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BIOLOGICALLY ACTIVE SUPPLEMENTS: IMPORTANCE AND APPLICATION

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Abstract. The paper presents the reasons that led to the development of biologically active additives, specifies the regulatory documents for their production, examination and registration. It provides a classification of biologically active additives, their role in optimizing nutrition, and specifies the purposes of their use.

Keywords: biologically active additives, balanced nutrition, nutraceuticals, parapharmaceuticals.

One of the main factors determining the normal functioning of the body, its performance and health is nutrition. Research conducted in the late 19th and early 20th centuries laid the foundation for modern ideas about human needs for nutrients. The main essential nutrients were discovered: amino acids, fatty acids, vitamins and minerals.

The theory of balanced nutrition, formulated in the early 20th century, remains significant to this day. It is based on a balanced approach to assessing food and diet. The main provision of this theory is that nutrition is a process of maintaining and balancing the chemical composition of the body. Rational balanced nutrition involves an optimal ratio of various food components, ensuring a normal level of vital activity with optimal intake of plastic energy and regulatory substances into the body [2]. To maintain the adaptive potential, a number of macro- and microcomponents of food (proteins, vitamins, minor biologically active compounds) are necessary, which must be supplied with the diet [14]. Long-term exclusion of one of the main components (proteins, lipids or carbohydrates) from the diet is unacceptable [13].

Thanks to the theory of balanced nutrition, many diseases associated with a deficiency of certain food components have been overcome, and diets have been created for different groups of the population taking into account the age and physical activity of a person.

Currently, strict methods have been developed to control the authenticity, effectiveness and safety of dietary supplements. Mandatory requirements for labeling dietary supplements have appeared. Dietary supplements are sold in the Republic of Uzbekistan either through pharmacies - these are additives used to maintain the functional activity of the body within physiological limits (vitamins, minerals, amino acids, animal microorganisms and others), or through the retail network in specially designated places in stores - these are additives used to enrich food (they contain additional sources of proteins, fats, carbohydrates, dietary fiber). One of the main criteria for classifying a product as a dietary supplement is that the effect of taking it should not exceed the physiological norm. All dietary supplements are divided into two large groups: nutraceuticals and parapharmaceuticals. Nutraceuticals are substances that have predominantly nutritional value and are used to correct the chemical composition of human food. Their role is to optimize the nutrition of a specific person, replenish the deficiency or insufficiency of essential food components, increase the body's nonspecific resistance to adverse factors, change the metabolism of substances, and have an immunomodulatory effect.

The ultimate goal of using nutraceuticals is to improve human nutrition, improve health and prevent a number of diseases.

The second group consists of parapharmaceuticals - a class of substances that are closer to natural medicines than to food and allow targeted action on the function of individual organs and systems within physiological boundaries [5, 7]. If nutraceuticals can be used by patients both on the

recommendation of a doctor and in many situations independently, then parapharmaceuticals must be prescribed by a specialist. Their prescription requires additional knowledge from the doctor, primarily in the field of phytopharmacology. Parapharmaceuticals are natural products containing alkaloids, glycosides, bioflavonoids, organic acids, essential oils and other substances. Their role is to regulate the functional activity of the body, nervous activity, microbiocenosis of the gastrointestinal tract, and an adaptogenic effect. However, the division of dietary supplements into nutraceuticals and parapharmaceuticals is somewhat arbitrary, since both optimize the chemical composition of human food to varying degrees and support its functional activity [1].

The use of dietary supplements is justified for the following purposes:

- rationalization of nutrition for each individual taking into account his physiological needs and energy expenditure;
- reduction of the caloric content of the diet;
- increase of non-specific resistance of the body;
- targeted change of metabolism – binding and removal of toxic and foreign substances from the body;
- increase of the body's immune defense;- normalization of intestinal microflora.

Basically, biologically active supplements are used by healthy people, less often – in a pre-illness state, they can also be used in a state of illness, but only as an addition to the main therapy. However, their uncontrolled and long-term use can lead to adverse effects, which experts distinguish in the following risk groups:

- insufficient study of some dietary supplements;
- insufficient study of the compatibility of the components included in their composition;
- risk of overdose;
- the content of potent components in them;
- lack of study of the interaction of dietary supplements with drugs that a person takes;
- the effect of dietary supplements on the fetus during pregnancy (the issue has practically not been studied).

Thus, biologically active additives are not medicines, in the state of illness they are used only as an addition to the main therapy. They are an important element in the path of strengthening health, prevention and treatment of many diseases. They can be used by healthy people to normalize the diet in case of insufficient intake of some macro- and micronutrients, as well as for functional impact on individual organs and systems within physiological limits.

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