

Block 2

Basic Concepts in Nutrition

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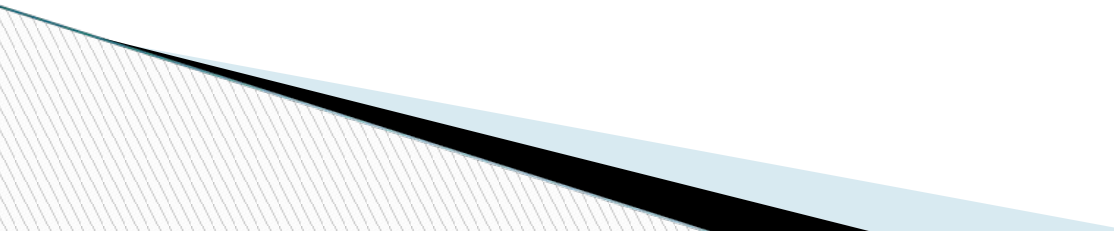


Unit 7
The Micronutrients-2: Minerals

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Objectives

- **Differentiate between minerals required in larger amounts and smaller amounts**
 - **Describe the functions performed by these minerals in the body and**
 - **List the food sources of each of these minerals**
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Minerals Required in Larger Amounts

▣ Calcium, phosphorus, sodium, potassium, chloride, magnesium constitute $3/4^{\text{th}}$ of the total mineral content of the body.

1. Calcium and Phosphorous - Of all the minerals, Ca and Ph present in the largest amount. work together to maintain the health and strength of bones and teeth;

▣ Food Sources of Calcium - milk and milk products, fish, dried fish,; plant sources – pulses, GLV, nuts and Oilseeds

▣ Food Sources of Phosphorus: diet rich in proteins and calcium; egg, milk, poultry fish, cereals;

Sodium – present as extra cellular fluid.

Potassium: present as intra cellular fluid

Functions: regulates balance of extra and intra cellular fluid (with potassium); passage of messages in nerve cells; regulates passage of substances in and out of cells; maintains alkalinity and acidity of body fluids along with chlorine.

Food Sources of Sodium: table salt, milk, egg white, GLV, pulses, meat, poultry, fish

Food Sources of Potassium– water of tender coconut – best source , meat, poultry, fish, pulses, fruits, GLV, carrots, tomatoes and lemon good sources.

Chloride - present as extra and intra cellular fluid; helps regulate fluid balance and acidity/alkalinity of body fluids.

Food Source – widely found in plant foods, table salt

□ Trace elements – zinc, copper, iodine, iron

1. Iron – in blood; all cells contain iron, stored in liver, spleen, kidney and bone marrow

Functions:

- oxygen transport – constituent of hemoglobin;**
- promotion of oxidation within cells,**
- helps in muscle contraction,**
- maintains brain functions – attention, memory;**

Food Sources: liver, organ meat, GLV, cereals, pulses soybean; jaggery

Iodine – present in thyroid gland; part of hormone thyroxine which regulates the rate of chemical reactions in the body. Also help in the functioning of nerve and muscle tissue.

Food Source: present in foods but content varies according to iodine content of soil and water – low in hilly areas; sea foods are best source; iodized salt; goitrogens in plant food inhibit iodine absorption – cook them.

3. Other Minerals: Zinc and Copper. Zn essential for growth and has protective functions as well. Copper helps in Hb synthesis and essential constituent of certain enzymes. Zn and Cu widely distributed in nature and not lacking in Indian Diets

THANK YOU

