

ANALYSIS OF THE DYNAMICS OF THE HEALTH STATUS OF CHILDREN AND ADOLESCENTS BASED ON THE RESULTS OF DISPENSARY EXAMINATIONS IN THE ANDIJAN REGION

Minovarov Adixam Anvarovich

Department of general hygiene
Andijan State Medical Institute
Uzbekistan, Andijan

Annotation: The article discusses the health status of children and adolescents aged 7–17 years. The purpose of the study is to analyze the health status of school-age children and adolescents based on clinical examination data. According to clinical examinations, in 2018, 15,192 schoolchildren were examined, including 12,649 people aged 7 to 14 years and 2,543 people aged 15 to 17 years. In 2023, the health status of 18,708 schoolchildren was analyzed, including 14,861 people from 7 to 14 and 3,847 people from 15 to 17 years. The authors analyze the dynamics of the distribution of children into health groups, age-related characteristics of the prevalence of school-related diseases. In children of all age groups, among school-related diseases, diseases of the eye and its appendages are in first place in terms of prevalence, followed by diseases of the musculoskeletal system, nervous system and gastrointestinal tract, which tend to increase with age, including and scoliotic disorders. The percentage of healthy children who do not have manifestations of the considered school-related pathology during their schooling is decreasing. At the same time, pathological abnormalities are detected to a greater extent in adolescents aged 15–17 years.

Key words: health of children and adolescents, school-related diseases, age dynamics

Relevance. Monitoring the health status of children and adolescents, preventing the occurrence of chronic diseases and functional deviations at the stage of their education at school is a priority task facing the state [3]. Currently, a significant proportion of children and adolescents experience adverse effects on the body of various social, hygienic, psychological and technical environmental factors [1]. Due to the intensification of the educational process at school, the number of children and adolescents with health problems and in need of rehabilitation is constantly increasing [4].

Analysis of the results of clinical examinations allows us to identify age groups of children and adolescents, among whom it is necessary to strengthen preventive and therapeutic work to prevent and reduce the risk of school-related diseases [5].

Purpose of the study: Study of the health status of school-age children and adolescents based on clinical examination data.

Patients and methods: We conducted a comparative assessment of the distribution of children and adolescents into health groups and the prevalence of school-related diseases among them in 2018 and 2023. The distribution of schoolchildren into groups 7–14 and 15–17 years old is associated with the requirements imposed by the regional health department when conducting clinical examinations of schoolchildren.

According to clinical examinations, in 2018, 15,192 schoolchildren were examined, including 12,649 people aged 7 to 14 years and 2,543 people aged 15 to 17 years. In 2023, the health status of 18,708 schoolchildren was analyzed, including 14,861 people from 7 to 14 and 3,847 people from 15 to 17 years.

Statistical processing of the material was carried out using the StatSoft Statistica v.7.0 program. Comparison of groups was carried out using Fisher's test; significance of differences was accepted at $p < 0.05$.

Results: The results of the distribution of schoolchildren into health groups depending on age and year of observation are presented in Table 1.

From the data in table. Table 1 shows that with age the proportion of children with health groups 1 and 2 decreases and the proportion of schoolchildren with health groups 3 and 4 increases.

Table 1. Distribution of children and adolescents aged 7-17 years by health group in 2018 and 2023

Health group	2018		2023	
	7-14 years	15-17 years	7-14 years	15-17 years
	%	%	%	%
I	3,9*, **	3,0*, **	7,1*, **	2,7*, **
II	64,6	63,8	70,2	65,3
III	30,8	32,4	21,6	30,7
IV	0,7	0,8	0,2	0,4
V	0	0	0,9	0,9

Note: significance of differences at $p < 0.05$, * - reliability of differences in the frequency of registration of children with the 1st and 2nd health groups in one observation period, ** - reliability of differences in the frequency of registration of children with 1st and 3rd health groups in one observation period.

In 2023, in percentage terms, the number of schoolchildren aged 7–14 years with health group 1 has increased, and the proportion of children and adolescents with health group 3 has decreased compared to 2018. In addition, in 2023, children and adolescents with the fifth health group appeared. The prevalence of school-related diseases is presented in Table 2.

