

THE ROLE OF BIOLOGICALLY ACTIVE SUBSTANCES IN THE HUMAN BODY**Ismailova Nazira Muxamatdin qizi.**

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Abstract. This article discusses the role of biologically active substances in the human body and biologically active additives.

Keywords: biological, food, substances, organism, harmful substances.

РОЛЬ БИОЛОГИЧЕСКИ АКТИВНЫХ ВЕЩЕСТВ В ОРГАНИЗМЕ ЧЕЛОВЕКА

Аннотация. В статье рассматривается роль биологически активных веществ в организме человека и биологически активных добавок.

Ключевые слова: биологический, пища, вещества, организм, вредные вещества.

Biologically active additives are natural biologically active substances that are used together with nutrients or added to food products. Food chemistry pays great attention to this problem. In the study and development of these problems, it is necessary to pay great attention to in-depth medical analysis methods and safety. An important section of the science of food chemistry is the creation of methods and research systems for food analysis, analysis of components, nutritional and biologically active additives, harmful substances. This is an important section of the science of food chemistry, which is interconnected with analytical and physicochemical and other knowledge. The development of this section is determined by effective and reliable research methods.

Among the main problems facing humanity, the following can be mentioned.

1. providing the world's population with food;
2. providing energy;
3. providing raw materials;
4. ensuring environmental protection, ecological and radiation safety.

The most important and complex of these is providing the world's population with food.

Nutrients entering the human body, as a result of complex biochemical processes occurring in the cell, provide the human body with the necessary plastic substances and energy. In addition, food products must perform therapeutic and prophylactic functions for humans.

Currently, several shortcomings can be seen in human nutrition:

1. high consumption of animal fat;
2. deficiency of unsaturated fatty acids

3. low consumption of animal protein;
4. vitamin deficiency;
5. mineral deficiency (calcium, iron);
6. microelement deficiency (selenium, zinc, iodine, fluorine);
7. nutrient deficiency.

The amount of nutritional (protein, fat and carbohydrate) and biologically active (vitamins, microelements) substances depends on the type of product, variety, climatic conditions of cultivation and other factors. Therefore, the nutritional, biological and energy values of food products are also different. Meat, dairy and fish products are richer in protein than plant products (with the exception of legumes), and plant products are richer in carbohydrates. Depending on the type of food products, the amount of chemical substances in them also varies.

Meat products. Meat and meat products are considered to be high-value and popular food products. The amount of protein, fat and carbohydrates in meat and its energy value depend on the type and fatness of the meat. Beef contains an average of 19.5% protein, 8.5% fat, and 1.0% mineral salts. Lean meat (category II) has a high protein content (21.2%) and a low fat content (7.0%). Therefore, its energy value (602 kJ) is lower than that of meat of the first category (782 kJ). Mutton differs from beef in its nutrient content. It contains an average of less protein and a higher fat content than beef. In mutton of the first category, the protein content is 16.3%, fat is 15.3%, mineral salts are 0.8%, and in meat of the second category, the content of these substances is 20.8%, 9.0%, and 0.9%, respectively. Horse meat differs from beef and mutton not only in its chemical composition, but also in color and taste. Usually, horse meat has a higher protein content than beef (19.5% in category I meat, 20.9% in category II meat), and less fat (9.9% in category I meat, 4.1% in category II meat). The energy value of horse meat, due to its low fat content, is lower than that of beef.

Meats contain relatively high amounts of elements such as phosphorus, potassium and iron.

In addition, they contain the most important microelements for life, such as zinc, copper and cobalt. Meat contains vitamins and all essential amino acids. Meats are rich in extractive substances. Therefore, they are of great importance in the digestion of other substances in food.

Poultry meat is also one of the meat products of high value for the human body. Their proteins also contain all essential amino acids and strong extractive substances. Poultry meat is rich in B vitamins, especially vitamins B1 and B12. The average content of proteins in poultry meat is 18.0%, fats are 15.9% and carbohydrates are 0.24%.

