

BLOOD AND HAIR ZINC LEVELS IN OVERWEIGHT IN GRODNO, BELARUS

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Relevance. Obesity is It is an abnormal increase in weight accumulation as a result of the amount of fat in the body, and this is controlled by various factors, including age, gender, physical activity, and nutrition [1]. Consuming an unhealthy diet may increase insulin levels to regulate glucose. High insulin levels encourage the body to store fat, particularly in unwanted locations like the liver. Cardiovascular risk rises as triglyceride rise [1].

Zinc is an essential mineral made up of more than 300 enzymes in the body. It has many functions. It helps with wound healing, immune system function, building proteins and DNA, fertility in adults, and growth in children. Zinc is also necessary to maintain the senses of smell and taste. Zinc deficiency can lead to stunted growth, diarrhea, impotence, hair loss, skin problems, poor appetite, and weak immunity. In this report, we learn about 7 foods rich in zinc that can strengthen your immunity and improve your sense of smell and taste.

Excessive intake of zinc causes a range of health risks resulting from the accumulation of zinc in the body, including prostate cancer, drug interactions, anemia, and many other clinical symptoms [2].

Aim. The aim of the study is to evaluate the zinc level in overweight males and females over the age of 1.

Material and method. Material for research: the blood serum and hair of patients. Informed consent was obtained from all patients and participants involved in the study.

An assessment of changes in the characteristics of zinc was carried out in 100 practically healthy individuals of both sexes living in Grodno, Belarus. The age of the examined people was 24.3 ± 0.24 for females and 25.5 ± 0.52 for males. All individuals were evaluated for body mass index (BMI). BMI (kg/m^2) was calculated as follows: $\text{BMI} (\text{kg}/\text{m}^2) = \text{weight} (\text{kg}) / \text{height} (\text{m}^2)$. In accordance with WHO recommendations, the study used the interpretation of BMI indicators: 18–24.9 (normal), 25–29.9 (overweight).

Results and discussion. The recommended upper limit for zinc is 11 mg per day for adults female ages over 19 and 8 mg for adults male ages over 19

Table 1 – Recommended Dietary Allowances (RDAs) for zinc

Age	Female	Male
4–8 years	5 mg	5 mg
9–13 years	8 mg	8 mg
14–18 years	11 mg	9 mg
Over 19 years	11 mg	8 mg

We found that the concentration of zinc in the hair of overweight females was lower than that of normal-weight females, as well as in the overweight male group compared to the normal-weight male group. There was a statistical relationship for the level of zinc in the female group at the level of significance $p = 0.02$ compared to the control group, as well as in the group of males at the level of significance $p = 0.05$ compared to the control group.

In the group of overweight males and females, no statistically significant differences were seen when compared with the control group.

This fact attracts attention against the background of an imbalance in mineral metabolism, which leads not only to the development of dysmicroelementoses but also to a violation of metabolic processes.

Table 2 – The concentration of Zinc in blood serum in females and males of the age category > 18 years

Females			p	Males			p
microelement	BMI 18-24.9	BMI 25-29.9		microelement	BMI 18-24.9	BMI 25-29.9	
Blood -Zinc	4.8±0.15	4.75±0.25	=0.07	Blood -Zinc	4.15±0.31	4.44±0.27	=0.07
Hair- Zinc	170.3±2.4	120.5±1.2	=0.02	Hair- Zinc	166.5	141.4	=0.05

Conclusion. In the end, we can say that zinc, a nutrient found throughout the body, helps the immune system and cellular metabolic function. Zinc is included in the composition of 300 enzymes, and thus the deficiency in zinc leads to metabolic disorders and thus weight gain and obesity. Therefore, it is necessary to get rid of zinc deficiency through daily intake within the recommended limits

ЖИТЕПАТЭПА

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ANATOMICAL VARIATIONS IN ORIGIN OF DEEP FEMORAL ARTERY

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Relevance. Exact comprehension and expansive knowledge about the femoral blood vessel fragments is significant during the invasive and angiographic diagnostic procedures. The point of this study is to team up with a couple of studies done about the anatomical variations and original sites of main branch of femoral artery.