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ВЛИЯНИЕ ЙОДА НА ОРГАНИЗМ ЧЕЛОВЕКА НА ПРИМЕРЕ СТУДЕНТОВ УГМУ

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Аннотация
Введение. В настоящее время по данным Всемирной организации здравоохранения среди эндокринных нарушений одну из лидирующих позиций занимают заболевания щитовидной железы. В статье рассмотрена проблема дефицита йода среди студентов УГМУ. Изучены и проанализированы знания о йоде, частота приема в пищу йодированных продуктов, наличие йододефицитных заболеваний у студентов. **Цель исследования -** проанализировать и выявить основные причины заболеваний, связанных с недостатком или избытком йода, характерные признаки проявления заболевания, методы профилактики и лечения, а также выяснить, какое количество йода употребляют студенты. Объектом исследования стали 50 студентов УГМУ. **Материал и методы.** В исследовании было использовано сочетание методов опроса и анкетирования. Полученные данные были преобразованы в процентном соотношении. **Результаты.** Некоторые студенты допускают недостаток йода при употреблении пищи, что в дальнейшем может привести к развитию йододефицитных заболеваний. **Выводы.** Йододефицит — распространенное явление среди студентов, основанный на недостаточном количестве знаний о роли йода в организме человека. Студентам следует уделять большее внимание проблемам йододефицита, так как это влияет на физическое и умственное развитие, успеваемость, уровень работоспособности и, как следствие, качество жизни.
Ключевые слова: йод, источники, йододефицит, студенты.

THE EFFECT OF IODINE ON THE HUMAN BODY AMOND USMU STUDENTS

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Abstract
Introduction. According to the World Health Organization, one of the most popular endocrine diseases is thyroid gland disorder. The article deals with the problem of deficit of iodine among students of the USMU. Knowledge of iodine, frequency of iodized foods, iodine deficiency disorders were studied and analyzed. **The purpose of the study** is to analyze and identify the main causes of diseases, connected with a lack or excess of iodine, characteristic signs of the disease, methods of prevention and treatment, and also to find out how much iodine students use. The object of the study was 50 students of USMU. **Material and methods**. The study used a combination of survey and questionnaire methods. The data obtained were converted as a percentage. **Results.** Some students admit a lack of iodine in eating food, which in the future it can lead to the development of iodine deficiency diseases. **Conclusions.** Iodine deficiency is a common problem among students, based on insufficient knowledge of the role of iodine in the human body. Students should pay attention to the problems of iodine deficiency, because it affects physical and mental development, academic performance, the level of performance and, as a result, the quality of life.
Keywords: iodine, sources, iodine deficiency, students.

INTRODUCTION

Iodine is a vital micronutrient which is necessary at all stages of life, especially during the period of growing up. Nutrition is the only source of iodine and it depends on the iodine that contents in water and soil. Iodine is metabolized through a number of stages involving the hypothalamus, thyroid gland, pituitary and blood in the human body. Recent advances in physiology and molecular science have significantly improved our understanding of iodine metabolism at the cellular and subcellular level. Iodine, located in the thyroid gland, is a micronutrient of huge importance for the health of all people. Oceans are the world's main repositories of iodine and the deposition of iodine in the soil occurs due to this water, a process aided by ultraviolet radiation [1]. The coastal regions of the world are much richer in iodine content than the soils further inland, so plants that grow up there contain a small amount of iodine. This explains the endemic distribution of Iodine Deficiency Disorders (IDD) in the world [2].

The purpose of the study is to determine which part of students at risk of thyroid problems, to figure out does they have knowledge about the impact of iodine. A representative group is formed by random sampling. The objects of observation were 50 students of USMU. In the process of work, we are going to analyze the main causes of the diseases, connected with lack of iodine or excess, the characteristics signs of the manifestations of the disease, methods of the prevention and treatment.

MATERIAL AND METHODS

Theoretical and empirical research methods are used: survey of USMU students, analysis of the information received, the study of scientific literature, generalization, comparison and systematization of data. The data obtained were converted as a percentage.

RESULTS

To assess the amount of iodine in the diet of students, an oral survey and a survey were conducted in Google form. It included a number of the following questions:

1) Do you know what foods contain iodine?
2) How does iodine affect the human body?
3) What do you know about iodized products? Do you eat it?
4) What foods do you eat most often?
5) Do you or your acquaintances have iodine deficiency disorders?

When assessing the diet of students, it turned out: 84% know what foods contain iodine and can list, 16% can't name that. Only 54% of interviewees can describe how iodine affects the human body, 46% don't know. 12% for the first time heard about iodized products and never ate it, 22% know about iodized products and eat it often, 66% know about these products, but eat it rarely or don't eat. It has been found that interviewees eat iodine-rich foods the least. But potatoes, which contain iodine, have become the most popular. 10% have acquaintances with iodine deficiency disorders, 90% don't have.

DISCUSSION

Iodine is generally obtained from foods, mainly vegetables grown in iodine-rich soil, with the remaining requirement coming from drinking water. It differs in various regions of the world, but people can maintain this micronutrient in their body by eating foods high in iodine: seafood, meat, some breads, iodized table salt, eggs, Seaweeds such as wakame, nori, and mekabu, which are widely used in soups, salads. Iodine occurs in nature in a variety of forms, including inorganic sodium and potassium salts, inorganic diatomic iodine (molecular iodine), and organic monatomic iodine. Thyroid gland has a major influence in the metabolism of iodine. The gland consists of many follicles lined by follicular cells resting on the basement membrane. Colloid - it is a glycoprotein called thyroglobulin, viscous substance in the follicles. Based on animal studies, scientists have found out that iodine normalizes elevated adrenal corticosteroid hormone secretion related to stress and reverses the effects of hypothyroidism on the ovaries, testicles and thymus in thyroidectomized rats. When iodine is placed in a medium containing 10-6 M iodide, human leukocytes synthesize thyroxine, thereby providing immune function [3].

For healthy metabolism and functioning of the thyroid gland every person needs a certain amount of iodine. Specifically in Russia it is necessary to consume 150 μg per day for adults, 90-120 μg for children, 220 μg for pregnant, 250 μg for nursing women. A shortage of iodine in human's body may cause different Iodine Deficiency Disorders (IDD). The main consequences are permanent brain damage, intellectual disability, low IQ, stunted growth, fertility problems [1].

Frequently people don't know about a shortage of iodine in their body. However, there is one significant and perceptible symptom - enlargement of the

thyroid gland in the neck, developing a goiter. Insufficient thyroid hormone production (hypothyroidism) can cause symptoms including: tiredness, weight gain, muscle weakness, slow heartbreak, constipation, puffy face, dry skin and hair loss. Taking too much iodine can also cause problems with health. It causes some symptoms such as iodine deficiency, including goiter, thyroid gland inflammation and thyroid cancer.

Iodine levels can be measured in the blood or the urine. When iodine deficiency is seen, it is best managed by ensuring that foods contain sufficient levels of iodine [2].

CONCLUSIONS

These results of the study allow us to conclude: some students do not pay attention to iodine foods consumption. The problem of iodine deficiency has a social significance and can affect the decline in the intellectual, educational and professional potential of young people.

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ИСПОЛЬЗОВАНИЕ МОЛЕКУЛ АНТОЦИАНОВОГО РЯДА, СОДЕРЖАЩИХСЯ В КРАСНОЙ СВЕКЛЕ В КАЧЕСТВЕ КИСЛОТНО-ОСНОВНОГО ИНДИКАТОРА

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