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Comparative analysis of the content of metals and ecotoxicants in the hair of 7-year-old girls, living in different environmental conditions

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Abstract

The investigation and the comparative analysis of the content of metals (ecotoxicants) in the hair of 7-year-old girls, attending the first grade of a comprehensive school, living in different environmental conditions, were carried out. In a modern industrial city with a developed petrochemical infrastructure, there are chemical substances in the air, which often exceed the maximum permissible concentration, and the prolonged exposure of toxic substances causes a change in the functional state of the developing organism. In the conditions of technogenic pollution of the environment, it is especially important to study the impact of metals and ecotoxicants, having a toxic effect on the human body. The scale of growth of modern production is so large, that the amount of substances, emitted per unit of time, is much greater than the amount, which can be neutralized by the environment. Based on the numerous observations, it can be stated, that children are particularly sensitive to the impact of unfavorable environmental factors. Growing organism is characterized by the lowest threshold of perception to the influence of pollutants, high reactivity to external influences, and the degree of its adaptive capacity depends on the age, gender and a number of other individual characteristics. Such experimental direction has an applied significance and is of great scientific and practical interest, since it reflects the general state of the organism and the morphofunctional status of children of the age under study, living in different environmental conditions. On this basis, the study of the content of metals and ecotoxicants in the hair of seven-year-old girls, attending the first grade of a comprehensive school, living in different environmental conditions, was carried out. The following methods were used in the study: biochemical, statistical and the method of directed selection of the contingent. In the process of the study it has been found, that environmental pollution is one of the causative factors of reducing the adaptive capacity of the body, and the peculiarities of hair chemical composition, in regards to the studied substances, are determined by the ecological conditions of living.

Keywords

Children, Ecological conditions, Ecotoxicants, Metals

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