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Micronutrients and Pregnancy

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Abstract
Microelements vitamins, minerals and trace elements (calcium, phosphorus, magnesium, potassium, etc.) are present in food products in small amounts. They participate in the assimilation of food products, are responsible for the normal functioning of organs, carry out the processes of growth, adaptation and development of the body. Doctors have noticed that most pregnant women lack micronutrients, which has negative consequences for the developing fetus. Often, women of reproductive age experience a lack of vitamins D, A, they also lack some minerals - iodine, iron, zinc. For a healthy birth of a child, the future mother should approach the composition of her menu responsibly.

Keywords: macronutrients, micronutrients, deficiency, correction, prevention.

It has been proven that there is a direct relationship between the malnutrition of a pregnant woman and the birth of a child with pathologies. Poor-quality and unhealthy food can harm the proper development of the fetus - a lack of vitamins, trace elements in a woman's body is considered one of the causes of congenital malformations in a baby. For example, in the first trimester, a significant micronutrient deficiency can lead to the death of a child. The lack of nutrients in the second and third trimesters is dangerous with the following anomalies: improper formation of organs, disturbances in the work of the cardiovascular system, as well as in the digestive, endocrine and nervous systems. The expectant mother needs much more minerals and vitamins, because the body spends a lot of energy, and the incoming nutrients from the products go to the development of the baby. So, the need for calcium increases by one and a half times. And the dosage of some minerals needs to be increased by 80% - for example, folic acid, iron.

The importance of vitamins and minerals during pregnancy:

Folic acid forms the tissues of the placenta and new blood vessels in the uterus, and it is also

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responsible for the tissues of the developing fetus. Its deficiency can lead to the formation of a neural tube defect in the fetus.

- The healthy course of pregnancy depends on the B vitamins: the proper functioning of the baby's nervous system, the maintenance of normal production of amino acids and chemical elements, the prevention of hemoglobin cell deficiency, which reduces the risk of late toxicosis in a woman.
- Vitamin C is required for the immunity of both the expectant mother and her child. It helps to strengthen the protective barrier of the body. Vitamin C is also involved in the absorption of iron.
- Iodine is important for the thyroid gland, which in turn produces hormones that are vital for a pregnant woman.
- Vitamin A and E are good for vision and the cardiovascular system.
- Calcium and vitamin D for healthy bone growth and baby's heart.

All of the above substances must be included in the diet of the expectant mother without fail so that the pregnancy goes without complications. The exact dosage of minerals and vitamins is prescribed by the attending physician.

Purpose of the study. Development of new methods for early diagnosis, nutritional support using national food products with a high content of pharmaconutrients in the prevention of deficiency, macro- and microelements in the "Mother-child" system

Material and research methods. Early diagnosis of micronutrient deficiency was carried out by the method of a comprehensive assessment of the state of health of the mother and child according to the algorithm developed by us, by filling out a questionnaire questionnaire in 300 mothers and their children. Doctors warn that early development and a healthy lifestyle do not always go hand in hand. In order for children to grow up smart and healthy (and for these qualities to manifest themselves in harmony), many conditions must be observed. One of them, and perhaps the most important, is to “supply” the child with the necessary nutrients in time and in sufficient quantities. A complete and balanced diet provides the body with the nutrients necessary for normal life, including nutrients (vitamins, minerals, macro- and microelements).

Micronutrients are contained in the human body in extremely small quantities, but nevertheless play an important role in all biochemical processes. The lack of these substances can lead to catastrophic consequences for the child's body. There are several types of micronutrients, each with a specific function. However, the main purpose of all the components included in the groups is to protect the body from the adverse effects of the environment.

Immunutrients include substances that affect the state of the immune system: trace elements (iron, zinc, selenium, iodine), vitamins (A, E, C), amino acids, nucleotides, probiotics, polyunsaturated

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fatty acids and others.

It is noted that such a microelement as zinc takes part in almost all immune reactions, and recent scientific data indicate its important role in the reactions of "apoptosis" (programmed cell death). It is part of over 20 enzymes, including those involved in the exchange of nucleic acids.

Regular intake of iron in the required doses promotes cell growth and differentiation. Also, this microelement helps to produce enzymes necessary for the functioning of immune cells.

When considering the role of trace elements in the processes of growth and development of a child, one cannot fail to mention the importance of such an element as iodine. According to the WHO (World Health Organization), 30% of the world's population is at risk of developing iodine deficiency diseases. Iodine is actively involved in the development of the child's cognitive processes.

