INTERNSHIP REPORT

Fatima Memorial Hospital,Lahore

BY

SANA SAJID

21-ARID-3713

DEPARTMENT OF LIFE SCIENCES

BARANI INSTITUTE OF SCIENCES

SAHIWAL CAMPUS

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An Internship Report submitted in partial fulfilment of the requirements for the degree of

BS HUMAN NUTRITION AND DIETETICS

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CERTIFICATION

I, Sana Sajid solemnly declare that this internship report at “Fatima Memorial Hospital Lahore” is of my personal working efforts and no part has been copied from any published source. I further declare that this work has not been submitted for award of any other diploma/degree.

DEDICATION

At first dedicating this work to **Allah Almighty**, Without His mercy and sympathy, I was not able to accomplish this work also I would like to dedicate this little effort of serving the Humanity to the Holy Prophet (peace be Upon him) and to all those who have supported, encouraged, and inspired me throughout this journey. To my parents, my well wishers and who shared their words of advice and encouragement to finish this study. To my honorable teachers, who taught me each and everything about life and gave me strength, courage in these four years of degree.

ACKNOWLEDGEMENT

All praise to **Allah Almighty** the most merciful and the most beneficent who gave me confidence guidance and abilities to complete this report successfully. As it was new place for me so was a little bit confused at the beginning but Allah almighty gave me strength at that time. I am grateful to my parents who are always been a source of encouragement for me throughout my life and from the start to the end of this journey. I express my greatest gratitude to my kind hearted supervisor **Madam Mahum Shahid** and **Madam Emillia** (Coordinator) their enthusiasm shows the way forward to me to achieve this success and who kept me in high spirit through her appreciation she helped me a lot each time I went up to her. Special thanks and appreciation goes to my university beloved teachers especially Head of Department **Mrs. Mahrukh Khan**. I would like to thank **Sir Muhammad Shaheer and Sir Faisal Akhlaq** for their kind supervision, suggestion and support during internship. They provide the proper guidance and support time to time which helps me a lot to work in such competitive environment and timely completion of assignment. However, it was not possible without the kind support of my teachers of food science & nutrition at Barani Institute of Sciences Sahiwal.

SANA SAJID

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EXECUTIVE SUMMARY

I did my internship from Fatima Memorial Hospital Lahore. Where, I have worked as an internee in nutrition department. My supervisor name was Madam Mahum Shahid. I learnt so many things during my stay at hospital. where, I have learnt assessment of patients visiting both indoor or outdoor settings. I have also learnt the method of reading patient's file. Internship helped me to understand how a nutritionist or dietician can help the person to adopt a healthy life style. I performed duties in different wards like surgical, neurology, nephrology, medical and paediatrics etc. Where, I assessed patient's using dietary assessment methods. In wards, I evaluate different types of health conditions. The major complications seen in most patients were depression, obesity, diabetes, high blood pressure, chronic kidney diseases, cardiac vascular diseases and hepatic issues. In surgical ward, most of the people were suffering with cholelithiasis, and hiatal hernia. The obesity was the major cause of these diseases. Consuming high fat and high caloric

food with low activity level leads to major complication like obesity that led to various health conditions. In medical ward, patients were suffering from gastric and ulcerative colitis. Most of the patients were having symptoms like diarrhoea, vomiting and severe abdominal pain. This is due to the bad eating habits and consuming food that was not prepared under hygienic condition. Improper diet is the major problem leading to majority of health issues. As an internee my overall experience was very well. During my internship I have learnt counselling, assessment and file reading.

CHAPTER NO #01

INTRODUCTION

Figure:1.1. fatima memorial Hospital Lahore

Fatima Memorial Hospital, Lahore (FMH) is one of the premier medical institutions in the country. Fatima Memorial Hospital was established following a tragic personal loss experienced by Maulvi Feroz-ud-din, who lost his wife, Kaneez Fatima, during childbirth in 1917 due to inadequate medical facilities. In 1944, he founded the Feroz sons Trust to provide quality medical care to the underprivileged and to promote community education and social development.

In 1971, Feroze-ud-din's son and daughter-in-law, Dr. Abdul Waheed and Begum Saida Waheed, donated their assets to construct a hospital dedicated to women children. FMH began as a 200-bed community hospital in 1977 and has since evolved into a 453-bed multi-specialty tertiary care teaching hospital.

Mission

Its mission is very classic as mentioned below:

"To provide quality healthcare without discrimination to patients from all walks of life, regardless of their ability to pay."

Vision

"Quality healthcare and research-based education for all, leading to integrated socio-economic community development."

Core Philosophy

FMH operates on a model of **cross-subsidization**, where funds generated from affluent patients are used to benefit underprivileged individuals. The hospital is committed to providing quality health care services to all patients, regardless of their financial situation.

Infrastructure and Improvements

Fatima Memorial Hospital continually upgrades its facilities to enhance patient care. Recent updates include improvements in infrastructure, capacity-building workshops, and marketing initiatives aimed at increasing community outreach.

Patient Statistics

The hospital has experienced significant patient engagement, with thousands treated annually across various departments.

Inauguration

Addition of Institute of Nursing and Health Sciences on 10 March 1994

- **Administrative Control**

Administrative control was initially with Federal Ministry of Health which was transferred to Cabinet Division in 1994.

- **Upgradation**

In 2004, beds were upgraded to 713.

- **Inauguration of FMMC**

Fatima Memorial Medical College was inaugurated by the Prime Minister of Pakistan in 2000.

- **Inauguration of New Medical Campus**

New Medical Campus was inaugurated by the President of Pakistan .

Devolvement

FMMC was devolved by Punjab Government .

Administrative Control

FMMC retrieved in the federal govt and placed under Administrative Control of cabinet division.

Services Offered

Corporate Services:

• Corporate Business Services

• Insurance Companies on FMH Panel

DEPARTMENTS

i. **Division of Medicine Department**

- General medicine ward
- Nephrology ward
- Pulmonology ward
- Cardiology ward
- Neurology ward
- Paediatrics ward
- Dermatology ward
- Gastroenterology ward

ii. **Division of Surgery Department**

- Surgical Unit
- Cardiothoracic Surgery
- Neurosurgery
- ENT
- Ophthalmology
- Dental Surgery
- Urology
- Liver and kidney Transplant

iii. **Division of Pathology and Radiology Department**

- Radiology
- Hematology
- Histopathology
- Microbiology and Virology

CHAPTER NO #02

INTRODUCTION TO NUTRITION

Nutrition is defined as the processes by which an animal or plant takes in and utilizes food substances. Essential **nutrients** include protein, carbohydrate, fat, vitamins, minerals and electrolytes. Normally, 85% of daily energy use is from fat and carbohydrates and 15% from protein.

Nutritionist vs. Dietitian

A nutritionist is a health specialist who devotes professional activity to food and nutritional science, preventive nutrition, diseases related to nutrient deficiencies, and the use of nutrient manipulation to enhance the clinical response to human diseases.

A dietician is an expert in food and nutrition. Dietitians help promote good health through proper eating. They also supervise the preparation and service of food, develop modified diets, participate in research, and educate individuals and groups on good nutritional habits.

Food Guide Pyramid

The Food Guide Pyramid is a simple way to show people what a healthy, balanced diet looks like.Imagine a pyramid with different layers. Each layer shows a group of foods you should eat, from the ones you should eat the most (at the bottom) to the ones you should eat the least.Eat more grains, vegetables, and fruits, eat some protein and dairy, and go easy on fat.

My Plate

MyPlate is an easy-to-understand guide that shows you what a healthy meal should look like — like a picture of your plate divided into sections.Instead of using a pyramid, MyPlate looks like a real dinner plate, and it's split into five parts to help you balance your meals.

NUTRITION CARE PROCESS

The nutrition care process is a systematic approach to providing high-quality nutrition care. It was published as part of the nutrition care model. There are four steps in the process:

- Nutrition Assessment
- Nutrition Diagnosis
- Nutrition Intervention
- Nutrition Monitoring and Evaluation

Nutrition assessment

The nutritionist collects and documents information such as food or nutrition-related history, biochemical data, medical tests and procedures, anthropometric, nutrition focused physical findings and client history.

Diagnosis

Data collected during the nutrition assessment guides the nutritionist in selection of the appropriate nutrition diagnosis (i.e., naming the specific problem).

Intervention

The nutritionist then selects the nutrition intervention that will be directed to the root cause of the nutrition problem and aimed at alleviating the signs and symptoms of the diagnosis.

Monitoring/Evaluation: The final step of the process is monitoring and evaluation, which the RDN uses to determine if the patient/client has achieved, or is making progress toward, the planned goals.

Objectives

- Define and explain the Nutrition Care Process
- Identify how the steps and criteria of the nutrition care process promote quality care
- Implement the nutrition care process to guide and document nutrition care and outcomes
- Discuss the differences between the medical diagnosis and the nutrition diagnosis
- Given a case scenario, correctly diagnose nutrition problems
- Gather information from a patient history using a case study
- Critically evaluate patient information to complete a nutrition assessment
- Develop an understanding of critical thinking skills

Nutritional status

The definition of nutritional status is the condition of the body as a result of the intake, absorption and use of nutrition as well as the influence of disease-related factors. Nutritional status of an individual is generally dependent on two factors as mentioned below:

External factors such as food safety, cultural, social, economic factors

Internal factors, which include age, sex, nutrition, behaviour, physical activity and diseases of the person

A Subjective Global Assessment can also be used to assess the nutritional status. With the help of a patient's medical anamnesis, a diet anamnesis and a few simple observations, the general nutritional status can be assessed through lot of authentic ways as mentioned;

- Estimated weight loss in the last six months
- Certain diseases and therapies that provide a reduced intake of nutrients
- Increased losses
- Metabolic stress
- Nutrition assessment

It is the significant evaluation made by dietitians by using histories related to health, dietary intake, medication, social, nutritional, medical, supplemental and herbal. It helps the dietitian to create a whole picture of patient’s nutritional status.

It includes 4 methods:

- Anthropometric measurement
- Biochemical assessment
- Clinical assessment
- Dietary assessment

Nutrition diagnosis

Purpose

The purpose of a nutrition diagnosis is to identify and describe a specific nutrition problem that can be resolved or improved through treatment/nutrition intervention by a food and nutrition professional. A nutrition diagnosis (e.g., inconsistent carbohydrate intake) is different from a medical diagnosis (e.g., diabetes).

Determining a nutrition diagnosis

Food and nutrition professionals use nutrition assessment data to identify and label the patient/client's nutrition diagnosis using standard nutrition diagnostic terminology. The nutrition care process provides a reference sheet for each nutrition diagnosis that includes its definition, possible etiology/causes, and common signs or symptoms identified in the nutrition assessment step,all these are defined in authentic way as everyone could understand easily.

Terminology for nutrition diagnosis is organized in 3 domains (categories) intake

Too much or too little of a food or nutrient compared to actual or estimated needs.

Clinical

Nutrition problems that relate to medical or physical conditions.

Behavioural environmental

Knowledge, attitudes, beliefs, physical, environment, access to food, or food safety. Documenting a nutrition diagnosis:

Food and nutrition professionals write a PES (Problem, Etiology, Signs and Symptoms) statement to describe the problem, its root cause, and the assessment data that provide evidence for the nutrition diagnosis.

Problem or nutrition

Diagnosis term describes alterations in the patient/ client's nutritional status.

Etiology

Cause/contributing risk factors linked to the nutrition diagnosis term by the words related to.

Signs and symptoms

Basic signs and symptoms are given below:

Data or indicators used to determine the patient/client's nutrition.

- Diagnosis linked to the etiology by the words as evidenced by.

Nutrition intervention

The purpose of a nutrition intervention is to resolve or improve the nutrition diagnosis or nutrition problem by provision of advice, education, or delivery of the food component of a specific diet or meal plan tailored to the patient/clients needs. The nutrition diagnosis and its etiology drives the selection of a nutrition intervention. Nutrition intervention strategies are selected to change nutritional intake, nutrition-related knowledge or

behavior, environmental conditions, or access to supportive care and services. Nutrition intervention goals provide the basis for monitoring progress and measuring outcomes.

