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IODINE DEFICIENCY IN THE BODY

Yusupov Akmal
Assistant of the Department of «Social studies and sports»,
Fergana Polytechnic Institute, Fergana, Uzbekistan
E-mail: y.yusupov@ferpi.uz

Abstract
The problem of iodine deficiency is extremely important and relevant for many countries. More than 1 billion inhabitants of the earth live in places with a low content of iodine in the biosphere (water, soil, air, food). As a result of this deficiency, 200 million people develop an enlarged thyroid gland (endemic goiter), 20 million develop mental retardation due to insufficient thyroid hormones. It has been established that the high prevalence of endemic goiter among schoolchildren leads to a decrease in cognitive abilities by 15 percent.

Keywords: iodine, thyroid gland, mental retardation, world health organization, trace element, irritability, depressed mood, drowsiness, lethargy, forgetfulness,

Introduction:
According to the World Health Organization, overcoming this problem could be the most significant achievement in world health, surpassing in importance the eradication of smallpox on the globe. According to medical statistics, now the actual average consumption of iodine by a resident of some regions is 40–80 mcg per day, while the norm is 150–200 mcg. In conditions of such a deficiency of a microelement, the thyroid gland uses the small amount of iodine that is available in the body [1-9]. At the same time, she has to work several times more intensively and faster, so the volume of the gland increases, a goiter occurs. In the world, iodine deficiency in nature is one of the main environmental problems, since almost all of its territory is endemic for goiter. The disease occurs on average in 10-15 percent of the urban population. At the same time, our industry meets the demand for iodized salt by no more than 30 percent, and the recommendations of the World Health Organization for the universal iodization of table salt to eliminate the shortage are implemented with great difficulty [10-15]. To prevent the consequences of iodine deficiency, the following are used: mass prevention: enrichment with iodine of widely consumed food products; group prophylaxis:

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prescribing iodine preparations to those who have a special need for iodine (primarily children, adolescents, pregnant and lactating women), as well as individual prophylaxis: this is the administration of iodine preparations in a dose corresponding to the daily physiological need of a person, after consultation with a doctor [16-21]. Iodine is one of the most important trace elements necessary for the smooth functioning of the human body. The lack of this microelement is of great concern to physicians around the world. Iodine deficiency is a truly global problem that has affected more than one and a half billion inhabitants of the planet.

In the human body, iodine is contained in negligible amounts: only 20-30 mg, of which about 10 mg is in the thyroid gland. The main role of iodine is participation in the formation of thyroid hormones, however, there is evidence that with a deficiency of this trace element, breast diseases can develop [22-28].

And yet the main significance of iodine is that it is an indispensable component of thyroid hormones. There is no such organ or body system that would not need these hormones. They are involved in providing the body with energy, which is needed not only to perform mechanical work, but also for a full-fledged metabolism, the normal course of biosynthesis processes, the growth and development of the body and the renewal of its tissues.

As long as a person receives a sufficient amount of energy, he is alert, full of strength, cheerful and healthy. As soon as at least one of the energy chains fails, the state of health worsens. With serious malfunctions in energy metabolism, a person becomes ill [29-36].

Iodine deficiency negatively affects the human condition. It leads to disruption of the synthesis of vital thyroid hormones. At the same time, a feedback mechanism is triggered: a signal is sent to the thyroid gland: "Not enough hormones." Receiving it, the gland begins to increase in volume, trying to compensate for the production of missing hormones due to tissue growth. But this, of course, does not happen, because there is not enough building material - iodine. As a result, endemic goiter develops.

But this is only one aspect of iodine deficiency. In addition, there is a decrease in immunity, therefore, the risk of infectious diseases increases, mental retardation is noted, general weakness is observed, and vision problems arise. And a few years ago, based on studies using modern methods for assessing human intelligence, scientists made a sensational conclusion: iodine deficiency in the first place (long before the outward signs of hypothyroidism develop) hits a person’s mental abilities. But there is a fact confirmed by foreign studies: when iodine was added to the diet of children from the control group, intellectual indicators increased by 10-15%.

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Prolonged iodine deficiency can cause impaired fertility in women, impaired growth and mental development in children, and a number of other abnormalities [37-46].

