

PECULIARITIES OF THE MINERAL PROFILE OF CHILDREN LIVING IN THE EAST OF UKRAINE

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A comparative analysis of the mineral profile (MP) in hair in practically healthy children of school age (6-18 years old), who are residents of different regions of East Ukraine was monitored. 375 children who live in ecologically unfavorable areas (group I) and 325 children living in relatively ecologically favorable regions (group II) of East Ukraine were examined. MP of children of the 1st group was characterized by significant reduction of essential microelements (ME): Ca, Zn, I and Mn, against a background of higher levels of potentially toxic ME: Ni, Cr, Cd and Rb and toxic ME - Pb, Sr and As. The analysis of second group showed an imbalance of the essential elements with decreasing of Ca, Zn, Mg, P and significant decreasing of essential ME - Fe. It has

been also evidenced the deterioration of the mineral profile in children aged 6-11 owing to a higher level of potentially toxic ME in contrast to children of the older age group. During a past decade, children of the East Ukraine developed reduction of Zn, Mn, and Ca and elevations in the levels of Pb, Al, Sr, Ni, Cd and this is explained by the state of the ecological environment of a large industrial region. There is no doubt that an unfavorable state of the environment creates a specific mineral profile and causes the mineral imbalance even in conditionally healthy children, which in turn may become the basis for the formation and development of chronic pathology in children.

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