

Deficiency Diseases

1. Carbohydrates – The Energy Providers

Function: Provide energy to the body.

Sources: Rice, wheat, bread, potatoes, sugar, honey.

Types

- **Simple Carbohydrates:** Found in sugar, fruits, and milk.
- **Complex Carbohydrates:** Found in grains, vegetables, and legumes.

2. Proteins – The Body Builders

Function: Help in growth, repair, and maintenance of body tissues.

Sources: Milk, eggs, fish, meat, lentils, nuts, soybeans.

Deficiency Disease: Kwashiorkor (severe malnutrition due to protein deficiency).

3. Fats – The Energy Reserves

Function: Provide stored energy, keep the body warm, and protect organs.

Sources: Butter, ghee, oil, nuts, cheese, avocado.

Types

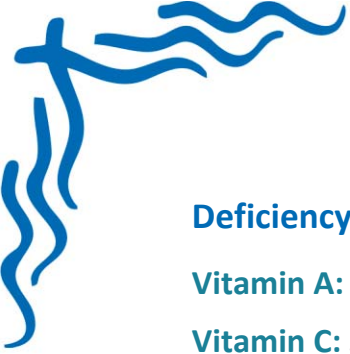
- **Saturated Fats:** Found in animal products like butter, cheese, and red meat.
- **Unsaturated Fats:** Found in olive oil, fish, and nuts (healthier option).

4. Vitamins – The Protective Nutrients

Function: Help in various body functions like immunity, vision, bone strength, and healing wounds.

Types & Sources:

- **Vitamin A:** Good for eyesight (Carrots, spinach, milk).
- **Vitamin B—complex:** Helps in energy production (Cereals, eggs, green vegetables).
- **Vitamin C:** Strengthens immunity (Citrus fruits like oranges and lemons).
- **Vitamin D:** Strengthens bones and teeth (Sunlight, milk, fish).
- **Vitamin K:** Helps in blood clotting (Green leafy vegetables).



Deficiency Diseases:

Vitamin A: Night blindness

Vitamin C: Scurvy

Vitamin D: Rickets

5. Minerals – Essential for Body Functions

Function: Strengthen bones, maintain fluid balance, help in blood formation.

Important Minerals & Their Functions:

Calcium: Strengthens bones and teeth (Milk, cheese, yogurt).

Iron: Helps in the formation of red blood cells (Spinach, red meat, jaggery).

Iodine: Essential for thyroid function (Iodized salt, seafood).

- **Phosphorus:** Helps in energy production (Fish, nuts, dairy products).

Deficiency Diseases:

Iron Deficiency: Anemia

Iodine Deficiency: Goiter

6. Water – The Life-Sustaining Component

Function: Helps in digestion, absorption of nutrients, circulation, and removal of waste.

Sources: Drinking water, fruits, vegetables, soups.

Deficiency Effects: Dehydration, fatigue, kidney problems.

7. Roughage (Dietary Fiber) – The Digestive Aid

Function: Helps in digestion, prevents constipation, and maintains gut health.


Sources: Fruits, vegetables, whole grains, nuts, beans.

Millet – Nutrition-Rich Cereal

Examples: Jowar, Bajra, Ragi, Sanwa.

Health Benefits:

- Helps manage diabetes & heart health.
- Aids in weight management & easy digestion.

- 
- Rich in nutrients, supports immunity.

Midday Meal Programme & Nutrition Research

- Dr. Coluthur Gopalan played a key role in nutrition research in India.
 - His work led to the Midday Meal Programme (PM POSHAN) in 2002, addressing malnutrition in school children.
- 