in the body, and provides it with calories, as 1 gram of carbohydrates and starches contain 4 calories.

In general, carbohydrates and starches can be obtained from plant sources or milk and its derivatives.

There are three types of carbohydrates, and the difference between these types of carbohydrates is that some of them are found naturally in foods such as fruits and vegetables, and others are obtained industrially through the processing of certain foods.

Here are the three types of carbohydrates:

1- Simple carbohydrates or sugars

Simple carbohydrates are made up of one or two sugar molecules. The types of simple carbohydrates are:

a- Monosaccharides, such as glucose, fructose, and galactose.

b- Disaccharides, such as sucrose, lactose, and maltose.

2- Complex carbohydrates or starches

Some complex starches contain three or more sugar molecules, such as starch and glycogen.

3- Dietary fibers

Represents one of the edible parts of plants or their extracts, which are not digested or absorbed in the small intestine, and are carbohydrate polymers bound to ten or more monomers, which are not degraded by enzymes in the small intestine of humans. They are proven to be beneficial for heart health and weight management, they contain a number of vitamins and minerals.



Types of dietary fiber

1- **Water-soluble fiber:** Water-soluble fiber consists of non-cellulose polysaccharides, such as pectin, gum, and vegetable jelly. Plus some fruits and vegetables.

2- **Insoluble fibers in water:** Insoluble fibers in water consist of cell wall components, such as cellulose, lignin, and hemicellulose, and these fibers do not dissolve or retain in water, including wheat bran, whole wheat flour, and some types of vegetables, such as or cauliflower, green beans, and potatoes.

Carbohydrate function:

1- Providing the body with energy

Carbohydrates are the most important source of energy in the body, and they are one of the most important benefits of carbohydrates. They stimulate the body to carry out physical and mental tasks and help in cell growth, repair, and many of their functions.

Glucose is the only sugar the body uses to provide energy for its sensitive tissues and organs. Therefore, eventually, all digestible sugars must be converted to glucose by various liver enzymes.

Given its great importance in various vital functions, normal blood glucose levels must be maintained and kept relatively constant.

2- Saves stored energy

If the body has enough glucose to meet its current needs, the excess glucose can be stored for later use. This stored form of glucose is called glycogen and is found primarily in the liver and muscles, so eating carbohydrates helps provide energy and store it in the body until needed.

3- Maintain muscle

Storing glycogen is just one of several ways the body makes sure it has enough glucose for all of its functions. When glucose is short of carbohydrates, muscles can also be broken down into amino acids and converted into glucose or other energy-generating compounds. Eating some carbohydrates is one way to prevent the loss of muscle mass associated with starvation.

4- Dietary fiber provides many health benefits to the human body, the most important of which are:

- a- Feed the beneficial bacteria in the intestines
- b - Help to lose weight
- c - Lowering blood sugar levels
- d- Lowering cholesterol levels in the blood

e- It reduces constipation and promotes a healthy digestive system

Metabolism of Carbohydrate

Is a series of chemical reactions that occur for food in the body of organisms, by many of the enzymes, in order to get energy, or tissue-building process, metabolism is divided into Catabolism and Anabolism .