Micronutrients that provide antioxidant protection are especially important. They are called antioxidant micronutrients. Even in a healthy body, in the process of metabolism, unstable molecules are formed, called free radicals, which have high biological activity and can cause acid (oxide) damage to cells and tissues. This is opposed by the antioxidant defense system, which consists of antioxidant substances that come with food and are formed inside us, capable in one way or another of preventing the formation of free radicals or leveling their excessive oxidative activity, not only preventing cellular and tissue damage, but also ensuring the restoration of damaged structures. Under the influence of adverse environmental factors, as well as under the influence of chronic diseases, the formation of free radicals in our body increases many times over. The increased need for antioxidants is compensated by the intake of micronutrients with appropriate properties from the outside. If this does not happen, the body's resistance to infections decreases and the risk of disease increases. Regular inclusion of natural micronutrients-antioxidants in your diet is a fairly simple and very effective method of maintaining and strengthening health.

Many plant and animal foods contain naturally occurring micronutrients called antioxidants, but their amounts, and therefore their impact on health, vary widely. The most famous micronutrients-antioxidants are vitamins A, C, E, selenium. Zinc, alpha-lipoic acid, although they do not have a direct antioxidant effect, when they enter the body, they are either actively involved in biochemical reactions that provide antioxidant protection, or are converted into compounds with a powerful antioxidant effect.

Results: According to statistics, risk groups for micronutrient deficiencies are children under 3 years old, preschoolers 5-7 years old, and adolescents 11-15 years old. Frequently ill children are a special risk group.

All food products contain micronutrients of some kind. First of all, the liver, as well as the kidneys and heart of the bird, are not only the main source of vitamin A, but also selenium, zinc, and

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alpha-lipoic acid. About 120-150 gr. offal of domestic animals is sufficient to meet the daily requirement of an adult in these micronutrients. Cattle tenderloin, bird breast, mushrooms, seafood, eggs can also be a source of vitamin A, alpha-lipoic acid, selenium, zinc. The precursor of vitamin A, beta-carotene, is rich in yellow, orange, red and dark green vegetables and fruits (carrots, peaches, apricots, spinach, broccoli, pumpkin, tomatoes).

The main sources of vitamin E in the diet are sunflower seeds, almonds, hazelnuts (hazelnuts), as well as vegetable oils made from seeds (sunflower, cottonseed, olive, etc.). About 50 gr. seeds (nuts) or 2-3 tablespoons of vegetable oil will provide the adult body with a daily intake of vitamin E.

Red and green sweet peppers, kiwi, orange, grapefruit, strawberries, wild strawberries, red and black currants, some other vegetables and fruits can serve as the main sources of vitamin C in our region. For example, one medium-sized kiwi fruit or orange contains almost the full daily allowance of this vitamin for an adult, and 100 gr. fresh red sweet pepper it does twice as much!

It is not difficult to see that the greatest intake of natural micronutrients-antioxidants into the body can be achieved by eating a combination of animal and vegetable dishes. At the same time, plant foods are preferred in their natural form, and vegetables must be served with vegetable oil.

The child’s diet must include: meat (a source of B vitamins, iron, zinc), milk and dairy products (sources of vitamin D, calcium, phosphorus), fish and seafood 1-2 times a week (sources of fat-soluble vitamins A, E, D, iodine, zinc, selenium), vegetables and fruits (sources of vitamin C, group B, beta-carotene, magnesium, calcium), butter (vitamins A, E, D).

It is impossible to consume qualitatively new products that are different from breast milk in the early stages, since the digestive organs of the infant are still immature, in the first half of his life, the enzymatic systems are not yet sufficiently immature. The principle of gradual introduction of cereals, vegetables, meat, fruit juices and purees, fish and so on is a very important rule in children's nutrition. A pediatrician should prescribe complementary foods to a baby, taking into account the individual characteristics of his health and the innate needs of the body. In general, heredity plays an important role in this matter. For example, if the mother and grandmother of a child have been eating raw meat all their lives, then the child will very quickly get used to such a diet. If parents still prefer cooked meat, then an attempt to accustom the baby to uncooked foods will adversely affect his health. When compiling the baby's menu, one should also remember that the habits and preferences in food will remain with him for life.

Nutritional prevention and correction of micronutrient deficiency is considered optimal. However, this does not exclude the use of vitamin-mineral complexes in childhood. Infants should be breastfed for as long as possible, receiving the necessary micronutrients from breast milk. The formation of micronutrient pre-sufficiency occurs during a woman's pregnancy, a reserve of essential substances

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is created. Prevention continues after the birth of the child, during lactation. The baby receives the required amount of trace elements and vitamins, provided that the mother eats properly and takes vitamin and mineral complexes. Even a small amount of micronutrients from breast milk is absorbed better than from formula milk.

In subsequent periods of childhood, nutrition as the main source of vitamins and trace elements should be balanced and rational, taking into account age-related needs. And the nutritional requirements of children are much higher than those of the adult population. That is why, in addition to the basic diet, a mandatory subsidy of vitamins and micronutrients is required.

