NUTRITION THROUGH LIFE CYCLE & CLINICAL NUTRITION AND DIETETICS

M.Sc. FOOD AND NUTRITION SCIENCE

SEMESTER-I, PAPER-V

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M.Sc. FOOD AND NUTRITION SCIENCE: NUTRITION THROUGH LIFE CYCLE & CLINICAL NUTRITION AND DIETETICS

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FOREWORD

Since its establishment in 1976, Acharya Nagarjuna University has been forging ahead in the path of progress and dynamism, offering a variety of courses and research contributions. I am extremely happy that by gaining 'A+' grade from the NAAC in the year 2024, Acharya Nagarjuna University is offering educational opportunities at the UG, PG levels apart from research degrees to students from over 221 affiliated colleges spread over the two districts of Guntur and Prakasam.

The University has also started the Centre for Distance Education in 2003-04 with the aim of taking higher education to the door step of all the sectors of the society. The centre will be a great help to those who cannot join in colleges, those who cannot afford the exorbitant fees as regular students, and even to housewives desirous of pursuing higher studies. Acharya Nagarjuna University has started offering B.Sc., B.A., B.B.A., and B.Com courses at the Degree level and M.A., M.Com., M.Sc., M.B.A., and L.L.M., courses at the PG level from the academic year 2003-2004 onwards.

To facilitate easier understanding by students studying through the distance mode, these self-instruction materials have been prepared by eminent and experienced teachers. The lessons have been drafted with great care and expertise in the stipulated time by these teachers. Constructive ideas and scholarly suggestions are welcome from students and teachers involved respectively. Such ideas will be incorporated for the greater efficacy of this distance mode of education. For clarification of doubts and feedback, weekly classes and contact classes will be arranged at the UG and PG levels respectively.

It is my aim that students getting higher education through the Centre for Distance Education should improve their qualification, have better employment opportunities and in turn be part of country's progress. It is my fond desire that in the years to come, the Centre for Distance Education will go from strength to strength in the form of new courses and by catering to larger number of people. My congratulations to all the Directors, Academic Coordinators, Editors and Lesson-writers of the Centre who have helped in these endeavors.

Prof. K. Gangadhara Rao
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M.Sc. FOOD AND NUTRITION SCIENCE

SEMESTER-I, PAPER-V

PRACTICAL-I

105FN24-NUTRITION THROUGH LIFE CYCLE & CLINICAL NUTRITION AND DIETETICS

SYLLABUS

I:

1) Food Exchange List.
2) Standardization of Dietary Assessment Vessels/cups.
3) Planning and preparation of suitable diets for pregnant women.
4) Planning and preparation of suitable diets for lactating women.
5) Planning and preparation of suitable diets for infants.
6) Planning and preparation of suitable diets for pre-schools.
7) Planning and preparation of suitable diets for school going children.
8) Planning and Preparation of suitable diets to adolescents.
9) Planning and Preparation of diets to adults and elderly.
10) Planning and preparation of diets for sports persons, Astronauts and industrial workers.

II:

1) Visit the local hospitals to study food preparation and service to patients.
2) Planning and preparation of Progressive Diets
    a) Clear Diet
    b) Full Fluid Diet
    c) Soft Diet
    d) Regular Diet
3) Therapeutic Adaptations of Normal Diet
    a) High and Low calorie diet
    b) High and Low Protein Diet
    c) Low fat and Low Cholesterol Diet
    d) High and Low Fibre Diet
    e) Sodium Restricted Diet,
    f) Low Carbohydrate Diet
    g) Acid ash and alkaline ash diet.
4) Visits to hospitals to collect case reports.
5) Planning and preparation of different Special Feeds.

LAB-1.1

FOOD EXCHANGE LIST

AIM: To prepare diet for the individual using the exchange list.

INTRODUCTON: An exchange list is a grouping of food in which specified amounts of all the foods provide approximately equal amount of carbohydrate, protein and fat hence, energy content. Specific foods within the group may very slightly in nutritive value from the average stated in the group. This difference in composition tend to cancel out because of the variety of foods selected from day to day. Thus any food within a given list can be substituted or exchange for any other food in that list in the given quantities. These groups of exchange represent commonly measured or purchased unit of food. These exchange also units food terms to those in common usage.

STEPS IN DEVELOPMENT OF EXCHANGE LIST:

Given here with are the steps which when followed will guide you in developing the exchange list.

- An important first step in developing an exchange list is to group together similar food items. So that each supplies a contant amount of particular nutrient we call the group food exchange. Similarly, we have listed the category fruits, green leafy vegetables as a part of the protective sensory group exchange.
- The second important in developing an exchange list is the standardization of serving or portion sites. The portion sizes very considerably in India. Idlis, dosas chapathis of different sizes in different states and in different households are common scene. Despite this some attempts have been made to define portion size
- The third step is to calculate the energy, carbohydrates, protein and fat of one serving or portion size of the different dishes. This can be done by converting the cooked weight of one serving of the dish into raw weight of the ingredients that have gone into it not been done. Future exchange lists must take care of this.

Examples:

List 1-Cereal Exchange			
30 gm provide: Carbohydrate 20 gm, Protein 2 gm			
Cereals	**Household Measures**	**Wt/Vol.**	**Calories**
Rice		30 gms uncooked	100
Wheat flour		30 gms uncooked	100
Dalia	1/2 katori cooked	30 gms uncooked	100
Sago		30 gms uncooked	100
White flour		30 gms uncooked	100
Bread	2 slices	40 gms	100
Chapati	1.5 [approx. 5-6" diameter]	44 gms	100
Jowar roti	0.5	55 gms	100
Ragi		30 gms uncooked	100
Rice flakes	1 katori	30 gms uncooked	100
Oat meal		30 gms uncooked	100
Vermicelli	1/2 katori cooked	30 gms uncooked	100
Corn flakes		30 gms uncooked	100
Maize dry		30 gms uncooked	100

List 2-Fat Exchange			
50 gm Calories; Fat 5.5 gm			
Fats	**Household Measures**	**Wt.[gm].**	**Calories**
Butter	1 1/2 teaspoon	7.5	50
Ghee	1 teaspoon	5.5	50
Hydrogenated fat [Vanaspati]	1 teaspoon	5.5	50
Oil [Coconut, Mustard Sunflower, Corn, Groundnut, Cotton seed, Til, Palm]	1 teaspoon	5.5	50
Cashewnuts		10	50

List 3-Milk & Milk Products			
50 Calories; Protein 2.5 gm			
Milk & Milk Products	**Household Measures**	**Wt./Vol.**	**Calories**
Curd	2/3 glass	105 gm	50
Butter Milk	3 glasses	375 ml	50
Cheese	1 ice cube	15 gm	50
Milk [Buffalo]	1/3 glass	45 ml	50
Milk [Cow]	2/3 glass	90 ml	50
Milk, Skimmed*	1 glass	130 ml	50
Milk, Skimmed, Powder*		15 gm	50
Coffee Nescafe+75 ml milk			50
[Without Sugar]			

List 4-Vegetable Exchange			
50 Calories; Carbohydrate 10 gm			
Vegetables	**Household Measures**	**Wt. (gm)**	**Calories**
Beetroot [Chukander]		75	50
Carrot	1-2 No.	105	50
Colocasia [arbi]		45	50
Onion [big]	1 No.	90	50
Onion [small]	2 No.	75	50
Potato	1/2 No.	45	50
Sweet potato		30	50
Tapioca		30	50
Yam [Zimikand]		45	50
Broad beans		90	50
Cluster beans		90	50

