



## Components of Food

### 1. Importance of Nutrition:

Essential for overall health and body function.

Deficiencies lead to health problems such as scurvy, rickets, anemia, and osteoporosis.

Protein-energy malnutrition causes kwashiorkor and stunted growth.

### 2. Deficiency of Carbohydrates:

**Fatigue:** Lack of energy results in tiredness.

**Loss of Stamina:** Reduced physical endurance and strength.

**Quick Exhaustion:** Inability to sustain energy for long periods.

**Importance of Carbohydrates:** Vital for energy metabolism and maintaining activity levels.

### 3. Deficiency of Proteins:

**Stunted Growth:** Affects physical and mental development in children.

**Hair Discoloration:** Affects melanin production.

**Face Swelling:** Fluid retention causes puffiness.

**Skin Issues:** Dry, flaky, or peeling skin.

**Diarrhea:** Weakens intestinal lining, causing digestive problems.

**Swollen Abdomen:** Fluid imbalance leading to edema.

### 4. Severe Protein Deficiency in Children:

**Kwashiorkor:** Extreme protein deficiency despite sufficient calories.

- **Symptoms:** Swollen abdomen, hair discoloration, irritability, skin lesions.

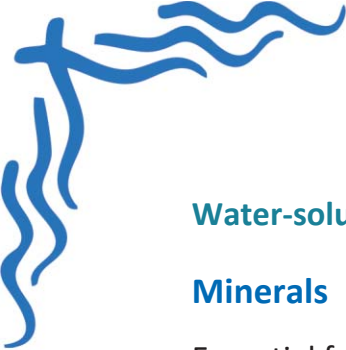
**Marasmus:** Severe deficiency of both protein and calories.

- **Symptoms:** Extreme weight loss, muscle wasting, lack of energy.

### 5. Deficiency of Vitamins and Minerals:

#### Vitamins:

**Fat-soluble:** A, D, E, K.



**Water-soluble:** B-complex, C.

## Minerals

Essential for various bodily functions.

### 6. Water – The Life-Sustaining Component

Vitamin	Function	Deficiency Disease	Symptoms	Sources
A	Eye & skin health	Night blindness	Poor vision, vision loss	Carrots, tomatoes, leafy greens, milk, butter
B1	Heart & body functions	Beriberi	Fatigue, breathing issues	Cereals, peas, nuts, whole grains
B12	Red blood cell formation	Anemia	Pale skin, loss of appetite	Meat, liver, yeast, fish, milk
C	Teeth, gums, bones health	Scurvy	Bleeding gums, slow healing	Citrus fruits, tomatoes, guava
D	Bone & teeth strength	Rickets	Weak bones, tooth decay	Sunlight, milk, fish, eggs
K	Blood clotting	Impaired clotting	Bleeding gums	Spinach, cabbage, eggs

### 7. Mineral Deficiencies and Sources:

Mineral	Function	Deficiency Disease	Symptoms	Sources
Calcium	Bone & tooth formation	Rickets, decay	Weak bones, tooth issues	Milk, cheese, curd, greens
Iodine	Physical & mental growth	Goitre	Neck swelling, mental issues	Seafood, iodized salt
Iron	Red blood cell formation	Anemia	Pale skin, weakness	Leafy greens, meat, eggs
Fluorine	Strengthens teeth	Tooth decay	Increased cavities	Seafood, oatmeal, coffee