To date, pediatricians and parents have a wide choice of vitamin and mineral complexes, which makes it possible to individually select the drug for each baby. Manufacturers offer different forms of release of vitamin and mineral complexes: oil and water solutions, syrups, gels, chewable tablets, capsules - based on the age capabilities of the child. For example, children in the first year of life will not be able to chew a pill or swallow a capsule, so pediatricians will recommend prescribing vitamins and minerals in the form of drops, syrup or gel. In children of early and preschool age, the chewing apparatus is formed, and they can easily cope with vitamin preparations in the form of tablets.

Modern vitamin-mineral complexes must necessarily contain prophylactic doses of vitamins and macro-, microelements, only in this case the complex will be considered complete. An additional subsidy of vitamins is usually prescribed for babies after a year of life. In the 1st year, the child should additionally receive only a prophylactic dose of vitamin D3. And in subsequent age periods, vitamin and mineral prophylaxis, according to pediatricians, should be carried out all year round, in combination with a complete diet.

Having an idea of what micronutrients are contained in certain foods and what functions are performed by the nutrients, vitamins and minerals you know, you will be able to correctly compose a menu for your child. A correctly chosen vitamin and mineral complex will complement the proposed dishes and turn them into the most useful for the growth, health and mental development of the baby.

REFERENCES:

1. Rasulov S.K., Bobomuratov T.A., Dzhuraeva Z.A. Medical and social protection of motherhood and childhood taking into account micronutrient deficiency: nutritional support and prevention.Lamdert academic Publishing 2022. Republic of Moldova Turope/ www.morebooks.shop 198 p .
2. Халимбетов, Ю. М., Ибрагимова, Э. Ф., Арслонова, Р. Р., Рустамова, Х. Х., & Наимова, З. С. (2020). Формирование молодежи в Узбекистане как научно управляемый процесс. *Наука и образование сегодня*, (2 (49)), 57-59.

Volume: 2 Issue: 3 | Mar – 2023 **ISSN: 2720-6866**
http://journals.academiczone.net/index.php/rjtds

3. Матьякубова, Ф. Э., Рустамова, Х. Х., & Муродова, У. Р. (2020). ПАТОГЕНЕТИЧЕСКИЕ АСПЕКТЫ ТЕРАПИИ ХРОНИЧЕСКОГО ВИРУСНОГО ГЕПАТИТА В. *Достижения науки и образования*, (17 (71)), 86-91
4. Rustamova, X. X. (2022, November). ANEMIYA BILAN OG ‘RIGAN BOLALARDA MALTOFER PREPARATIDAN FOYDALANISH SAMARADORLIGI. In *INTERNATIONAL CONFERENCES* (Vol. 1, No. 7, pp. 152-154).
5. *K. Rasulov, Kh. Kh. Rustamova, Z. A. Djuraeva* DEPENDENCE OF MICROELEMENTS IN BREAST MILK ON THE HEALTH OFA NURSING WOMAN DOCTOR’S HERALD № 1 (102)2022 yil http://doi.org/10.38095/2181-466X-20221021 ISSN 2181-466X EDITORIAL COLLEGE: Main editor: J. A. Rizaev.
6. Rasulov Saydullo Kurbanovich,Rustamova Kh. Kh, Narmetova S. Ya Clinical and Pharmacological Importance of Micronutrients for Pregnant Women and Newborns **I**nternational Journal on Integrated Education (IJIE) ISSN: 2620-3502 Table of Content - Volume 5 | No 12 (Dec 2022) 278-280 стр
7. Аллаяров, А. Т. (2020). ГИПОТЕНЗИВНЫЙ ЭФФЕКТ И ПЕРЕНОСИМОСТЬ ПРЕПАРАТА ТАФЛОПРЕСС У ПАЦИЕНТОВ С ОТКРЫТОУГОЛЬНОЙ ГЛАУКОМОЙ. In *НАУКА И ИННОВАЦИИ В XXI ВЕКЕ: АКТУАЛЬНЫЕ ВОПРОСЫ, ОТКРЫТИЯ И ДОСТИЖЕНИЯ* (pp. 228-230).
8. Allayarov, A. (2020). THE HYPOTENSIVE EFFECT AND TOLERABILITY TAFLOPRESS IN PATIENTS WITH OPEN-ANGLE GLAUCOMA. *Теория и практика современной науки*, (4), 218-220.
9. Бобоев, С. С., & Аллаяров, А. Т. (2020). ЭФФЕКТИВНОСТЬ ХИРУРГИЧЕСКОГО ЛЕЧЕНИЯ ПТЕРИГИУМА ПО МЕТОДУ АУТОПЛАСТИКИ КОНЪЮНКТИВАЛЬНЫМ ЛОСКУТОМ. In *Молодежь и медицинская наука в XXI веке* (pp. 526-527).
10. Shavkatjonovna, K. M., Tolibovich, A. A., & Abduazizovich, Y. A. (2023). Optimization of the Ophthalmic Service in Diabetic Retinopathy. *Central Asian Journal of Medical and Natural Science*, *4*(1), 308-312.