List 5-Fruit Exchange			
50 Calories; Carbohydrate 10 gm			
Fruits	**Size/No.**	**Wt. (ml)**	**Calories**
Apple	1 small	75	50
Amla	20 medium	90	50
Banana	1/4 medium	30	50
Cashew fruit	2 medium	90	50
Custard apple	1/4	50	50
Dates	3	30	50
Figs	6 medium	135	50
Grapes	20	105	50
Grape fruit	1/2 big	150	50
Jack fruit	3 medium pieces	60	50
Mango	1 small	90	50

List 6-Legume and Pulse Exchange			
30 gm provide: Carbohydrate 15 gm, Protein 6 gm			
Pulse [uncooked]	**Household Measures**	**Wt. (gm)**	**Calories**
Bengal gram	3/4 katori cooked	30	100
Bengal gram, roasted		30	100
Bengal gram-flour [Besan]		30	100
Cow gram	1 katori cooked	30	100
Horse gram		30	100
Kabuli Channa [white gram]		30	100

List 7-Flesh Food Exchange			
70 Calories; Protein 10 gm			
Flesh Foods	**Household Measures**	**Wt. (gm)**	**Calories**
Egg Hen	2 No.		100
Fish	1 piece	60	70
Liver, sheep		60	70
Mutton, muscle	3 piece	60	100
Pork	1 slice	60	70
Prawn	5-7 pieces	60	70
Chicken	1 breast	60	70
Crab	120 gm		70
Beef	1 slice	60	70

List 8-Vegetable Exchange			
These Vegetables may be used as desired. Carbohydrates and Calories are negligible			
Leafy Vegetables		**Other Vegetables**	
Bitter gourd [Karela]	Curry leaves	Brinjal	Onion stalks
Amaranth	Fenugreek leaves	Cauliflower	Pumpkin
Brussels sprouts	Mint	Drumstic	Tinda
Cabbage	Spinach	Frenchbeans	Tomato, Green
Coriander leaves		Mango, green	

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-1.2

STANDARDIZATION OF VESSELS FOR 24 HOURS

AIM: Standardization of vessels for use in inducting diet surveys.

INTRODUCTION: Identifying and separating the function of a food Science and discussing the importance of each in detail go beyond the scope of this work but specific in detail go beyond the scope of this work but specific attention well be able to the recipe which is not that components part of the mess that decide subsequent food science functioning and standardization.

Due to substantial variances in home measures such as measuring cups, spoons, or katoris, it is difficult to collect accurate information regarding food intake or measurements. Many of these measures rely on subjective, categorical size assessments (small, medium and large). For scientific purposes of determining portion sizes, a set of standardized measuring utensils are used to measure food portions. In order to offer the most precise measurements, we employ several of these metrics and also provide their volume so that you may perform the most precise measurements possible. Dietary diversity is essential for good health, various pulses and cereals, fruits and vegetables are utilized, in our diets. However not all varieties are consumed by everyone. The family may select items that are acceptable to them and select suitable alternatives, if required. For instance, some legumes, such as rajma, require a longer cooking time, making it impractical to cook only a few seeds for the infant/young child. Whenever the family prepares these foods, they should ensure that the child receives the recommended quantity. We have employed tablespoons and teaspoons in order to standardize most of the measurements (these are similar in most households). Katoris (small bowls) are used to measure items that require a somewhat larger quantity. We utilized a big katori (360ml), a medium katori (200ml), and two small katoris (155ml and 115ml). The 115ml katori is highlighted (Bold) to distinguish it from the 155ml katori.

Please Note:

To provide approximate weight for a food group we chose one of the food items in that group. You may use the same weight for other items in the same group if the actual item is not presented here.

Ragi is taken for 'any other millet' Rice is taken for 'cereals'.

Lentil is taken for 'pulses'

Guava is taken for 'fruits’

Ivy gourd is taken for 'vegetables'

- For all the green leafy vegetables, stalks, stems and roots are removed. Only leaves are weighed. The leaves were placed neither too tight nor too loose in the bowl during measurement.
- For sapota, skins as well as seeds are removed. Edible parts are weighed (chopped and peeled) for all the fruits.
- A difference of 5g in weight is not very apparent in the katori (e.g. 155 ml & 150ml look almost similar in a 155ml katori).
- Fruits and vegetables of small/medium size were chosen for weight estimation (banana, oranges, etc). The same for eggs as well.
- Volumes of the standard cups used in descending order. C1=1500mL, C2=1100mL. C3=900mL, C4=700ml, C5=470ml, C6=360ml, C7=200ml, C8=155ml, C9=115ml, C10=95ml, C11=70ml, C12=25ml.
- Only 4 cups i.e., C6, C7, C8, C9 were used here as these are most commonly used in households.
- Diet and kitchen scale (Seca Culina 852) was used to measure all the weights.

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-1.3

PLANNING AND PREPARATION OF SUITABLE DIETS FOR PREGNANT WOMEN

AIM: To plan and prepare diet for pregnant women.

INTRODUCTON: Women with low body weight and poor nutritional status prior to pregnancy have more low birth weight infant, premature spontaneous of membrane infection & anaemia a pre pregnancy weight less then 40kg serve as the useful off predict women who will deliver low weight bodies and who are small for gestational age.

Maternal nutrition plays a role in certain type of foetal malformation or spontenous absorption because the abnormalities or occurs so easily and early in pregnancy during organogenisis modification must be made before pregnancy begins in diabeties incidence of congential defects can be reduced almost to normal by bringing the blood glucose under good control prior to pregnancy. Administration of folic acid 400-800 per dat around and during conception and early gestation. Can be reduce the incidence of neutral tube effects. On the other end of spectrum, overnight women more likely to have total deaths, hypertension disorders and labour abnormalities.

GENERAL INFORMATION:

NAME :

AGE :

WEIGHT:

HEIGHT:

BLOOD SUGAR:

HEAMOGLOBIN:

BMI: WT (kg)

HEIGHT (m^2) =

IBW: HEIGHT-100 =

DIETARY ASSESSMENTS:

LIKES:

DISLJKES:

SYMPTOMS:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR PREGNANT WOMEN

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-1.4

PLANNING AND PREPARATION OF SUITABLE DIETS FOR LACTATING WOMEN

AIM: To plan and prepare diet for Lactating women.

INTRODUCTON:

Lactation is a natural process that occurs after childbirth, during which a woman's body produces milk to nourish her infant. This period is critical for both the mother and the baby, as breast milk provides essential nutrients, antibodies, and hormones necessary for the infant's growth, development, and immune function. For lactating women, maintaining optimal nutrition is crucial not only to support milk production but also to ensure their own health and well-being.

Breastfeeding is recognized as the optimal method of infant feeding due to its numerous health benefits. It offers complete nutrition for the baby during the first six months of life and continues to provide valuable nutrients even as solid foods are introduced. The nutritional status of lactating women directly influences the quantity and quality of breast milk, making it essential for mothers to focus on a balanced and nutrient-rich diet.

The lactation period places increased physiological demands on the mother's body. These demands include higher energy expenditure, changes in hormonal levels, and the need for greater intake of specific nutrients. Proper nutrition during lactation helps prevent nutrient depletion, supports maternal health, and promotes successful breastfeeding.

