

**Sub: SOCIAL AND PREVENTIVE PHARMACY**

**Code: BP- 802T**

**Unit: I**

**Topic: : Food, Nutrition, Balanced diet**

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# Food in relation to health and nutrition

## What is food?

- Food is any edible material that supports growth
- Food provides nutrients it contains. The body utilizes these nutrients to grow and keep healthy and strong, repair and maintenance of the body.

## What is nutrition?

- Nutrition can be defined as the science of food and its relationship to health. It is concerned primarily with the part played by nutrients in body growth, development and maintenance .
- Nutrition is the process by which body utilizes food for growth and maintenance and healthy living.
- Nutrition is the combination of processes by which the living organism receives & uses the food materials necessary for growth, maintenance of functions & repair of component parts.

# Objectives of nutrition

- To promote the physical and mental growth and development of human beings
- Building and repairing of tissues and cell damaged by infection and injuries.
- To provide energy for doing works.
- To protect the human beings from infections and deficiency disorders.

# Classification of food

- **Classification by origin: -**
  - ✓ Foods of animal origin
  - ✓ Foods of vegetable origin
- **Classification by chemical composition: -**
  - ✓ Proteins
  - ✓ Fats
  - ✓ Carbohydrates
  - ✓ Vitamins
  - ✓ Minerals
- **Classification by predominant function:-**
  - ✓ Body building foods: -meat, milk, poultry, fish, eggs, pulses etc
  - ✓ Energy giving foods: -cereals, sugars, fats, oils etc.
  - ✓ Protective foods: -vegetables, fruits, milk, etc

# Classification of nutrients

Organic and inorganic complexes contained in food are called nutrients.

## Macronutrients:

- ✓ proteins
- ✓ fats
- ✓ carbohydrates

## Micronutrients:

- ✓ vitamins
- ✓ minerals

# Balanced diet

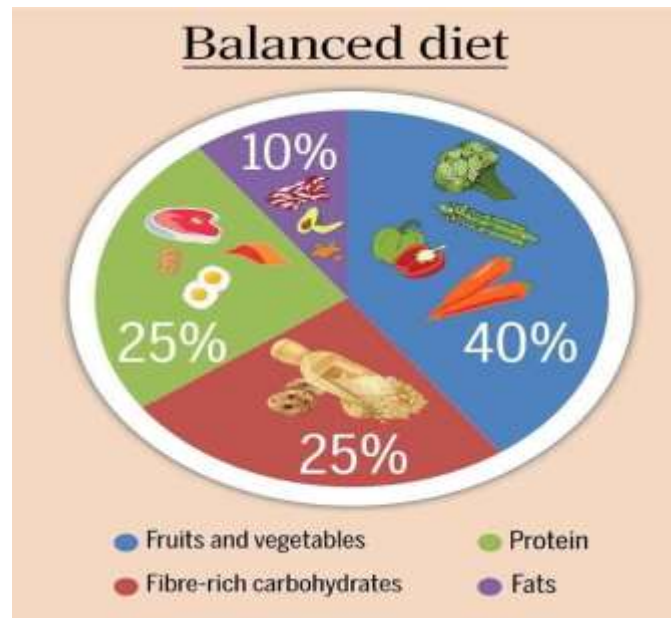
- A **balanced diet** is one that contains an adequate quantity of all the nutrients required by our body. A **balanced diet** should contain food items with different nutritional value to fulfil our nutritional requirements.

OR

- A **balanced diet** is a **diet** that contains differing kinds of foods in certain quantities and proportions so that the requirement for calories, proteins, minerals, vitamins and alternative nutrients is adequate and a small provision is reserved for additional nutrients to endure the short length of leanness.

# Essential components of balanced diet

- There are seven essential factors for a balanced diet: carbohydrates, protein, fat, fibre, vitamins, minerals and water.





# Nutritional deficiencies

- A nutritional deficiency occurs when the body doesn't absorb or get from food the necessary amount of a nutrient. Deficiencies can lead to a variety of health problems. That can include digestion problems, skin disorders, stunted or defective bone growth, and even dementia.

## **What causes nutritional deficiencies?**

The main causes of nutritional deficiencies include a poor diet that lacks essential nutrients, a disease or medication that impairs absorption, or both. The body is able to store some nutrients, so a deficiency may not be caught until the body has been without the nutrient for some time.

# General types of nutritional deficiencies

- Iron deficiency
- Iodine deficiency
- Vitamin D deficiency
- Vitamin B12 deficiency
- Calcium deficiency
- Vitamin A deficiency
- Magnesium deficiency

# Symptoms of nutritional deficiencies

- pallor, or pale skin
- fatigue
- weakness
- trouble breathing
- unusual food cravings
- hair loss
- constipation
- sleepiness
- heart palpitations
- feeling faint or fainting
- depression
- tingling and numbness of the joints
- menstrual issues, such as missed periods or very heavy cycles
- poor concentration

# How are nutritional deficiencies diagnosed?

- The doctor discuss the diet and eating habits with patient, if they suspect a nutritional deficiency. They'll ask what symptoms one is experiencing. Make sure to mention if you've experienced any periods of constipation or diarrhoea, or if blood has been present in your stool.
- nutritional deficiency may also be diagnosed during routine blood tests, including a complete blood count (CBC). This is often how doctors identify anaemia

# Treatment of nutritional deficiency

- The treatment for a nutritional deficiency depends on the type and severity of the deficiency. The doctor will find out how severe the deficiency is as well as the likelihood of long-term problems caused by the lack of nutrients.
- Before deciding on a treatment plan, they may order further testing to see if there's any other damage. Symptoms usually fade when the correct diet is followed or nutrient is supplemented.

# Methods for treatment

- Dietary changes
- Dietary supplements
- Parenteral administration

# Vitamin deficiency

S. No.	Vitamin	Deficiency diseases
1)	Thiamine (B <sub>1</sub> )	Beriberi
2)	Riboflavin (B <sub>2</sub> )	Glossitis
3)	Niacin (B <sub>3</sub> )	Pellagra
4)	Pyridoxine (B <sub>6</sub> )	Anaemia
5)	Cyanocobalamine (B <sub>12</sub> )	Pernicious anaemia
6)	Folic acid (B <sub>9</sub> )	Anaemia
7)	Pantothenic acid	Burning feet
8)	Biotin	Nerves disorders
9)	Ascorbic acid (Vitamin C)	Scurvy
10)	Retinol (Vit. A)	Eye and Skin diseases – Night blindness, Xerophthalmia, Rupture of cornea, Scale formation on skin
11)	Calciferol (Vit. D)	Rickets, fragile bones
12)	Tocoferol (Vit. E)	Fertility disorders – Sterility in males, Abortions in females
13)	Phylloquinone (Vit. K)	Blood clotting

# Common signs of vitamin deficiency

- Brittle hair and nails
- Mouth ulcers or cracks in the corners of the mouth
- Bleeding gums
- Poor night vision and white growths on the eyes
- Scaly patches and dandruff
- Hair loss
- Red or white bumps on the skin
- Restless leg syndrome