Often hypothyroidism caused by iodine deficiency occurs in the so-called subclinical form. The person feels normal and is considered healthy. And only with special examinations do we find a decrease in thyroid function. Such a latent course of hypothyroidism is often accompanied by impaired reproductive function: malfunctions in the functioning of the thyroid gland involve the entire endocrine system in the pathological process [47-51].

The possibility of a woman becoming pregnant is reduced, there are problems with carrying a pregnancy, the development of the fetus and the child is disturbed. This is a reality, and when women turn to a gynecologist about the inability to become pregnant or with complaints of abnormal menstruation, tests to assess thyroid function should be included in the general examination.

It consists in adding iodine to the most common foods. One of the most affordable and easy to use mineral, drinking and table water enriched with iodine ions

Consequences of iodine deficiency in the body:

Emotional: Irritability, depressed mood, drowsiness, lethargy, forgetfulness, bouts of inexplicable melancholy, memory and attention impairment, decreased intelligence.

Cardiological: atherosclerosis resistant to treatment with diet and drugs; arrhythmia, in which the use of special drugs does not give a tangible and lasting effect; an increase in diastolic (lower) pressure due to swelling of the vascular walls.

Hematological: a decrease in the level of hemoglobin in the blood, in which treatment with iron preparations gives only a modest result

Immunodeficiency: weakening of the immune system occurs even with a slight decrease in thyroid function, which leads to a decrease in the body's resistance to infectious and colds; weakening, the development of chronic diseases;

Edema: swelling around the eyes or general, in which the systematic use of diuretics aggravates the condition, forming a dependence on them.

Gynecological: violation of menstrual function (irregularity sometimes absence of menstruation); infertility, mastopathy; irritation and cracked nipples.

With a decrease in thyroid function, bone growth slows down, the processes of normal maturation of a growing organism are disturbed.

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References:

1. Атамухамедова, М., Абдугаппаров, А., Михеева, А., & Ёрматов, Г. (2019). Влияние умственной деятельности у учащихся на газообмен в различных экологических условиях. Символ науки, (3), 81-82.
2. Шодиев, Д. А. (2022). Значение биологических количеств микроэлементов растениями. Formation Of Psychology And Pedagogy As Interdisciplinary Sciences, 1(9), 297-301.
3. Atamukhamedova, M. R., Eminov, A. Y., & Boratov, O. M. (2019). Changes in the respiratory and blood system as a result of physical exercises. CHANGES, 10, 10-2019.
4. Шодиев, Д. А. У., & Курбонов, Х. А. Ў. (2022). Перспективы использования пищевых добавок в пищевой промышленности. Universum: технические науки, (5-7 (98)), 24-26.
5. Rakhimzhanovna, A. M., Adkhamzhanovich, A. A., & Avazkhanovich, E. A. (2021). Physical performance indicators in young swimmers. Innovative Technologica: Methodical Research Journal, 2(11), 59-62.
6. Atamukhamedova, M. R., Yormatov, G. S., & Erkaev, E. A. (2019). Relations between basic exchange and sprint. Scientific Bulletin of Namangan State University, 1(10), 304-308.
7. Садыков, В. М., Сабиров, Б. У., & Кобилов, Э. Э. (2005). Морфологическая характеристика жизнеспособных эхинококковых кист. Ibn Sino–Avicenna, (1-2), 49.
8. Атамухамедова, М. Р., & Саидова, А. Я. (2018). Функциональные сдвиги в организме детей в неблагоприятных условиях окружающей среды. In Проблемы и перспективы развития экспериментальной науки (pp. 136-138).
9. Abdulojon o‘g‘li, S. D. (2022). Dorivor amarant o‘simliklarini yetishtirishning foydali jihatlari. Theory and analytical aspects of recent research, 1(5), 284-289.
10. Атамухамедова, М. Р., & Эргашев, А. А. (2021). Санитарно-гигиеническое значение вентиляции производственных помещений. Интернаука, (37-1), 19-21.
11. Raximjanovna, A. M. S., & Yakubovna, S. A. (2022). Sport Bilan Shug’ullanuvchi O’smirlarning Asosiy Ozuqalarga Bo’lgan Extiyoji. Amaliy va tibbiyot fanlari ilmiy jurnali, 275-279.
12. Шодиев, Д. А., & Нажмитдинова, Г. К. (2021). Пищевые добавки и их значение. Universum: технические науки, (10-3 (91)), 30-32.
13. Холдаров, Д. М., Шодиев, Д. А., & Райимбердиева, Г. Г. (2018). Геохимия микроэлементов в элементарных ландшафтах пустынной зоны. Актуальные проблемы современной науки, (3), 77-81.