Food and nutrient delivery

Individualized approach for food/nutrient provision.

Nutrition education

A formal process to instruct or train a patient/client in a skill or to impart knowledge to help patients/clients voluntarily manage or modify food, nutrition and physical activity choices and behavior to maintain or improve health.

Nutrition counselling

A supportive process, characterized by a collaborative counselor-patient relationship, to establish food, nutrition and physical activity priorities, goals, and individualized action plans that acknowledge and foster responsibility for self-care to treat an existing condition and promote health.

Coordination of nutrition care

Consultation with, referral to, or coordination of nutrition care with other health care providers, institutions, or agencies that can assist in treating or managing nutrition-related problems. Implementation is the action phase and involves:

- Communication of the nutrition care plan
- Carrying out the plan

Determining what to measure for nutrition monitoring and evaluation

Practitioners should select nutrition care indicators that will reflect a change as a result of nutrition care. The monitoring and evaluation phase should be considered during the assessment phase, while determining the nutrition diagnosis and the nutrition intervention. Additional factors to consider are the medical diagnosis, health care outcome goals, nutrition quality management goals, practice setting, patient/client population, disease state and severity.

Food nutrition-related history outcomes

Food and nutrient intake, food and nutrient administration, medication, complementary/ alternative medicine use, knowledge/ beliefs, food and supplies availability, physical activity and nutrition quality of life.

Anthropometric measurement outcomes

Height, weight, body mass index, growth pattern indices/percentile ranks, and weight history.

Biochemical data, medical tests, and procedure outcomes

Lab data (e.g., electrolytes, glucose) and tests (e.g., gastric emptying time, resting metabolic rate).

NUTRITIONAL ASSESSMENT

- It is an in-depth evaluation of both objective and subjective data related to an individual's food and nutrient intake, lifestyle, and medical history.
- Once the data on an individual is collected and organized, the practitioner can assess and evaluate the nutritional status of that person.

Purpose

- Identify individuals or population groups at risk of becoming malnourished
- To obtain precise information about the prevalence and geographic distribution of nutritional problems of a community
- To develop health care programs that meet the community needs
- To measure the effectiveness of the nutritional programs & intervention once initiate.

Methods

There are two methods of Nutritional assessment:

Direct Method

Direct methods deal with the individual and measure objective criteria.

These are ABCD

- Anthropometric methods
- Biochemical, laboratory methods
- Clinical methods
- Dietary evaluation methods

Indirect Methods

Indirect methods use community health indices that reflect nutritional influences

These include three categories:

- Economic factors e.g. per capita income, population density & social habits
- Vital health statistics particularly infant & under 5 mortality & fertility index

Ecological variables including crop production

Anthropometric Methods

- Anthropometry is the measurement of body height, weight & proportions
- It is an essential component of clinical examination of infants, children & pregnant women
- It is used to evaluate both under & over nutrition
- The measured values reflect the current nutritional status
- Don't differentiate between acute & chronic changes

BMI (Classification)

The International Classification of adult underweight, overweight and obesity according to BMI

Waist/Hip Ratio

- Waist circumference is measured at the level of the umbilicus to the nearest 0.5 cm
- The subject stands erect with relaxed abdominal muscles, arms at the side, and feet together
- The measurement should be taken at the end of a normal expiration.

Waist Circumference

- Waist circumference predicts mortality better than any other anthropometric measurement.
- It has been proposed that waist measurement alone can be used to assess obesity, and two levels of risk have been identified.

	MALES	FEMALE

LEVEL 1	> 94cm	> 80cm
LEVEL 2	> 102cm	> 88cm

Biochemical, Laboratory Methods

Initial Laboratory Assessment

- Haemoglobin estimation is the most important test, & useful index of the overall state of nutrition
- Beside anemia it also tells about protein & trace element nutrition
- Urine - creatinine, sugar and blood.

Specific Lab Tests

- Measurement of individual nutrient in body fluids (e.g. serum retinol, serum iron.)
- Detection of abnormal amount of metabolites in the urine (e.g. urinary creatinine/hydroxyproline ratio)

Analysis of hair nails & skin for micro-nutrients.

Advantages of Biochemical Method

- It is useful in detecting early changes in body metabolism & nutrition before the appearance of overt clinical signs
- It is precise, accurate and reproducible
- Useful to quantify mild deficiencies
- Assessment of current nutritional status of the individual

Clinical Assessment

Advantages

- Fast & Easy to perform
- Inexpensive
- Non-invasive

Limitations

- Did not detect early cases

Dietary Evaluation Methods

Diet Survey

- Value is enhanced supplementing with food consumption assessment
- Household inquiry about pattern of food consumption is called as Diet survey

- Diet survey is conducted for individual, family or community level.

Five different methods are

- 24 hours Dietary Recall
- Food Frequency Questionnaire
- Dietary history
- Observed food consumption

24 Hour Dietary Recall

- A trained interviewer asks the subject to recall all food & drink taken in the previous 24 hours
- It is quick, easy, & depends on short-term memory, but may not be truly representative of the person's usual intake.

Food Frequency Questionnaire

- In this method the subject is given a list of around 100 food items to indicate his or her intake (frequency & quantity) per day, per week & per month
- Inexpensive, more representative & easy to use

Diet History

- Advantages: Most accurate method, Detailed info of frequency, time and amount of intake
- Disadvantages: Time consuming, Lack of standardization

Food Diary Technique

- This one is least used method, it has less benefits, in this method, we write down the type & amount of food taken
- Disadvantage: Difficult to maintain
- Advantage: Not dependent on memory

BASIC CALCULATIONS FORMULAS

Anthropometric Measurement

Weight ——— pounds x2.2 = —— kg

Height ——— inches x 2.45 = —— cm ÷ 100 = —— m

MUAC: _____cm

Interpretation: _____

Ideal body weight (IBW)

Female: 100(lbs) for 5' + 5 x (_____) inches = —— lbs ÷ 2.2 = —— kg

Male: 106(lbs) for 5' + 6 x (_____) inches = —— lbs ÷ 2.2 = —— kg

IBW%: IBW ÷ ABW x 100 = —— kg ÷ —— kg = ———

BMI: ABW (kg) ÷ height $_2$ (m_2) = —— kg ÷ —— m_2 = ——— kg/m_2

Interpretation: _____

Demi-span (height)

Male: (1.4 x ——— cm) + 57.8 = ——— cm

Female: (1.35 x ———cm) + 60.1 = ——— cm

Knee to Ankle Height

Male: Height in cm = 64.19 - (0.04 x age) + (2.02 x knee height) = _____

Female: Height in cm = 84.88 - (0.24 x age) + (1.83 x knee height) = _____

EXCHANGE LIST

Foods Groups:

- Starches/cereals
- Milk
- Meat and meat substitutes
- Vegetables
- Fruits
- fat

Starches

Each serving:15 g carbohydrate, 0-3 g protein, 0-1g fat, 80 calories

FOODS	SERVING SIZE
Chapatti	6 Inches
Cooked rice or pasta	1/3 cup or ½ cup
Brown or white bread	1 slice
Cooked cereal, grain, or starchy vegetable	½ cup
Biscuits	2 ½ inches across
Quinoa cooked	1/3 cup
Naan (8 BY 2 Inches)	1/4
Pita (6 inches across)	1/2
Tortilla	6 Inches
Oats	¼ cup

Starchy Vegetables

Corn	½ cup
Peas	½ cup
Potato (baked with skin)	¼ large
Potato boiled	½ cup
Pumpkin	1cup
Sweet potato	½ cup

Non-Starchy Vegetables

Each Serving = 5 g carbohydrate, 2 g protein, 0 g fat, 25 calories

Serving size:

- Cooked veges: ½ Cup
- Uncooked veges: 1 Cup
- Vegetable Juice: ½ Cup

Spinach	Cucumber
Baby corn	Eggplant
Beans	Green onions
Bean sprouts	Mixed vegetables
Beetroot	Okra
Cauliflower	Onions
Carrots	Peppers

Milk

Each Serving=Skim Milk (Low Fat 1%):12 g carbohydrate, 8 g protein, 0-3 g fat, 100

calories,Reduced Fat (2%):12 g carbohydrate, 8 g protein, 5 g fat, 120 calories,Whole Milk:15 g carbohydrate, 8 g protein, 8 g fat, 160 calories

Fat free or low fat	
Milk, buttermilk	1 cup
Evaporated milk	½ cup
Yogurt	2/3 cup
Reduced fat	
Milk	1 cup
Yogurt	2/3 cup
Whole	
Milk, buttermilk	1 cup
Evaporated milk	½ cup
Yogurt plain	8 oz

Meat And Meat Substitutes

Each Serving:

Lean Meat: 0 g carbohydrate, 7 g protein, 0-3 g fat, 45 calories

Medium Fat Meat: 0 g carbohydrate, 7 g protein, 4-7 g fat, 75 calories

High Fat Meat: 0 g carbohydrate, 7 g protein, 8 g fat, 100 calories

Plant based Protein: varies carbohydrate, 7 g protein, varies g fat, varies calories

Lean Meats	**Serving**
Cottage cheese	¼ cup
Egg whites	2
Fish smoked	1oz
Lamb roast	1 oz
Medium Fat Meat	
Beef	1oz
Cheese with 4-7gm fat/oz	1 oz
Egg	1
Fish fried	1 oz
Lamb, rib roast	1 oz
Poultry: chicken with skin, fried chicken	1 oz
High Fat Meat	
Cheese regular	1 oz
Hot dog	1
Processed sandwich meats	1 oz
Sausage	1 oz
Plant based protein	

Baked beans	1/3cup

Fruit And Fruit Juices

Each Serving:15 g carbohydrate, 0 g protein, 0 g fat,60 calories

FOODS	SERVING SIZE
Apple (small, unpeeled)	1 (4 oz)
Apricots	4 whole
Banana (extra small)	1
Blackberries	¾ cup
Blueberries	¾ cup
Cherries fresh	12
Dates	3
Dried fruits	2 tbsp.
Figs fresh	2 medium
Grape fruit (large)	1/2
Grapes	17
Kiwi	1
Mango small	1/2
Orange small	1
Papaya	½ fruit/ 1cup cubed(8oz)
Peaches	1
Pear	½
Pineapple	½ cup
Plums small	2

Apple juice	½ cup

CHAPTER NO #03

TYPES OF DIET

- Regular Diet
- Soft Diet
- Semi Solid Diet
- Liquid Diet
- Clear Liquid Diet

REGULAR DIET:

A regular diet is a standard, healthy eating plan that doesn't have specific restrictions or modifications. It's designed to provide a balanced intake of nutrients and calories for individuals who don't have underlying health conditions that require a special diet.

Medical Nutrition Therapy (MNT):

- Drink a plenty of water.
- Avoid beverages, sugary products.
- Reduce consumption of sugary drinks and fried foods.

SOFT DIET:

Soft diet easily chewed and swallowed, often recommended for individuals experiencing difficulties with chewing or swallowing, or recovering from surgery or illness. Include soft, tender meats, fruits, vegetables, and grains that are easy to digest.

Medical Nutrition Therapy (MNT):

- Avoid alcohol and beverages.
- Drink a plenty of water
- Avoid foods that are difficult to chew or swallow like large chunks of meat, raw fruits, and vegetables.

SEMI DOLID DIET:

A semi-solid diet includes foods that are soft, moist, and easily mashed or pureed. Examples include mashed potatoes, cooked and pureed vegetables, applesauce, soft fruits like bananas, yogurt, cottage cheese, and thinned cooked cereals.

Medical Nutrition Therapy (MNT):

- Use dairy products like Milk, yogurt, cheese, and cottage cheese.
- Mashing or pureeing cooked vegetables can make them easier to consume.
- Eat small and frequent meals for better digestion

LIQUID DIET:

A liquid diet is a dietary plan that primarily or exclusively consists of liquids, or foods that become liquid at room temperature. It is often prescribed for individuals recovering from surgery, dealing with gastrointestinal issues, or having difficulty chewing or swallowing.

