ETHIOPIAN INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH

eISSN: 2349-5715 pISSN: 2349-5707

Volume: 11, Issue 12, December-2024 SJIF 2019: 4.702 2020: 4.737 2021: 5.071 2022: 4.919 2023: 6.980 2024: 7,662

Maraimov Ulug'bek Muhammadkadirovich
Fergana Medical Institute of Public Health
Fergana, Uzbekistan

THE IMPORTANCE OF MICROELEMENTS IN A HEALTHY NUTRITION

Annotation: In our country, the issue of protecting human health is one of the most important tasks of our state. According to the World Health Organization, 55% of human health is related to lifestyle (nutrition, harmful habits, living conditions), 20% to the environment, 15% to hereditary factors, and 10% to medical care; Today, 56% of the population of the republic is overweight, of which 24% is obese, 46% has high cholesterol, 31% has high blood pressure, 67% do not consume enough fruits and vegetables (400 grams per day)
Keywords: Healthy lifestyle, iron, hair loss, fatigue, headaches, dizziness.

The main symptoms of iron deficiency in the body. A deficiency of certain vitamins or minerals in the body directly affects how we feel and how we look. Ignoring these symptoms can have serious consequences. The human body's need for iron depends on many factors, including age, gender, and lifestyle. The recommended daily dose for a healthy man under 50 years of age is 10 mg, while for women this figure is 15 mg.

Iron is a factor that affects the process of hematopoiesis, a component of hemoglobin in red blood cells. Iron deficiency not only leads to anemia, but also causes many other health problems in humans. It is important to identify the signs of iron deficiency in order to prevent and treat it before it leads to any unpredictable consequences. Iron (Fe) is an essential mineral that participates in the formation of red blood cells and at the same time increases the brain's ability to concentrate. Iron is found in vegetables such as liver, heart, beef, pumpkin, soybeans or cereals. Iron is one of the most important minerals in the body, especially for women. If the body lacks iron, it leads to hair loss, headaches, rapid infection, pale skin, brittle nails and similar unpleasant symptoms. If long-term iron deficiency causes fatigue, stress, and heart rhythm disturbances, in more severe cases it can cause anemia, cardiovascular disease, and respiratory failure, weakened immunity, and memory impairment.

The normal functioning of the body is ensured within a narrow range of concentrations of chemical elements, especially those belonging to the group of essential microelements: Fe, Zn, Cu, Mn, Mo, Co, Cr, Se.

Their deficiency and excess lead to metabolic disorders and the development of various diseases. According to the analysis of the literature, only 3% of the world's population does not have a violation of mineral metabolism, which is the main cause or indicator of approximately 95% of all known diseases. The most common deficiencies in our country are Zn, Se, Cu, Mn and Cr. Deficiency of essential microelements affects all vital processes at different stages of ontogenesis - from embryonic development to old age, and accompanies all pathological conditions in which they are detected. Deficiency of a number of microelements controls metabolic processes and the functions of the neuroendocrine, immune and reproductive systems. The pluripotent effect of Zn is due to the fact that it is a component of more than 300 metalloenzymes involved in the metabolism of proteins, fats, carbohydrates and nucleic acids, and is necessary for the functioning of DNA and RNA polymerases that control protein biosynthesis.

Zinc is also a part of the main antioxidant enzyme (Zn, Cu) - superoxide dismutase, and enhances the effect of other antioxidants.

eISSN: 2349-5715 pISSN: 2349-5707

Volume: 11, Issue 12, December-2024 SJIF 2019: 4.702 2020: 4.737 2021: 5.071 2022: 4.919 2023: 6.980 2024: 7,662

As part of bone alkaline phosphatase, it is involved in the maturation of bone tissue, as well as in the division and differentiation of various cell populations, in ensuring reparative processes, in the development and functioning of the neuroendocrine and immune systems, and in regulating skin permeability. It has been shown to participate in the regulation of adaptation mechanisms during hypoxemia, thereby increasing the capacity / transport capacity of hemoglobin for O_2.

Zinc ions are involved in the processes of neurogenesis, neurodegeneration and the pathogenesis of psychoneurological diseases. Zn deficiency in critical periods of brain development (8-12 weeks of gestation and the third trimester of pregnancy) is accompanied by a decrease in its volume, the total number of neurons, and a slowdown in psychomotor and behavioral reactions in the brain. infancy and early postpartum periods.

Zinc is necessary for the normal functioning of the immune system. It prevents the development of immunodeficiency and stimulates the formation of antibodies. Its deficiency leads to a violation of the structure and metabolism of lymphocytes, a change in the ratio of helper T-lymphocytes and cytotoxic T-lymphocytes, and, as a result, suppression of cellular immunity. With Zn deficiency, the phagocytic activity of macrophages and the expression of major histological complex antigens in them also decrease, and the control of histamine release by basophils and mast cells is disrupted, which leads to the development of allergic reactions.