In addition to dietary considerations, lactating women face unique challenges, such as balancing their nutritional needs with the demands of caring for a newborn, managing fatigue and addressing any potential dietary restrictions or medical conditions. Understanding the nutritional requirements and best practices for lactation can empower mothers to make informed choices that benefit both their own health and that of their baby.

GENERAL INFORMATION:

NAME :

AGE :

WEIGHT:

HEIGHT:

BLOOD SUGAR:

HEAMOGLOBIN:

BMI: WT (kg)

HEIGHT (m^2) =

IBW: HEIGHT – 100 =

DIETARY ASSESSMENTS:

LIKES:

DISLJKES:

SYMPTOMS:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR LACTATING WOMEN

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-1.5

PLANNING AND PREPARATION OF SUITABLE DIETS FOR INFANTS

AIM: To plan and prepare diet for Infants.

INTRODUCTON: Infancy is a crucial stage of human development, spanning from birth to one year of age. During this period, infants undergo rapid growth and significant physical, cognitive, and emotional changes. Proper nutrition is fundamental to supporting this critical growth phase, as it provides the necessary building blocks for healthy development and lays the foundation for lifelong health.

The nutritional needs of infants are unique and vary significantly from those of older children and adults. In the early months, breast milk or formula serves as the primary source of nutrition, supplying essential nutrients, antibodies, and energy required for the infant's growth and immune system development. Breast milk, in particular, is considered the gold standard of infant nutrition due to its optimal balance of nutrients and bioactive components that promote health and protect against infections.

Infants grow at an astonishing rate, with their weight often doubling by the age of six months and tripling by the end of the first year. This rapid growth demands a high intake of nutrients relative to their small body size. As they grow, the transition to solid foods introduces them to new textures and flavors, gradually complementing milk-based nutrition and meeting their increasing dietary needs.

The introduction of solid foods, typically around six months of age, is a key milestone in an infant's nutritional journey. This process, known as complementary feeding, should be carefully managed to ensure that infants receive adequate iron, zinc, and other critical nutrients while continuing to benefit from breast milk or formula.

Beyond nutrition, infancy is a period of profound sensory, cognitive, and motor development. Proper nutrition not only supports physical growth but also plays a vital role in brain development, impacting cognitive abilities, emotional health, and future learning potential.

GENERAL INFORMATION:

NAME :

AGE :

WEIGHT:

HEIGHT:

BLOOD SUGAR:

HEAMOGLOBIN:

BMI: WT (kg)

HEIGHT (m^2) =

IBW: HEIGHT-100 =

DIETARY ASSESSMENTS:

LIKES:

DISLJKES:

SYMPTOMS:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
Early Morning				
Break Fast				
Mid Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR INFANTS DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E.Morning																			
Break Fast																			
M.Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-1.6

PLANNING AND PREPARATION OF SUITABLE DIETS FOR PRE-SCHOOLERS

AIM: To plan and prepare diet for pre-schools.

INTRODUCTON: The preschool years, typically defined as ages 3 to 5, are a dynamic period of growth and development. During this time, children experience significant physical, cognitive, emotional, and social changes that lay the foundation for their future health and learning. Nutrition plays a vital role in supporting this development, as it provides the energy and nutrients necessary for growth, brain function, and overall well-being.

Pre-schoolers are characterized by their increasing independence and curiosity about the world. They begin to develop their own food preferences and eating habits, influenced by family, peers, and the environment. This period is crucial for establishing healthy eating patterns that can last a lifetime. Ensuring a balanced and nutrient-rich diet during these formative years is essential for supporting their rapid growth and active lifestyles.

Physically, preschoolers experience slower but steady growth compared to their infant years. Their dietary needs include adequate calories, proteins, fats, vitamins, and minerals to support muscle development, bone health, and overall growth. Key nutrients such as calcium, iron, and vitamins A and D are particularly important during this stage to promote strong bones, healthy immune function, and optimal brain development.

Cognitively, the preschool years are marked by rapid brain development, language acquisition, and the refinement of motor skills. Proper nutrition, especially adequate intake of essential fatty acids, iron, and other micronutrients, plays a critical role in supporting cognitive function, memory, and learning.

Socially and emotionally, preschoolers are learning to interact with others, develop self-regulation, and express their feelings. Shared meals and family eating practices can help foster social skills, encourage healthy eating habits, and reduce picky eating tendencies. Encouraging positive mealtime experiences helps preschoolers develop a healthy relationship with food and can influence their long-term attitudes toward nutrition.

GENERAL INFORMATION:

NAME :

AGE :

WEIGHT:

HEIGHT:

BLOOD SUGAR:

HEAMOGLOBIN:

BMI: WT (kg)

HEIGHT (m^2) =

IBW: HEIGHT-100 =

DIETARY ASSESSMENTS:

LIKES:

DISLJKES:

SYMPTOMS:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
Early Morning				
Break Fast				
Mid Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR PRE-SCHOOLERS DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E.Morning																			
Break Fast																			
M.Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-1.7

PLANNING AND PREPARATION OF SUITABLE DIETS FOR SCHOOL GOING CHILDREN

AIM: To plan and prepare diet for school going children.

INTRODUCTON: The school-age years, typically spanning from ages 6 to 12, represent a critical period of growth and development for children. During this time, children experience steady physical growth, significant cognitive advancements, and the development of social and emotional skills. Proper nutrition is essential to support their growth, enhance their learning capabilities, and promote overall health and well-being.

School-going children are characterized by their increasing independence and ability to make their own food choices, often influenced by their peers, media, and the environment. These years are crucial for establishing healthy eating habits that can persist into adolescence and adulthood. Adequate nutrition during this stage not only supports their physical growth but also plays a vital role in their academic performance, concentration, and energy levels.

GENERAL INFORMATION:

NAME :

AGE :

WEIGHT:

HEIGHT:

BLOOD SUGAR:

HEAMOGLOBIN:

BMI: WT (kg)

HEIGHT (m^2) =

IBW: HEIGHT-100 =

DIETARY ASSESSMENTS:

LIKES:

DISLJKES:

SYMPTOMS:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E.Morning				
Break Fast				
M.Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR SCHOOL GOING CHILD DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E.Morning																			
Break Fast																			
M.Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-1.8

PLANNING AND PREPARATION OF SUITABLE DIETS FOR ADOLESCENTS

AIM: To plan and prepare diet for adolescents.

INTRODUCTON: Adolescence, typically spanning from ages 10 to 19, is a transformative period marked by rapid physical growth, hormonal changes, and significant cognitive, emotional, and social development. This stage serves as a bridge between childhood and adulthood, bringing unique challenges and opportunities for growth. Proper nutrition plays a pivotal role during adolescence, supporting the intense physiological and psychological changes that occur and laying the foundation for long-term health.

Physical Growth and Development: Adolescence is characterized by a dramatic growth spurt, where individuals experience significant increases in height, weight, and muscle mass. This rapid growth requires increased energy and nutrient intake to support the development of bones, muscles, and organs. Key nutrients such as protein, calcium, iron, and vitamins D and A are particularly important during this phase.

GENERAL INFORMATION:

NAME :

AGE :

WEIGHT:

HEIGHT :

BLOOD SUGAR:

HEAMOGLOBIN:

BMI: WT (kg)

HEIGHT (m^2) =

IBW: HEIGHT-100 =

DIETARY ASSESSMENTS:

LIKES:

DISLJKES:

SYMPTOMS:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR ADOLESCENTS DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-1.9

PLANNING AND PREPARATION OF SUITABLE DIETS FOR ADULTS

AIM: To plan and prepare diet for adults.