Medical Nutrition Therapy (MNT):

- Always eat in portion size.
- Drink a plenty of water.
- Eating at least five servings of fruits and vegetables daily provides essential vitamins, minerals, and fiber.

CLEAR LIQUID DIET:

A clear liquid diet is a short-term meal plan consisting of only clear liquids that can be seen through, and it's typically prescribed for medical reasons like before or after surgery, or to manage certain digestive issues. It's not intended to be a long-term solution because it lacks many essential nutrients.

Medical Nutrition Therapy (MNT):

- Consume water, clear fruit juices (apple, white grape, cranberry), clear broth (bouillon, consommé), sports drinks, carbonated beverages (sodas), tea, and coffee (without milk or cream).
- All solid foods are excluded, including milk, orange juice, and other liquids that are not transparent.
- Juices with pulp, cream soups, and any liquids that are not clear when at room temperature.

Fig.1.2. types of diet

CHAPTER NO #04

CASE STUDIES

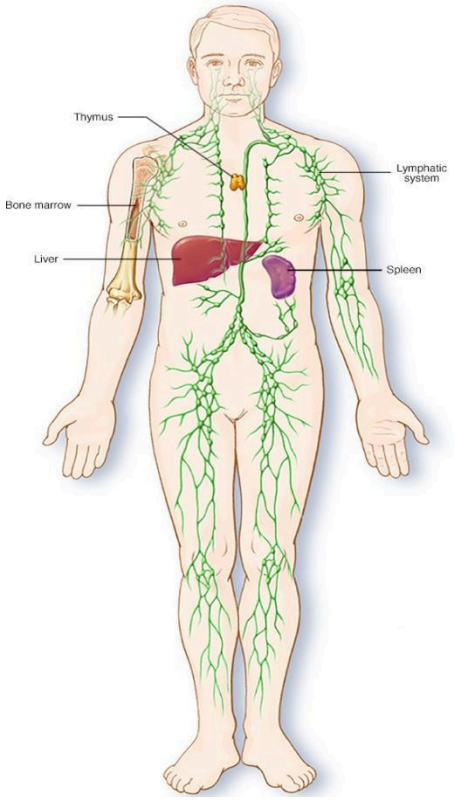
MEDICAL WARD

1.Non-Hodgkin's lymphoma

Non-Hodgkin's lymphoma is a type of cancer that begins in your lymphatic system, which is part of the body's germ-fighting immune system. In non-Hodgkin's lymphoma, white blood cells called lymphocytes grow abnormally and can form growths throughout the body.

Types

- Chronic lymphocytic leukemia
- Cutaneous B-cell lymphoma
- Cutaneous T-cell lymphoma
- Follicular lymphoma
- Waldenstrom macroglobulinemia



Symptoms

Signs of non-Hodgkin's lymphoma include

- Swollen lymph nodes in your neck, armpits or groin
- Abdominal pain or swelling
- Chest pain, coughing or trouble breathing
- Persistent fatigue
- Fever
- Night sweats
- Unexplained weight loss

Causes

In most instances, doctors don't know what causes non-Hodgkin's lymphoma. It begins when your body produces too many abnormal lymphocytes, which are a type of white blood cell.

Scientists have not established the cause of NHL. However, possible risk factors for the disease include:

- infections
- immune disorders
- genetics and race
- a family history of NHL

B cells and T cells

Non-Hodgkin's lymphoma most often begins in the:

- **B cells.** B cells are a type of lymphocyte that fights infection by producing antibodies to neutralize foreign invaders. Most non-Hodgkin's lymphoma arises from B cells. Subtypes of non-Hodgkin's lymphoma that involve B cells include diffuse large B-cell lymphoma, follicular lymphoma, mantle cell lymphoma.
- **T cells.** T cells are a type of lymphocyte that's involved in killing foreign invaders directly. Non-Hodgkin's lymphoma occurs much less often in T cells. Subtypes of non-Hodgkin's lymphoma that involve T cells include peripheral T-cell lymphoma and cutaneous T-cell lymphoma.

Risk factors

Most people diagnosed with non-Hodgkin's lymphoma don't have any obvious risk factors. And many people who have risk factors for the disease never develop it.

Some factors that may increase the risk of non-Hodgkin's lymphoma include:

- **Medications that suppress your immune system.** If you've had an organ transplant and take medicines that control your immune system, you might have an increased risk of non-Hodgkin's lymphoma.
- **Infection with certain viruses and bacteria.** Certain viral and bacterial infections appear to increase the risk of non-Hodgkin's lymphoma. Viruses linked to this type of cancer include HIV and Epstein-Barr infection. Bacteria linked to non-Hodgkin's lymphoma include the ulcer-causing Helicobacter pylori.
- **Chemicals.** Certain chemicals, such as those used to kill insects and weeds, may increase your risk of developing non-Hodgkin's lymphoma. More research is needed to understand the possible link between pesticides and the development of non-Hodgkin's lymphoma.
- **Older age.** Non-Hodgkin's lymphoma can occur at any age, but the risk increases with age. It's most common in people 60 or over.

MNT of Non-Hodgkin's lymphoma

Foods to avoid if a person has NHL

Some research suggests a link between a high intake of meat and fats and an increased risk of NHL. Due to this association, a person with an NHL diagnosis should follow a balanced diet to minimize their food safety risks.

People who have a low amount of white blood cells may want to avoid certain foods or drinks that contain live bacteria. Doing so will help reduce their risk of bacterial infection. Examples of foods to avoid include:

- Probiotic Yogurts, Foods, Or Drinks, Such As Kefir, Kimchi, Or Sauerkraut
- Unpasteurized Foods And Drinks
- Blue Or Mold-Ripened Cheeses
- Raw Honey

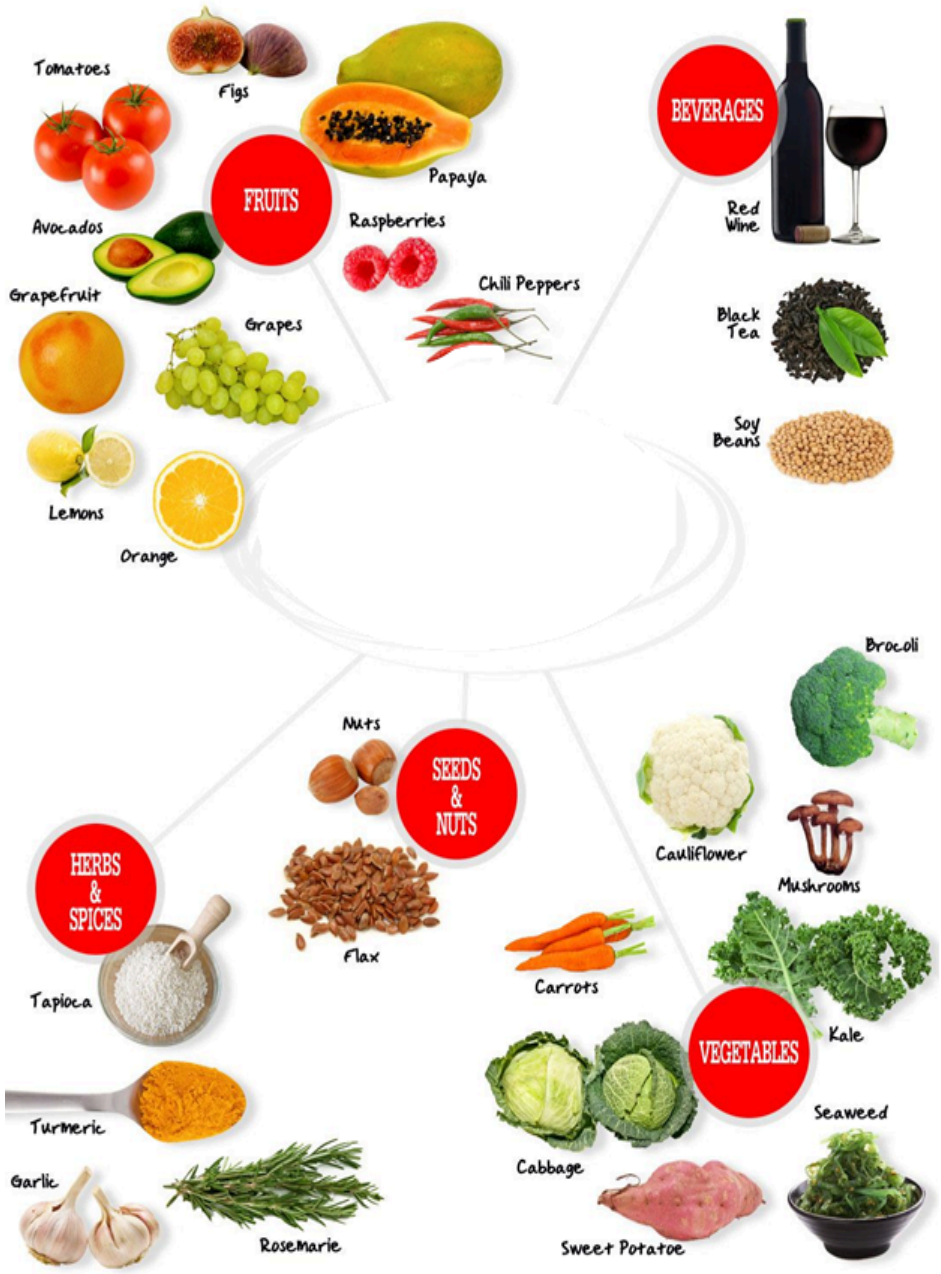


Figure:1.3. Anti-Lymphoma Foods

Case study

Patient name: Shamim Bibi **Age:** 70 years

Height: 169cm **Weight:** 80 kg

IBW: 72kg **BMI:** Overweight

Caloric Requirement: 1240 kcal/day

Diagnose: Non-Hodgkin's lymphoma

Biochemical Test

Tests	Results	Normal Ranges
Sodium	135 mEq/L	135 and 145 mEq/L
HBsAg	.91 Borderline	1.0 s/c
Aldosterone	5.79 ng/dl	2-4ng/dl

Clinical Assessment

- Nails are spoon shaped with white spots
- Feet are dry with less muscle mass
- Blurred vision with baggy eyes
- Dry mouth with sores
- Skin is scaly and dry

Dietary Assessment

- He’s consuming much carbs in diet
- Not much taking of fruits with peel
- Skipping the snack meal
- Using dairy and Dairy products

AMDR

Total Calories = 9505 kcal/day

Carbs = 50 % = 113.2 g

Protein = 30 % = 107g

Fat = 20 % = 28g

Diet Plan

	Food items	Quantity	Calories

Pre breakfast	Chia Seeds, lemon water	1oz, 1 lemon	120+30
Break fast	Oatmeal or porridge or khichri with yoghurt with flex seed	1 cup 1 cup	160 +120=280
Brunch	Papaya/ apple without Peel	2	60+60 =120
Lunch	Chicken vegetable, soup, White rice, banana Salad (mix veg.)	1 cup ½ cup 2 1 cup	100 80 120
Evening Snack	Almond milk	1 cup	180
Dinner	White rice, grilled fish	½ cup 3 oz	80 135
Post Dinner	Pomegranate juice	1 cup	160
		Total Calories	**1504kcal/day**

Medical nutrition therapy

Lymphoma Action recommends eating a balanced diet that includes the following:

- Plenty of fruits and vegetables
- carbohydrates, including wholegrain carbs, should make up around a third of a person's daily food intake for energy
- Proteins, such as some meat, fish, eggs, and pulses, a type of legume
- Some milk, other dairy products, or dairy alternatives

small amounts of foods that are high in sugar and fat

GYNAE WARD

2. Gestational diabetes

Gestational diabetes mellitus (GDM) is defined as any degree of glucose intolerance with onset or first recognition during pregnancy. Pregnancy-induced hypertension (PIH) is the development of new hypertension in a pregnant woman after 20 weeks gestation without the presence of protein in the urine or other signs of pre-eclampsia. Gestational hypertension can lead to a serious condition called preeclampsia, also referred to as toxemia.

