



## The Importance of Pediatrics in Feeding Children with Minerals

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### ABSTRACT

Correction of multivitamin deficiency should be aimed not only at additional intake of missing substances, but also at improving their absorption, as well as the synthesis of vitamins in the body. The bulk of vitamin-mineral complexes (VMC) contain recommended doses of the most essential vitamins and microelements. But not all components of VMC can be fully absorbed, since quite often patients with multivitamin deficiency also have problems with the intestinal microbiota, which reduces the availability of the ingredients contained in VMC. This article is devoted to the feasibility of additional intake of vitamins, their role in the body and manifestations of deficiency.

### Keywords:

Children, vitamins, prevention, macroelements, microelements, micronutrients, harmonious development, immunity, microbiota, bifidobacteria.

### Introduction

Vitamins are considered essential nutrients. They are necessary for normal metabolism, growth and development of the body, protection from harmful environmental factors, and reliable provision of all vital functions. The human body does not synthesize vitamins and must receive them ready-made in quantities that correspond to the physiological needs of the body. Not being a building and energy basis, vitamins serve as a catalyst for biochemical reactions. They act as coenzymes of various enzymes involved in the regulation of carbohydrate, protein, fat and mineral metabolism. Even in very small doses, vitamins exhibit high biological activity, support tissue growth and regeneration, take part in reproductive function, ensure the body's immune reactivity, and maintain the normal functioning of all organs and tissues. The absence or deficiency of vitamins causes disruption of these processes and leads to the development of various pathologies [4].

### Materials And Methods

Over the years, studies have been conducted on the provision of vitamins to the child population in various regions of Uzbekistan, and all of them indicate the widespread prevalence of hypovitaminosis conditions caused by insufficient consumption of several vitamins at the same time. Thus, when examining schoolchildren in Tashkent, a deficiency of vitamin C (based on its level in the blood) was found in 38%, B2 - in 79%, B6 - in 64%, E - in 22%, beta-carotene - in 84%, reaching a deficit by some indicators. Similar data were obtained from a survey of preschool and school-age children from Andijan, Fergana, Namangan, as well as Jizzakh and other regions [1].

### Results And Discussion

Minerals for children are essential. Many minerals are necessary for both growing kids and adults. If you're not getting enough of these essential nutrients, you may be developmentally behind or even suffer from some health problems. Here are some of the best minerals for growing kids and other minerals to include in your child's diet.

## Calcium

Calcium is the top mineral when it comes to your bones. It helps build strong bones and create teeth that make good food tasty. In addition, because your tear glands are such a critical aspect of eye health, calcium also helps make sure you can see well and prevent any irritation or dryness around the eyes.

Which foods are rich in calcium?

- dairy products, such as milk, cheese, and yogurt
- canned salmon and sardines with bones
- leafy green vegetables, such as broccoli
- calcium-fortified foods, like soy milk, orange juice, and cereals

## Iron

Your body requires iron to make hemoglobin, a part of your red blood cells that carries oxygen from your lungs to the rest of your body. A whole body needs oxygen for it to stay healthy and alive.

Which foods are rich in iron?

- meat, such as beef, chicken, and turkey
- tuna and salmon
- eggs
- beans
- baked potato with skins
- dried fruits, like raisins
- leafy green vegetables, such as broccoli
- whole and enriched grains, like whole-wheat bread or oatmeal

Isolated and clinically manifest hypovitaminosis, such as scurvy, beriberi disease, pellagra, etc., are now rare. However, a deficiency of vitamins and/or mineral elements can lead to the development of other specific diseases as manifestations of hypovitaminosis or diselementosis. Most of these pathological conditions are described in the available medical literature [2]. Currently, hypovitaminosis such as macrocytic (pernicious) hyperchromic anemia (vitamin B deficiency), hemorrhagic disease of the newborn (vitamin K deficiency), and rickets

(vitamin D deficiency) are much more well known and widespread.

In recent years, evidence has emerged that polyoligohypovitaminosis can cause a decrease in mental abilities and a delay in the neuropsychic and intellectual development of children. It is believed that a sufficient level of B vitamins (pyridoxine and cyanocobalamin) has the greatest impact on the processes of memorization, assimilation, processing of information, memory and attention. Studies have been published that have revealed the effect of regular vitamin intake on cognitive function, and, in particular, thiamine on both cognitive function and mood [3]. Pediatric neurologists and neonatologists encounter so-called "pyridoxine-dependent seizures" (paroxysms caused by a lack of vitamin B6). Research in recent years has established a link between vitamin D deficiency and decreased learning, memory and alexithymia (difficulty describing one's own emotions and the emotions of others).

It has been repeatedly mentioned that the absorption of vitamins and microelements directly depends on the state of the gastrointestinal tract, which plays an important role in the synthesis of certain vitamins, and gastrointestinal diseases contribute to the development of hypovitaminosis.

Numerous studies link the development of various diseases to changes in the intestinal microbiota. Bifidobacteria dominate the vast intestinal bacterial community of healthy children, while levels are lower but relatively stable in adulthood. At birth, the level of bifidobacteria is highest. Changes in intestinal microbial colonization in early childhood can lead to immune dysregulation and later high susceptibility to disease.

The gut microbiota is a dynamic system that changes daily in response to dietary intake. The microbiota of both children and adults is important for digestion; it must be able to supply the body with metabolic precursors, biologically active substances that are not present in the diet and are not produced by the body itself. A healthy gut microbiota can modulate the human body's metabolism. Consequently, with an altered

composition of the microbiota, various metabolic disorders may occur.

### Conclusion

Thus, the main tactics in pediatrics are aimed at prevention, since timely started vitamin therapy helps prevent the development of vitamin deficiency conditions and their consequences. It must be remembered that taking VMC is necessary not only for children with existing health problems, but also for healthy children throughout the year, regardless of seasonal consumption of fruits and berries. The best option would be to take VMC together with prebiotics, probiotics and bifidobacteria, which will improve the condition of the intestinal microbiota and ensure the prevention and treatment of various diseases (obesity, diabetes, allergies, etc.).

### References

1. Prakhin E.I., Odintsova M.V., Akimova N.S. Comparative characteristics of the use of multivitamin-microelement complexes in preventive pediatrics. Questions of children's dietetics. 2015;3(5):27–32.
2. Vrzhesinskaya O.A., Kodentsova V.M., Pereverzeva O.G., Leonenko S.N. Provision of vitamins to children attending preschool educational institutions in different regions. *Pediatrician*. 2017;8(5):49–53. DOI: 10.17816/PED8549-53.
3. Lundina G.V., Repetskaya M.N., Toropova E.A., Golovina V.V. Modern aspects of nutrition of young children. *Experimental and clinical gastroenterology*. 2018;156(8):41–44.
4. Zakharova I.N., Sugyan N.G., Dmitrieva Yu.A. Micronutrient deficiency in preschool children. *Issues of modern pediatrics*. 2014;13(4):63–69. DOI: 10.15690/vsp.v13i4.1086.