INTRODUCTON: Adolescence, typically spanning from ages 10 to 19, is a transformative period marked by rapid physical growth, hormonal changes, and significant cognitive, emotional, and social development. This stage serves as a bridge between childhood and adulthood, bringing unique challenges and opportunities for growth. Proper nutrition plays a pivotal role during adolescence, supporting the intense physiological and psychological changes that occur and laying the foundation for long-term health.

Physical Growth and Development: Adolescence is characterized by a dramatic growth spurt, where individuals experience significant increases in height, weight, and muscle mass. This rapid growth requires increased energy and nutrient intake to support the development of bones, muscles, and organs. Key nutrients such as protein, calcium, iron, and vitamins D and A are particularly important during this phase.

GENERAL INFORMATION:

NAME :

AGE :

WEIGHT:

HEIGHT:

BLOOD SUGAR:

HEAMOGLOBIN:

BMI: WT (kg)

HEIGHT (m^2) =

IBW: HEIGHT-100 =

DIETARY ASSESSMENTS:

LIKES:

DISLJKES:

SYMPTOMS:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR ADULT DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-1.10

PLANNING AND PREPARATION OF SUITABLE DIETS FOR INDUSTRIAL WORKER

AIM: To plan and prepare diet for industrial worker.

INTRODUCTON: Industrial workers play a crucial role in the economy by engaging in various sectors such as manufacturing, construction, mining, and transportation. These jobs are often physically demanding and require sustained energy, strength, and endurance. The nature of industrial work exposes employees to diverse challenges, including long hours, strenuous physical activity, exposure to hazardous environments, and the need for mental alertness. Proper nutrition is essential for industrial workers to maintain their health, enhance productivity, and reduce the risk of occupational injuries and illnesses.

GENERAL INFORMATION:

NAME :

AGE :

WEIGHT:

HEIGHT:

BLOOD SUGAR:

HEAMOGLOBIN:

BMI: WT (kg)

HEIGHT (m^2) =

IBW: HEIGHT-100 =

DIETARY ASSESSMENTS:

LIKES:

DISLJKES:

SYMPTOMS:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR INDUSTRIAL WORKER DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E.Morning																			
Break Fast																			
M.Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-2.1

VISIT THE LOCAL HOSPITALS TO STUDY FOOD PREPARATION AND SERVICE TO PATIENTS

AIM: To visit the local hospitals – food preparation and service.

INTRODUCTION: The role of nutrition in patient recovery and well-being is a critical aspect of healthcare, often overlooked yet fundamentally significant. Hospitals, being centers of healing and care, must ensure that the food provided to patients meets stringent nutritional standards, caters to diverse dietary needs, and is served in a manner that promotes consumption and satisfaction. To understand the intricacies of this vital service, a detailed investigation of food preparation and service within local hospitals is imperative.

This study aims to delve into the various components that constitute hospital food services, including the sourcing of ingredients, meal planning, preparation techniques, and the methods of service delivery to patients. By visiting local hospitals and engaging with the staff involved in these processes, we seek to uncover best practices, identify challenges, and propose improvements that can enhance the overall quality of patient care through nutrition.

The investigation will cover multiple facets such as the role of dietitians and nutritionists, the integration of patient feedback in meal planning, adherence to health and safety regulations, and the use of technology in managing food services. Through direct observation and interviews, this study will provide a comprehensive overview of how local hospitals approach the complex task of feeding patients in a healthcare setting.

LAB-2.2A

PLANNING AND PREPARATION OF PROGRESSIVE DIETS

a) CLEAR DIET:

AIM: To prepare diet for the individual using the Clear Diet

INTRODUCTION: In the healthcare setting, clear diets are a fundamental component of nutritional therapy, particularly for patients undergoing specific medical treatments or recovering from surgery. A clear diet consists of transparent and easily digestible liquids that provide essential hydration and minimal residue, ensuring the gastrointestinal tract is not overburdened.

This introduction aims to explore the purpose and application of clear diets within hospitals, highlighting their role in patient care. The study will examine the criteria for prescribing a clear diet, the typical composition of such diets, and the medical conditions that necessitate their use. Additionally, it will delve into the challenges associated with maintaining nutritional adequacy and patient satisfaction while adhering to the restrictions of a clear diet.

By investigating the methodologies employed in planning and serving clear diets, this study seeks to uncover best practices and propose improvements that can enhance patient outcomes and overall care quality in healthcare settings.

Clear diets are typically prescribed for patients in several scenarios. These include individuals preparing for or recovering from surgical procedures, particularly those involving the digestive system, where a light and non-irritating diet is crucial. Patients with gastrointestinal issues such as nausea, vomiting, diarrhea, or after procedures like colonoscopies also benefit from clear diets, as they help to rest the digestive tract while maintaining hydration.

Additionally, clear diets are often recommended for patients during the initial stages of recovery from acute illnesses or trauma, where a gradual reintroduction of regular foods is necessary. They are also used in cases where patients are unable to tolerate solid foods due to medical conditions or treatments like chemotherapy.

PRESENT HEALTH CONDITION:

PATIENT INFORMATION:

NAME :

AGE :

GENDER :

EDUCATION :

FAMILY SIZE :

FAMILY INCOME :

ANTHROPOMETRIC ASSESSMENT

HEIGHT :

WEIGHT :

I.B.W :

B.M.I :

SKIN FOLDS :

HIP CURCUMFERENCE:

WAIST CURCUMFERENCE:

W/H RATIO :

BIOCHEMICAL ASSESSMENTS:

CLINICAL ASSESSMENTS:

DIETARY ASSESSMENTS:

DIETARY HABITS :

DIETARY PATTREN:

FOOD FREQUENCY:

24 HRS RECALL METHOD:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR CLEAR DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-2.2B

FULL FLUID DIET

AIM: To prepare diet for the individual using the Full fluid Diet

INTRODUCTION: A full fluid diet goes beyond the clear diet by including a wider range of liquid and semi-liquid foods that provide more substantial nutrition while remaining easy to digest. This type of diet is essential for patients who are not ready to resume solid food but require more energy and nutrients than what a clear diet offers.

Full fluid diets are often prescribed for patients transitioning from a clear diet to regular food, especially after surgery or during recovery from gastrointestinal disturbances. Patients with conditions that impair chewing or swallowing, such as post-stroke complications, oral or throat surgeries, or severe dental issues, also benefit from this diet. Additionally, individuals undergoing certain medical treatments, such as radiation therapy affecting the mouth or throat, may find a full fluid diet necessary.

Typical components of a full fluid diet include milk, yogurt, smooth soups, fruit juices, custards, puddings, and nutritional supplements. This diet ensures that patients receive adequate protein, vitamins, and minerals while minimizing the risk of irritation or discomfort in the digestive tract.

By examining the planning and implementation of full fluid diets, this study will highlight their role in patient care, explore the criteria for their prescription, and identify best practices for optimizing nutritional intake while ensuring patient comfort and satisfaction.