Fig.1.4. glucometer

Common type of gestational diabetes

- **Chronic Hypertension** women who have high blood pressure (over 140/90) before pregnancy, early in pregnancy (before 20 weeks), or continue to have it after delivery
- **Gestational Hypertension** high blood pressure that develops after week 20 in pregnancy and goes away after delivery
- **Preeclampsia** both chronic hypertension and gestational hypertension can lead to this severe condition after week 20 of pregnancy. Symptoms include high blood pressure and protein in the urine. This can lead to serious complications for both mom and baby if not treated quickly

Signs and symptoms of PIH

- Increased blood pressure
- Protein in the urine
- Edema
- Sudden weight gain

- Visual changes such as blurred or double vision
- Nausea, vomiting
- Right-sided upper abdominal pain or pain around the stomach
- Urinating small amounts

Sign and symptoms of GDM

- Sugar in urine
- Unusual thirst
- Frequent urination
- Fatigue
- Nausea
- Frequent vaginal, bladder, and skin infections
- Blurred vision

Causes

- During pregnancy, the placenta makes hormones that can lead to a buildup of glucose in your blood. Usually, your pancreas can make enough insulin to handle that. If not, your blood sugar levels will rise and can cause gestational diabetes.
- The placenta, which connects your baby to your blood supply, produces high levels of various other hormones. Almost all of them impair the action of insulin in your cells, raising your blood sugar. Modest elevation of blood sugar after meals is normal during pregnancy.

Diagnosis

Gestational diabetes usually happens in the second half of pregnancy

Your doctor will check to see if you have gestational diabetes between weeks 24 and 28 of your pregnancy

To test for gestational diabetes, you will quickly drink a sugary drink. This will raise your blood sugar levels. An hour later, you'll take a blood test to see how your body handled all that sugar

Results show that your blood sugar is higher than a certain cut off (anywhere from 130 milligrams per deciliter or higher)

A big rise in your blood pressure can be an early sign that you might have PIH

A urine test can tell if there is protein in your urine

Treatment

Your treatment strategies may include:

Monitoring your blood sugar, more or less stringent glycemic goals may be appropriate for each individual.

- Before a meal (pre-prandial): 95 mg/dl or less
- 1-hour after a meal (postprandial): 140 mg/dl or less
- 2-hours after a meal (postprandial): 120 mg/dl or less
- The remaining 40% or so of your calories from carbohydrates like breads, cereals, pasta, rice, fruits, and vegetables

Foods with source of fatty acid

Foods that are rich in essential fatty acids help to fight hypertension. You must include a variety of nuts in your diet. For example:

- Chia seeds
- Avocado
- Hazelnuts
- Walnuts
- Pumpkin nuts

Foods rich in calcium and magnesium

Your high blood pressure pregnancy diet must have plenty of calcium and magnesium:

- Spinach
- Kale
- Broccoli
- Collard greens

Vitamin D supplement

- Hypertension can occur as a result of a deficiency of Vitamin D in pregnant women

Whole grain

Every day, you must eat three-four portions of whole grains, these whole grains are rich in soluble fiber that control hypertension. They also help in reducing the need for medicines to treat high blood pressure:

- Millet
- Whole wheat flour

- Brown rice

Case study

Patient name: Shabnam Bibi **Age:** 70 years

Height: 169cm **Weight:** 65 kg

IBW: 60kg **BMI:** 22.8 kg/m^2 (normal)

Caloric Requirement: 1500 kcal/da

Biochemical Test

Tests	Results	Normal Ranges
HB	11.8 g/dL	12-15
Albumin	34 g/dL	35-55
ALT	100 U/L	4-36

AMDR

Total Calories = 1500 kcal/day

Carbs = 50 % = 113.2 g

Protein = 30 % = 107g

Fat = 20 % = 28g

Diet Plan

Nutritional diagnosis: Gestational diabetes

	Food items	Quantity	Calories
Break fast	eggs white porridge tea without sugar	2 1 cup 1 cup	160 +120=280
Brunch	Apple and amla	2	60+60 =120
Lunch	Chapatti Cooked Spinach Raw vegetable salad	6 inch ½ cup 1 cup	100 80 120
Evening Snack	Almond milk	1 cup	180
Dinner	White rice Chicken curry	½ cup 3 oz	80 135
Post Dinner	Milk	1 cup	160
		Total Calories	**1504kcal/day**

Medical nutrition therapy

- 10% to 20% of your calories from protein sources like meats, cheeses, eggs, seafood, and legumes
- Less than 30% of your calories from fats

CARDIOLOGY WARD

3.Cardiovascular Disease

Cardiovascular disease (CVD) is a general term for conditions affecting the heart or blood vessels. It's usually associated with a build-up of fatty deposits inside the arteries (atherosclerosis) and an increased risk of blood clots. Cardiovascular diseases include hypertension, angina, pectoris, ischemic heart disease and myocardial infarction.

Causes

- High blood pressure
- Smoking
- Lack of exercise
- Obesity
- High blood cholesterol
- Excessive alcohol consumption
- Atherosclerosis

Coronary Artery Disease

Coronary artery disease is the build-up of plaque in the arteries that supply oxygen-rich blood to your heart. Plaque causes a narrowing or blockage that could result in a heart attack. Symptoms include chest pain or discomfort and shortness of breath. Treatments include lifestyle changes and medications that target your risk factors and/or possibly surgery.

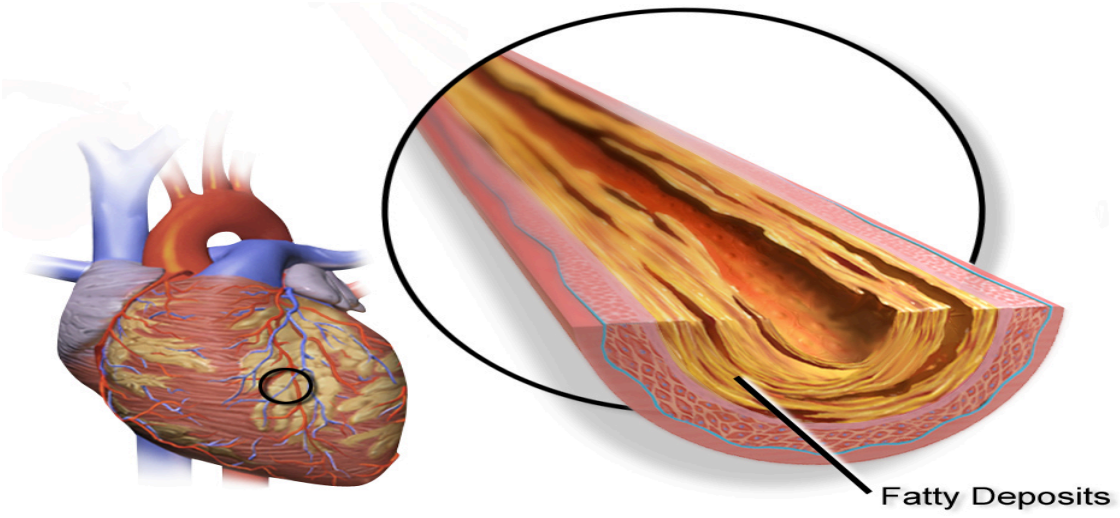


Fig.1.4.deposition of fat in arteries

Peripheral Vascular Disease

Peripheral vascular disease (PVD) is a blood circulation disorder that causes the blood vessels outside of your heart and brain to narrow, block, or spasm. This can happen in your arteries or veins. PVD typically causes pain and fatigue, often in your legs, and especially during exercise.

Heart Failure

Heart failure also known as congestive heart failure occurs when the heart muscle doesn't pump blood as well as it should. When this happens, blood often backs up and fluid can build up in the lungs, causing shortness of breath.

High Blood Pressure

High blood pressure, also called hypertension, is blood pressure that is higher than normal. Your blood pressure changes throughout the day based on your activities. It can lead to severe health complications and increase the risk of heart disease, stroke, and sometimes death.

Category	**Systolic blood pressure (mmHg)**	**Diastolic blood pressure (mmHg)**
Low	< 100	< 60
Optimal	< 120	< 80
Normal	< 130	< 85
High-normal	130 - 139	85 - 89
Stage 1 (mild hypertension)	140 - 159	90 - 99

Stage 2 (moderate hypertension)	160 - 179	100 - 109
Stage 3 (acute hypertension)	>=180	>=110

Dietary Management

Recommended

- Foods low in cholesterol and saturated fat.
- Skim milk, paneer from skim milk
- Cereals and pulses
- Whole grains
- All vegetables and all fruits
- High fiber and soluble fiber such as oat meal millets, pectin and gums
- Lean meat, egg white and fish
- Vegetable oils, sugar and jiggery

Food to be Avoided

- Cholesterol rich food
- Whole milk, butter, cream, cheese (processed)
- sweet meals such as puddings, bakery products
- Organ meats (liver)
- Egg yolk, fish
- Nuts, oilseeds, pickles
- Margarine, fried food
- Alcohol

Regular Low Cholesterol and Low Fat and High Fibre Diet

Energy

Calories 1600kcal

Fat 40g

Protein 65g

Case Study

Patient Name: Muhammad Afzal **Age:** 58 years

Height: 173cm **Weight:** 65 kg

IBW: 67kg **BMI:** Normal

Caloric Requirement: 1900 kcal/day

Diagnose: IHD and DM

Diet Plan

Type of Diet: DASH diet

Meal	Food Items	Quantity	Calories
Pre breakfast	02 Lukewarm water with lemon	1 glass, 1 lemon	20-30
Break Fast	Oatmeal or porridge or khichri, salad, egg white	1 cup 1cup 2	160 50 90 =300
Brunch	Papaya/ apple without peel	2	60+60 =120
Lunch	Chicken vegetable Soup, White rice, banana	1 cup ½ cup 2	100+ 80+60+60 =300
Evening snack	Almond milk, seasonal fruit	½ cup	100+60+60 =220
Dinner	White rice, grilled fish Raita	½ cup 3 oz, 1 cup	80, 135, 100 =315
Post Dinner	Pomegranate juice	1 cup	160
		Total Calories	**1240kcal/day**

Medical nutrition therapy

- Walk about 15-30 minutes' daily
- Before taking each meal drink 1 glass of water
- Avoid cold drinks bakery products, oily and fast foods
- Raw fruits are better than juices
- At least I glass of low fat milk must drink
- Avoid high sodium and fat containing foods like canned foods, beverages, ghee, pistachios and cashewnuts and etc.

- Check your BP daily and note on diary
- Only 1 tsp of homemade Dasi ghee or butter can be used daily

NEPHROLOGY WARD

4. Nephrotic Syndrome

Nephrotic syndrome is a kidney disorder that causes your body to pass too much protein in your urine. Nephrotic syndrome is usually caused by damage to the clusters of small blood vessels in your kidneys that filter waste and excess water from your blood. The condition causes swelling, particularly in your feet and ankles, and increases the risk of other health problems.