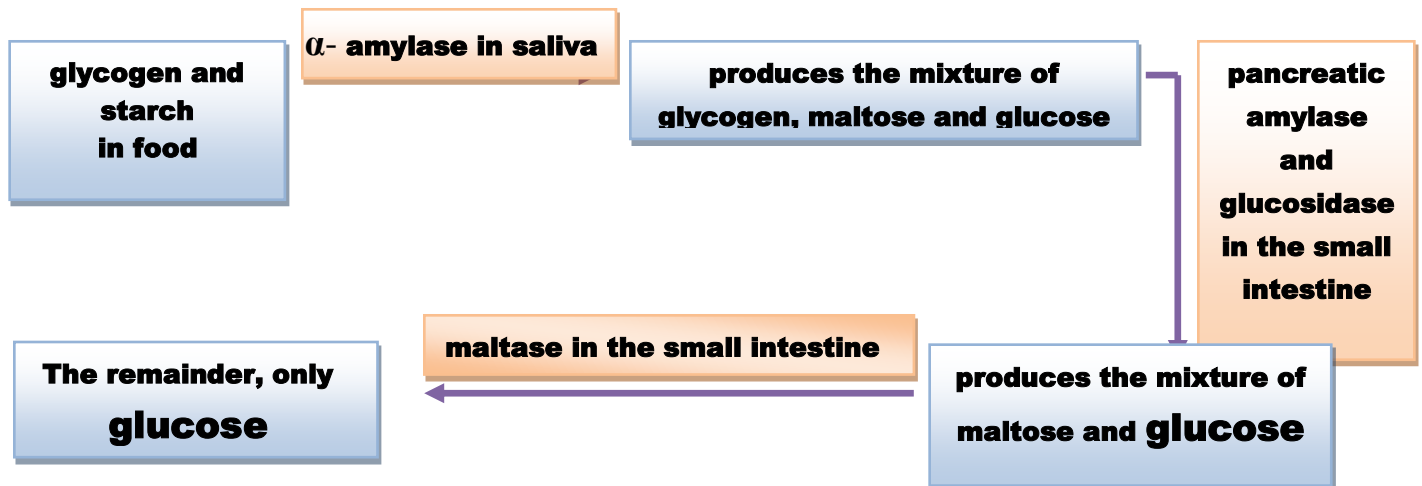
Digestion of carbohydrates :

Is the process of converting large molecules into smaller molecules, can be absorbed from the intestinal wall, the process is done by enzymes excreted from the various organs in the body.

The carbohydrate basic is a Polysaccharids, such as starch and cellulose, found in plant foods, and glycogen we get from animal sources, also oligosaccharids , such as sucrose, lactose, and of course that contains monosaccharides, the most important of glucose, galactose and fructose .

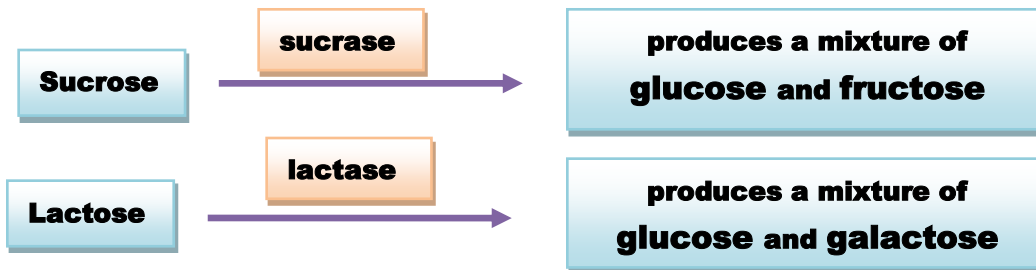
1- Digestion of polysaccharids :

The starch and glycogen degraded by enzymes present in the gastrointestinal tract, and in the end produces glucose molecules, as shown in the following chart :



2- Digestion of Disaccharides:

Sucrose (cane sugar), lactose (milk sugar) decompose by enzymes found in the lining of the small intestine:



Absorption of carbohydrates :

After the completion of the process of digestion, all carbohydrates turn into a monosaccharides, which is glucose, fructose, and galactose, absorbed through the intestinal walls into the bloodstream, and transported to the liver.

Some glucose turns into glycogen, and stored in the liver, or oxidized to CO_2 and H_2O , to produce energy. also some glucose transported from the liver to other tissues of the body.

The liver works to regulate the amount of glucose in the blood, by insulin and other hormones, when a high level of glucose in the blood, after meals rich in carbohydrates the liver performs the function of glycogen synthesis , In the case of low glucose, especially after muscular effort , the glycogen decompose down into glucose, so in order to keep the normal level of glucose in the blood .

Reactions of glucose metabolism:

Glycolysis: Is the main route for the demolition of carbohydrates, is a series of reactions occur in cells, leading to the conversion of glucose to lactic acid (when there is a small amount of oxygen) , but in cells equipped with an abundance of oxygen, the pyruvate acid (the compound that precedes formation of lactic acid), oxidizes to CO_2 and H_2O , such as heart cells in humans .

The enzymes needed to interactions of Glycolysis, present in the cytoplasm of the cell .

Glycogenolysis:

Glycogen decomposes in the liver to glucose, and in muscles to glucose-6- phosphate .

