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FUNCTIONS, ADEQUATE INTAKE, DIETARY SOURCES of PROTEINS, FATS AND CARBOHYDRATES IN THE DIET

The foods include the following components:

1. **Nutrients.** Nutrients are subdivided into:

   proteins, fats, carbohydrates, vitamins, minerals, water;

   flavouring substances such as organic acids, ethers, colouring substances, arometic compounds.

2. **Antinutrient substances** which include antiaminoacids, antiminerals, antivitamins, etc.
3. **Foreign substances** (additives).

Nutrients can be subdivided into three groups according to their office:

1. Nutrients that have a plastic (structural) function in the body. They include proteins, mineral salts, especially those of calcium and phosphorus.
2. Nutrients that have an energy providing function in the body. They are fats and carbohydrates.
3. Nutrients that have a regulatory function of metabolic processes in the body. They include vitamins, mineral salts, micronutrients and macro nutrients.

The main function of proteins.

1. Structural (plastic) function.
2. Proteins provide energy : 1 gram of protein provides 4, 0 kcal or 16, 7 kJ .
3. Proteins perform an immunologic function.
4. Proteins provide oncotic blood pressure .
5. 14% of total kilocalories of a daily menu mast be provided by proteins.

The main functions of fats is:

1. Fats provide energy: 1 gram of fat provides 9 kcal or 37, 7 kJ.
2. Fats provide components of body structure, especially those of cellular membranes.
3. Fats improve flavoring properties of the foods and increase its energy value.
4. Fats are the solvents of vitamins A, E, D and they promote absorption of these vitamins.

30-35 % of total kilocalories of a daily menu mast be provided by fats.

The functions of carbohydrates is:

1. To provide energy: 1 gram of carbohydrates provides 4,0 kcal or 16, 7 kJ.
2. Carbohydrates and their metabolits are components of the connective tissue. They participate in the synthesis of nucleic acids.
3. Perform protective function: they provide utilization of toxic substances from the body forming easily soluble compounds utilized through the urine.

50-60 % of total kilocalories of a daily menu mast be provided by carbohydrates .

Main properties of fibers.

1. Fibers can absorb water. If there are no fibers in the intestine, the amount of the fluid consumed is absorbed without reaching large intestine. Storing of water in the intestine leads to shortening the time of intestinal passage.

2. Most fibers have cation exchange properties. These properties are most peculiar to pectins. This property makes it possible for fibers to combine with toxic substances, salts of heavy metals and to utilize them from the body.

Main properties of fibers.

3. Fibers are able to combine with bile acids and cholesterol, and they prevent from a reverse absorption of cholesterol in the body. Fibers can effect on the intestinal microflora. They provide a useful microflora and damage a rottening one.
4. Fibers are considered a protective means from aggravation of ulcers. Fibers, namely hemicellulose, produce a swollen, sticky, viscous mass that neutralizes hydrochloric acid that is excessive in certain ulcers.

Main properties of fibers.

5. Fibers have an antidiabetic property. They are able to slow down resorption of glucose from the intestine.