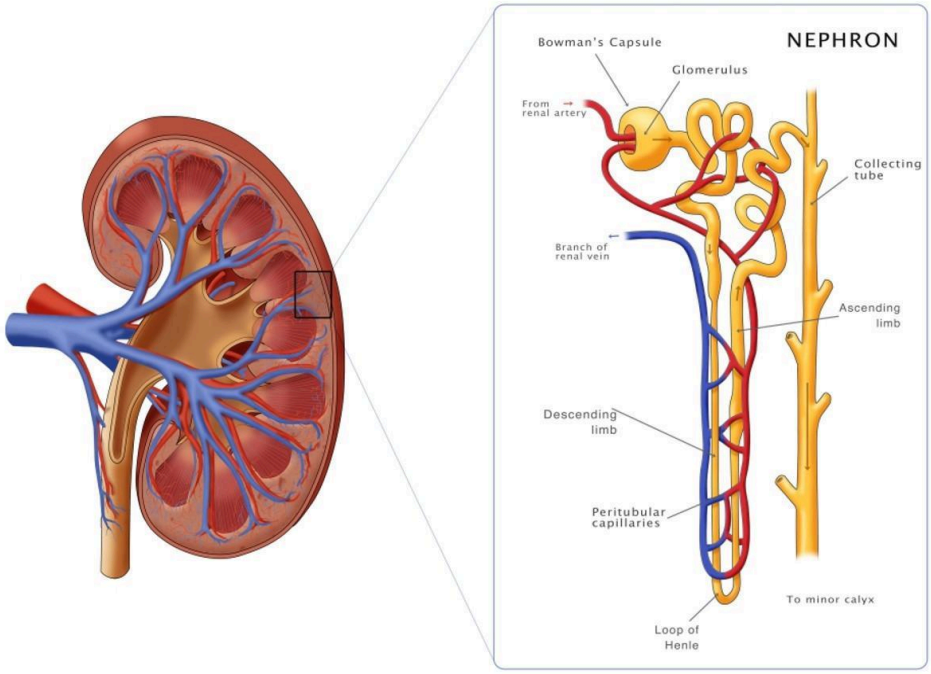


Fig .1.5. kidney structure

Symptoms

Signs and symptoms of nephrotic syndrome include:

- Severe swelling (edema), particularly around your eyes and in your ankles and feet
- Foamy urine, a result of excess protein in your urine
- Weight gain due to fluid retention
- Fatigue
- Loss of appetite

Risk Factors

Factors that can increase your risk of nephrotic syndrome include:

Medical Conditions That Can Damage Your Kidneys: Certain diseases and conditions increase your risk of developing nephrotic syndrome, such as diabetes, lupus, amyloidosis, reflux nephropathy and other kidney diseases.

Certain Medications: Medications that might cause nephrotic syndrome include nonsteroidal anti-inflammatory drugs and drugs used to fight infections.

Certain Infections: Infections that increase the risk of nephrotic syndrome include HIV, hepatitis B, hepatitis C and malaria.

Causes

Nephrotic syndrome is usually caused by damage to the clusters of tiny blood vessels (glomeruli) of your kidneys.

- **Diabetic Kidney Disease:** Diabetes can lead to kidney damage (diabetic nephropathy) that affects the glomeruli.
- **Minimal Change Disease:** Minimal change disease results in abnormal kidney function, but when the kidney tissue is examined under a microscope, it appears normal or nearly normal.
- **Focal Segmental Glomerulosclerosis:** Characterized by scarring of some of the glomeruli, this condition can result from another disease, a genetic defect or certain medications or occur for no known reason.

Dietary Management

Specific recommendations should be made concerning protein, salt, water, potassium and phosphorus

Nutrition in Nephrotic Syndrome

- Improve appetite, fluid intake
- Main focus on calories, protein, CHO, fat
- In 3rd stage increase the level of phosphorus

Energy

- 35kcal/kg/day
- Carbs 60% -70
- Fiber 20-25g/day

Protein

- For muscles proper functioning

- Helps fighting against infection
- Keeping fluid balance in blood

Stage l-3: 0.75g/kg/d

Stage 4-5: 0.6 g/kg/d if patient on not dialysis. **Stage 5:** 1.2-1.3g/kg/d if patient is on dialysis. **Fat**

- Saturated fat less than 30%
- Trans fatty acids less than 1% Sodium
- Reduce sodium because it causes fluid retention and develop ascites
- Reduce processed foods

Phosphorus

Organic sources, dairy products, beans, meat, cereals and nuts. If patient on HD, increase these sources. It helps in soft tissues calcification.

- For CKD patient 800–1000 mg/d
- In case of HD, 500–1000mg/d

Calcium

- In stage l to IV requirement is 1200 to 1500 mg/d
- Ca falls in stage I to IV, thus requirement is necessary also add vit D3 sources
- Stage V on dialysis don't be exceed from 2000mg/d. Mostly food is acidic in Ca, then restrict those foods

Potassium

- In stage I to III firstly never restrict, then depend on patient condition
- Requirement of potassium is 2 to 3 g/day

Vitamin C

- Sometimes, vitamin C decrease because it causes calcification and enhance the chances

of renal stones

- Requirement of vitamin C is 60-100mg

Fluid

- In hemodialysis, you should check urine output first
- 1000ml add fluid in hemodialysis patient
- Fluid restriction in dialysis, depend on patient condition

- If excessive fluid intake, it will develop edema, hypertension
- Slowdown the process of wound healing
- heart failure

Chronic renal failure

Significant loss of kidney function that occur over a long period of time as opposed to acute renal failure.

Causes

- Pre- renal (decrease renal profusion)
- Polycystic kidney disease (multiple cysts in the kidney)
- Autoimmune disorder
- Hardening of the arteries, which can damage blood vessels in the kidney
- Excessive use of medication that are metabolized through the kidneys

Symptoms

- Urine output less
- Fluid retention
- Drowsiness
- Shortness of breath
- Fatigue

Food high in potassium

- Avocado
- Spinach
- Sweet potato
- Banana
- White beans
- Pomegranate
- Pickle
- Beet root
- Salted nuts
- Bakery products

Case study

Patient Name: Sher Mohammad **Gender:** male

Age: 64 years **Height:** 167cm

Weight: 58 kg **BMI:** 20.8 (Normal)

IBW: 70 kg **TEE:** 1200-1400 kcal/day

Previous History: HTN, joint

Diagnosis: Nephrotic syndrome, LVF,DM^{+}, Pedal Edema

Biochemical Assessment

Biochemical assessment of kidney function is essential for detecting renal diseases and monitoring kidney health. The most commonly used test is **serum creatinine**, which reflects glomerular filtration efficiency. **Blood urea nitrogen (BUN)** is another important marker indicating protein metabolism and kidney excretory function. **Estimated Glomerular Filtration Rate (eGFR)** is calculated to assess the severity of kidney impairment. **Electrolytes** like sodium, potassium, and bicarbonate are monitored for imbalances due to renal dysfunction. **Urinalysis** is also performed to detect protein, blood, or abnormal substances in urine.

Tests	Results	Normal Ranges
Hgb	8.9 g/dl	12.0-16.5g/dl
Uric acid	10.8mg/dl	2.6-6.0mg/d.
LDH	363 U/L	81-234 U/L
Sodium	129 mg/dl	135-148 mg/dl
S. Creatinine	3.0g/dl	0.6-1.3g/dl

Clinical Signs

- Skin is scaly and yellow
- Dry mouth with bad taste
- High blood pressure
- Muscle cramps at night
- Nausea or vomiting
- Swelling in feet/ankles
- Reduced urine output
- Foamy or bloody urine
- Swelling in feet/ankles
- Dry and itchy skin

Sleep Hours: 08 hours **Working Hours:** 9 hours

AMDR

CHO: 165g

Protein: 50g

Fat: 29g

Medical diagnosis: Nephrotic syndrome

Diet Plan

Type of Diet: High caloric diet

Meal	Food Items	Quantity	Calories
Pre breakfast	Lukewarm water, hone	1 glass, 1tbsp	60
Break fast	Oatmeal cooked with milk and dates	1 cup, 3 dates	80,80,45,30,50.80 =365
Brunch	Milk shake add any apple without adding sugar	1 glass	160, 60 =220
Lunch	Chicken gravy with 6 inches roti, chopped salad, raita	1 cup, 2 rotti, 1/2 cup, 1/2 cup	45, 50, 15, 160,50,60 =380
Evening snack	Tea, biscuits	1 cup, 4-6 dices	75, 30, 80 =185
Dinner	Rotti, vegetable salan, raita	1, ½ cup, ½ cup	80,120, 100, 60 =360
Post Dinner	Lukewarm boil milk	1 cup	160
		Total Calories	**1750kcal/day**

Medical nutrition therapy

- Limit fluid
- Low protein diet
- Limit sodium
- Limit potassium
- Monitor fluid intake
- Ensure adequate calories
- Use renal-safe vitamins
- Avoid processed/salty snacks
- Choose low-potassium fruits
- Eat small, frequent meals

- Limit sodium consumption

GASTROENTEROLOGY WARD

5.Ulcerative Colitisis

Ulcerative Colitis an inflammatory bowel disease which causes inflammation and ulcers (sores) in your digestive tract. Ulcerative colitis can be debilitating and can sometimes lead to life-threatening complications

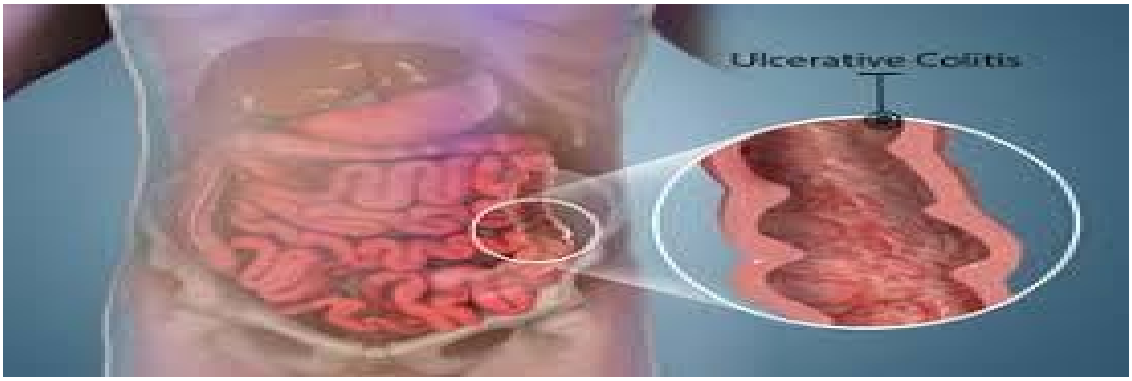


Fig .1.6. Ulcerative Colitisis

Types

- **Ulcerative proctitis.** Inflammation is confined to the area closest to the anus (rectum), and rectal bleeding may be the only sign of the disease
- **Left-sided colitis.** Inflammation extends from the rectum up through the sigmoid and descending colon. Signs and symptoms include bloody diarrhea, abdominal cramping and pain on the left side, and urgency to defecate
- **Pancolitis.** This type often affects the entire colon and causes bouts of bloody diarrhea that may be severe, abdominal cramps and pain, fatigue, and significant weight loss

Signs and Symptoms

Ulcerative colitis symptoms can vary, depending on the severity of inflammation

- Diarrhea, often with blood or pus
- Abdominal pain and cramping
- Rectal pain, Rectal bleeding — passing small amount of blood with stool
- Urgency to defecate
- Weight loss
- Fatigue
- Fever

- In children, failure to grow

When to see a doctor

See your doctor if you experience a persistent change in your bowel habits

- Abdominal pain
- Blood in your stool
- Ongoing diarrhea that doesn't respond to over-the-counter medications
- Diarrhea that awakens you from sleep
- An unexplained fever lasting more than a day or two

Causes

- One possible cause is an immune system malfunction
- immune system tries to fight off an invading virus or bacterium, an abnormal immune response causes the immune system to attack the cells in the digestive tract
- Heredity also seems to play a role in that ulcerative colitis is more common in people who have family members with the disease. However, most people with ulcerative colitis don't have this family history
- the exact cause of ulcerative colitis remains unknown. Previously, diet and stress were suspected, but now doctors know that these factors may aggravate but don't cause ulcerative colitis

Risk factors

- **Age.** Ulcerative colitis usually begins before the age of 30. But it can occur at any age, and some people may not develop the disease until after age 60
- **Race or ethnicity.** Although whites have the highest risk of the disease, it can occur in any race. If you're of Ashkenazi Jewish descent, your risk is even higher
- **Family history.** You're at higher risk if you have a close relative, such as a parent, sibling or child, with the disease

Complications

Possible complications of ulcerative colitis include

- Severe bleeding
- A hole in the colon (perforated colon)
- Severe dehydration
- Bone loss (osteoporosis)

Treatment

Drugs may be effective in treating ulcerative colitis.

