



## LIFE WITHOUT VITAMINS

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### Article history:

### Abstract:

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This article describes in detail about vitamins and their importance, lack of vitamins in the body, preservation of vitamins in nutrients, vitamins enhance chemical reactions occurring in the body.

**Keywords:** Vitamins, nutrients, metabolism, enzymes, physiological functions.

### INTRODUCTION:

130 years ago, it was thought that it was enough for human and animal bodies to live within normal limits if carbohydrates, fats, proteins and mineral substances and water enter the body. In 1882, a Japanese judge named Takaki observed the condition of people on two ships with a crew of about 300 sailors. The ships sailed at sea for 9 months, while the sailors of the first ship ate the usual food for sailors, while the sailors of the second ship also included pure vegetable products. As a result, 170 sailors of the first ship fell ill and 25 died. On the second ship, only a mild form of the disease was observed in 14 sailors, and none of these patients died.

Vitamins - high molecular compounds that perform very important biochemical and physiological functions in a living organism. Vitamins are represented by A, B, C, D, E and other capital letters in the Latin alphabet. To the study of vitamins Russian scientist N.I. Founded by Lunin. This term was proposed by the Polish scientist K. Funk in 1912. Lack of vitamins in the body is called avitaminosis. Vitamins enhance chemical reactions in the body and affect the absorption of nutrients. Entering enzymes, they ensure their normal function and activity.

### LITERATURE ANALYSIS AND METHODOLOGY:

When the body lacks vitamins, the metabolism goes out of control, the ability of a person to work, resistance to infectious diseases decreases. The body needs vitamins in very small amounts. They are not synthesized in the body or are synthesized very little. The human body receives vitamins mainly from plant and animal products. Microorganisms living in the intestine are of great importance in the formation of certain vitamins in the body. Plants contain vitamin-forming substances - provitamins. Vitamins are made from them in human and animal bodies.

Vitamin A is mainly found in fish oil, butter, milk, egg yolk, caviar and other animal products. Carrots, spinach, tomatoes, apricots and red cabbage contain carotene, which forms this vitamin. Vitamin A affects

the growth and development of the body. Deficiency of this vitamin often results in impatience. When there is a lack of vitamin A in children's food, their height and hair do not grow well, and the formation of teeth is disturbed. Injuries to the lungs and intestines are observed. A person should consume about 1 g of vitamin A every day.

Vitamin C affects the metabolism of proteins and carbohydrates. This vitamin is found in citrus fruits, black currants, lemons, oranges, onions, garlic, fruits of most plants, and green parts of plants, especially stems and greens. When the body lacks vitamin C, sciatika occurs. In this disease, a person's gums bleed, small sores appear on the mucous membrane of the mouth, teeth fall out, and the joints hurt.

I. Water soluble vitamins:

1. Vitamin B1 - thiamine, antineuritis.
2. Vitamin B2 - riboflavin, growth vitamin.
3. Vitamin B6 - pyridoxine, antidermatin, adermin.
4. Vitamin B12 - cobalamin, antianemic.
5. PP vitamin - niacin, nicotinamide, antipellagric.
6. Vitamin Bc - folic acid, antianemic.
7. Vitamin B3 - pantothenic acid, antidermatitis.
8. Vitamin H - biotin, antiseborrithis, bacteria and yeast growth factor.
9. Vitamin C - ascorbic acid, strengthens capillaries.

II. Fat-soluble vitamins:

1. Vitamin A - retinol, antixerophthalmic.
2. Vitamin D - calciferol, antirachitic.
3. Vitamin E - tocopherols, antisterile, reproductive vitamin.
4. Vitamin K, naphthaquinone, antihemorrhagic.

We can divide all vitamins according to their solubility: into water-soluble (group V vitamins, vitamins C and R) and fat-soluble (vitamins A,D, YE and K). Daily requirement of vitamin C (ascorbic acid) is 50-100 mg. It enters the body mainly in the composition of plant and liver nutritious products. Its biological importance is mainly due to its participation in oxidation-reduction processes. In its deficiency, protein consumption decreases. Vitamin C participates in the formation of collagens in the walls of blood vessels, enhances the



antitoxic activity of the liver. Its deficiency causes scurvy; the wall of blood vessels is damaged, there are small hemorrhages on the skin and bleeding gums.

Vitamin B1 (thiamine), daily requirement is 1.4-2.4 mg. It enters the body with food products such as grains and legumes, liver, kidney, heart. Participates in carbohydrate, protein and fat metabolism; ensures normal growth; strengthens the motor and secretory activity of the stomach; normalizes the work of the heart. Avitaminosis causes polyneuritis, beriberi disease with heart and stomach disorders

Vitamin B2 (riboflavin), daily requirement 2-3 mg. It enters the body with food products such as grains and legumes, liver, kidney, heart, meat, milk and eggs. It affects the growth of the organism, the development of the fetus and children. In case of avitaminosis, the eye of the elderly is damaged (vascularization of the cornea, inflammation, clouding of the cornea (cataract) occurs). In addition, the mucous membrane of the oral cavity is damaged.

Vitamin PP (nicotinic acid), daily requirement 14-15 mg. Beef, liver, kidney, heart, and fish products enter the body. The cell participates in the process of internal respiration, normalizes the gastrointestinal and liver functions. Avitaminosis causes skin inflammation (dermatitis), diarrhea, damage to the mucous membrane of the oral cavity and tongue, and pellagra disease, which is accompanied by mental disorders.

Vitamin B3 (pantothenic acid), daily requirement 10 mg. It is abundantly stored in legumes and grains, potatoes, liver, eggs, and fish products. This vitamin is necessary for the synthesis of fatty acids, steroid hormones, acetylcholine and other substances necessary for the body. Avitaminosis is characterized by weakness, dizziness, rapid fatigue, dermatitis, neuritis and damage to the mucous membrane.