PRESENT HEALTH CONDITION:

PATIENT INFORMATION:

NAME :

AGE :

GENDER :

EDUCATION :

FAMILY SIZE :

FAMILY INCOME :

ANTHROPOMETRIC ASSESSMENT

HEIGHT :

WEIGHT :

I.B.W :

B.M.I :

SKIN FOLDS :

HIP CURCUMFERENCE:

WAIST CURCUMFERENCE:

W/H RATIO :

BIOCHEMICAL ASSESSMENTS:

CLINICAL ASSESSMENTS:

DIETARY ASSESSMENTS:

DIETARY HABITS :

DIETARY PATTREN:

FOOD FREQUENCY:

24 HRS RECALL METHOD:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR FULL FLUID DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-2.2C

SOFT DIET

AIM: To prepare diet for the individual using the Soft Diet

INTRODUCTION: A soft diet is designed for patients who need to transition to solid foods but still require foods that are easy to chew and digest. This diet includes soft-textured foods that minimize the effort required for chewing while providing balanced nutrition. Soft diets are crucial for patients recovering from surgery, illness, or those with conditions affecting the mouth, teeth, or digestive system.

Soft diets are often recommended for patients who have difficulty chewing or swallowing, such as those recovering from dental surgery, individuals with dentures, or patients with oral or throat conditions. Additionally, patients with gastrointestinal conditions, such as ulcers, or those recovering from abdominal surgery may benefit from this diet as it reduces the strain on the digestive system.

Typical foods included in a soft diet are cooked vegetables, soft fruits, tender meats, eggs, mashed potatoes, rice, pasta, and soft breads. These foods are easy to consume and digest, ensuring that patients receive adequate nutrition while minimizing discomfort and the risk of digestive complications.

This study will explore the planning and implementation of soft diets in hospital settings, focusing on their role in patient recovery, the criteria for their prescription, and best practices for ensuring nutritional adequacy and patient satisfaction.

PRESENT HEALTH CONDITION :

PATIENT INFORMATION :

NAME :

AGE :

GENDER :

EDUCATION :

FAMILY SIZE :

FAMILY INCOME :

ANTHROPOMETRIC ASSESSMENT

HEIGHT :

WEIGHT :

I.B.W :

B.M.I :

SKIN FOLDS :

HIP CURCUMFERENCE :

WAIST CURCUMFERENCE :

W/H RATIO :

BIOCHEMICAL ASSESSMENTS :

CLINICAL ASSESSMENTS :

DIETARY ASSESSMENTS :

DIETARY HABITS :

DIETARY PATTREN :

FOOD FREQUENCY :

24 HRS RECALL METHOD :

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR SOFT DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-2.2D

REGULAR DIET

AIM: To prepare diet for the individual using the Regular Diet

INTRODUCTION: A regular diet, often referred to as a general or normal diet, includes a variety of foods and beverages that provide the necessary nutrients to meet the daily dietary needs of healthy individuals. This diet is designed for patients who do not have specific dietary restrictions or requirements and are capable of consuming all types of foods.

Regular diets are typically prescribed for patients who have recovered sufficiently from illness, surgery, or medical treatments and are ready to resume normal eating habits. This diet is also appropriate for individuals who require balanced nutrition for maintenance of health and well-being without any dietary limitations.

The regular diet includes a wide range of food groups, such as fruits, vegetables, grains, proteins, and dairy, ensuring that patients receive adequate vitamins, minerals, proteins, carbohydrates, and fats. It is essential for promoting overall health, supporting immune function, and providing energy for daily activities.

This study will examine the planning and implementation of regular diets in hospital settings, focusing on their role in supporting patient health, the criteria for their prescription, and best practices for ensuring nutritional adequacy and patient satisfaction. By understanding the importance of a regular diet, healthcare providers can better support patients in maintaining long-term health and recovery.

PRESENT HEALTH CONDITION:

PATIENT INFORMATION:

NAME :

AGE :

GENDER :

EDUCATION :

FAMILY SIZE :

FAMILY INCOME :

ANTHROPOMETRIC ASSESSMENT

HEIGHT :

WEIGHT :

I.B.W :

B.M.I :

SKIN FOLDS :

HIP CURCUMFERENCE:

WAIST CURCUMFERENCE:

W/H RATIO :

BIOCHEMICAL ASSESSMENTS:

CLINICAL ASSESSMENTS:

DIETARY ASSESSMENTS:

DIETARY HABITS :

DIETARY PATTREN:

FOOD FREQUENCY:

24 HRS RECALL METHOD:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR REGULAR DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-2.3A

HIGH AND LOW CALORIE DIET

AIM: To prepare diet for the individual using the High and Low calorie diet.

INTRODUCTION: In clinical nutrition, high-calorie and low-calorie diets are tailored to meet the specific energy needs of patients based on their health conditions, recovery goals, and metabolic requirements. These diets are crucial for managing various medical conditions and promoting optimal patient outcomes.

A high-calorie diet is typically prescribed for patients who need to gain weight or have increased energy demands. This includes individuals recovering from major surgeries, severe illnesses, trauma, or those with conditions like cancer, burns, or chronic infections that elevate their metabolic rate. Patients with malnutrition, underweight, or those undergoing treatments like chemotherapy or dialysis may also benefit from a high-calorie diet. This diet focuses on nutrient-dense foods that provide a higher energy content, such as healthy fats, proteins, whole grains, and calorie-rich supplements.

On the other hand, a low-calorie diet is designed for patients who need to reduce their energy intake to manage or prevent conditions such as obesity, diabetes, heart disease, or metabolic syndrome. This diet helps in weight management and improving overall health outcomes by focusing on low-calorie, nutrient-rich foods such as vegetables, fruits, lean proteins, and whole grains. Patients recovering from certain surgeries or those with sedentary lifestyles may also be recommended a low-calorie diet to avoid excessive calorie intake.

This study will delve into the planning and implementation of high-calorie and low-calorie diets in hospital settings, exploring the criteria for their prescription, the role of dietitians in customizing these diets, and best practices for ensuring nutritional adequacy and patient satisfaction. By understanding these specialized diets, healthcare providers can better support patients in achieving their health and recovery goals.

PRESENT HEALTH CONDITION:

PATIENT INFORMATION:

NAME :

AGE :

GENDER :

EDUCATION :

FAMILY SIZE :

FAMILY INCOME :

ANTHROPOMETRIC ASSESSMENT

HEIGHT :

WEIGHT :

I.B.W :

B.M.I :

SKIN FOLDS :

HIP CURCUMFERENCE:

WAIST CURCUMFERENCE:

W/H RATIO :

BIOCHEMICAL ASSESSMENTS:

CLINICAL ASSESSMENTS:

DIETARY ASSESSMENTS:

DIETARY HABITS :

DIETARY PATTREN:

FOOD FREQUENCY:

24 HRS RECALL METHOD:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR HIGH (OR) LOW CALORIE DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB -2.3B

HIGH AND LOW PROTEIN DIET

AIM: To prepare diet for the individual using the High and Low Protein Diet

INTRODUCTION: High-protein and low-protein diets are crucial dietary interventions used in the management of various health conditions, tailored to meet the specific protein needs of patients. These diets play a significant role in supporting recovery, managing chronic diseases, and optimizing overall health outcomes.

A high-protein diet is often prescribed for patients who require increased protein intake to promote healing, muscle growth, and overall recovery. This includes individuals recovering from surgery, burns, trauma, or severe infections. Patients with conditions such as cancer, chronic kidney disease (in certain stages), or those undergoing dialysis may also benefit from a high-protein diet. Athletes, elderly individuals at risk of sarcopenia, and patients with malnutrition or muscle-wasting conditions are other groups that may require a high-protein diet. Typical high-protein foods include lean meats, fish, eggs, dairy products, legumes, and protein supplements.