The content of the main chemical substances in meat and meat products is given in Appendices 3 and 3a. Dairy products.

Milk occupies a very important place among animal products in terms of its chemical composition, and there is no food product in nature that is equal to it. Cow, sheep and goat milk are rich in casein. In addition to casein, they also contain albumin and globulin proteins.

Cow's milk, processed in the food industry and standardized in its chemical composition, contains 2.8% protein, 3.2% fat and 4.7% carbohydrates, and the energy value of 100 g of milk is 243 kJ. Proteins, fats, carbohydrates and essential amino acids are in the ratio necessary for the human body. Therefore, milk and dairy products are considered to be quickly digestible products.

Milk protein contains 20 amino acids, including all essential amino acids.

The biological value of milk protein is the highest and is 96%. It has been proven that milk fat contains 25 fatty acids, most of which are absent in vegetable oils. Milk contains phosphatides, sterols and more than 20 vitamins, which are valuable for the body. Milk carbohydrates consist mainly of lactose sugar, which is very quickly digested. In addition, milk contains more than 30 minerals. It contains trace elements that are rarely found in other products, such as titanium, vanadium, silver and cobalt. The total amount of mineral salts in milk can be up to 0.7-1.0%. In general, the chemical substances contained in milk and dairy products exceed 100. In addition to the listed chemicals, there are enzymes, hormones and other substances. Sheep's milk contains less vitamin A than cow's milk, almost 1.7 times more proteins, and 1.8 times more fats. Goat's milk has a specific smell. It contains much more protein and fat than cow's milk, and relatively less carbohydrates. Biya milk is similar in chemical composition to human milk, but is richer in vitamin C. It contains less protein and fat, and about 1.4 times more carbohydrates. In dairy products, the general chemical composition of milk is almost the same. Only their amount and some of their physicochemical properties may change. The content of the main chemical substances in milk and dairy products is given in Appendices 4 and 4a.

Fish products. Fish is a type of food that is rarely grown in the Republic of Uzbekistan, but is quickly digested by the body. Fish is not only a valuable source of protein and fats, it is also a product rich in vitamins A and D, which are very necessary for children. Due to the optimal ratio of essential amino acids in the protein of fish, the biological value of fish protein is equal to the biological value of meat products and is 95%. The chemical composition of fish depends mainly on the type of fish and the composition of the water in which they live, whether it is frozen or not.

Fish meat grown in lakes, reservoirs and rivers of Uzbekistan contains from 16.0% (carp) to 19.0% (sukuk) protein, from 0.6% (cod) to 10.9% (sturgeon) oil, from 1.0% (carp) to 1.4% (sukuk) mineral substances. The most valuable fish product is caviar. It is mainly rich in proteins, fats and minerals, vitamins B1 and B12, and from mineral elements iodine, phosphorus and sodium.

The protein content in caviar is from 23.9% to 36.0%, the oil content is from 1.9% to 40.8%, the mineral content is from 5.4% to 13.8%. The content of the main chemical substances in fish meat is given in Appendices 5 and 5a. Canned products. Canned products are divided into the following types depending on the types of raw materials used in their preparation:

- canned meat;
- canned milk;
- canned vegetables;
- canned fish;
- canned meat and vegetables.

Although the main chemical composition of canned meat, milk, fish and vegetable products is qualitatively close to the composition of the raw materials used, it may differ completely from the chemical composition of the raw materials, since some of them have added fat, flavoring, aroma, coloring agents and preservatives from outside according to the recipe.

The content of the main chemical substances and the energy value of canned products made from meat and vegetables are lower than those contained in canned products made only from meat, and higher than those contained in canned products made only from plant products. The content of protein, fat, carbohydrates, and minerals in canned products is shown in Appendices 6 and 6a. Plant food products. As mentioned above, plant products are used to prepare canned products only with vegetables or only with fruits and canned vegetables with the addition of meat. Therefore, it is necessary to know their main chemical composition. It should be emphasized once again that vegetables and fruits contain very little protein and fat, and contain vitamins that are not found in meat and fish products.

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