SCIENTIFIC SUBSTANTIATION OF ALIMENTARY PROVISION OF HOMEOSTASIS AND MINERAL METABOLISM OF THE HUMAN BODY

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The authors analyzed the ways for alimentary provision of homeostasis and mineral metabolism in human body. Chemical elements are analyzed as the sources of homeostasis provision; the ways for essential micronutrients digestion during their metabolism in a human body are specified; the forms of compounds digested by the human body for the provision of its homeostasis are scientifically substantiated.

The importance of the article is concluded in the fact that the investigated micronutrients being the part of enzymes, hormones, vitamins, biologically active substances, influence the processes of sanguification, oxidation, renewal, vascular and tissue permeability, i.e. they support homeostasis and provide full flow of metabolism.

Various chemical elements, which, in its turn differently affect the human body, influence the process. Namely, calcium as a structural element of cell membranes helps regulating exchange of nutrients between cells and intercellular space and plays an important role in the functioning of nervous system and muscles, providing transmission of nervous excitement.

The role of phosphorus in the processes of human life support is biologically very important for the body: it is an essential component of cell membranes and plays a key role in metabolic processes. It is important to take into consideration that phosphorus is digested by the human body only in the condition of its correlation with organically bound calcium. Magnesium participates in the support of electric equality of a cell, is a component of antioxidant system, an important component of immune system.

Iron participates in redox reactions, sanguification and breath. Iodine is a structural component of hormones in thyroid gland, which determine activity of the most of metabolic processes in the body. Selenium strengthens the body’s immunity. It is a strong antioxidant stimulating the nervous system and normalizing the endocrine system.

Chelates are the most accessible mineral organic compounds. Chelate compositions are complex composition of amino acids with the ions of minerals. Additional intake of chelate forms of minerals can guarantee satisfaction of the body’s needs in micro- and macroelements and their full digestion. Mineral elements in food products can influence their functional, technological and organoleptic properties. It requires analysis and specification of the spectrum of food products, the introduction of chelates to which is reasonable.

The suggestion of the way for the solution of the problem of eliminating the deficit of mineral compounds can help creating the system of nutritional regulation of mineral metabolism of a human.

Key words: homeostasis, metabolism, micronutrients, chelates.