14. Shodiev, D., Haqiqatkhon, D., & Zulaykho, A. (2021). Useful properties of the amaranth plant. ResearchJet Journal of Analysis and Inventions, 2(11), 55-58.
15. Sattarova, B., Shodiev, D., & Haqiqatkhon, D. (2021). The determination of the composition and structure of ferrocenyl benzoic acids by mass spectrometric and potentiometric methods. Innovative Technologica: Methodical Research Journal, 2(11), 56-58.
16. Атамухамедова, М. Р., & Аминжанов, А. А. (2021). Показатели физической работоспособности у молодых пловцов. Интернаука, (37-1), 9-10.
17. Алиева, Ф. А. К., Шодиев, Д. А. У., & Далимова, Х. Х. К. (2021). УФ-видимый записывающий спектрофотометр уф-2201 спектрофотометр исследование синтетических красителей в безалкогольных напитках. Universum: технические науки, (11-3 (92)), 66-69.
18. Shodiev, D., & Hojiali, Q. (2021). Medicinal properties of amaranth oil in the food industry. In Interdisciplinary Conference of Young Scholars in Social Sciences (pp. 205-208).
19. Атамухамедова, М. Р., & Саидова, А. Я. (2020). Питание при железодефицитной анемии. In Новая наука: история становления, современное состояние, перспективы развития (pp. 267-269).
20. Fayzullaev, N. I., Akmalaev, K. A., Karjavov, A., Akbarov, H. I., & Qobilov, E. (2020). Catalytic Synthesis Of Acetone And Acetaldehyde From Acetylene In Fluoride-Based Catalysts. The American Journal of Interdisciplinary Innovations and Research, 2(09), 89-100.
21. Кобилов, Э. Э. (2006). Острая спаечная кишечная непроходимость у детей: диагностика, лечение и роль лапароскопии (Doctoral dissertation, ГОУВПО" Российский государственный медицинский университет").
22. Дехканбаева, М. Н., & Мустаев, Р. (2022). Миллий боғларда функционал зоналарга ажратишда гат-технологиялардан фойдаланиш. Academic research in educational sciences, 3(10), 48-54.
23. Атамухамедова, М., Кузиев, О., & Исроилжонов, С. (2019). Уровень вентиляции и произвольное апноэ дыхания. Наука в современном обществе: закономерности и тенденции, 265.
24. Хамидов, А. А., & Дехканбаева, М. Н. (2022). Исследование биогеографических особенностей ферганской долины. Academic research in educational sciences, 3(5), 881-886.
25. Dekhkanbaeva, M. N. (2022). Prospects Of Tourism Development In Uzbekistan. The American Journal of Applied sciences, 3(02), 95-99.