Conversely, a low-protein diet is prescribed for patients who need to limit protein intake to prevent the buildup of waste products in the body. This is particularly important for individuals with chronic kidney disease (in the pre-dialysis stages), liver disease, or metabolic disorders such as phenylketonuria (PKU). Reducing protein intake helps to decrease the workload on the kidneys and liver, thus managing the progression of these conditions. A low-protein diet focuses on reducing high-protein foods while ensuring adequate caloric intake through carbohydrates and fats. Patients on this diet often need specialized nutritional support to prevent malnutrition.

This study will explore the planning and implementation of high-protein and low-protein diets in hospital settings, focusing on their role in patient care, the criteria for their prescription, and best practices for ensuring nutritional adequacy and patient satisfaction. By understanding the nuances of these diets, healthcare providers can better support patients in managing their specific health conditions and achieving optimal recovery.

PRESENT HEALTH CONDITION :

PATIENT INFORMATION :

NAME :

AGE :

GENDER :

EDUCATION :

FAMILY SIZE :

FAMILY INCOME :

ANTHROPOMETRIC ASSESSMENT

HEIGHT :

WEIGHT :

I.B.W :

B.M.I :

SKIN FOLDS :

HIP CURCUMFERENCE:

WAIST CURCUMFERENCE:

W/H RATIO :

BIOCHEMICAL ASSESSMENTS:

CLINICAL ASSESSMENTS:

DIETARY ASSESSMENTS:

DIETARY HABITS :

DIETARY PATTREN:

FOOD FREQUENCY:

24 HRS RECALL METHOD:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR HIGH (OR) LOW PROTEIN DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-2.3C

LOW FAT AND LOW CHOLESTEROL DIET

AIM: To prepare diet for the individual using the Low fat and Low Cholesterol Diet

INTRODUCTION: Low-fat and low-cholesterol diets are essential dietary interventions aimed at reducing the intake of fats and cholesterol to manage or prevent various health conditions. These diets are crucial in promoting cardiovascular health, weight management, and overall well-being.

A low-fat diet is typically recommended for patients who need to reduce their total fat intake to manage conditions such as obesity, cardiovascular disease, pancreatitis, and gallbladder disease. This diet focuses on limiting the consumption of high-fat foods, particularly those rich in saturated and trans fats, while promoting healthier fat sources like unsaturated fats found in nuts, seeds, avocados, and oily fish. By reducing fat intake, this diet helps in weight loss, lowering cholesterol levels, and decreasing the risk of heart disease.

Similarly, a low-cholesterol diet is designed for patients who need to lower their blood cholesterol levels to reduce the risk of cardiovascular diseases such as heart attacks and strokes. This diet emphasizes reducing dietary cholesterol by limiting the intake of foods high in cholesterol, such as red meat, full-fat dairy products, and egg yolks, while encouraging the consumption of fruits, vegetables, whole grains, and lean proteins. Patients with hypercholesterolemia, atherosclerosis, or those at high risk of heart disease often benefit from a low-cholesterol diet.

This lab will delve into the planning and implementation of low-fat and low-cholesterol diets in hospital settings, exploring the criteria for their prescription, the role of dietitians in customizing these diets, and best practices for ensuring nutritional adequacy and patient satisfaction. By understanding these specialized diets, healthcare providers can better support patients in achieving their health and recovery goals.

PRESENT HEALTH CONDITION:

PATIENT INFORMATION:

NAME :

AGE :

GENDER :

EDUCATION :

FAMILY SIZE :

FAMILY INCOME :

ANTHROPOMETRIC ASSESSMENT

HEIGHT :

WEIGHT :

I.B.W :

B.M.I :

SKIN FOLDS :

HIP CURCUMFERENCE:

WAIST CURCUMFERENCE:

W/H RATIO :

BIOCHEMICAL ASSESSMENTS:

CLINICAL ASSESSMENTS:

DIETARY ASSESSMENTS:

DIETARY HABITS :

DIETARY PATTREN:

FOOD FREQUENCY:

24 HRS RECALL METHOD:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR LOW FAT (OR) LOW CHOLESTEROL DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-2.3d

HIGH AND LOW FIBRE DIET

AIM: To prepare diet for the individual using the High and Low Fibre Diet.

INTRODUCTION: A **high-fiber diet** and a **low-fiber diet** are two nutritional strategies that focus on the intake of fiber, a key component of plant-based foods. While both diets can offer health benefits, they serve distinct purposes and are typically prescribed based on an individual's specific health needs.

A high-fiber diet is rich in foods like fruits, vegetables, whole grains, legumes, and seeds. Fiber, particularly from plant sources, plays an essential role in maintaining digestive health, controlling blood sugar levels, lowering cholesterol, and promoting overall well-being. There are two types of fiber: soluble and insoluble, both of which contribute to various health benefits, from preventing constipation to supporting heart health.

In contrast, a low-fiber diet restricts the intake of fiber-rich foods, often including refined grains, lean meats, and certain fruits and vegetables that are easier on the digestive system. This diet is often recommended for individuals with certain gastrointestinal conditions, such as inflammatory bowel disease, or those recovering from surgery, as it allows the digestive system to heal and reduces the risk of irritation or discomfort.

- **High-Fiber Diet:** Ideal for individuals looking to improve digestive health, manage weight, lower cholesterol, or control blood sugar. It’s especially beneficial for those with constipation, heart disease risk factors, or diabetes.
- **Low-Fiber Diet:** Typically prescribed for people with gastrointestinal issues such as Crohn's disease, ulcerative colitis, or diverticulitis, or for those recovering from certain surgeries. It helps to minimize digestive stress and promote healing.

PRESENT HEALTH CONDITION:

PATIENT INFORMATION:

NAME :

AGE :

GENDER :

EDUCATION :

FAMILY SIZE :

FAMILY INCOME :

ANTHROPOMETRIC ASSESSMENT

HEIGHT :

WEIGHT :

I.B.W :

B.M.I :

SKIN FOLDS :

HIP CURCUMFERENCE:

WAIST CURCUMFERENCE:

W/H RATIO :

BIOCHEMICAL ASSESSMENTS:

CLINICAL ASSESSMENTS:

DIETARY ASSESSMENTS:

DIETARY HABITS :

DIETARY PATTREN:

FOOD FREQUENCY:

24 HRS RECALL METHOD:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR HIGH OR LOW FIBRE DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-2.3E

SODIUM RESTRICTED DIET

AIM: To prepare diet for the individual using the Sodium Restricted Diet.

INTRODUCTION: A **sodium-restricted diet** is a nutritional plan that limits the intake of sodium, a mineral commonly found in salt. Sodium is essential for maintaining fluid balance, nerve function, and muscle contractions, but excessive intake can lead to health issues, particularly related to cardiovascular and kidney health. A sodium-restricted diet is typically recommended for individuals who need to reduce their sodium intake to manage certain health conditions.

While sodium is necessary for the body's proper function, consuming too much can lead to high blood pressure (hypertension), fluid retention, and an increased risk of stroke, heart disease, and kidney damage. The average diet tends to contain excessive amounts of sodium, often through processed foods, packaged snacks, and restaurant meals, which are high in salt.

A sodium-restricted diet is often prescribed for individuals with the following conditions:

- **Hypertension (High Blood Pressure):** Reducing sodium intake helps lower blood pressure, a key factor in preventing heart disease and stroke.
- **Heart Failure:** In heart failure, the heart struggles to pump blood effectively, leading to fluid buildup in the body. Reducing sodium helps prevent excess fluid retention and eases the burden on the heart.
- **Kidney Disease:** In cases of kidney impairment, the kidneys may struggle to filter out excess sodium, leading to fluid and electrolyte imbalances. A low-sodium diet helps manage these issues.
- **Edema:** Conditions causing fluid retention, such as liver disease or certain medications, can be managed with a sodium-restricted diet to reduce swelling and discomfort.
- **Certain Stroke Recovery:** After a stroke, reducing sodium intake can help manage blood pressure and improve overall recovery.