The glucose, leaking from the liver to the blood, so as to raise the level of glucose in the fasting state, while (glucose-6- phosphate) enters in glycolysis reactions in muscles , for the liberation of the energy needed for muscle contraction .



Glycogenesis :

The process of generating glycogen from glucose units, get in the liver and muscles. It is not reverse the process of decomposition , five enzymes engaged in this process, the most important of which is hexokinase (the first enzyme) and glycogen synthase (the last enzyme) .

Control of blood glucose by the following hormones

Hormone: is a chemical sender, arises from special cells, and moving to the target tissue through the blood. associated with the target tissue through receptors, leading to the activation or inhibition of enzymes.

Insulin hormone : It is the hormone responsible for the entry of glucose into the cell , and it is synthesized by the β cells of islets of Langerhans in the pancreas , Insulin is the only hormone that decreases glucose levels , by increasing glycogenesis , lipogenesis , and glycolysis and inhibiting glycogenolysis and can be referred to as a hypoglycemic agent .

Glucagon hormone: It is the hormone responsible for increasing glucose levels , and it is synthesized by the α - cells of islets of Langerhans in the pancreas and released during stress and fasting states , glucagon acts by increase glycogenolysis in the liver , it can referred to as a hyperglycemic agent .

Somatostatin hormone , Epinephrine hormone, Glucocorticoids hormones, Growth hormone and Thyroxin hormone

Therapeutic Nutrition

Unit Four: Lipids

Is one of the important types of bio-molecules, and constitute approximately 5% of the organic matter contained in the installation of the cell. The brain cells and nerve tissue rich in fat molecules complex. Chemically: It is non polarity organic compounds (does not dissolve in water), but soluble in organic solvents such as ether, benzene and chloroform.

Fatty acids

Fatty acids are high-calorie fatty substances made of a carbon chain surrounded by hydrogen. The reason these fats are described as acidic is that one end of the carbon chain ends with the acidic COOH part while the other end ends with carbon attached to three hydrogen atoms.

The types of fats and their names differ according to two factors:

- 1- The number of carbon atoms in the chain
- 2- The distribution of hydrogen atoms on the carbon atoms (and thus the quality of the bonds that bind the carbon atoms).

Fatty acids differ from each other mainly depending on:

- The number of carbon atoms in the fatty acid chain; If the number of carbon atoms is large (more than 16), then they are long-chain fatty acids, but if the number is small, they are short-chain fatty acids.
- Long-chain acids are classified into saturated and unsaturated.

According to the bonds between carbon atoms, which indicates the degree of saturation of hydrogen, the following is an illustration:

- If the bonds between the carbon atoms are single, then the fatty acid is saturated with hydrogen - a saturated fat - for example, hydrogenated oils. Sources of saturated fat include red meat and dairy products including butter and cheese. A diet rich in saturated fat may raise levels of low-density lipoprotein (LDL) cholesterol and thus increase the risk of heart disease and type 2 diabetes. The fatty acid (palmitic acid C₁₆ and stearic acid C₁₈) of the most saturated fatty acids, because they are entering in the installation of most types of animal and vegetable fats

- If the bonds between carbon atoms are double or triple, the fatty acid is unsaturated (the fatty acid may be monosaturated or polyunsaturated). Sources of unsaturated fats: avocado oil, olive oil; Peanut butter, and peanut oil. the (oleic acid C₁₈) , is one of the most unsaturated fatty acids, and contains one double bond ,there is also fatty acids contain more than one double bond, such as (Linoleic acid C₁₈) .

- The length of the fatty acid chain and whether it is saturated or unsaturated affects their physical properties, such as: fluidity, flow or melting point, and the degree of solubility.

Dangers of saturated fats:

1- Heart disease risk :

Your body needs healthy fats for energy and other functions. But too much saturated fat can cause cholesterol to build up in the arteries (blood vessels). Saturated fat raises LDL cholesterol, and high LDL cholesterol increases the risk of heart disease and stroke.

2: Gain weight:

Many high-fat foods like pizza, baked goods, and fried foods contain a lot of saturated fat. Eating a lot of fat can add extra calories to your diet and lead to weight gain.

3- Eating more foods that contain saturated fats increases the risk of diabetes and other chronic diseases.

