

## THE NEED FOR PHARMACOTHERAPY WITH VITAMINS

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**Abstract.** *Deficiency of any vitamin leads to impaired synthesis of certain coenzymes and can manifest itself in various diseases. The article presents an analysis of data on vitamins and their significance in clinical pharmacology. Everyone knows that vegetables and fruits contain a lot of vitamins. However, vegetables and fruits alone cannot meet the body's needs for vitamins. Carriers of vitamins of group A, group B, nicotinic acid, vitamin E are such high-calorie products as black bread, butter and vegetable oil, milk and dairy products, cereals, etc. However, they also cannot cover the entire daily need of the body for vitamins. Therefore, it is recommended to additionally consume multivitamin preparations and products that indicate on the packaging that they are vitaminized.*

**Keywords:** *vitamins, coenzymes, food additives, biologically active substances, medicines.*

**Topicality.** Deficiency of any vitamin leads to impaired synthesis of certain coenzymes and can manifest itself in various diseases. Coenzymes are auxiliary low-molecular-weight organic compounds that participate in the reaction and act as intermediate carriers of atoms or functional groups in enzymatic reactions. The food we eat contains various substances that are necessary for the normal functioning of all organs, contributing to the strengthening of the body, healing, and also harmful to health. Vitamins are irreplaceable, vital components of nutrition along with proteins, fats and carbohydrates. The word "vitamin" comes from the Latin word "vita," meaning "life." Most of them enter the body with food, and only some are synthesized in the intestines by those living in it beneficial microorganisms, but in this case they are not always enough. Many vitamins are quickly destroyed and do not accumulate in the body in the right amounts, so a person needs a constant supply of them with food. All life processes take place in the body with the direct participation of vitamins. Vitamins are part of more than 100 enzymes that trigger a huge number of reactions, help maintain the body's defenses, increase its resistance to various environmental factors, and help to adapt to a deteriorating environmental situation. Vitamins play a crucial role in maintaining immunity, i.e. they make our body more resistant to disease.

**Objective:** To study the role and importance of vitamins in the human body, the need for pharmacotherapy.

A vitamin is an organic compound that is needed in tiny amounts for essential metabolic reactions in a living organism. The term "vitamin" does not include other essential nutrients such as dietary minerals, essential fatty acids, or essential amino acids, nor does the term encompass a large number of other nutrients that are health-conscious but not vital. Vitamins are active substances, the daily use of which determines the coordinated work of the entire body. Unlike nutrients, vitamins do not supply energy. Vitamins enter the human body mainly with food or are synthesized by bacteria living in the intestines. Plants are the main source of vitamins, but they are also found in animal products, such as meat (especially viscera, i.e. offal), eggs and dairy products. Some vitamins occur naturally in the form of so-called provitamins, while others are part of coenzymes. Vitamins are biomolecules that act both as catalysts and as substrates (catalyst

carriers) in chemical reactions. When vitamins act as catalysts, they are referred to as enzymes and are referred to as co-acting factors. For example, vitamin K is part of the proteases involved in blood clotting. Vitamins also act as coenzymes, carrying radicals and chemical groups between enzymes. For example, folic acid conducts different forms of the carbonaceous group—methyl, formyl, and methylene—into the cell. Vitamins play an important role as antioxidants. Vitamins are not synthesized in the human body, with the exception of vitamin D, which is produced in the body through a number of intermediate stages under the influence of sunlight. Other vitamins should come from food. Their lack in food leads to deficiencies and thereby provokes various diseases. An overdose of vitamins is also dangerous. Typical diseases caused by vitamin deficiencies include scorbuta (scurvy), beriberi (vitamin B1 deficiency), pellagra, anemia and rickets.

With a balanced diet, all vital vitamins enter the body in sufficient quantities, so a healthy person does not need additional intake of vitamins in the form of special preparations. The need for vitamins depends on many factors. Children, adolescents, pregnant women and nursing mothers, professional athletes, people engaged in manual labor, as well as the elderly need an increased number of vitamins. Smoking and drinking alcohol also require an increase in vitamin intake. This applies to people who are under stress and patients who have to take many different medications. Vitamins are especially important when taking antibiotics, which destroy the bacterial background of the intestines, as well as vitamins and provitamins located in the gastrointestinal tract (gastrointestinal tract).

Some vitamins are in a rather complex relationship. For example, vitamin E stabilizes vitamin A. Tetrahydro folic acid is formed only in aid of vitamin C, which in turn requires iron intake. Beta-carotene is absorbed only when fats are taken at the same time. The vitamin content of our food is extremely heterogeneous. For example, in meat, it depends on the time of year, age, and feed consumed by the animal. In plants, the number of vitamins also varies. The type of soil, the variety of the plant, the fertilizers used, the degree of maturity, the climate, the technology of harvesting, its transportation and storage are important. The technology of cooking is also decisive here.

Recently, the use of dietary supplements of various origins and products by the population has become relevant. It should be noted that there is no reliable data regarding their "miraculous ability". Some data indicate that their effectiveness is many times higher than expected and improves overall health, while other studies show that in the case of disease, they are powerless and the effectiveness is the same as placebo.

**Conclusions:** Vitamins are very important and insufficient intake of vitamins in the human body is a global problem. In developing countries, it is closely linked to starvation or malnutrition. However, even in developed countries, the intake of vitamins by the majority of the population does not meet the recommended norms. It is enough to prevent a deep vitamin deficiency, but not enough to optimally meet the body's needs. Inadequate vitamin intake It reduces physical and mental performance, a person's resistance to colds, contributes to the development of serious diseases - cardiovascular and cancer, and makes it difficult to cure them. In adolescents who do not receive enough vitamins, the process of puberty and the growth of the body are delayed. They often suffer from colds and study with difficulty.

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