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## Micronutrient Requirements of Mental Working Population in Rural Areas

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### ABSTRACT

The article analyzes the physiological requirements for micronutrients among rural populations engaged in intellectual work, their dietary characteristics, and the degree to which these needs are met. The impact of micronutrient deficiencies on health and work productivity is described based on scientific sources. Practical recommendations for optimizing the dietary intake are provided.

**KEYWORDS:** micronutrients, rural population, nutrition, intellectual work, vitamins, minerals, health, physiological requirement.

Healthy lifestyle and proper nutrition of rural population is one of the important factors of general national health care. For rural residents engaged in mental work, a properly balanced diet, in particular, a sufficient intake of vitamins and minerals, ensures brain activity, stress resistance and work efficiency. Lack of micronutrients can lead to disorders of the nervous system, decreased immunity, and the development of chronic diseases. In this article, the demand for micronutrients and the state of their satisfaction in the diet of rural residents are analyzed on a scientific basis.

Micronutrients are a complex of vitamins and mineral substances, which, although they do not directly participate in the production of energy in the human body, are necessary for the normal functioning of all physiological processes. Sufficient micronutrients are important for the stability of brain activity, optimal performance of attention and memory functions, as well as stress resistance, especially for rural residents engaged in mental work. Group B vitamins support the healthy functioning of neurons, vitamin C as an antioxidant protects the nervous system from damage, and iron participates in the formation of hemoglobin and provides enough oxygen to the brain tissues. Therefore, it is necessary to have enough of these substances in the diet of rural residents, especially those engaged in mental activity.

The nutritional characteristics of rural residents depend on geographical conditions, seasonal factors and economic opportunities. Although most of the villagers eat food rich in natural

products, in some cases there is a shortage of meat, fish, dairy products and fresh fruits and vegetables in the diet. This can lead to a lack of iron, iodine, vitamin C and omega-3 fatty acids. As a result of long-term storage of food products or high thermal processing, the amount of vitamins decreases sharply. In addition, rural residents engaged in mental work may break their diet due to the instability of their work schedule, which causes physiological needs to be not fully satisfied.

The need for B vitamins, vitamin C, zinc, iron, iodine and omega-3 fatty acids for mentally active adults is usually slightly higher than for physically active adults. For example, vitamins B1 and B6 ensure the continuity of the activity of neurons, and vitamin B12 ensures the formation of the myelin sheath. Vitamin C increases the brain's ability to resist oxidative stress. Iron deficiency leads to anemia, poor concentration and fatigue. Iodine deficiency derails the functioning of the thyroid gland and leads to a decrease in cognitive abilities. As a result, labor efficiency decreases, and an increase in intellectual load causes additional negative consequences. Many scientific studies show that iron, iodine and vitamin C deficiency is widespread among the rural population, especially among mental workers. The main reasons for this situation are the uniformity of the diet, the low consumption of meat and fish products, the high cost or shortage of fresh fruits and vegetables in the off-season, the breakdown of vitamins during food storage, and the insufficient development of the nutrition culture. Such deficits have a negative impact on the health of the population and can cause chronic fatigue syndrome, weakening of the immune system, endocrine disorders, anemia and diseases of the nervous system. In order to prevent the deficiency of micronutrients, formulating the diet on a scientific basis, using iodized salt in the daily diet, eating fish at least twice a week, and regularly eating fresh fruits and vegetables. necessary. In order to prevent seasonal vitamin deficiency, proper processing of stored vegetables, rational use of dried, frozen, and canned products is important for those living in rural areas. Those engaged in mental work are recommended to regularly consume products rich in B vitamins, omega-3 fatty acids and vitamin C. When necessary, the use of multivitamin complexes with a doctor's recommendation helps to meet the physiological need.

The need for micronutrients for people living in rural areas and engaged in mental work may differ more than that of urban residents. An imbalance in the diet leads to a deficiency of vitamins and minerals, which directly affects work efficiency, cognitive function and general health. Therefore, it is very important to increase the culture of nutrition, to formulate a diet on a scientific basis, and to promote a healthy lifestyle.

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