- Fatty acids are divided into essential and non-essential , essential fatty acids are those acids that can not be produced within the body, so it should be available with the food such as omega-6, and omega-3.,while the non-essential fatty acids are synthesized within the body by a series of biochemical interaction , such as oleic acid.

Trans fats:

Most trans fats are made by industrial processing that adds hydrogen to vegetable oil, making the oil solid at room temperature.

Trans fats are the worst type of fat you can eat. Trans fats, also called trans fatty acids, increase "bad" cholesterol and lower "good" cholesterol, unlike other dietary fats.

A diet rich in trans fats increases the risk of heart disease, the leading cause of death in adults. The higher the trans fat intake, the higher the risk of cardiovascular disease.

Trans fat sources:

Trans fats can be found in many different foods including fried foods, such as donuts, baked goods that include cakes, pies, biscuits, frozen pizza, crackers, margarine, and others.

Classification of lipids .

1- Triglyceride (TG) : is an ester derived from glycerol and three fatty acids . If the type of fatty acid is palmitic, the fat called tripalmitin , while if it is stearic fatty acid, the fat is called tristearin . These are fats and oils, which are stored in the adipose tissue in the animal .

2- phosphoglycerides : consists of a link of glycerol -3- phosphate with two fatty acids to produce phosphatidic acid , which is a composite middle, to configure other phosphoglycerides .

such as **Lecithins**: which is one of the most important biological compounds, are available a high percentage, in cell membranes of alveoli, therefore the low level in the body, leading to shortness of breath.

Cephalin : involved in the blood clotting process, and the transfer of fat from one place to another, also used in industry as emulsifiable agents .

3- Lipoproteins: consisting from some of the fat with protein, fatty part that is Triglyceride, phosphoglycerides and cholesterol. There in the installation of cell membranes and cellular membranes, and also in the blood of mammals, its function is to transfer fat from the intestine to the liver, and from the liver to the fat tissue.

can be classified to :

- **High density lipoprotein (HDL)** : working on the transfer of cholesterol and other lipids from various tissues to the liver. The cholesterol found in these particles, is the good kind and useful.

- **Low density lipoprotein (LDL)** :working on the transfer of cholesterol and other lipids fromliver to various tissues . The cholesterol found in these particles, is the bad kind and harmful.

- **Very Low density lipoprotein (VLDL)** : working on the transfer of triglycerides formed in the liver (**endogenous**) , from the liver to the other tissue .

- **Chylomicrons** : working on the transfer of triglycerides emerging from food(**exogenous**) , from thethe small intestine to liver and to other tissue .

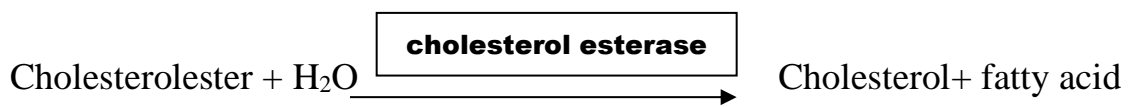
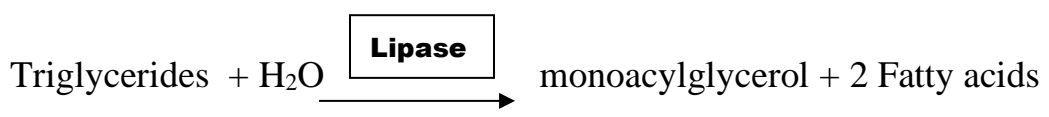
Found in honey, the fatty substance that covers the skin, hair, feathers and leaves of plants .

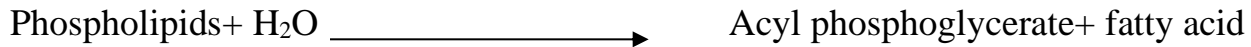
4- **Cholesterol** is a fat-like substance that is both produced by the body and found in foods of animal origin. Most of the body's cholesterol is synthesized in the liver; however, some is absorbed from the diet (e.g., from milk, egg yolk, and meats). Cholesterol is needed to create bile acids and to synthesize steroid hormones. Along with phospholipids, large quantities of cholesterol are present in cell membranes as well as other cell structures.

