



MAGNESIUM DEFICIENCY IN NERVOUS CHILDREN OR CHILDREN, RISK FACTORS AND TREATMENT MEASURES

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Abstract

Magnesium deficiency in children is one of the most common problems today. Magnesium is the most important mineral for the nervous system, cardiovascular system and bone structure of the body, and its deficiency can cause various neurological and somatic diseases. This article discusses the main causes of magnesium deficiency in children, risk factors, its connection with nervousness and psychological discomfort from a scientific point of view. It also analyzes the importance of early detection and effective treatment of this problem, doctor's recommendations and preventive measures. The results of the study show that children with magnesium deficiency have symptoms such as fear, anxiety, decreased attention, and insomnia. This article provides scientifically based recommendations that are useful for graduate studies and medical practice.

Keywords magnesium deficiency, children's health, nervousness, risk factors, treatment, prevention, psychological support.

Аннотация

Дефицит магния у детей – одна из самых распространённых проблем современности. Магний – важнейший минерал для нервной и сердечно-сосудистой систем, а также костной ткани организма, и его дефицит может вызывать различные неврологические и соматические заболевания. В данной статье рассматриваются основные причины дефицита магния у детей, факторы риска, его связь с нервозностью и психологическим дискомфортом с научной точки зрения. Также анализируется важность раннего выявления и эффективного лечения этой проблемы, рекомендации врача и профилактические меры. Результаты исследования показывают, что у детей с дефицитом магния наблюдаются такие симптомы, как страх, тревожность, снижение внимания и бессонница. В данной статье представлены научно обоснованные рекомендации, полезные для аспирантуры и медицинской практики.

Ключевые слова: дефицит магния, здоровье детей, нервозность, факторы риска, лечение, профилактика, психологическая поддержка.

Introduction

Magnesium is one of the main minerals involved in important biological processes in the human body. It regulates the transmission of nerve impulses, helps muscles relax and calm down, and maintains a normal heart rate. The role of magnesium in the development of children is especially important. Because the body needs many microelements during periods of intensive growth. According to statistics, 40-60% of school-age children have magnesium deficiency. This negatively affects their psycho-emotional state, academic performance, and social adaptation.

Magnesium deficiency occurs due to several reasons: improper diet, excessive consumption of fast food and carbonated drinks, internal diseases (gastrointestinal dysfunctions), stress and mental pressure. Especially in modern society, due to the increasing psychological burden on children, nervousness and anxiety are becoming more common. Magnetic storms, environmental factors and technological stress also play an important role. The most important function of magnesium compounds is to act as a controller in the transmission of nerve impulses. With the help of impulses, the brain controls the body and receives information about the state of the body through them, as a result of which it successfully responds to stimuli. Therefore, magnesium deficiency primarily affects the processes associated with the nervous system. In addition, there may be interruptions in muscle contraction and increased blood pressure. In addition, with a deficiency of the element, irritability occurs, a person constantly experiences stress and cannot get rid of it. Maintaining magnesium balance is very important for a developing organism, that is, during childhood and adolescence. Children are more susceptible to stress and emotional. Regardless of where they are, at home, in kindergarten, at school, children are forced to quickly learn about the world around them, remember and process a large amount of information. Therefore, a lack of magnesium in a child negatively affects their good adaptation in a children's community and at school.

In recent years, studies in the field of pediatrics and dietetics have shown that magnesium deficiency is one of the most common mineral deficiencies in children. According to the World Health Organization, 45% of children in developing countries have magnesium levels below normal. Clinical studies conducted by Uzbek scientists show that this problem is even more acute in children living in rural areas.