PRESENT HEALTH CONDITION:

PATIENT INFORMATION:

NAME :

AGE :

GENDER :

EDUCATION :

FAMILY SIZE :

FAMILY INCOME :

ANTHROPOMETRIC ASSESSMENT

HEIGHT :

WEIGHT :

I.B.W :

B.M.I :

SKIN FOLDS :

HIP CURCUMFERENCE:

WAIST CURCUMFERENCE:

W/H RATIO :

BIOCHEMICAL ASSESSMENTS:

CLINICAL ASSESSMENTS:

DIETARY ASSESSMENTS:

DIETARY HABITS :

DIETARY PATTREN:

FOOD FREQUENCY:

24 HRS RECALL METHOD:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR SODIUM RESTRICTED DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)	
E. Morning																				
Break Fast																				
M. Morning																				
Lunch																				
Snacks																				
Dinner																				
Mid Night																				

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-2.3F

LOW CARBOHYDRATE DIET

AIM: To prepare diet for the individual using the Low Carbohydrate Diet.

INTRODUCTION: A **low-carbohydrate diet** is a nutritional strategy that limits the intake of carbohydrates, primarily found in foods like bread, pasta, rice, and sugary snacks. Instead, it emphasizes higher intakes of protein and healthy fats. Carbohydrates are the body's primary source of energy, but consuming too many can lead to weight gain and metabolic issues. A low-carbohydrate diet aims to reduce carbohydrate consumption to promote weight loss, stabilize blood sugar levels, and support overall metabolic health.

Carbohydrates, especially refined ones, can cause spikes in blood sugar levels, leading to insulin resistance, weight gain, and increased fat storage. By reducing carbohydrate intake, the body enters a state called **ketosis**, in which it burns fat for energy instead of glucose (sugar). This process can promote weight loss, improve metabolic health, and stabilize blood sugar levels.

A low-carbohydrate diet may be beneficial for individuals with the following conditions:

1) **Weight Loss:** Reducing carbs can help with weight loss by lowering overall calorie intake and increasing fat burning. Many people find that a low-carb diet helps them feel fuller for longer.
2) **Type 2 Diabetes and Insulin Resistance:** For individuals with type 2 diabetes or insulin resistance, a low-carb diet can help manage blood sugar levels and improve insulin sensitivity. By reducing carbohydrate intake, the body requires less insulin to process glucose, leading to better blood sugar control.
3) **Metabolic Syndrome:** This condition, which involves a cluster of risk factors (e.g., high blood pressure, high blood sugar, excess belly fat, and abnormal cholesterol levels), can be improved by a low-carbohydrate diet, as it helps with weight management, blood sugar control, and reducing inflammation.
4) **Epilepsy:** A low-carbohydrate diet, particularly a **ketogenic diet** (a very low-carb, high-fat diet), has been shown to be effective in reducing seizures in individuals with epilepsy, especially those who do not respond well to traditional treatments.
5) **Polycystic Ovary Syndrome (PCOS):** Women with PCOS often experience insulin resistance and hormonal imbalances. A low-carb diet can help manage symptoms by improving insulin sensitivity, reducing weight, and balancing hormones.
6) **Cardiovascular Health:** Some individuals may adopt a low-carb diet to improve heart health, as it can help lower triglyceride levels, reduce cholesterol, and decrease blood pressure, all of which are risk factors for heart disease.

PRESENT HEALTH CONDITION:

PATIENT INFORMATION:

NAME :

AGE :

GENDER :

EDUCATION :

FAMILY SIZE :

FAMILY INCOME :

ANTHROPOMETRIC ASSESSMENT

HEIGHT :

WEIGHT :

I.B.W :

B.M.I :

SKIN FOLDS :

HIP CURCUMFERENCE:

WAIST CURCUMFERENCE:

W/H RATIO :

BIOCHEMICAL ASSESSMENTS:

CLINICAL ASSESSMENTS:

DIETARY ASSESSMENTS:

DIETARY HABITS :

DIETARY PATTREN:

FOOD FREQUENCY:

24 HRS RECALL METHOD:

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR LOW CHO DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-2.3G

ACID ASH AND ALKALINE ASH DIET

AIM: To prepare diet for the individual using the Acid ash and alkaline ash diet.

INTRODUCTION: The **acid ash diet** and the **alkaline ash diet** are dietary approaches based on the idea that the foods we consume can influence the pH balance in our body. These diets focus on how the body processes different types of foods and the residual acid or alkaline effect they leave after digestion, commonly referred to as "ash." This concept stems from the notion that the foods we eat can impact the body's acid-base balance, potentially influencing overall health, metabolism, and disease prevention.

Acid Ash Diet: The acid ash diet involves consuming foods that leave an acidic residue after digestion. Foods that tend to promote acidity include meats, processed foods, dairy, and certain grains. This diet is generally considered to create a more acidic internal environment in the body.

Alkaline Ash Diet: In contrast, the alkaline ash diet emphasizes foods that leave an alkaline residue after digestion. These foods include fruits, vegetables, legumes, nuts, and seeds. The goal of this diet is to increase the alkalinity of the body, promoting better health by balancing the pH levels and reducing excess acidity.

- **Acid Ash Diet:** This diet may be recommended for individuals with certain kidney conditions, especially those at risk of developing alkaline kidney stones. It may also be suggested for metabolic conditions that benefit from an acidic environment, although it is not typically recommended for long-term general health.
- **Alkaline Ash Diet:** A more commonly adopted diet, the alkaline ash diet is often recommended for people looking to improve bone health, prevent kidney stones (especially uric acid stones), manage chronic conditions such as hypertension and cardiovascular disease, and reduce inflammation. It's also popular for promoting detoxification and general well-being.

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PRESENT HEALTH CONDITION :

PATIENT INFORMATION :

NAME :

AGE :

GENDER :

EDUCATION :

FAMILY SIZE :

FAMILY INCOME :

ANTHROPOMETRIC ASSESSMENT

HEIGHT :

WEIGHT :

I.B.W :

B.M.I :

SKIN FOLDS :

HIP CURCUMFERENCE :

WAIST CURCUMFERENCE :

W/H RATIO :

BIOCHEMICAL ASSESSMENTS :

CLINICAL ASSESSMENTS :

DIETARY ASSESSMENTS :

DIETARY HABITS :

DIETARY PATTREN :

FOOD FREQUENCY :

24 HRS RECALL METHOD :

TABLE 1: 24 HRS RECALL METHOD

MEAL	TIME	RECIPE	INGREDIENTS	SERVINGS
E. Morning				
Break Fast				
M. Morning				
Lunch				
Snacks				
Dinner				
Mid Night				

TABLE 2: NUTRIENT CALCULATION FOR ACID ASH (OR) ALKALINE ASH DIET

Meal	Ingredients	Amount (gm)	Energy (K.Cal)	Protein (gm)	Fat (gm)	CHO (gm)	Fibre (gm)	Cal (mg)	Fe (mg)	Mg(mg)	Na (mg)	Zn(mg)	Vit-A (mcg)	B1 (mg)	B2 (mg)	B3 (mg)	B6 (mg)	Vit-D (IU)	F.Acid (mcg)
E. Morning																			
Break Fast																			
M. Morning																			
Lunch																			
Snacks																			
Dinner																			
Mid Night																			

DISCUSSION:

CONCLUSION:

REFERENCE:

LAB-4

VISITS TO HOSPITALS TO COLLECT CASE REPORTS

AIM: Visits to hospitals to collect case reports

INTRODUCTION: Visits to hospitals to collect case reports are a crucial aspect of medical research, clinical studies, and healthcare data collection. These visits typically involve researchers, healthcare professionals, or students gathering detailed medical information from patients' case reports or medical records. Case reports are comprehensive accounts of individual patients' medical conditions, treatment outcomes, and the processes that contributed to their health journey. By examining these reports, professionals can gain valuable insights into disease patterns, treatment efficacy, rare conditions, and potential improvements in healthcare delivery.

