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ASSESSMENT OF THE HEALTH STATUS OF CHILDREN OF YOUNG SCHOOL AGE IN THE ARAL REGION

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Resume

We have studied the health status of children of primary school age living in the Aral Sea region. Timely identification of deviations in physical development and their correlations increase the level of children's health, it is necessary to pay close attention to the dynamics of the physical development of schoolchildren, using all stages of prevention.

Key words: Children, health, physical development, Aral Sea region

ОЦЕНКА СОСТОЯНИЯ ЗДОРОВЬЯ У ДЕТЕЙ МЛАДШЕГО ШКОЛЬНОГО ВОЗРАСТА В РЕГИОНЕ ПРИАРАЛЬЯ

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Резюме

Изучим состояние здоровья детей младшего школьного возраста, проживающих в регионе Приаралье. Своевременное выявление отклонений в физическом развитии и их корреляции повышают уровень здоровья детей, необходимо осуществлять пристальное внимание за динамикой физического развития школьников, используя все этапы профилактики.

Ключевые слова: Дети, здоровье, физическое развитие, Приаралья
Relevance

The emphasis on children's health and its improvement is one of the urgent tasks. Medical support of the child population should be improved by increasing the efficiency and quality of preventive, therapeutic, diagnostic, medical, and social care [Baranov A.A., Albitsky V.Yu., 2018; Polunina N.V. et al., 2018]. The Ministry of Health of the Republic of Uzbekistan has developed measures for the protection of mothers and children, protection and strengthening of their health. However, the health status of children living in the Aral Sea region, which is in poor environmental conditions, remains problematic. The study of the health status and resistance of children living in ecologically unfavorable conditions is relevant for a number of reasons [7]. Firstly, environmental diseases are congenital pathologies, their influence on growth and development, relapses and chronic transitional diseases, the appearance
of functional abnormalities. The incidence of more underlying diseases in children leads to a more severe underlying disease and an increase in infant mortality. Secondly, children are more sensitive to changes in the external environment due to adaptive mechanisms and age-related anatomical and physiological characteristics of the body [1,2]. In such conditions, the reserves of the child's body weaken the endless compensatory-adaptive mechanisms. In recent years, in the Aral Sea region, there has been a significant increase in somatic diseases in children of different ages, as well as a sharp increase in the impact of stress on children and a decrease in their ability to adapt. All this, together with the factors of social helplessness, serves as a fertile ground for further deterioration in children's health. Comparative analysis of data on registered diseases in school-age children shows that the incidence of children living in the Aral Sea region is higher than in other regions of the country [7]. Education in educational institutions has a significant impact on the health of children, which coincides with the period of intensive growth and child development. Systematic and long-term exposure to school environment factors accumulates and leads to various health problems [Bokareva N.A. et al., 2015; Setko I.M., Setko N.P., 2018]. The degree of influence of school factors also depends on the initial state of the child's health [Kuindzhi NN, 2016; Kalmykova V.S. et al., 2016; Zelinskaya D.I. et al., 2018]. The development and intensification of school education has exacerbated the problem of preserving the health of students [Tepper EA et al., 2014; Sukhareva L.M. et al., 2014; Baranov A.A., 2018; Shavaliev R.F., Faizullina R.A. et al., 2018]. Among children who begin regular education, the prevalence of borderline health disorders is increasing with the formation of chronic pathology in the future, therefore, the search for methods of early prenosological diagnosis and prevention of diseases is especially relevant [Baranov A.A., Albitskiy V.Yu. et al, 2011; Esaulenko I.E. et al., 2018].

**Purpose of the study**: To study the health status of primary school children living in the Aral Sea region.

**Material and methods**
We examined 600 children aged 7 to 11 years living in the city of Urgench and the Urgench district of the Khorezm region. The selection of children was carried out by the method of continuous random non-repetitive sampling. A feature of these studies is the assessment of the interaction and interdependence of the leading regulatory systems that characterize the overall status of the organism, taking into account individual indicators (physical development of children) and environmental conditions.

When collecting an anamnesis of life, attention was paid to the course of the ante- and perinatal periods (pathological course of pregnancy, the presence of acute and/or chronic diseases in the mother, taking medications during pregnancy, as well as the complicated course of childbirth: asphyxia, prolonged anhydrous period, weakness of labor; prematurity, large fetus, etc.), height and weight at birth, the features of the course of the neonatal period and the development of the child in the first year of life (dynamics of physical and psychomotor development, past diseases, neurological abnormalities) were clarified. The analysis of the child's development in subsequent years included: identification of the frequency of colds (according to the age period with the calculation of the infectious index), the presence of concomitant diseases and chronic foci of infection.

**Result and discussion**

According to the data of a retrospective analysis, we examined 600 children whose mothers had a history of grade 1-2 anemia during pregnancy, 82% - with various forms of toxicosis (65% - with early and 17% - with late toxicosis), 72% - with extragenital diseases, especially diseases of the urinary tract (cystitis, chronic pyelonephritis, dysmetabolic nephropathy).

