SPECIFIC CHARACTERISTICS OF FORMATION AND DEVELOPMENT DISORDERS IN CHILDREN AGAINST THE BACKGROUND OF IODINE DEFICIENCY

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Abstract: Iodine deficiency leads to a decrease in thyroid gland activity, which in turn reduces thyroid hormone biosynthesis. This can lead to irreversible changes in the formation and development of the nervous system in children. Such children lag behind their peers in mental and physical development. Therefore, considering that iodine deficiency is more common in young children, pregnant women, and lactating women, group prevention should be carried out for them. In such prevention, children, pregnant, and lactating women are given the drug "Antistrumin".

Keywords: Iodine deficiency state, mental and physical development, thyroid gland, thyroid hormones, goiter, antistrumin drug.

YOD TANQISLIGI FONIDA BOLALARDA SHAKLLANISH VA RIVOJLANISH BUZILISHLARNING O’ZIGA XOS XUSUSIYATLARI.

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Annotatsiya: Yod etishmasligi organizimda qalqonsimon bez faoliyatining susayishi o'z navbatida tireoid garmonlar biosintezi pasayishiga bu esa bolalarda asab sistemasining shakllanish va rivojlanishida qaytmas o’zgarishlarga olib kelishi mumkin. Bunday bolalar o’ztehgdoshlaridan, aqliy va jismoniy rivojlanishdan orqada qolishdi. Shuning uchun erta yoshdagi bolalarda,homilador ayollarga va emizikli ayollarda yod etishmasligi ko’proq uchrashini e’tiborga olinib bularga guruhli profilaktika olib borilishi lozim.Bunday profilaktikada bolalar,

homilador va emizuvchi ayollarga antistrumin dori vositasi beriladi..

Kalit so'zlar: Yod tanqislik holati, aqliy va jismoniy rivojlanish, qalqonsimon bez, tireoid garmonlar, buqoq, antistrumin dori vosita

СПЕЦИФИЧЕСКИЕ ОСОБЕННОСТИ НАРУШЕНИЙ ФОРМИРОВАНИЯ И РАЗВИТИЯ У ДЕТЕЙ В УСЛОВИЯХ ДЕФИЦИТА ЙОДА.

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Аннотация: Дефицит йода может привести к снижению активности щитовидной железы в организме, что, в свою очередь, может привести к снижению биосинтеза тиреоидных гормонов, а это, в свою очередь, может вызвать необратимые изменения в формировании и развитии нервной системы у детей. Такие дети отстают от сверстников в умственном и физическом развитии. Поэтому, учитывая тот факт, что дефицит йода чаще встречается в раннем детстве, у беременных и кормящих женщин, следует проводить для них групповую профилактику. В рамках такой профилактики детям, беременным и кормящим женщинам назначают антитиреоидные препараты.

Ключевые слова: Дефицит йода, умственное и физическое развитие, щитовидная железа, тиреоидные гормоны, зоб, антитиреоидный препарат

INTRODUCTION. Many people do not realize that iodine is one of the most important micronutrients or how much iodine they are consuming. The main amount of iodine is collected in the thyroid gland and human blood. It is delivered to tissues and organs through the blood, partially accumulates in lipids, and is excreted through the kidneys. One of the vital functions of iodine is its participation in the formation of thyroid hormones.

Insufficient iodine intake leads to enlargement of the thyroid gland and several functional changes. This is the primary and most common symptom. Chronic iodine deficiency, especially in children, results in mental, physical, sexual, and psychological developmental delays. It also leads to symptoms characteristic of hypothyroidism, such as hair loss, dry skin, constipation, fatigue, sleepiness, depression, and memory loss. Currently, researchers are studying various dangerous diseases besides goiter that develop in children due to iodine deficiency.

LITERATURE ANALYSIS AND METHODOLOGY. Iodine is a vital micronutrient; without it, normal human development and formation do not occur.

In endemic regions where environmental iodine is lacking, iodine deficiency leads to thyroid enlargement. Historically, it was believed that only goiter developed in these regions. However, modern research shows that iodine deficiency causes other conditions dangerous to human health. Since 1983, the term "endemic goiter" has been replaced by the term "iodine deficiency diseases".According to WHO data, 2 billion people worldwide suffer from diseases such as endemic goiter, hypothyroidism, mental and physical retardation, and central nervous system disorders caused by iodine deficiency. Since Uzbekistan is an iodine-deficient zone, endemic goiter is more common here. More than 85% of the population of Uzbekistan belongs to a group highly susceptible to goiter. Furthermore, iodine deficiency can lead to spontaneous abortion during pregnancy, low birth weight, and infant mortality.

RESULTS. According to the World Health Organization, children under three, pregnant women, and lactating women are at the highest risk for iodine deficiency. If a mother does not receive enough iodine, protein, and vitamins during pregnancy, the resulting neurological changes in the fetus and infant may be irreversible and untreatable. Modern preventive measures help prevent these brain development disorders.

Iodine deficiency is one of the most significant micronutrient deficiencies worldwide and represents a serious public health problem, especially among children. Iodine is an essential element for the synthesis of thyroid hormones, which play a crucial role in growth, brain development, metabolism, and the maturation of organs and systems in the human body.

In children, iodine deficiency leads to impaired thyroid hormone production, resulting in various disorders of physical and neuropsychological development. The most common consequences include delayed growth, cognitive impairment, reduced intellectual abilities, learning difficulties, speech disorders, and decreased school performance. In severe cases, iodine deficiency may cause endemic goiter, hypothyroidism, and irreversible mental retardation.

During prenatal and early postnatal periods, iodine deficiency is particularly dangerous, as thyroid hormones are vital for normal brain formation. Insufficient iodine intake during these critical stages can lead to developmental delays, motor dysfunction, and reduced adaptive capabilities in children.

Early diagnosis of iodine deficiency–related disorders, along with preventive measures such as iodine supplementation and the use of iodized salt, plays a key role in reducing the incidence of these conditions. Comprehensive medical monitoring and timely correction are essential to ensure normal growth and development in children living in iodine-deficient regions.

CONCLUSION. Iodine is required in small amounts throughout life. Its deficiency leads to decreased thyroid function, impaired defense mechanisms, and irreversible changes in the nervous system of young children. Priority must be given to high-risk groups. For mild deficiency, iodized salt in food is recommended; for severe cases, potassium iodide preparations are administered.

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