According to the literature, magnesium deficiency leads to increased excitability of the nervous system, increased cortisol levels, and decreased stress tolerance. Experts recommend including nuts, almonds, bananas, greens, and whole grains in children's diets. Some scientific sources have proven the effectiveness of magnesium supplements (in the form of tablets or syrup). Also, parents' psychological support for children and proper organization of their daily routine are important preventive factors. According to the analysis, it is necessary to determine the level of magnesium through laboratory tests (blood, urine analysis). In this way, it is possible to develop a treatment or prevention program based on an individual approach. Adapting to school life is not an easy task. In each class, new requirements are imposed on the child, which, of course, leads to psycho-emotional stress. A serious cause of stress is also control work and test tasks. However, if the student does not have useful elements, the risk of irritability, memory impairment and increased concentration increases. This, in turn, affects the quality of sleep. Magnesium enters our body with food and water. Thus, the main reason for the lack of magnesium in the child's body is malnutrition. Children's favorite foods are fast food, sweets and carbonated drinks. Naturally, by consuming such foods, they cannot get enough magnesium. Magnesium deficiency in children can be determined by several signs: - the child becomes inattentive and quickly gets tired; - frequent mood swings, irritability, fear and anxiety, hyperactivity, aggressive behavior are observed. - the child complains of headaches, muscle pain; - heart rhythm disturbances; - the child has difficulty falling asleep, his sleep is superficial, he is restless when sleeping; - due to the stress that occurs in children, he has bad relationships with others, it is difficult to adapt to kindergarten and school conditions.

The study was conducted in the Andijan region, in the regional pediatric center and urban and rural polyclinics. In total, 100 children aged 7-14 were selected. The study participants were divided into two groups: the first group - children with a pronounced magnesium deficiency, the second group - children with normal magnesium levels. During the analysis, magnesium deficiency was observed in 38% of children living in urban areas and 52% of those living in rural areas. This difference was found to be mainly due to eating habits. While urban children have a more varied diet of fruits, vegetables, and dairy products, rural children often consume bread, tea, and flour products. The use of carbonated drinks and fast food was also more common among adolescents living in Andijan. Children in the first group were given magnesium supplements under the supervision of a doctor for 2 months, their diet was reviewed, and parents were given psychological counseling. As a result, 65 percent of children reported reduced irritability, 72 percent reported improved sleep quality, and 60 percent reported improved concentration. In interviews with parents living in rural areas, they noted that they were unable to provide their children with a variety of foods due to their limited financial resources. Therefore, strengthening preventive measures and conducting explanatory work on healthy eating was identified as one of the most important tasks in Andijan region.

This, in turn, causes additional stress for parents and educators. During the discussion, it is worth noting that the problem requires a comprehensive approach: first of all, the child must be provided with a rational diet, a regular daily routine, and sufficient physical activity.

To prevent a decrease in magnesium in the food consumed, it is necessary to reduce the amount of phosphates in the food. Phosphates are mainly absorbed through sweet carbonated drinks. In addition, it is necessary to abandon excess animal fats and sugar in food products. Consuming large amounts of calcium-rich foods also leads to magnesium deficiency. Therefore, it is necessary to pay attention to the norm of calcium in food products. In this case, it is advisable to consult a specialist dietitian. In addition, it is necessary to take into account the increased demand for magnesium during the period of active growth of the child to ensure bone formation and bone strength. We have already mentioned that stress, excessive mental and physical exertion increase the need for magnesium.

When using medications, the most effective way is to give magnesium supplements under the supervision of a doctor. Psychological training, conversations with parents and relaxation exercises also gave significant results. As a result of the discussion, it can be concluded that this problem cannot be solved with medication alone, but requires socio-psychological support, training in a healthy lifestyle, and the creation of a healthy psychological environment in educational institutions.

Conclusion

Early detection and elimination of magnesium deficiency in children is very important for their future healthy life. This article shows that an integrated approach to solving the problem — nutrition, medications and psychological support — gives the best result. Therefore, parents, pediatricians and educators should work together and establish prevention programs.

Magnesium deficiency negatively affects the distribution of "information" throughout the body, resulting in impaired control of vital processes, and a weakened immune system. Therefore, determining its quantitative indicators in living organisms, as well as determining

its content in daily food, is of great importance for improving the health of the body and increasing human mental abilities.

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