The health of the mother and the fetus in the future, affects the growth of the development and health of the child. Particular attention is drawn to the body weight at the birth of a child, our study identified 363 (60.5%) healthy children with normal body weight (2500-3500 g), 122 (20.3%) in overweight children (4000 g and above) and 115 (19.2%) in children with insufficient body weight (1500-2500 g). 375 (62.5%) children were breastfed, 125 (20.9%) were artificially fed and 100 (16.6%) children
were mixed. In the period up to one year, 37% of children later crawled and later began to walk, 45% of children were underweight. Premorbid background conditions (anemia of varying degrees, rickets, and atopic dermatitis) were observed in 78% of children. When the children were one year old, the change in weight was normal 92% of the time. The pace of physical development in girls of 7 years old was observed to slow down in weight gain, and the increase in height during the year slows down both in boys and in girls, at 8 years old a slowdown in weight was found in both sexes, in girls, there was a slowdown in growth. At the age of nine, the girls were gaining poorly, both in weight and in height, by the age of 10, both sexes had a good increase in height, so in girls the increase in height was ahead of the boys (table number 1).

**Tab. No. 1**

**Indicators of body weight and height in children of primary school age**

<table>
<thead>
<tr>
<th>Place of residence</th>
<th>Age (years)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>boys</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>city</td>
<td>21,2±1,25</td>
<td>23,0±0,82</td>
<td>27,5±0,75*</td>
<td>29,9±2,9*</td>
</tr>
<tr>
<td>village</td>
<td>20,4±0,66</td>
<td>25,0±1,96</td>
<td>25,9±1,1</td>
<td>25,2±2,0</td>
</tr>
<tr>
<td>girls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>city</td>
<td>20,55±0,97</td>
<td>21,8±1,47</td>
<td>23,0±1,47</td>
<td>27,4±1,1*</td>
</tr>
<tr>
<td>village</td>
<td>19,0±0,99*</td>
<td>22,1±0,67</td>
<td>24,79±1,57*</td>
<td>25,5±1,29*</td>
</tr>
<tr>
<td>height (cm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>boys</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>city</td>
<td>119,2±2,0</td>
<td>119,15±2,89</td>
<td>119,7±10,4</td>
<td>131,0±2,45*</td>
</tr>
<tr>
<td>village</td>
<td>118,3±2,6</td>
<td>124,4±2,4*</td>
<td>125,5±2,4</td>
<td>124,3±3,6</td>
</tr>
<tr>
<td>girls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>city</td>
<td>48,6±0,53</td>
<td>120,3±3,8</td>
<td>130,2±4,1*</td>
<td>131,5±1,55*</td>
</tr>
<tr>
<td>village</td>
<td>48,0±0,51</td>
<td>122,92±2,21</td>
<td>122,67±2,6</td>
<td>122,8±5,36</td>
</tr>
</tbody>
</table>
* p <0.001 when comparing indicators with the first and previous measurements.

The mass-growth index (MGI) is 20.2 high in boys at 9 years old, while in girls the MRI is reduced at this age by 13.52 (tab # 2).

**Tab. No. 2**

**Mass growth index indicators**

<table>
<thead>
<tr>
<th>Place of residence</th>
<th>Age</th>
<th>MGI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>boys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>city</td>
<td>14,97±1,04</td>
<td>16,4±0,89</td>
</tr>
<tr>
<td>village</td>
<td>14,77±0,57</td>
<td>15,96±0,77</td>
</tr>
<tr>
<td>girls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>city</td>
<td>15,9±0,57</td>
<td>15,2±0,92</td>
</tr>
<tr>
<td>village</td>
<td>15,5±0,49</td>
<td>14,67±0,45</td>
</tr>
</tbody>
</table>

When comparing the physical development of children of the urban and rural population, it was determined that, in boys of 8-9 years old, the increase in growth in children of the rural population is higher than in children in the city. While in girls, this indicator, on the contrary, in the rural population, the growth of girls is lower, than city girls. At the age of 10, boys in the urban population outpaced the growth of children in the rural population. MGI distinguishes between the children of the village and the city. For boys of the rural population of 9 years, the MGI is lower than for urban children, and for girls, on the contrary, this can be seen from Table 2.

According to our research, the indicator of the level of general morbidity in children living in the city is higher than in the village, so at 9 years of age ARI (33.3%) and acute bronchitis was most common (50%). At the age of 8, recurrent bronchitis was more common in 22.6%, as well as chronic gastroduodenitis -14.3%. In children of the rural population, acute respiratory infections were less common in 17.3% than in
children of the urban population, but they were more likely to have helminthiasis (39.5%) and diseases of the genitourinary system (48.2%), such as dysmetabolic nephropathy. This study showed that children who are often ill lag far behind their peers in physical development, and out of the number of children from a relatively healthy group, they are ahead of their peers in terms of physical development.

**Conclusion**

Analyzing the above data, we came to the conclusion, that physical development is a dynamic process that characterizes the processes of growth and development of a child at the present time, which are considered as one of the main and informative criteria for the health of the child population. These indicators are the leading criterion of the health status of the younger generation and require systematic monitoring, including in the field of social and hygienic monitoring. Timely identification of deviations in physical development and their correlations increase the level of children's health, it is necessary to pay close attention to the dynamics of the physical development of schoolchildren, using all stages of prevention.

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