Metabolism of lipids

Digestion of lipids

The dietary fat, composed of triglycerides, cholesterol, cholesterol esters and phospholipids. The process of digestion begins in the small intestine, where fat turns into an emulsion by bile salts, and then exposed to hydrolysis, due to enzymes excreted by the pancreas, which include, Lipase(which works on the analysis of triglycerides) , cholesterol esterase, (analyzes the cholesterol ester), and Phospholipase, (analyzes the phospholipids).





The resulting components, absorbed by the epithelial cells of the intestines, then re-formation of the triglycerides, which, interfere with phospholipids, cholesterol and the amount of protein, to configure the lipoproteine (**Chylomicrons**) .

These particles move from the epithelial cells into the lymphatic system and then move to the blood, and working on the transfer of fat to the various organs of the body for the purpose of storage in fat tissue, or to the liver, muscle and heart for the purpose of oxidation, and energy production .

The process of decomposition of triglycerides by lipase to fatty acids and glycerol, is called **Lipolysis** , and there are several hormones to regulate the effectiveness of lipase (decomposition of triglycerides), such as epinephrin , norepinephrin and glucagon .

The fat in the blood stream travels by lipoproteins , because it does not polarity (does not dissolve in aqueous solutions) .

Oxidation of fatty acids

The triglycerides decompose, into fatty acids (which are oxidized completely to CO_2 and H_2O and energy), and glycerol (which changes in the liver to glycerol phosphate), which in turn is oxidized to dihydroxyacetone phosphate and enter the path of glycolysis.

Beta oxidation (**β -oxidation**) of fatty acids is the main road for the demolition of fatty acids in mitochondria, there are also other types of oxidative occurs by a small percentage, in the cells of the brain and liver .

The process analysis occurs in the cytoplasm, while the process of oxidative be completed in the mitochondria, so it must be transmitted the fatty acids from the cytoplasm to the mito

Functions of fat in the body

Fat has many important functions in the body, including the following:

1- Give energy to the body: Although carbohydrates are the body's "fuel" source, the body turns fats into a support source of energy when carbohydrates are not available. Fat is a concentrated source of energy.

1 gram of fat contains 9 calories, which is twice the amount of calories found in protein or carbohydrates.

2- Temperature regulation: Fat cells insulate the body to maintain its temperature.

3- Building cells: fats are one of the basic units needed to build cells.

Protection of bodily organs: the fat stored in the body surrounds the internal organs and preserves them from the impact of sudden movements and external shocks.

4- Assisting in the absorption of vitamin from food: some types of vitamins depend on fats for absorption, and they are the types known as fat-soluble vitamins, which are vitamins A, D, E and K, which are vitamins that cannot function without sufficient quantities of fat. If the body does not get enough amounts of fat as a result of a low-fat diet, it may limit the absorption of these vitamins, and consequently, a decrease in their levels in the body will occur.

5- Formation of hormones: Fats are the building blocks of some of the most important substances in the body, including prostaglandins, which are similar to hormones that regulate many bodily functions.

Therapeutic Nutrition

Unit Five: Proteins

Proteins: is one of the important types of bio-molecules, and constitute approximately 50 % of the organic substance contained in the installation of the cell , proteins are characterized as having high molecular weights , there are about 3,000 species of different proteins inside a living cell .

chemically : molecules consisting of a large number of amino acids linked together by peptide bonds , and smaller portion of protein that contains more than 40 amino acid .

Most of the proteins in nature, containing elements of a **C , H , O , N** and **S**, but may contain some specialized proteins on phosphorus (**P**) , such as casein (milk protein), or iron (**Fe**) such as hemoglobin .

Amino acids

Is the basic building block for the construction of all types of proteins, also considered raw materials for the construction of certain hormones and vitamins .

Chemically: organic acids (Carboxylic), and contains the amino group, as it contains the side group, different from each other.

- Classification of amino acids:

Common amino acids :

There are twenty amino acid are present in all kinds of proteins, which are of two types.

Essential amino acids: These acids are not taken to build inside the body, so it should be available with food such as threonine and leucine.

Non-essential amino acids: These acids can be built inside the body, so it is not necessary to be present with food such as glycine and glutamine.

- Peptides:

Amino acids linked together by peptide bond, and that the correlation of 2-9 amino acid leads to the formation of the peptide, in the case of a link more than this number, producing the so-called poly-peptide.

