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## PECULIARITIES OF THE EFFECT OF VITAMINS ON THE BODY OF AN ELDERLY PERSON

The purpose of the study: analysis and generalization of scientific literature data on the specifics of the effect of vitamins on the body of an elderly person.

Vitamins and trace elements are needed by a person of any age, but each age group has its own characteristics, which the doctor must take into account during the treatment and prevention of diseases in the provision of a specific age. What are the features of providing micronutrients for the loss of the elderly and older people?

Inadequate provision of the body with vitamins is characteristic of most elderly and senile people, who can only be considered healthy conditionally, and it deepens in the presence of any diseases, but, above all, of the digestive tract, liver and kidneys, which are characterized by impaired absorption and utilization of vitamins . The use of antimicrobial drugs, various restrictions, diets, surgical interventions, stressful situations — all this makes an additional contribution to the deepening of vitamin "hunger". In turn, the growing deficiency of vitamins, disrupting the metabolism, has a negative effect on the course of various diseases, creating a kind of "feedback".

It is known that vitamins, with the exception of fat-soluble vitamins A, D, E and a small amount of vitamin B12, are not synthesized in the body - they come to it with food. The human body is not capable of creating "reserves" of vitamins for a long time, so it must receive them regularly in an amount that provides the daily physiological need. Even an ideal diet consisting of high-quality products cannot fully satisfy the physiological needs of the elderly in vitamins.

However, in modern food products that have been subjected to technological processing, due to the influence of temperature and other factors, only a small percentage of vitamins remains. Unfortunately, it is precisely such products that have the left group in the diet of people of older age groups, and therefore are unable to meet the body's need for vitamins. It

is clear that this problem is especially acute in the winter period, when the amount of fresh fruits and vegetables in the diet decreases.

In Ukraine, these factors, which are common to all economically developed countries, are accompanied by other circumstances caused by our national characteristics and socio-economic conditions. For these reasons, the diet of an elderly person, which is sufficient to replenish his moderate energy expenditure, cannot provide the body with the necessary amount of vitamins and minerals, the need for which not only did not decrease, but on the contrary, significantly increased, taking into account their protective role under conditions of stress and the influence of ecologically unfavorable factors.

It is known that older people often lack vitamin C. The body's need for this antioxidant, based on a unit of body weight, is higher than that of middle-aged people. Deficiency of antioxidant vitamins, such as ascorbic acid, tocopherols and carotenoids, is one of the factors that increases the risk of cardiovascular and oncological diseases. In addition, ascorbic acid is absolutely necessary for the normal implementation of reparative processes and protective properties of pulmonary surfactant, in which the concentration of ascorbic acid is normally three orders of magnitude higher than that in blood plasma.

Atrophic gastritis, which often develops in the elderly, is the cause of a deficiency of vitamins B2, B6, B12, PP and ascorbic acid, which is observed in people of older age groups and causes a decrease in the activity of many enzyme systems of the body and the development of metabolic disorders. Also, the deficiency of vitamins of group B, RR and especially folic acid primarily causes the development and progression of anemia in elderly people.

Vitamins B3 and B6 are functional components of enzymes that participate in energy metabolism from food and in this case interact with each other indirectly, without affecting the effectiveness of each other. It should be noted that the absorption of vitamin B12 significantly decreases with age. The need for vitamin B2 in elderly people is much lower than in young people.

As for such an antioxidant as beta-carotene, it is difficult to overestimate its importance for the elderly who live in an unfavorable ecological environment. Its lack can have many dangerous consequences, namely: deterioration of vision, exacerbation of gastritis, diseases of the duodenum, suppression of the function of the immune system. Elderly people often have a deficiency of micronutrients, that is, not only vitamins, but also such macro- and microelements as calcium, iron, selenium, iodine, etc.

Despite the fact that vitamin and mineral complexes belong to over-the-counter preventive means, their choice and timing of administration should be agreed with the doctor, first of all in cases when a person takes medication, so that such prevention is more effective and safer.

Between micronutrients that have the same mechanisms of assimilation and compete for the receptor, certain "relationships" inevitably arise at the stages of absorption and transportation. It is known, for example, that calcium negatively affects the absorption of iron in the case of their joint use, but such an effect can be prevented by creating an interval of 4 hours between taking these drugs.

But while taking the iron preparation, you should refrain from eating any foods with a high calcium content. In addition, calcium suppresses the assimilation of zinc. Chromium interacts with iron by binding to transferrins (blood plasma proteins that transport iron ions) and, accordingly, can disrupt iron metabolism and its accumulation. Copper and zinc exhibit mutual antagonism, an excess of one of them in food leads to suppression of the assimilation of the other, but the content of the elements necessary for the manifestation of such an interaction must be much higher than that found in the usual diet.

It has been established that iron and zinc interfere with the assimilation processes of each of them, although the mechanism of such antagonistic action still remains unclear. It has also been determined that iron and vitamin C inhibit the absorption of copper in a sufficiently large amount. Manganese reduces the efficiency of iron absorption by 40%, although its effect may vary depending on the presence of other nutrients and the form of iron.

However, vitamins and minerals often do not compete with each other, but act "harmoniously" and have a positive effect on the assimilation processes. So, for example, vitamin C, interacting with iron, increases the efficiency of its assimilation when taken together; vitamin A can indirectly contribute to the assimilation of iron, preventing its inhibition by phytate; vitamins A and D can reduce each other's toxicity, as is believed, due to mutual antagonistic interaction; vitamin E when used simultaneously with vitamin A in high doses (500 mg of E and 60 mg of A) can increase the assimilation of vitamin A and reduce its toxicity.

These and similar facts of interaction raise the question of the advisability of simultaneously taking all the necessary elements in one pill. Dividing the daily dose of elements necessary for the body into several tablets, taking them during the day with a certain interval will avoid unwanted interactions and enhance the beneficial effects of the drugs.

These are just a few examples of the complex relationships between micronutrients that can occur in the human body. The picture becomes even

more complicated when a person takes drugs that can also interact with micronutrients, on the one hand, disrupting their absorption, utilization or increasing their excretion, and on the other hand, losing their own therapeutic activity.

Currently, the pharmaceutical industry produces vitamin-mineral complexes, so-called multivitamins, designed to provide the human body with vitamins, trace elements and other nutrients. These drugs have been developed with maximum consideration of possible negative and positive interactions, which were discussed above. They are produced in the form of tablets, capsules, pastilles, powder, liquid and injection solutions. Modern vitamin and mineral complexes are created using special technologies and taking into account the characteristics of a person's age, gender and activity. They produce multivitamins not only for the elderly, but also separately for pregnant women, children, athletes, men and women.

Conclusions:

1. A theoretical generalization of the current scientific and practical task is presented - improving the use and prescribing of vitamins for the elderly.

2. This is a comprehensive assessment of the main vitamins recommended for use.

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