The following symptoms may indicate an iron deficiency in the body: **Hair loss.** Hair loss is usually one of the first signs of iron deficiency. If you notice that there are more strands left on your hair than usual after combing your hair, we recommend that you get tested immediately.

Fatigue. If you feel tired even if you get enough sleep every day, you may have an iron deficiency. Fatigue usually occurs due to poor oxygen supply to the cells. Pale skin. If your skin color is paler than usual, this can also be considered one of the main signs of iron deficiency. The fact is that with iron deficiency, the number of red blood cells in the blood drops sharply, which causes the skin to appear pale. Headaches. If this problem is accompanied by memory loss and difficulty concentrating, you should pay serious attention to your health and immediately start taking vitamins.

Dizziness. Another sign of iron deficiency in the body is dizziness when you stand up from a sitting position. This is caused by the cells not being supplied with enough oxygen. Increased heart rate. In the case of iron deficiency, the body cannot provide the cells with enough oxygen, and it “tries” to compensate by increasing the heart rate. Difficulty breathing. The body, whose cells are not saturated with oxygen, tries to eliminate this problem by breathing more. If you notice these signs in yourself, do not delay going to the doctor. Pass the necessary tests under the supervision of a specialist and eliminate the problem in a timely manner. If you really have an iron deficiency in your body, in addition to taking vitamins, add natural products containing a large amount of iron to your diet to combat the problem. How to determine if there is iron deficiency in the body? According to statistics, iron deficiency in the body is observed in 30-40% of the population. This can be caused by various factors, from eating habits to chronic diseases. Below you can find detailed information on how to determine iron deficiency, what are its main causes and how to deal with it.

Causes of iron deficiency. Plant-based diet. While giving up meat products undoubtedly has many benefits for the body, there are some drawbacks. Iron from plant products is absorbed worse than from meat or fish due to its low content.

Improper nutrition. It is not necessary to give up meat when the body lacks the necessary substances. According to statistics, people who adhere to a plant-based diet suffer less from deficiencies of various microelements, because they pay more attention to planning their diet. It is necessary to try to eat as natural and varied as possible and consume less processed products. Eating foods that interfere with the absorption of iron in the intestines. It is worth noting that all these are healthy foods that the body needs. For example, phytic acid salts contained in cereals, fresh vegetables, egg whites, polyphenolic

eISSN: 2349-5715 pISSN: 2349-5707

Volume: 11, Issue 12, December-2024 SJIF 2019: 4.702 2020: 4.737 2021: 5.071 2022: 4.919 2023: 6.980 2024: 7,662

compounds in coffee and tea. Of course, it is not necessary to give up these foods, but when you do eat them, you should eat more foods rich in iron.

Chronic diseases. These include diseases of the gastrointestinal tract - celiac disease, peptic ulcer, inflammatory bowel disease, tumors, diverticulosis and parasitic invasions. In this case, the issue of replenishing iron deficiency is resolved only by a doctor. Overweight. With excess weight, there is often an increase in the production of pro-inflammatory substances that interfere with the absorption of iron and reduce its bioavailability. Regular sports activities. Naturally, physical activity is only beneficial. They significantly increase the need not only for proteins and fluids, but also for vitamins and minerals, including iron. Dealing with iron deficiency. If the symptoms listed above are observed, it is necessary to contact a specialist and undergo tests that will clearly indicate the cause. Of course, the doctor can prescribe supplements that will quickly normalize all indicators. There are also many healthy iron-rich foods that should be included in the diet. These include shellfish, buckwheat, legumes, raisins, and tomato juice.

References:

1. Tukhtamatov, R. X., & Ermanov, R. T. (2023). The Role of Proper Diet in a Healthy Lifestyle. International Journal of Integrative and Modern Medicine, 1(3), 25-32.
2. Жумаева, А. А., & Тўхтаматов, Р. (2023). Изучение Санитарно-Гигиенических Условий Труда В Ковровом Производстве. AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI, 2(3), 92-95.
3. Тохтаматов, Р. Х. (2024, November). ГИСТО-МОРФОЛОГИЧЕСКИЕ ИЗМЕНЕНИЯ В ТКАНИ ЛЁГКИХ ПРИ COVID-19. In Russian-Uzbekistan Conference (Vol. 1, No. 1).
4. Xalmat o‘g‘Li, Tuxtamatov Ravshan. "About Weapons Of Mass Destruction." Ethiopian International Journal Of Multidisciplinary Research 11.05 (2024): 436-441.
5. Xolmat o‘g‘Li, T. R. (2024). WHAT IS THE DISEASE OF MONKEY POX. IS THERE A DANGER OF A NEW PANDEMIC IN THE WORLD?. Ethiopian International Journal of Multidisciplinary Research, 11(09), 87-91.
6. Baxtiyorjon O’g’Li Q. B. Sog’Lom Ovqatlanish Asoslari //Eng Yaxshi Xizmatlari Uchun. – 2023. – Т. 1. – №. 6. – С. 63-66.
7. Baxtiyorjon o’g’Li, Qambarov Barkamol. "Epidemiologiya. Epidemik Jarayon. Yuqumli Kasaliklarning Umumiy Epidemiologiyasi." Miasto Przyszłości 48 (2024): 726-729.
8. Baxtiyorjon o‘g‘Li, Q. B. (2024). THE ROLE OF MICROELEMENTS IN THE HEALTHY NUTRITION OF THE POPULATION. IRON DEFICIENCY. Ethiopian International Journal of Multidisciplinary Research, 11(05), 881-884.
9. Камбаров, Б. Б. (2024, November). ОСНОВЫ ЗДОРОВОГО ПИТАНИЯ. In Russian-Uzbekistan Conference (Vol. 1, No. 1).
10. Baxtiyorjon O’g’li, (2024). AXOLINING SOG’LOM OVQATLANISHIDA MIKROELEMETLARNI O’RNI. TEMIR YETISHMOVCHILIGI. YURT IFTIXORI, 1(1).
11. Хабибуллаев, Ф., Осбаев, М. У., & Маматкулова, М. Т. (2017). Особенности иммунной системы слизистой оболочки тонкой кишки. Актуальные научные исследования в современном мире, (4-6), 137-141.
12. Осбаев М. Влияние растения алоэ на активность печени //Общество и инновации. – 2021. – Т. 2. – №. 4/S. – С. 885-889.
13. Khabibullaev F., Osbaev M.U., Mamatkulova M.T. Features of the immune system of the mucous membrane of the small intestine, Intern. scientific. Conf. Actual Scientific Research in the Modern World, Issue 4 (24), Part 6, April 2017. p-137-141.

eISSN: 2349-5715 pISSN: 2349-5707

Volume: 11, Issue 12, December-2024 SJIF 2019: 4.702 2020: 4.737 2021: 5.071 2022: 4.919 2023: 6.980 2024: 7,662

14. Imaraliyevich, Osbayov Mukhammadjon. "Features of the Immune System Structure of the Mucosa of the Small Intestine of Mice." Academicia Globe 2.05 (2021): 42-46.
15. Осбайов, М. И. (2024, November). ВЛИЯНИЕ ЛЕКАРСТВЕННЫХ РАСТЕНИЙ НА ВОСПАЛИТЕЛЬНЫЙ ПРОЦЕСС. In Russian-Uzbekistan Conference (Vol. 1, No. 1).
16. Osbayov, M. I. (2024). IMMUNOMODULATORY AND IMMUNOSTIMULATING PROPERTIES OF GINSENG ROOT IN VARIOUS LIVER DISEASES. Ethiopian International Journal of Multidisciplinary Research, 11(11), 116-120.
17. Осбаев, М. (2021). Жигар фаолиятига алоэ ўсимлигининг таъсири. Общество и инновации, 2(4/S), 885-889.
18. Tavakkal o‘g‘Li, Ismoilov Dilmurod. "In Improving The Quality Of Drinking Water Basic Methods." Ethiopian International Journal Of Multidisciplinary Research 11.05 (2024): 914-916.
19. Farrux azizjon o‘g‘Li. (2024). ATMOSFERA HAVOSI HOLATINING AHOLI SALOMATLIK DARAJASIGA TA’SIRINI GIGIYENIK BAHOLASH. IQRO INDEXING, 7(2).
20. Tavakkal (2024). AIR POLLUTION AND HUMAN HEALTH. International Multidisciplinary Journal for Research & Development, 11(02).
21. Aliyevich, A. A. (2024). EVALUATION OF THE EFFECTIVENESS OF ANTI-EPIDEMIC MEASURES IN TREATMENT AND PREVENTION INSTITUTIONS. Ethiopian International Journal of Multidisciplinary Research, 11(02).
22. Ахмедов, А. А., & Мамазоитова, Н. (2024). СТАТИСТИЧЕСКИЙ АНАЛИЗ РАКА ШЕЙКИ МАТКИ ПО ФЕРГАНСКОЙ ОБЛАСТИ. Talqin va tadqiqotlar.
23. Avazbek, A. (2024). The Specificity Of Coronavirus Infection To Itself (Gender), The Incidence Of Primary Clinical Signs In Patients And The Presence Of Psychoemotional Disorders. Open Academia: Journal of Scholarly Research, 2(6), 1-6.
24. Ахмедов, А. А. (2024). Изучение 2012-2021 Году Динамики Заболеваемости Вирусным Гепатитом А От Энтеровирусных Заболеваний И Оценка Эффективности Добровольной Вакцинации. Miasto Przyszłości, 54, 1385-1387.
25. Aliyevich, A. A. (2023). EVALUATION OF THE EFFICIENCY OF MEASURES AGAINST THE EPIDEMIC IN TREATMENT AND PREVENTION INSTITUTIONS. International journal of advanced research in education, technology and management, 2(12), 281-286.