- Functions of proteins:

- 1. Enzymes :**proteins that catalyze chemical reaction , examples the dehydrogenases and phosphatases .
- 2. Storage proteins:** the most storage protein is ferritin, which stores iron to be later used in the manufacture of hemoglobin.
- 3. Energy source :** plasma proteins serve as a reserve source of energy for tissues and muscle .
- 4. Hormones :** proteins that are chemical messengers that control the actions of specific cells or organs . examples, insulin, testosterone and growth hormone .
- 5. Structural elements:** such as collagen, which enters in the composition of the connective tissue and cartilage.

6. Protective agents: some proteins have functions defensive against viruses and harmful bacteria called immunoglobulin or antibodies, these proteins combine with exotic objects (antigenes) , and works to destroy those objects .

7. Contractile proteins : such as Actin and Myosin , it works on the performance of the contraction and relaxation of the skeletal muscles .

8. Transport proteins : such as hemoglobin, which carries oxygen from the lungs to the different tissues, albumin, which binds with fatty acids in the blood .

- Plasma proteins:

Plasma proteins, mainly in the form of albumin and globulin, are organic compounds of large molecular size. Usually do not as freely across membranes as electrolytes thus plasma protein molecules are retained in blood vessels, controlling water movement in the body and maintaining blood volume by influencing the shift of water in and out of capillaries in balance with the surrounding water.

- Protein Metabolism:

Protein metabolism includes three activities: anabolism (building tissue), catabolism (breaking down tissue), and nitrogen balance.

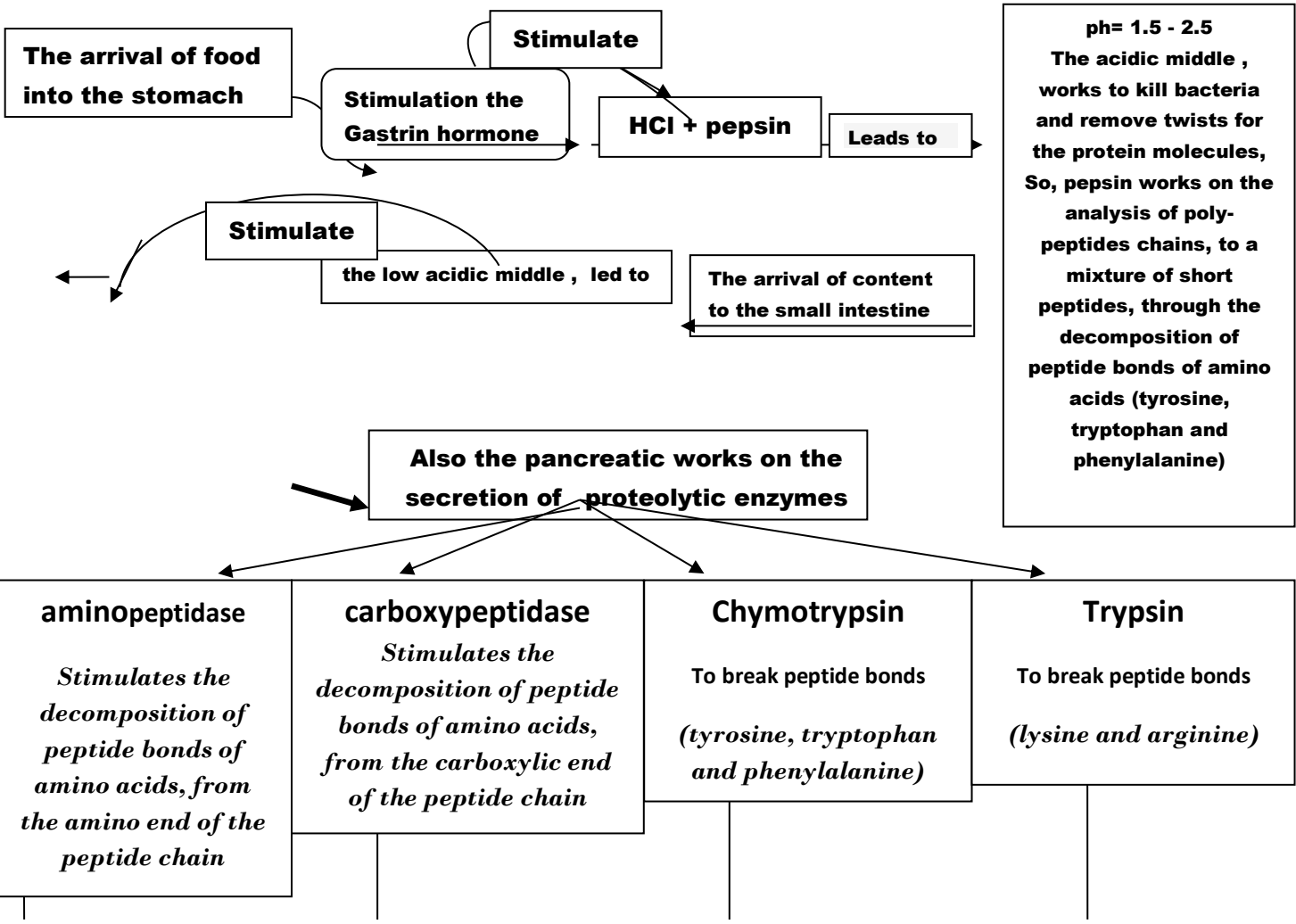
ANABOLISM. All body cells synthesize proteins from amino acids. The types of proteins formed depend on the characteristics of the cell and are controlled by its genes.