Anti-inflammatory drugs

Often the first step in the treatment of ulcerative colitis and are appropriate for the majority of people with this condition.

- 5-aminosalicylates
- Corticosteroids

Immune system suppressors

These drugs also reduce inflammation, but they do so by suppressing the immune system response that starts the process of inflammation

- Azathioprine
- Cyclosporine

Case Study

Pt Name: Waseem Akram **Gender:** Male

Weight: 50 Kg **Height:** 5.9ft

BMI: 15.4 Kg/m^2 **IBW:** 71 Kg

BMR: 1200 Kcal **C. Requirement:** 1400 kcal

Diagnosis: Ulcerative Colitis

Clinical Signs

- Oral ulcer
- Malnourished
- Gastric issues
- Bloody diarrhea (most common symptom)
- Frequent, urgent bowel movements
- Abdominal pain or cramping, especially in the lower left side
- Fatigue and weakness
- Fever (during flare-ups)
- Weight loss due to decreased appetite and nutrient absorption
- Bloody diarrhea (most common symptom)
- Abdominal pain or cramping, especially in the lower left side
- Weakness

- cramping

AMDR

CHO: 165g

Protein: 50g

Fat: 24g

Diet Plan

Timings	**Food item**	**Serving size**	**Calories**
Breakfast	Roti + yogurt dairy free + dry cereal	1 ¼ c +: 6 oz +½ c	280 kcal
Snack	banana + Peanut Butter	1+1 Tbsp	180 kcal
Lunch	Roti + Lemon Pepper Chicken + cooked green beans	1+1 V +4 oz	300 kcal
Snack	rice cakes + melon	2 cup+1	190 kcal
Dinner	grilled chicken + cooked green beans + and Roti	4 oz+ 4 oz +1	340
Snack	Custard	1 cup	150 kcal
		Total calories	**1440 kcal**

Medical nutrition therapy

- Follow a low residue diet to relieve abdominal pain and diarrhea
- Avoid foods that may increase stool output such as fresh fruits and vegetables, prunes and caffeinated beverages
- Decrease concentrated sweets in your diet, such as juices, candy and soda, to help decrease amounts of water pulled into your intestine, which may contribute to watery stools
- Decrease alcohol consumption

- Try incorporating more omega-3 fatty acids in your diet. These fats may have an anti-inflammatory effect. They are found in fish, including salmon, mackerel, herring and sardines
- Consider taking nutritional supplements if appetite is poor and solid foods are not tolerated well

Psychiatry Ward

6.Hypochondriasis

Hypochondriasis, also known as Illness Anxiety Disorder, is a mental health condition characterized by excessive and persistent worry about having a serious illness, despite little or no medical evidence to support the concern. Patients frequently misinterpret normal bodily sensations as signs of serious disease. This condition falls under the category of somatic symptom and related disorders in the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders).

The disorder affects both men and women and typically begins in early adulthood. Studies show that approximately 0.1% to 5% of the general population may experience hypochondriasis at some point in their lives. It is more commonly observed in individuals who have a history of anxiety disorders or have experienced trauma, loss, or major life stressors.

Fig .1.7. hypochondriac patient

Due to the nature of the illness, patients often visit multiple doctors and undergo repeated tests, which rarely provide reassurance. Treatment usually involves cognitive-behavioral therapy (CBT) and sometimes medication such as antidepressants. Early diagnosis and mental health support can significantly improve outcomes**.**

Types of Hypochondriasis

1. **Care-Seeking Type:** The person frequently visits doctors, undergoes repeated medical tests, and seeks reassurance.

2. **Care-Avoidant Type:** The individual avoids doctors or hospitals due to fear of being diagnosed with a serious illness.

Signs and Symptoms

- Persistent fear of having or developing a serious illness
- Misinterpretation of normal bodily sensations (e.g., heartbeat, fatigue)
- Frequent doctor visits or complete avoidance of medical care
- Constantly researching diseases online (cyberchondria)
- Repeated checking of body for signs of illness
- Health anxiety lasting at least 6 months
- Distress that interferes with daily life, work, or relationships

Causes

- History of childhood illness (personal or in family)
- Misinterpretation of bodily symptoms
- Psychological trauma, stress, or abuse
- Dysfunction in brain chemicals involved in anxiety
- Learned behavior from a parent or caregiver who was overly worried about health

Risk Factors

- Family history of anxiety or health-related disorders
- History of abuse, trauma, or neglect
- Having another mental health condition (e.g., depression, generalized anxiety disorder)
- Excessive exposure to health information/media
- Low tolerance for uncertainty or discomfort

Diagnosis

- Based on clinical evaluation by a mental health professional
- Symptoms must be present for at least 6 months
- Rule out any underlying medical conditions through physical exams and tests
- Diagnosis follows criteria outlined in the DSM-5 under *Illness Anxiety Disorder*
- Involves assessing the impact on daily functioning, not just the presence of worry
- Important to distinguish from disorders like somatic symptom disorder, OCD, or generalized anxiety disorder

Treatment

- Cognitive Behavioral Therapy (CBT) – most effective treatment to change thought patterns
- Psychotherapy – helps manage anxiety and develop coping strategies
- Medications, such as:

  Selective Serotonin Reuptake Inhibitors (SSRIs) – for anxiety and depression symptoms
- Regular follow-ups with a trusted healthcare provider (to avoid doctor shopping)
- Mindfulness and stress-reduction techniques (e.g., meditation, yoga)
- Education about the condition to reduce fear and self-monitoring behaviors
- Involving family support and counseling may also be helpful

Case study

Patient Name: Mohammad Ali **Gender:** male

Age: 65 years **Height:** 185.42cm

Weight: 68 kg **BMI:** 20.8 (Normal)

IBW: 80 kg **TEE:** 1600 kcal/day

Previous History: Depression

Diagnosis: Hypochondriasis

Biochemical Assessment

Hypochondriasis does not typically show abnormalities in routine biochemical tests, because it is a mental health disorder not caused by a physical illness. These normal values reflect that no physical illness is present, but the patient still believes they are sick. Hypochondriac patients may repeat such tests frequently, even when no clinical need exists.

Tests	Results	Normal Ranges
Haemoglobin (Hgb)	13.4 g/dl	12.0 – 16.5 g/dl
Blood Glucose (FBS)	92 mg/dl	70 – 100 mg/dl
TSH (Thyroid)	3.1 mIU/L	0.5 – 5.0 mIU/L
ECG Report	Normal	—
MRI/CT Scan(not specific here)	Normal	—

Clinical Signs

- chest pain, fatigue
- digestive issues without clinical evidence
- Frequent hospital visits, test reports in hand
- Severe anxiety, especially after reading online about diseases

Sleep Hours:04 hours **Working Hours:** 12 hours

AMDR

CHO: 214g

Protein: 80.8g

Fat: 48.5g

Medical diagnosis: Hypochondriasis

Diet Plan

Timings	**Food item**	**Serving size**	**Calories**
Breakfast	Whole wheat roti + Low-fat yogurt + Dry cereal	1 medium + ½ cup + ½ cup	280 kcal
Snack	Banana + Peanut butter	1 medium + 1 tbsp	180 kcal
Lunch	Brown rice + Grilled chicken + Steamed spinach	¾ cup + 4 oz + ½ cup	310 kcal
Snack	Crackers (whole grain) + Apple slices	4 pieces + 1 small	190 kcal
Dinner	Whole wheat roti + Baked fish + Boiled vegetables	1 medium + 4 oz + 1 cup	340 kcal
Snack	Custard (low-fat)	1 cup	150 kcal
		Total calories	**1600 kcal**

Medical nutrition therapy

- Encourage small, frequent meals to reduce gastrointestinal distress and anxiety
- Hydration: 8–10 glasses water/day
- Limit caffeine, sugar, and processed food (can worsen anxiety)
- Add calming drinks: Chamomile tea, golden milk, lemon-mint water
- Physical activity: Gentle daily walk or yoga/stretching
- Improve appetite and energy levels

Pulmonology ward

7. COPD

COPD stands for Chronic Obstructive Pulmonary Disease.

COPD is a progressive lung disease that causes chronic obstruction of airflow, making it difficult to breathe. It includes conditions like chronic bronchitis and emphysema. This disease is not fully reversible, but it is preventable and treatable.

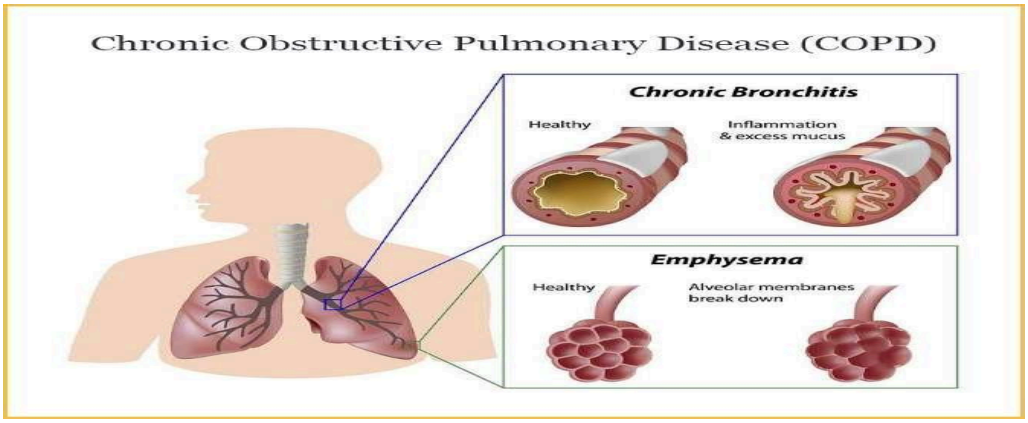


Fig .1.7. COPD

Prevalence:

- **Global**:

  According to WHO, COPD affects around 391 million people globally (2022 estimates).

  It is the 3rd leading cause of death worldwide, responsible for more than 3 million deaths per year.

- **Pakistan**:

  In Pakistan, the prevalence ranges from 2% to 5%, but due to underdiagnosis, the actual rate may be higher.

  Common risk factors in Pakistan include smoking, indoor air pollution (especially from wood/coal stoves), and poor access to healthcare.

Signs and Symptoms of COPD

1. Chronic Cough

Often the earliest symptom,may be dry or productive (with sputum).

2. Dyspnea (Shortness of Breath)

Initially occurs on exertion, but later may be present even at rest,described as a feeling of “air hunger”.

3. Sputum Production

Persistent mucus production, especially in the morning,may vary in color and consistency.

4. Wheezing

Whistling or squeaky sound while breathing, especially during exhalation.

5.Chest Tightness

A feeling of pressure or constriction in the chest.

6. Fatigue and Weakness

Due to reduced oxygen supply and increased work of breathing.

7. Cyanosis

Bluish discoloration of lips, fingertips, or skin due to low oxygen levels.

8. Barrel-Shaped Chest

Seen especially in advanced stages (due to lung hyperinflation).

9. Frequent Respiratory Infections

Such as **bronchitis and pneumonia**, which may worsen COPD symptoms.

10. Unintentional Weight Loss

Due to increased energy expenditure during breathing and reduced appetite.

Causes of COPD (Chronic Obstructive Pulmonary Disease)

- Cigarette Smoking
- Long-Term Exposure to Air Pollutants
- Occupational Exposure to Dusts and Chemicals
- Genetic Factors
- Respiratory Infections in Childhood
- Asthma with Poor Control
- Low Socioeconomic Status

Risk Factors of COPD (Chronic Obstructive Pulmonary Disease)

1.Cigarette Smoking

The most significant risk factor.

Includes both active smoking and exposure to second-hand smoke.