Vitamin B6 (pyridoxine), daily requirement 1.5-3 mg. Sufficient amounts are stored in cereal and leguminous plant products, beef, sheep and pork meat, liver, and cheese. Intestinal microflora synthesizes. High biological activity. It participates in protein metabolism, in the production of enzymes leading to protein metabolism; participates in fat metabolism as a lipotropic mode; affects blood formation. Epileptic-like seizures are observed in avitaminosis, hypochromic anemia occurs

Vitamin B9 (folic acid), daily requirement is 400 µg. The body enters the body in the same way as Vitamin B6 in the composition of products and is synthesized by the intestinal microflora. It is stored in chromosomes, participates in the synthesis of nucleic and amino acids and is one of the main factors in cell reproduction. Stimulates and controls blood formation. Avitaminosis causes sprue and anemia.

Vitamin B12 (cyanocobalamin), daily requirement is 3 µg. It enters the body in fish liver, beef liver and

kidney products. Intestinal microflora synthesizes. In the body, it is absorbed by binding to the protein of gastric juice (intrinsic factor of Kasl). Cyanocobalamin is also called extrinsic Castle's factor. Affects hemopoiesis.

Vitamin H (biotin), daily requirement is 150-200 µg. It enters the body with peas, soybeans, cauliflower, wheat, egg yolk, liver, kidney, and heart products. Raw egg white, consumed in large quantities, binds biotin and causes avitaminosis with dermatitis. Vitamin A (retinol), daily requirement 1.5 mg (5000 ME). Animal fat, meat, fish, eggs, milk are sources of this vitamin. Specially affects vision and reproduction. The organism is also involved in ensuring growth development. Participates in the formation of visual pigments, ensures adaptation of the eye to light. Avitaminosis causes squint, xerophthalmia and keratomalacia.

Vitamin D (calciferol), daily requirement 2.5 mg (100 ME). Fish liver, caviar, fatty fish meat, liver of mammals and birds, eggs serve as sources of this vitamin. Controls the metabolism of calcium and phosphorus in the body. In case of deficiency, rickets occurs in young children (disorder of bone formation due to a decrease in calcium and phosphorus salts).

Vitamin YE (tocopherol), daily requirement is 10-12 mg. Vegetable oil, green leaves of vegetables, and eggs contain sufficient amounts of this vitamin and enter the body. It has a protinoxidizing effect on intracellular lipids, protects mitochondrial lipids from peroxidation; protects erythrocytes from hemolysis. Avitaminosis causes skeletal muscle dystrophy and sexual impotence.

Vitamin K (phylloquinones), daily requirement 0.2-0.3 mg. Spinach, cabbage, tomatoes, liver products enter the body and are synthesized by intestinal microflora. Participates in the synthesis of prothrombin and other procoagulants; normalizes blood clotting. In avitaminosis, blood clotting time is prolonged, bleeding in the digestive tract, and bleeding under the skin are observed.

## **RESULTS:**

B group of vitamins. This group includes several vitamins such as B<sub>1</sub> B<sub>2</sub> B<sub>6</sub> B<sub>12</sub>. Vitamin B<sub>1</sub> affects carbohydrate metabolism. Therefore, when this vitamin is lacking, the work of organs and tissues that rapidly exchange carbohydrates is disturbed.

Vitamin B<sub>1</sub> is found in grain and leguminous crops and egg yolks, in small amounts in some vegetables and fruits, namely spinach, carrots, cabbage, onions and apples. Beriberi disease occurs when there is a lack of vitamin B<sub>1</sub> in food. In this disease, the blood vessel constricts, and the muscles of the chest, diaphragm and arms and legs become paralyzed. Previously, this



disease lived in the Pacific Islands. was common among peoples who ate a lot of rice.

Vitamin B<sub>12</sub> is a biologically active substance. Amino acid methionine participates in the synthesis of nucleic acids, blood formation. This vitamin deficiency is usually caused by a violation of its absorption through the intestine under the influence of gastrointestinal diseases. Vitamin B<sub>12</sub> enters the body mainly with animal products, it is also synthesized in small amounts in the human intestine with the participation of bacteria.

### **DISCUSSION:**

Vitamin D. This vitamin is of great importance in the metabolism of calcium and phosphorus in the body, and in the process of ossification in general. When this vitamin is not enough, rickets occurs in children due to disturbances in the metabolism of calcium and phosphorus in the body. The bones of a child with rickets are not formed correctly, the legs grow crooked, and the belly grows. Fish oil, liver, butter, fish caviar, eggs are rich in vitamin D. Vitamin D is synthesized in human skin under the influence of sunlight. The preservation of vitamins in food products is directly related to their storage conditions and duration, food preparation technology. Vitamins A, B<sub>1</sub>, B<sub>12</sub> are resistant to any effects. Vitamin A breaks down during cooking and drying of products. Vitamin A is reduced twice as much in cooked carrots as compared to raw carrots.

### **CONCLUSION:**

In conclusion, for people who are not indifferent to the health of themselves and their family members, it should be noted that it is difficult to imagine our life without vitamins. A person should get the necessary amount of vitamins with food every day. Otherwise, it will have negative consequences. Vitamins in the body are not enough or when they are increased at all, it causes a number of diseases. Therefore, general weakness, inability to work, fatigue, nervousness, decreased resistance to infections, reduced vision. if bleeding gums and other conditions are observed, consult a doctor and take vitamin preparations or antivitamin. Fruits and vegetables, especially greens, are the main source of vitamins. We would also recommend the raisin water. Don't forget that "Life without vitamins is a sea without water."

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