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Iron Deficiency in Young Children and Increase in Allergic Rhinitis Among Them

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Abstract: Protection of the health of the population, especially children's health, is one of the main directions of state social policy in the Republic of Uzbekistan. However, scientific and technological progress and the development of civilization, along with positive benefits, lead to an increase in serious problems associated with environmental degradation, especially in cities. It is known that more than 20% of disease risk factors are associated with environmental factors. Numerous studies have shown that children are especially vulnerable to environmental factors.

Keywords: allergic morbidity, allergic rhinitis, mild anemia, moderate anemia, severe anemia, malnutrition, hypo stature.

Relevance. Allergic morbidity is a public health indicator, as recommended by WHO within the framework of the "Health for All" strategy. Allergic rhinitis (AR) is an inflammatory disease of the nasal mucosa that occurs under the influence of a sensitizing (causative) allergen. The average prevalence of AR symptoms is 8.5% (1.8–20.4%) in children aged 6–7 years and 14.6% (1.4–33.3%) in children aged 13–14 years (International Study of Asthma and Allergy in Childhood (ISAAC)).

Objective of the study: to study the dynamics of the prevalence of AR among children and the clinical features of TTK.

Material and methods: Based on city-wide reporting data, the dynamics of the total and primary cases of AR among children under 14 years of age was observed from 2012 to 2018. The indicators were calculated per 1000 children of the corresponding age. During the study period, the average total and primary cases of AR in the city were 3.4 ± 0.09 and 1.9 ± 0.06 per 1000 children, respectively. Over the seven years, an increasing trend is observed in both indicators. In general, the total incidence rate increased by 1.35. The largest increase of 28.5% was observed in 2015. During the study period, primary cases increased by almost 3.3 times. Moreover, the largest increase was also observed in 2015 - 26.7. It should be noted that the primary incidence of AR increased by an average of 20% almost every year, with the exception of 2013, when the detection of AR decreased by 27.8% compared to the baseline in 2012, and in 2017 the same indicator decreased by 14.3%. Given the prevalence of total and primary AR in the city, it should be noted that the rate of registration of children with AR for dispensary care is also steadily increasing, which indicates that secondary prevention work is well established in the city's medical and preventive institutions. Thus, on average, 2.8 ± 0.07 children per 1000 children aged 14 years and younger were registered for routine medical examination during the seventh year. The rate of children with AR registered for routine medical examination increased almost 1.6 times during the study period. We observed 125 children with TTK aged 3 months to 3 years. Seventy-four children were aged 3 months to 1 year, 29 children were aged 1 to 2 years, and 22 children were aged 2 to 3 years. Children in the first year of life predominated among patients.

WHO recommendations were used to assess the severity of TTK: 67 children (53.6%) had mild anemia, 45 children (36.0%) had moderate anemia, and 14 children (11.3%) had severe anemia. It should be noted that the majority of the 41 children with severe and moderate anemia were children under 1 year of age. Thus, it should be noted that the prevalence of AR among children in Tashkent is steadily increasing. This is probably due to the deterioration of the ecological situation as a result of widespread deforestation in the city (according to media reports), an increase in the number of vehicles per capita, and changes in climatic conditions associated with an annual increase in average annual

temperatures. All this requires medical workers to pay more attention to primary and secondary prevention of atypical rhinitis in children. Introduction. Iron deficiency anemia (IDA) is a very common condition, affecting 20% of the world's population. According to WHO, IDA is prevalent among children and women of childbearing age worldwide.

Results and Discussion. Clinical signs and parental complaints were characterized by iron deficiency anemia and symptoms typical of iron deficiency, which varied. Among the most common complaints, parents noted pale skin (95 children (76.0%)), loss of appetite (91 children (72.6%)), taste disturbance (eating dirt, clay, and chalk) (70 children (56.6%)), frequent vomiting (69 children (55.2%)), and vomiting (18 children (14.3%)). Objective examination revealed pale skin and visible mucous membranes in almost all patients. Most patients had epithelial syndrome, including dry skin (56 cases (44.8%)), dry and thinning hair (52 cases (41.6%)), and brittle and thinning nails (25 cases (20.8%)). Some patients had hyperpigmentation of the skin, most often on the face, neck, and lateral surfaces of the chest (16 cases (12.8%)). In children older than one-year changes in the oral mucosa were very common, including atrophy of the lingual papillae (lacquered tongue) (32 cases (25.5%) and the so-called "cheilitis" in the corners of the mouth (angular stomatitis) (31 cases (24.5%). We also noted deviations in psychomotor development, especially pronounced in the first year of life: children were delayed in raising their heads, sitting and walking, and 71 (56.6%) children began to speak later. Ninety-six (78.8%) children had varying degrees of decreased emotional tone and rapid mood swings; 52 (45.6%) children were inactive and lethargic, and 44 (35.2%) were whiny and capricious; they showed a decrease in interest in the environment and toys. Deviations in the functioning of internal organs and systems were also detected, including systolic murmurs, tachycardia and a slight enlargement of the heart was observed. Thirty children (24.5%) had hepatomegaly and an enlarged spleen. One of the signs of iron deficiency in young children, especially in severe and moderate forms, was a delay in physical development: 95 children (76.0%) had signs of malnutrition and hypo stature, with hypo stature observed mainly in 53 children under 1 year of age (42.4%).

Conclusion: Thus, iron deficiency anemia in young children is very common in children under 1 year of age, and in clinical manifestations, skin-epithelial syndrome and changes in the digestive, nervous and cardiovascular systems predominate.

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