2.Occupational Exposure

Long-term exposure to dust, chemicals, fumes (e.g., construction, mining, factory work).

3.Air Pollution

Indoor: biomass fuel used for cooking/heating (wood, coal, dung).

Outdoor: vehicle emissions, industrial pollutants.

4.Genetic Susceptibility

Alpha-1 antitrypsin deficiency, a rare inherited condition leading to early lung damage.

5.Age

Most commonly affects individuals over 40 years of age.

6.Gender

Historically more common in men, but rising among women due to increasing smoking rates.

7.Recurrent Respiratory Infections (especially in childhood)

Can impair lung development and increase long-term risk.

8.Low Socioeconomic Status

Associated with increased exposure to environmental risks and limited healthcare access.

9.Pre-existing Asthma

Poorly controlled or long-standing asthma may increase COPD risk.

10.Poor Nutrition and Weak Immune System

Malnutrition can impair lung repair and immune defense.

Diagnosis of COPD

- Medical history is taken to check for chronic cough, shortness of breath, smoking habits, or exposure to air pollutants
- Physical examination includes listening for wheezing, checking breathing pattern, and use of accessory muscles
- Spirometry is performed to confirm airflow limitation (FEV_1/FVC ratio less than 0.70)
- Chest X-ray or CT scan helps to detect lung hyperinflation, emphysema,

or to rule out other conditions

- Arterial Blood Gas (ABG) analysis is used in advanced cases to measure oxygen and carbon dioxide levels
- Alpha-1 antitrypsin blood test is done in younger patients or those with a family history of COPD

Treatment of COPD

- Smoking cessation to prevent further lung damage
- Use of bronchodilators (short-acting and long-acting inhalers) to open airways
- Inhaled corticosteroids to reduce airway inflammation
- Oxygen therapy for patients with low oxygen levels
- Pulmonary rehabilitation including breathing exercises and physical training
- Management of infections with antibiotics when needed
- Vaccinations (influenza and pneumococcal) to prevent respiratory infections
- Surgical interventions in severe cases (e.g., lung volume reduction surgery or lung transplant)

Case study

Patient Name: sayeda kausar **Gender:** female

Age:70Y **Height:** 5.9ft

Weight:65kg **BMI:** 22.8kg/ m² (normal)

IBW:60kg **TEE:** 1528.4 kcal/day

Previous History: Asthma inherited

Diagnosis: COPD

Biochemical Assessment

Biochemical assessment plays a vital role in diagnosing and monitoring the progression of Chronic Obstructive Pulmonary Disease (COPD).

Tests	Results	Normal Ranges
Sputum Culture (if infection)	May show bacterial growth	No pathogens normally present
Serum Electrolytes	↓ Na^+ or ↑ HCO_3	Na^+: 135–145 mmol/l
Complete Blood Count (CBC)	↑ Hemoglobin / Hct	Hb: 12–16 g/dL

Arterial Blood Gases (ABGs)	↑ $PaCO_2$	$PaCO_2$: 35–45 mmHg
Chest X-ray/CT Scan (not biochemical but supportive)	Hyperinflated lungs, flat diaphragm	—

Clinical Signs

- Chronic productive cough
- Shortness of breath
- Wheezing on exhalation
- Use of accessory muscles
- Barrel-shaped chest
- Cyanosis of lips
- Prolonged expiratory phase
- Fatigue and weakness
- Decreased breath sounds

Sleep Hours:04 hours **Working Hours:** 12 hours

AMDR

CHO:

189g/day

Protein: 78 g/day

Fat: 51 g/day

Medical diagnosis: COPD

Diet Plan

Timings	**Food item**	**Serving size**	**Calories**
Breakfast	Whole wheat bread + Boiled egg + Low-fat milk	1 slice + 1 medium + 1 cup	280 kcal
Snack	Banana + Almonds	1 small + 5 pieces	180 kcal
Lunch	Chapati (whole wheat) + Chicken curry + Yogurt	1 medium + 3 oz + ½ cup	310 kcal
Snack	Crackers (whole grain) + Apple slices	4 pieces + 1 small	190 kcal
Dinner	Chapati + Grilled fish + Boiled mixed vegetables	1 medium + 4 oz + 1 cup	340 kcal
Snack	Low-fat custard or warm milk	1 cup	150 kcal

		Total calories	**1550 Kcal**

Medical nutrition therapy

- Avoid gas-producing foods (e.g., cabbage, carbonated drinks)
- Include soft, easy-to-chew foods (due to fatigue during eating)

  Keep sodium low if on steroids or has edema
- Encourage small, frequent meals to reduce breathlessness

SURGICAL WARD

8.Uterus Removal (Hysterectomy)

Hysterectomy is a surgical procedure involving the complete or partial removal of the uterus. It is commonly performed to treat conditions such as uterine fibroids, abnormal bleeding, chronic pelvic pain, endometriosis, or cancer. Depending on the diagnosis, it may involve removal of only the uterus or include the cervix, ovaries, and fallopian tubes.

Fig.1.8. female uterus

Prevalence of Hysterectomy

Hysterectomy is one of the most commonly performed gynecological surgeries worldwide. In developed countries, approximately **1 in 9 women** undergo a hysterectomy by the age of 60. In the United States alone, over **600,000 hysterectomies** are performed annually. In South Asian countries like Pakistan and India, the prevalence is increasing due to rising awareness and better diagnostic practices, though exact figures are limited.

Before Surgery (Pre-operative Symptoms)

- Heavy menstrual bleeding
- Chronic pelvic pain
- Uterine fibroids or mass
- Painful intercourse
- Frequent urination or constipation
- Fatigue due to anemia
- Lower abdominal pressure

After Surgery (Post-operative Symptoms)

- Pain or discomfort at incision site
- Vaginal bleeding or discharge (temporary)
- Fatigue and weakness
- Emotional changes (anxiety, sadness)
- Hot flashes (if ovaries removed)
- Bladder or bowel movement changes
- No menstrual periods

Types of Hysterectomy

- **Total Hysterectomy**

  Removal of the uterus along with the cervix.
- **Subtotal (Partial) Hysterectomy**

  Only the upper part of the uterus is removed; cervix is left in place.
- **Radical Hysterectomy**

  Removal of the uterus, cervix, upper vagina, and surrounding tissues (usually for cancer).
- **Hysterectomy with Bilateral Salpingo-Oophorectomy**

  Uterus, fallopian tubes, and both ovaries are removed.
- **Abdominal Hysterectomy**

  Uterus removed through an incision in the abdomen.
- **Vaginal Hysterectomy**

  Uterus removed through the vagina (no external cut).
- **Laparoscopic Hysterectomy**

  Minimally invasive procedure using small abdominal cuts and a camera.

Causes of Hysterectomy

- Uterine fibroids causing pain, bleeding, or pressure
- Heavy or irregular menstrual bleeding unresponsive to treatment
- Endometriosis (uterine tissue growing outside the uterus)
- Chronic pelvic pain not relieved by other methods
- Uterine or cervical cancer
- Uterine prolapse (uterus slips into vaginal canal)
- Adenomyosis (thickening of uterus lining into muscle layer)
- Infection or abscess in uterus (rare, severe cases)

Risk Factors for Hysterectomy

- Age above 40 years
- Family history of uterine or ovarian disease
- Previous uterine surgeries (e.g., C-sections)
- Obesity (increases surgical risk)
- Chronic gynecological conditions (fibroids, endometriosis)
- Smoking (affects healing and anesthesia risk)
- History of cancer (uterus, cervix, ovaries)
- Multiple childbirths (especially vaginal deliveries)

Case study

Patient Name: Shagufta Bibi **Gender:** female

Age: 43 years **Height:** 5.2ft

Weight: 64 kg **BMI:** 25kg/m

IBW: 50kg **TEE:** 1631 kcal/day

Diagnosis: Post-Hysterectomy Recovery

Biochemical Assessment

Tests	Results	Normal Ranges
Hemoglobin (Hb)	10.2 g/dL	12 – 15 g/dL
Serum Ferritin	12 ng/mL	30 – 400 ng/mL
Vitamin B12	250 pg/mL	200 – 900 pg/mL

Fasting Blood Sugar	88 mg/dL	70 – 110 mg/dL
Urine Analysis	Normal	No blood/protein

Clinical Signs

- Complains of fatigue and low energy (possible anemia)
- Mild pallor observed (suggestive of iron deficiency)
- BMI: 25 – categorized as overweight
- Appetite: normal, but low intake of iron-rich foods
- Sleep pattern: 8 hours per night – adequate
- Post-surgical recovery in progress (recent uterus removal)
- Reports occasional dizziness or weakness on exertion
- Dizziness
- overweight

Sleep Hours: 08 hours **Working Hours:** 4 hours

AMDR

CHO: 224.12

g

Protein: 122.25 g

Fat: 27.17 g

Medical diagnosis: Post-Hysterectomy Recovery

Diet Plan

Type of Diet: Post-Hysterectomy Balanced Diet

Meal	**Food Items**	**Quantity**	**Calories**
Pre breakfast	Warm water with lemon + soaked almonds	1 glass + 5 almonds	50 kcal
Break fast	Boiled egg + Brown bread + Low-fat milk (with chia)	1 egg + 2 slices + 1 cup	280 kcal
Brunch	Apple + iron supplement (if prescribed)	1 medium	70 kcal

Lunch	Grilled chicken + Whole wheat roti + Cooked spinach	120g + 1 medium + ½ cup	380 kcal
Evening snack	Roasted chickpeas + Green tea	2 tbsp + 1 cup	130 kcal
Dinner	Moong dal + Brown rice + Mixed vegetable salad	¾ cup + ½ cup + 1 bowl	400 kcal
Post Dinner	Warm skimmed milk with haldi	1 cup	100 kcal
		Total Calories	**1560–1600 kcal/day**

Medical nutrition therapy

- High-protein diet to promote wound healing and tissue repair (e.g., eggs, chicken, lentils).
- Iron-rich foods to prevent/treat anemia from surgical blood loss (e.g., spinach, red meat, dates).
- Calcium and Vitamin D intake to support bone health, especially if ovaries are removed.
- Fiber-rich diet to prevent constipation post-surgery (e.g., fruits, vegetables, whole grains).
- Hydration: Encourage 8–10 glasses of water daily to aid recovery and prevent UTIs.
- Low-fat, moderate-calorie intake to avoid post-surgical weight gain due to reduced activity.
- Avoid processed foods, excess salt, and caffeine to reduce inflammation and support healing.