26. Атамухамедова, М. Р., Аминжанов, А. А., & Исраилжанов, С. И. (2018). Экологические особенности энергетического метаболизма у детей в связи с антропогенными изменениями во внешней среде. проблемы и перспективы развития экспериментальной науки, 134.
27. Dehkanbayeva, M. N. (2019). Territorial location and function of sacred landscapes (Fergana region). Экономика и социум, (11), 919-921.
28. Xoliqov, R. Y., & Dexkanbayeva, M. N. (2019). Sacral landscapes as objects of religious tourism and recreation. Экономика и социум, (10), 467-470.
29. Джабборов, Ш. Р., Киргизов, И. В., & Кобилов, Э. Э. (2009). Биохимические показатели крови у больных с осложнённым эхинококкозом печени. Материалы XVI съезда педиатров России «Актуальные проблемы педиатрии». М, 107.
30. Кобилов, Э. Э., & Раупов, Ф. С. (2016). Целенаправленный подход к комплексному лечению острой бактериальной деструктивной пневмонии у детей. In Современные технологии в диагностике и лечении хирургических болезней детского возраста (pp. 47-52).
31. Makhkamov, E. G., & Dexkanbayeva, M. N. (2019). The importance of religious tourism in protecting the nature of the ferghana valley. Экономика и социум, (10), 464-466.
32. Дехконбоева, М. (2022). Фарғона водийсининг муқаддас ландшафтлари ва уларнинг экологик функцияси. Academic research in educational sciences, 3(10), 119-126.
33. Атамухамедова, М., & Саидова, А. (2021). Влияние возрастных особенностей организма на обмен веществ. In Interdisciplinary Conference of Young Scholars in Social Sciences (pp. 287-292).
34. Dekhkanbaeva, M. N. (2021). Theoretical and methodological bases of the study of sacred landscapes. Asian journal of multidimensional research, 10(5), 596-604.
35. Kobiljonovna, Y. S. (2022). Characteristics of species composition and distribution of insects. Pedagogs jurnali, 18(1), 108-114.
36. Атамухамедова, М. Р. (2021). Анализ сырья и методы приготовления сложных удобрений. Интернаука, (37-2), 5-7.
37. Yuldasheva, S. K., Azamov, O. S., Gulomov, S. Y., & Mukhammedov, M. M. (2021). The function of regulations quantity nuts afids with entomofags. Asian Journal of Multidimensional Research (AJMR), 10(3), 393-397.
38. Kobiljonovna, Y. S. (2022, October). Importance of biological control against apple pests. In Proceedings of International Conference on Scientific Research in Natural and Social Sciences (Vol. 1, No. 1, pp. 201-207).

39. Atamukhamedova, M. R., & Erkaev, E. A. (2020). Physiological indicators of the body of adolescents engaged in swimming. Scientific Bulletin of Namangan State University, 2(11), 362-367.
40. Yuldasheva, S. Q. (2021). The development cycles of nut aphid generation upper leaves in the central and mountain surrounding plains of Fergana valley. ACADEMICIA: An International Multidisciplinary Research Journal, 11(3), 1582-1586.
41. Yuldasheva, S. K. (2020). Characteristics of vertical regional distribution of sap in nature. ACADEMICIA: An International Multidisciplinary Research Journal, 10(11), 2135-2139.
42. Atamukhamedova, M. R., & Erkaev, E. A. (2020). Methods of distance learning of biology course in higher educational institutions. Scientific Bulletin of Namangan State University, 2(10), 354-358.
43. Yuldasheva, S. Q. (2020). Characteristics of distribution of aphis craccivora aphid in the vertical regions of southern fergana. Theoretical & Applied Science, (5), 852-854.
44. Кобилов, Э. Э. (2013). Результаты лечения острой спаечной кишечной непроходимости у детей. ББК 51.1+ 74.58 К 22, 98.
45. Yuldasheva, S., Gofurova, O., & Askarova, G. (2022). Prospects of crop growing and significance. Science and innovation, 1(D6), 298-302.
46. Adahamjonovich, A. A. (2022). Diarrhea and healing function from watermelon seed. International Journal of Advance Scientific Research, 2(05), 84-89.
47. Yuldasheva, S. Q., & Khabibjonova, O. (2021). Bioecological Properties And Significance Of Some Rabbit Breeds. The American Journal of Applied sciences, 3(05), 12-16.
48. Nabievna, S. B., & Adxamjonovich, A. A. (2021). The chemical composition and properties of chicken meat. Innovative Technologica: Methodical Research Journal, 2(10), 25-28.
49. Mahammadjon, Q., & Anvar, A. (2021). Bioazot-n biopraparate in agriculture. Innovative Technologica: Methodical Research Journal, 2(11), 101-105.
50. Мадалиев, Т. А., Гоппиржонович, Қ. М., & Абролов, А. А. (2020). Биоразведка бактерий-продуцентов экзополисахаридов из различных природных экосистем для синтеза биополимеров из барды. Universum: химия и биология, (12-1 (78)), 6-9.
51. Қосимов, М. Г., Мадалиев, Т. А., & Абролов, А. А. (2019). Улучшения качества зерна, выращиваемого в условиях ферганской области. Интернаука, (40-2), 28-30.