The main goal of collecting case reports from hospitals is to enhance medical knowledge and improve patient care. These reports provide in-depth, real-world data on various conditions, interventions, and treatment responses. Key purposes include:

1) **Medical Research:** Case reports can reveal unique or rare medical conditions that may not be fully understood, offering insights for further study and helping in the development of new diagnostic or treatment methods.
2) **Clinical Education:** Case reports serve as valuable learning tools for healthcare providers, medical students, and researchers by presenting real-life examples of medical situations, diagnostic challenges, and therapeutic strategies.
3) **Quality Improvement:** Analyzing case reports helps hospitals and clinics assess their practices and identify areas for improvement in patient care, clinical protocols, and treatment guidelines.
4) **Public Health Monitoring:** Collecting data on cases can also help track trends in disease prevalence, emerging health issues, or the effectiveness of public health policies and interventions.

Case reports are commonly of the following categories:

- Rare diseases
- Unusual presentation of disease
- Unexpected events
- Unusual combination of diseases or conditions
- Difficult or inconclusive diagnosis
- Treatment or management challenges
- Personal impact

- Observations that shed new light on a disease or condition
- Anatomical variations

It is important that recognize what is unique or interesting about case, and this must be described clearly in the case report.

Case reports generally take the format of:

1. Background :

2. Case presentation :

3. Observations and investigation :

4. Diagnosis :

5. Treatment :

6. Outcome :

7. Discussion :

8. Conclusion :

LAB-5

PLANNING AND PREPARATION OF DIFFERENT SPECIAL FEEDS

AIM: To Plane and preparation of different Special Feeds

INTRODUCTION: Planning and preparation of special feeds involves creating tailored nutritional diets to meet the specific dietary needs of individuals, particularly in healthcare settings or for those with special conditions. Special feeds are designed to address the unique needs of patients, such as those with medical conditions, allergies, or other dietary restrictions. These feeds are typically formulated to provide the right balance of nutrients, support recovery, and improve overall health.

Key Steps in Planning and Preparation of Special Feeds

1) **Assessment of Nutritional Needs:** The first step in planning special feeds is a comprehensive assessment of the individual's nutritional needs. This assessment takes into account:
    - **Medical conditions:** Such as diabetes, kidney disease, gastrointestinal disorders, or metabolic conditions.
    - **Dietary restrictions:** Including allergies, intolerances (e.g., lactose intolerance, gluten-free), or religious dietary requirements.
    - **Age and weight:** Different life stages (e.g., infants, elderly) and weight-related goals (e.g., underweight, overweight).
    - **Energy requirements:** Based on activity levels, healing requirements, and metabolic rate.
2) **Formulation of Specialized Diet:** Once the needs are identified, the special feed is formulated. This could involve:
    - **Macronutrient balance:** Adjusting protein, carbohydrate, and fat content to meet the patient’s needs. For example, a high-protein, low-carbohydrate diet for those with muscle wasting or diabetes.
    - **Micronutrient inclusion:** Ensuring adequate vitamins and minerals, especially if the individual is deficient or requires supplementation due to medical conditions (e.g., vitamin D for bone health, iron for anemia).
    - **Calorie control:** Adjusting the caloric intake depending on the individual's needs-this is crucial for conditions like malnutrition or obesity.
3) **Selection of Appropriate Ingredients:** The ingredients used in special feeds must be carefully chosen based on the formulation:

- **Commercial products:** Nutritional supplements or enteral feeds (e.g., tube feeding formulas) that are pre-packaged and contain the necessary nutrients.
- **Whole foods:** For patients able to consume regular foods, special preparations might include modified meals (e.g., soft foods, pureed meals) or allergen-free ingredients.
- **Alternative sources:** For patients with severe dietary restrictions, ingredients may include plant-based proteins, dairy-free alternatives, or gluten-free grains.

4) **Preparation Techniques:**
   - **Blending and pureeing:** Special feeds for patients with swallowing difficulties (e.g., dysphagia) are often pureed or blended for ease of consumption.
   - **Fortification:** Adding extra nutrients like protein powder, fiber, or vitamins to regular foods or beverages to meet nutritional needs.
   - **Cooking and texture modification:** Preparing meals with altered textures (e.g., soft, smooth, or minced) for patients with specific swallowing or digestive needs.
   - **Liquid preparation:** In cases where tube feeding is required, preparing liquid feeds involves mixing specific formulas or ensuring the correct consistency for easy administration.
5) **Monitoring and Adjustments:** After preparing and administering the special feed, it is essential to monitor the individual's progress:
   - **Regular weight checks** and **clinical evaluations** to assess if the feed is meeting the nutritional goals.
   - **Adjustment of nutrient levels** based on feedback from healthcare providers or observed improvements or issues (e.g., gastrointestinal discomfort, allergies).
   - **Hydration levels** and the effect on **fluid balance** should be closely monitored, especially in individuals with kidney or heart disease.

Types of Special Feeds:

1) **Enteral Feeds (Tube Feeding):** For individuals who cannot consume food orally, tube feeding provides a direct route to the stomach or intestines. This may include:
   - **Standard formulas:** For general nutritional support.
   - **Disease-specific formulas:** Such as formulas for patients with diabetes, renal disease, or cancer.
2) **Parenteral Nutrition (IV Feeding):** In cases where enteral feeding is not feasible (e.g., due to intestinal obstruction or severe malabsorption), nutrients are provided intravenously. This method ensures that the body receives all necessary nutrients without the digestive system being involved.

3) **Therapeutic Diets:** Designed for individuals with specific medical conditions:
   - **Diabetic diet:** Low in sugar and simple carbohydrates to regulate blood sugar levels.
   - **Renal diet:** Low in sodium, potassium, and phosphorus for individuals with kidney disease.
   - **Gluten-free diet:** For individuals with celiac disease or gluten sensitivity.
   - **Low-sodium diet:** For individuals with hypertension or heart disease.
4) **Allergy-Free Diets:** Tailored to individuals with food allergies (e.g., dairy, nuts, eggs) or intolerances (e.g., lactose intolerance).
5) **Weight Management Diets:** Special feeds for individuals looking to gain or lose weight. These feeds may be high in protein, low in fat, or calorie-dense, depending on the specific goals.

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- Unusual presentation of disease
- Unexpected events
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- Difficult or inconclusive diagnosis
- Treatment or management challenges
- Personal impact
- Observations that shed new light on a disease or condition
- Anatomical variations

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Case reports generally take the format of:

1) **Background :**
2) **Case presentation :**
3) **Observations and investigation :**
4) **Diagnosis :**
5) **Treatment :**
6) **Outcome :**
7) **Discussion :**
8) **Conclusion :**