

# HEALTHY NUTRITION AS HUMANITY'S DREAM OF 'PERFECT FOOD'

**Galyna Simakhina**

Doctor of Technical Sciences, Professor, Head of the Department of Healthy Foods Technologies at National University of Food Technologies

**Nataliia Naumenko**

Doctor of Philology, Professor, Professor of the Department of Foreign Languages for Specific Purposes at National University of Food Technologies

***Abstract.** The evaluation of health products as an age-old embodiment of humanity's dreams of ideal nutrition is substantiated. In modern conditions, healthy nutrition becomes not only a source of necessary biologically active substances for the human body, but also performs a protective function for organs and cells from adverse environmental factors. The main requirements for the composition of health products with various functional directions have been formulated.*

***Keywords:** nutrition, nutrients, healthy food products, world trend, extreme conditions.*

Nutrition belongs to those dramatically important environmental factors that influence the human body throughout all life directly. Biologically active components of foodstuffs, upon being transformed into the functional and structural elements of body cells during metabolism, provide the physical and mental workability, adaptive capacities and immune status; determine the state of human's health, one's lifespan, social and individual activity.

This is why one of distinctive features of social development nowadays is that the problems of public health protection and increase of each individual's lifetime have stopped being in the spotlight of only biology and medicine and furthermore occupied the significant position in development of new food technologies, determining their trends and priorities.

Studies by nutritionists show that in modern society, traditional nutrition alone inevitably leads to certain types of nutritional deficiencies [1]. There are well-known reasons for this, which are protein deficiency, lack of vitamins and other essential micronutrients, consumption of refined food, wide use of various food additives that do not have any biological value.

Therefore, the problem of improving the nutrition structure, quality and safety of food products today is one of the most important – both in one country and on the entire Earth. At the same time, the accumulated world experience shows that it is almost impossible to solve the problem of rapid adjustment of the nutrition structure by simply increasing production volumes and expanding the range of traditional food products.

The search for alternative ways to solve this extremely important task led scientists and practitioners to the idea of the need to develop and implement new, far more advanced technologies for the production of food products, adequate in terms of component composition to the needs of modern man. These are health, preventive and functional food products.

Therefore, the 21st century outlined the beginning of great changes in nutrition science and food technologies. They are primarily related to the production of healthy products, which are part of a usual diet and which, in addition to nutritional properties, have the ability to positively affect all organs and systems of the body. Thanks to this, the risk of occurrence and development of a number of diseases gets reduced.

The creation of a new generation of food products and their introduction into the diet of consumers is a significant change in the structure of nutrition, which has traditionally developed for each nation. In other words, on the one hand, the necessity to produce innovative food products is a real modern need; on the other hand, it requires overcoming certain stereotypes in food preferences, a higher level of food culture and adaptation of the human body to new food products and ingredients.

Hence the design, production and consumption of new food products can be carried out only on the basis of scientifically based and proven medical and biological

principles, new technologies for processing agricultural and medicinal raw materials into health products and guaranteeing the absolute safety of the latter for consumers.

Scientists of the National University of Food Technologies, Odesa State University of Food Technologies, Kharkiv State University of Food and Trade, State University of Trade and Economics in Kyiv, Donetsk National University of Economics and Trade named after M. Tugan-Baranovsky (now located in Vinnytsia), Institute of Gerontology named after D.F. Chebotaryov affiliated to National Academy of Sciences of Ukraine, Institute of Microbiology and Virology named after D.K. Zabolotny affiliated to National Academy of Sciences of Ukraine and other institutions are currently working over this problem.

The general conclusion of scientists is as follows: practically all food products traditionally consumed by the population can be given functional properties and thus make our food 'our medicine,' as Hippocrates dreamed about it. To achieve this goal, it is necessary to find natural sources of the most effective functional ingredients; to investigate the properties of various biologically active components of food (vitamins, trace elements, polysaccharides, amino acids, fats, etc.) and to develop new technologies for obtaining healthy food products.

Subsequently, to solve all these questions, we need to have thorough knowledge, because it is in the field of health products that the most intensive research is carried out, and it is the field of health products that is currently developing at the fastest pace; thenceforth, it is health products that have the greatest demand in the world market.

Experts associate the beneficial effects of biologically active substances on the human body with various types of physiological effects. Among them, the following are recognized as the main ones:

- positive effect on nutrient metabolism (maintenance of energy balance, normalization of body weight, glucose, insulin and triacylglycerides in the blood, etc.);
- protection of the body from compounds with oxidant activity;
- positive effect on the cardiovascular system;

- positive effect on functioning of the gut and the state of intestinal microflora;

- physiological impact on the state of the immune system;
- cellular metabolism in the body;
- synthesis of necessary compounds for vital activities of the body;
- catalysis of biochemical reactions in the body.

In other words, thanks to the presence of various biologically active substances in food products, a rationally organized diet has immunomodulatory, bioregulatory, rehabilitative and other positive effects on the organs, systems and functions of the human body.

The most realistic way to solve the problem of the correlation between the structure of nutrition and the state of human health is the production of mass and special-purpose food products with the optimal content of the necessary biologically active substances that participate in the processes of physiological and hormonal regulation of all body functions.

The beneficial effects of biologically active substances on the human body are related to their influence on the metabolism of nutrients, protection of the internal organs from compounds of oxidant activity, the state of the immune system, cellular metabolism, synthesis of necessary compounds, and catalysis of biochemical reactions [2].

In the extreme conditions of life, during the production of food products fortified with essential nutrients, the emphasis is placed on those biologically active substances that are able to neutralize such negative factors as increased neuro-emotional and physical stress on the background of unstable environmental parameters and active hostilities.

The diet for extreme living conditions is able to provide the necessary level of biologically active substances only thanks to the combination of various food products obtained from agricultural and medicinal raw materials [3].

Based on the formulated material, the following conclusions can be drawn. Scientific discoveries of the 20<sup>th</sup> – 21<sup>st</sup> centuries made it possible to create atomic

energy, high-speed transport networks, new biological, radiation, laser, pharmaceutical and food technologies, to decipher the human genome and the secrets of the psyche. At the same time, on the background of huge achievements, many unexpected problems with human health, related to technological progress, ecology, food structure, etc. have arisen.

The modern way of life – with its characteristic surplus of high-caloric food in the diet, insufficient consumption of fruits, vegetables, dietary fiber, hypodynamia and stress caused by many things (for Ukraine, it is primarily the Russian full-scale military invasion) – has led to the emergence of new and sharp growth of known diseases. The newly created term ‘diseases of civilization’ includes chronic fatigue syndrome, atherosclerosis, obesity, cardiovascular, endocrine, oncological and other illnesses. According to the main periods of human development outlined by historians, ideas about proper nutrition were changing from time to time. There has always been a dream of ‘perfect food’ that would contain only useful compounds and contribute to a person's improvement. At the modern stage of knowledge of medicine, biology, and physiology, the concept of ideal food has been transformed into a very real type of nutrition that is, actually, healthy food, which, along with the necessary nutritional components, contains biologically active compounds that improve the state of human health.

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