Table 2. Prevalence of school-related diseases in children and adolescents according to the results of clinical examination (per 1000 examined)

Diseases	2018		2023	
	7-14 years	15-17 years	7-14 years	15-17 years
	%	%	%	%
Musculoskeletal system, including scoliosis	226,0 21,0	261,0 38,0	172,0 15,0*	242,0 46,6
Pathology of the organ of vision	231,0	307,0	251,0	317,0
Gastrointestinal pathology	43,0*	81,0	29,0*	72,0
Speech defects	34,0*	2,0	27,0*	5,0
Nervous system diseases	86,0	78,0	65,0	82,0

Note* - the differences are statistically significant between the groups of children and adolescents aged 7-14 and 15-17 years of age in one observation period ($p < 0.05$).

School-related diseases are deviations in the health of children aged 7 to 17 years, provoked by educational overload, violation of the conditions of the educational process, diet and stress.

From the data in table. Table 2 shows that among children and adolescents of the analyzed age groups among school-related diseases, diseases of the eye and its appendages are in first place in terms of prevalence both in 2018 and in 2023, followed by diseases of the musculoskeletal system and nervous system and gastrointestinal tract, which tend to increase with age, including scoliotic disorders, which is confirmed by studies of other authors [6,8]. There was a decrease in speech defects in schoolchildren aged 15–17 years, compared with those aged 7–14 years.

Based on the results of dispensary examinations in 2023, 3,847 adolescents aged 15–17 years old received therapeutic and preventive measures. Data on the provision of treatment and preventive care to adolescents are presented in Table. 3.

From the data in table. Table 3 shows that in 2023, according to the results of a clinical examination, out of 3847 adolescents aged 15–17 years with vision pathology, 28.13%, including 17.03% girls and 11.1% boys, needed vision correction with glasses. Some adolescents were hospitalized in hospitals for examination, therapeutic and surgical treatment, and 4.26% of adolescents were sent to sanatorium-resort treatment.

Based on the results of the dispensary examination, all schoolchildren with other health problems were registered at the dispensary and referred for rehabilitation to specialized specialists.

The discussion of the results: This study showed that among schoolchildren of various age groups, both in 2018 and in 2023, children and adolescents with the second health group predominate. Schoolchildren with chronic diseases in the compensation stage (third health group) take second place and make up from 20 to 30% of all those examined in various age groups. The rate of absolutely healthy children and adolescents—the first health group—remains low. This dynamics is associated with increased neuropsychic stress, physical inactivity, disruption of the daily routine, nutrition, and prolonged use of gadgets both for studying school subjects and for various computer games, as evidenced by data from a number of authors. [4].

Our studies have shown that in children and adolescents, as they study at school, diseases of the organ of vision, musculoskeletal system, nervous system and gastrointestinal tract are most often detected, which tend to increase with age, including scoliotic disorders, which is confirmed by studies of other authors [3,6,9].

The results of this study confirm our earlier data on the high prevalence of school-related diseases among children and adolescents, the emergence of children with 3–5 health groups, and also indicate insufficient preventive work to minimize them. In our opinion, in order to provide medical and preventive care to schoolchildren, pediatricians at the clinic need to cooperate more closely with the Children's Health Center. In addition to identifying diseases and analyzing their prevalence in different age periods of children, the Health Center employees also carry out significant preventive work among schoolchildren and their parents, in teaching staff to introduce a healthy lifestyle in the family and prevent school-related diseases.

Taking this into account, we believe that school administrations, together with the departments of education and health care, should adopt a strategy aimed at introducing “Health-saving educational and health technologies in educational organizations,” taking into account the proposals of the country's leading hygienists [6]. And school medical workers need to regularly give speeches at school-wide parent meetings on rational nutrition, physical education and methods of preventing school-related diseases, with the involvement of specialist doctors from children's clinics.

Conclusion: The percentage of healthy children who do not have manifestations of the considered school-related pathology during their schooling is decreasing. At the same time, pathological abnormalities are detected to a greater extent in adolescents aged 15–17 years. Our results indicate the need to strengthen preventive and therapeutic care for children and adolescents from the moment they enter school, and not just during adolescence.

Medical and teaching staff in schools need to join forces to introduce health-saving educational and health technologies in schools and actively participate in joint medical and pedagogical programs for the prevention of school-related diseases, involving parents in these activities.

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