IRON DEFICIENCY FREQUENCY IN PRESCHOOL-AGED CHILDREN IN THE BIOGEOCHEMICAL ZONE OF THE SOUTHERN ARAL SEA REGION

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https://doi.org/10.5281/zenodo.18346169

ARTICLE INFO

Received: 19TH January 2026
Accepted: 20th January 2026
Online: 21st January 2026

KEYWORDS

To study the frequency of iron deficiency conditions in preschool children of the Khorezm region

ABSTRACT

Despite large-scale organizational and preventive measures being undertaken in collaboration with international organizations (WHO/UNICEF), the problem of iron deficiency and its consequences for the human body remains one of the most pressing issues for both scientific medicine and practical healthcare. This is explained by persistent negative trends in the prevalence and detection of iron deficiency conditions in the population, particularly in high-risk groups, particularly those most vulnerable to developing iron deficiency due to the specific physiological and pathophysiological processes in their bodies, namely, young children, preschoolers, and school-age children. An analysis of epidemiological studies, particularly on iron deficiency anemia in various regions of Uzbekistan, shows that the prevalence of this pathology varies greatly across the country. Iron deficiency is particularly common in the ecologically disadvantaged southern Aral Sea region

Introduction. Despite large-scale organizational and preventive measures being undertaken in collaboration with international organizations (WHO/UNICEF), the problem of iron deficiency and its consequences for the human body remains one of the most pressing issues for both scientific medicine and practical healthcare. This is explained by persistent negative trends in the prevalence and detection of iron deficiency conditions in the population, particularly in high-risk groups, particularly those most vulnerable to developing iron deficiency due to the specific physiological and pathophysiological processes in their bodies, namely, young children, preschoolers, and school-age children. An analysis of epidemiological studies, particularly on iron deficiency anemia in various regions of Uzbekistan, shows that the prevalence of this pathology varies greatly across the country. Iron deficiency is particularly common in the ecologically disadvantaged southern Aral Sea region.

Purpose of the study. To study the frequency of iron deficiency conditions in preschool children of the Khorezm region.

Materials and research methods. A random, single-sample study was conducted on 223 preschool children living in rural and urban areas of the Khorezm region. Of the total sample, 110 were boys and 113 were girls. To detect iron deficiency, the "gold standard" for diagnosing iron deficiency was used: serum ferritin levels below 20.0 µg/L.

Results and discussion. The overall incidence of iron deficiency in the entire surveyed population of children was quite high, amounting to 82.1% of all children surveyed, which is consistent with the incidence of iron deficiency in populations living in the southern Aral Sea region reported by other researchers (A. Rakhmonov, 2001, O.A. Ataniyazova, 2001). Of the preschool-age children surveyed, 183 had depleted iron stores in their bodies, representing an impressive percentage of 82.1%. At the same time, analysis shows that the incidence of iron deficiency is approximately the same in the gender subpopulations of children surveyed, namely, among boys, it is 83.6% overall, i.e., out of 110 boys surveyed, 92 had reduced iron stores in their bodies, as measured by serum ferritin, while among the girls surveyed, the prevalence of iron deficiency was, according to our data, 80.5%, i.e. Of the 113 girls, 91 had serum ferritin levels below the critical level of 20 ng/ml. Among the examined children permanently residing in the city, iron deficiency was detected in 69.2% of cases, with the frequency of iron deficiency among both boys and girls being equal—69.2% and 68.8%, respectively. Among the examined children permanently residing in rural areas, the overall frequency of iron deficiency was higher, amounting to 93.9%, with the frequency of iron deficiency among both boys and girls also being approximately equal—93.9% and 94.2%, respectively.

Conclusions: The incidence of iron deficiency (latent and overt iron deficiency) was studied among preschool-age children living in the southern Aral Sea region of Khorezm volayat.

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