CATABOLISM. Because a cell can accumulate only a limited amount of protein, excess amino acids are degraded for energy or converted to fat. Protein degradation occurs primarily in the liver.

Nitrogen balance

This is when a person's daily intake of nitrogen from proteins equals the daily excretion of nitrogen's. If a person excretes more nitrogen than he consumes his body will break down muscle tissue to get the nitrogen needs (Negative nitrogen state) Muscle loss occurs. While if a person consumes more nitrogen than he excretes will be in an anabolic muscle building - state (positive nitrogen state).

- Digestion of proteins:



Now

the process of proteolysis has been completed, produce a mixture of various amino acids, these amino acids absorbed by the small intestine , with high efficiency, and transported by the blood to the liver, which works on the metabolism of amino acids

- Fate of amino acids:

The amino acids in the liver, can enter in many directions :

- 1- Manufacture of blood plasma proteins, and protein of liver cells .
- 2- Transmitted by blood, for the manufacture of proteins in different tissues .
- 3- Some amino acids, enter in the process of decarboxylation .
- 4- Some amino acids enter in the process of deamination, (deleting the amino group) .
- 5- Also some amino acids can be transform into a (**Acetyl-CoA**) , which enters the Krebs cycle, to generate energy in special cases .

- Complete and Incomplete Proteins :

Complete proteins are a type of protein that contains all the essential amino acids in the correct ratio for humans and other animals. The human body requires 20 amino acids for protein synthesis. Some of them are manufactured by the body. The rest of the amino acids must be obtained through food. These amino acids are called essential amino acids. Complete proteins contain all the essential amino acids within the same source.

Proteins derived from animal sources are complete proteins. This means that meat, poultry, fish, eggs, cheese and milk are complete proteins. . Plant sources such as legumes, seeds, grains, and vegetables may also contain complete proteins.

Incomplete proteins. If the protein you eat doesn't have all the nine types of amino acids you need to get from food, it's called an "incomplete protein." Incomplete proteins examples include: nuts and seeds, whole grains (like brown rice or whole-wheat bread), vegetables and legumes.

- The daily requirement of protein for the body:

Low daily protein intake is a portent of danger. As it may cause a deterioration in the body's composition of muscles and fat, which negatively affects public health, and therefore the need arises for the need to eat the recommended amount of it. However, scientific opinions about the amount of protein that the body needs vary widely; There is no evidence that eating reasonable amounts of proteins causes harm or negative effects on healthy people, and there is no strong scientific evidence of a benefit when these estimates are exceeded. Lots of exercise and weightlifting, about 0.8 to 1.3 grams per kilogram, and this is estimated at:

Average male requirement: 56-91 grams per day.

Average female need: 46-75 grams per day.

Situations that require a higher amount of protein:

1. Muscle Building.
2. Physically active people.
3. The elderly.
4. Pregnancy.
5. People recovering from injuries need more protein than they normally would.