PAEDS WARD

9. INFLAMMMATORY BOWEL SYNDROME

Irritable Bowel Syndrome (IBS) is a functional gastrointestinal disorder characterized by chronic abdominal pain, bloating, and altered bowel habits (diarrhea, constipation, or both), without any identifiable structural or biochemical abnormality**.**

Fig.1.9. a boy with IBS

Prevalence:

Irritable Bowel Syndrome (IBS) affects approximately 6% to 14% of children worldwide, depending on diagnostic criteria and region. It is more common in girls than boys and typically appears in late childhood or early adolescence. Children with IBS often report abdominal pain, bloating, and irregular bowel habits, which can affect school attendance and daily functioning.Moreover,

- Affects about **10–15% of the global population**
- More common in **females than males**
- Peak onset between **20–40 years of age**

Causes:

- Abnormal gut motility
- Gut-brain axis dysfunction
- Post-infectious changes (e.g., after food poisoning)
- Psychological factors: stress, anxiety, depression

- Altered gut microbiota
- Food intolerances or sensitivities

Signs and Symptoms:

- Abdominal pain (relieved by defecation)
- Bloating and gas
- Diarrhea or constipation (or both alternately)
- Mucus in stool
- Feeling of incomplete evacuation
- No weight loss or bleeding (unlike IBD)

Risk Factors:

- Family history of IBS
- Female gender
- Mental health issues (depression, anxiety)
- History of GI infection
- High-stress lifestyle
- Poor dietary habits (e.g., high FODMAP foods)
- Depression
- weight loss

Diagnosis:

Irritable Bowel Syndrome (IBS) is diagnosed primarily using the Rome IV criteria, which involves recurrent abdominal pain occurring at least one day per week in the last three months, associated with defecation or changes in stool frequency and form. Diagnosis is clinical and confirmed after ruling out other conditions through tests like CBC, CRP, stool analysis, and colonoscopy when needed. Treatment focuses on symptom relief through dietary changes such as a low FODMAP diet, increased soluble fiber, and avoidance of trigger foods**.**

Treatment:

- Low FODMAP diet to reduce gas, bloating, and discomfort
- Increase soluble fiber intake (e.g., psyllium husk) for constipation
- Antispasmodic medications (e.g., dicyclomine) to relieve abdominal cramps
- Laxatives (like lactulose or PEG) for constipation-predominant IBS

- Anti-diarrheal drugs (e.g., loperamide) for diarrhea-predominant IBS
- Probiotics to improve gut flora and digestion
- Antidepressants (low-dose tricyclics or SSRIs) for pain and stress-related symptoms
- Cognitive Behavioral Therapy (CBT) and stress management techniques for long-term relief
- Probiotics to improve gut flora and digestion
- Increase soluble fiber intake (e.g., psyllium husk) for constipation
- Take behavioral therapy

Case study

Patient Name: Waqas **Gender:** male

Age:10 years **Height**: 3.8ft

Weight: 15kg **BMI:** 11.2 kg/m²

IBW:28 kg

Diagnosis: Irritable Bowel Syndrome (IBS)

Biochemical assessment:

ALT	25
AST	27
Bilirubin (conjugated)	0.2
Bilirubin (unconjugated)	0.4
Hb	9g/dl

TYPE OF DIET:soft diet,low fat and low salt diet,clear liquid diet

DIET PLAN

Time	**Food Items**	**Calories**
Pre-Breakfast	1 banana + half cup yogurt	165 kcal
Breakfast	2 bread slice + 2 egg whites + one spoon of jam	305 kcal
Snack 1	Fruit or fruit juice (seasonal)	120 kcal
Lunch	Rice + chicken curry + salad.	270 kcal
Snack 2	Low fat yogurt + seasonal fruit	140 kcal

Night	Rice + vegetable curry (without oil and low spices)	260 kcal
Bed Time	1 cup low fat milk	100 kcal

MEDICAL NUTRITION THERAPY

- **Low FODMAP diet** to reduce bloating, gas, and abdominal pain
- **Increase soluble fiber intake** (e.g., oats, psyllium) especially in constipation-predominant IBS
- **Avoid trigger foods** like spicy items, caffeine, carbonated drinks, and fatty meals
- **Eat small, frequent meals** to reduce digestive stress
- **Stay hydrated** with at least 8–10 glasses of water daily
- **Limit dairy** if lactose intolerant; use lactose-free products or plant-based alternatives
- **Include probiotics** (yogurt with live cultures or supplements) to support gut health
- **Maintain a food-symptom diary** to identify personal triggers
- **Reduce stress** through relaxation techniques, as stress worsens IBS symptoms

FATIMA MEMORIAL HOSPITAL, LAHORE

NUR-FMS

Clinical Nutrition

INDOOR ASSESSMENT FORM

Date: _____ Patient Name: _____Ward/block: _____

No.:_____ Age: _Height: _____Weight: _____BMI: _____

IBW:_____ Medical Diagnosis: _____

WEIGHT HISTORY

No Change _____Increased _____Decreased _____

DIETARY HISTORY

No Dietary intake change: _____

Type of Diet before Hospitalization: _____

Type of Diet after Hospitalization: _____

Duration: _____Caloric Intake in 24 Hours: _____

GI – FUNCTION

Appetite:_____ Nausea_____ Anorexia: ___Vomiting: _____

Diarrhea: _____ Constipation_____

Others _____

PHYSICAL EXAMINATION

Eyes:_____ Teeth: _____Hair: _____

Skin: _____ Mouth: _____ Nails: _____

Edema: _____ Muscle wasting: _____Ascites: _____

METABOLIC STATUS

Low Stress_____ Moderate Stress_____High Stress_____

URINE OUTPUT

_____ml

FEEDING ROUTE

Oral: _____ NG:_____PEG:_____PEJ:_____

FUNCTIONAL CAPACITY

Bedridden:_____ _Ambulatory:_____Active: _____

Dietitian_____

FATIMA MEMORIAL HOSPITAL, LAHORE

NUR-FMS

Clinical Nutrition

OUTDOOR ASSESSMENT FORM

Date: _____ Patient Name: _____Ward/block: _____

No.:_____ Age: _Height: _____Weight: _____BMI: _____

IBW:_____ Medical Diagnosis: _____

Weight History		
⦁ **No Change** ⦁ **Increased** ⦁ **Decreased**		
Diet History		
Food Item	**Quantity**	**Type**
Milk Products		
Meat		
Vegetables		
Fruits		
Bread and Cereals		
Fat / Cooking Oil		
Water Intake		
Glasses / Day		
Temperature		
How often do you consume the following in a week?		
Carbonated Beverages		
Bakery Products		

Fast Food			
Sleep-Wake Cycle			
Wake up Time			
Sleep Time			
Meal timings		**Meal Frequently Skipped**	
Breakfast Time		Breakfast	
Lunch Time		Lunch	
Dinner Time		Dinner	
Physical Examination			
Edema		Skin	
Muscle wasting		Mouth	
Hair		Nail	
Eyes		Teeht	
GI Function			
Appetite		Vomiting	
Nausea		Diarrhea	
Anorexia		Constipatio	
Others		Duration	
Exercise			
Type of Exercise			
Duration			
Stress			
No Stress		Moderate	
Low		High	
Recommendations			
Caloric Requirement			
Fluid Requirement			
Preferred Feeding Route			
Mechanism of Diet			
Type of Diet			

Supplement	
Follow up Notes	

INTERNSHIP ASSIGNMENT

Department of Medical & Nutrition Sciences

Group 3 Assignment

Job Title: Intern

Submitted to: Dietitian MAHUM SHAHID

Group members	Task
SANA SAJID	**Pharmacy visit & RDA of micronutrient**
DUAA KHAN	
LARAIB TARIQ	
AYESHA SAJID	
SYEDA FIZA HAIDER	

RDA of Vitamin & Minerals and their Food Sources

Sr#	Vitamin/ Minerals	RDA	Dosage acc. to age	Richest Food Sources
1.	Cobalamin (B12)	2.4 mcg	Adults: 2.4 mcg/day Pregnant: 2.6 mcg/day Lactating: 2.8 mcg/day	Meat, fish, dairy, fortified cereals
2.	Biotin (B7)	30 mcg	Adults: 30 mcg/day; Pregnant: 30 mcg/day; Lactating: 35 mcg/day	Eggs, nuts, seeds, sweet potatoes
3.	Selenium	55 mcg	Adults: 55 mcg/day; Pregnant: 60 mcg/day; Lactating: 70 mcg/day	Brazil nuts, seafood, whole grains
4.	Calcium CaC 1000 plus	3000 mg max	Adults : 1000mg/day Pregnant:1500mg/day Lactating : 1309mg/day	Dairy products like milk, yogurt, and cheese, as well as leafy green vegetables such as kale and broccoli
5.	Folate	600mcg	Adults:400mcg/day Pregnant:400mg/day Lactating:500mcg/Day	Egg ,lentils, pumpkin seeds ,lentils

INTERNSHIP ACTIVITIES

1.School visits

During my internship at the hospital, we conducted various community outreach activities, including school visits. These visits aimed to raise health awareness among students through interactive sessions and engaging discussions. As part of our initiative, we also distributed goodie bags containing health-related items and educational material, which brought smiles to the children's faces and made the experience even more meaningful**.**

Fig.1.10. a school visit

2.Pharmacy visit

As part of my internship experience, I also visited the hospital pharmacy, where I observed the dispensing process and learned about medication management. The visit helped me understand the importance of proper prescription handling, storage protocols, and patient counselling. It was a valuable opportunity to see the practical side of pharmaceutical care.

This pharmacy visit played a key role in grooming my personality by enhancing my communication skills, increasing my confidence in dealing with healthcare professionals,

and improving my understanding of responsible patient care — all essential traits for a well-rounded professional. It was a valuable opportunity to see the practical side of pharmaceutical care.

Fig.2.1. a group photo

This experience has laid a strong foundation for my future in the healthcare field by giving me practical insights into pharmacy operations and encouraging a more responsible, detail-oriented, and service-driven approach in my professional journey.

Fig.2.2. a pharmacy visit

This pharmacy visit played a key role in grooming my personality by enhancing my communication skills, increasing my confidence in dealing with healthcare professionals, and improving my understanding of responsible patient care — all essential traits for a well-rounded professional .

Fig.2.3.group photo

3.ward visits:

During my internship, I had the opportunity to visit various hospital wards where I observed patient care routines, doctor-patient interactions, and the roles of different healthcare staff. These visits deepened my understanding of clinical environments, enhanced my observation skills, and gave me real-time exposure to how teamwork and empathy are essential in patient care.

fig.2.3. a ward visit at Fatima memorial hospital

4.presentations:

As part of my internship, I delivered a presentation on **anaemia**, which helped strengthen my public speaking skills and deepened my understanding of the condition. I also had the opportunity to attend various **symposiums**, where I gained valuable insights from healthcare experts and stayed updated on current medical trends and practices. This experience not only enhanced my research and public speaking skills but also boosted my confidence in addressing an audience of healthcare professionals and peers. Preparing for the topic allowed me to explore current medical data and improve my ability to explain complex health issues in a simple and effective way.

Fig.2.4. presentation day photo

5.Nursing day:

International Nurses Day is celebrated every year on **May 12th**. During my internship, I also had the privilege of attending **International Nurses Day on May 12th**, which was celebrated to honor the hard work and dedication of nursing staff. The event promoted unity and collaboration among all medical professionals, and it was inspiring to witness the strong spirit of teamwork and appreciation across the healthcare community. Being

part of such a celebration strengthened my respect for the nursing profession and emphasized the importance of mutual support in patient care.

fig.2.5. nursing day

MEDICAL TERMS

Terms	Abbreviations
CBC	Count blood cells
HGB	Hemoglobin
WBC	White blood cells
PLT	Platelet
MCV	Mean corpuscular volume
HCT	Hematocrit
RBC	Red blood cells
MCH	Mean corpuscular haemoglobin
RDWc	Red cell distribution width
NEUT	Neutrophillia
MON	Monocytes
LYM	Lymphocytes
PMHx	Past medical history
DCMP	Dilated cardiomyopathy
HRCT	High resolution CT
LVSF	Left ventricular systolic function
PLT	Platelet count
BSL	Biological safety levels
INR	International normalized ratio
ESR	Erythrocytes sedimentation rate
ESRD	End stage renal diseases
LVFS	Left ventricular fractional shortening
LVEF	Left ventricular ejection fraction
LVPW	Left ventricular posterior wall
IVS	Inter ventricular septum
AVR	Aortic valve replacement
DPN	Diabetic peripheral neuropathy

CVP	Central venous pressure

CONCLUSUION

As an internee my overall experience was very well. During my internship I have learnt counselling, assessment and file reading. Firstly, I learn how to read patient file because it's new for me. Is have properly utilized my knowledge of counseling and assessment of the patient. I also gained the skills of medical nutrition therapy of patient. Through, medical nutrition therapy, I will be able to give the individuals dietary recommendation according to their health concerns. During my internship duration, I also perform many physical activities or seminar like. On this occasion, we gained knowledge regarding healthy and unhealthy kidney. I met highly professional doctors who were so kind and guide us regarding different diseases. After the hard work of seven weeks, I observed that most diseases are caused by unhealthy dietary habits and low physical activity, which leads to many health issues like Cardiovascular, Diabetes Mellitus, Hypertension and Obesity. Just by adopting healthy lifestyle we can live a healthy and peaceful life**.**