

## **Assessment of Nutrition and Importance of School Conditions to the Health of Students Studying in Urban and Rural Conditions**

**Uroкова Kamola Khamidovna**  
Bukhara State Medical Institute

**Abstract:** One of the main factors determining children's health is nutrition. During their education in secondary schools, students perform not only mental but also physical activities. During this period, students feel the need for foods with high energy value due to high energy spending. Improper organization of children's nutrition in secondary schools reduces their educability and increases the body's susceptibility to various diseases.

**Keywords:** schoolchildren, nutrition, alimentary status, illness.

The issue of protecting the health of children and adolescents and prolonging human life is a priority in the field of public policy. Harmonious growth and development, the absence of diseases in children and adolescents is seen as a way to ensure the future prosperity of the country. One of the leading factors determining children's health is said to be nutrition [1, 3, 6]. During the period of education in secondary schools, students are engaged in both mental and physical workload. During this period, students feel the need for foods with high energy value due to high energy expenditure. Students spend up to 6-8 hours a day in schools, during which it is important for students to have proper nutrition. [6] Improper organization of student nutrition in secondary schools, they leads to a decrease in the body's ability to cope with external environmental factors. Not only does malnutrition or malnutrition lead to a decrease in students' knowledge and ability to master, but it also has a negative impact on growth and health. [7, 11]

In recent years, co-morbidities among students as a result of malnutrition, including: in the first place (10-12%) various diseases of the gastrointestinal tract, followed by anemia, metabolic disorders (10-15%) [6, 8, 12].

Nowadays, special attention is paid to the study of students' diet and actual nutrition.

However, research in the field of actual nutrition and assessment of alimentary status has been conducted mainly among school students in large industrial cities [5, 8, 10] to study and evaluate the nutrition of students living in rural areas [2, 4]. In recent years, research has shown that school children are deficient in essential nutrients such as dietary fiber, minerals, and biologically valuable animal proteins [2, 3, 13]. Inadequate intake of the recommended amount of vitamins is one of the most common problems among children and adolescents [10,12,14]. Studies have shown that 60-80% of school-age children in developing countries are deficient in vitamins B1, B2, B6, niacin and folic acid, as well as fat-soluble vitamins (A, E), and up to 30% of children are deficient in ascorbic acid in their blood and urine. identified as a result of the analysis [4,5]. To date, comparative analysis of the supply of real nutrients to the body of urban and rural students is insufficient. The mechanism by which the actual nutritional supply of the body of urban and rural school students affects the functional state of major organs and systems has not been fully studied. There is a lack of information on the assessment of the quality of food used in the nutrition of urban and rural secondary school students, the content of essential

minerals and vitamins, as well as foreign chemicals. Despite the great emphasis on the organization of nutrition for school-age children, its impact on children's health remains insufficiently studied, given its regional component, although food composition, quality, presence of foreign chemicals, as well as actual nutritional supply are determined by habitat and nutrition. is a risk factor for the development of diseases. In this regard, the scientific substantiation of methodological and organizational approaches to the rationalization of nutrition of urban and rural school students in the context of monitoring the nutrition and health of students in educational institutions is important. Various studies have shown that students' diets are not sufficient to meet the physiological needs of the growing organism [6, 9, 12, 14].

Research has shown that inadequate social security in families causes students to not eat enough at home and at school. The organization of healthy eating in secondary schools contributes to maintaining and strengthening the health of the younger generation, as well as improving demographic indicators.

When analyzing the current general secondary schools operating in the Republic of Uzbekistan divided into urban and rural conditions, their total number will be 10,130 in 2021, of which 2,722 in urban areas and 7,408 in rural areas. The total number of schoolchildren in the Republic of Uzbekistan in 2021 will be 6246491, of which 3169780 boys and 3076711 girls [15].

Taking into account these circumstances, the Republic of Uzbekistan has developed a number of laws for the harmonious development of a healthy generation . In particular , in order to implement the Decree of the President of Uzbekistan dated November 10, 2020 PD-№ 4887 "On additional measures to ensure healthy nutrition " not only improve the education system, but also the optimal development and growth of children's material base, as well as improving the structure and quality of educational institutions In accordance with the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 146 on the approval of the Regulation on the Ministry of Public Education, measures are being taken to organize healthy eating in secondary schools . The above data show that proper nutrition organization is important for the healthy growth and development of children and adolescents and determines the relevance of this topic.

**The purpose of the study.** To study the role of social factors in the health of urban and rural school students and to assess specific aspects of nutrition.

**Research results and discussion.** The results of the survey conducted at the research sites showed that among students in grades 5-9 studying in secondary schools in urban and rural areas the incidence rate was found to be 1.4 times higher in urban students than in rural students. When assessing the overall morbidity structure, it was found that among urban students, the first place was taken by diseases of the upper respiratory tract, the second by eye diseases, and the third by inflammatory diseases of the gastrointestinal tract. Among the schoolchildren studying in rural areas, the first place was taken by inflammatory diseases of the intestinal tract, the second place by eye diseases, and the third place by diseases of the upper respiratory tract.

When studying the distribution of students' workload during the week, it was found that urban students had more extra learning loads, 2-3 hours of extracurricular activities, and homework reduced their nighttime sleep time from 8 hours to 6 hours. According to the analysis of questionnaires, among students, "recreation" with computer games, which are common in their free time, can lead to a violation of their sleep patterns. Taking this into account, in comparison with both cases, inactivity among urban students was found to be 87.1% higher than the norm, and 75.5% higher than the norm among rural students. This, in turn, has led to nervous system tension, rapid fatigue, increased eye disease, and consequently a weakened immune system that increases the susceptibility to upper respiratory tract diseases.

Among children and adolescents In order to prevent diseases, it is necessary to strengthen the promotion of a healthy lifestyle (HLS), its elements: proper nutrition, proper planning of the agenda, rational organization of leisure time, adherence to the rules of personal hygiene. Knowledge and adherence to HLS elements in children and adolescents is the foundation of their

healthy growth and development. One of the most important areas of a healthy lifestyle is for students to spend their free time productively.

A survey was conducted among students to determine their knowledge of some principles of a healthy lifestyle, and the results of the study are presented in Table 1.

**Table 1. Distribution of leisure time of school students surveyed, (%)**

Duration of TV viewing		
	Boys	Girls
- Up to 1 hour	24.6	38.8
- 1-2 hours	36.4	23.1
- 2-3 hours	13.4	18.7
- does not see at all	25.6	19.4
Using the phone		
- Up to 1 hour	39.5	60.0
- 1-2 hours	21.4	23.1
- 2-3 hours	22.8	25.5
- does not use at all	1.3	1.4
Walking in the fresh air		
- Up to 1 hour	19.5	13.5
- 1-2 hours	16.5	4.5
- 2-3 hours	29.4	37.6
- does not travel at all	34.6	44.4

An analysis of the data shows that the majority of students surveyed mismanaged their free time, 50% watched more than 2 hours of TV programs and movies, more than 98% used the phone, and only 1.3-1.4% of boys and girls did not use it at all. . The survey found that 55-65% of respondents walk in the fresh air and 35-45% do not walk at all. This indicates a low level of hygienic knowledge of children and adolescents, and insufficient HLS promotion in the family and in secondary schools.

Mathematical topics and identified errors in order to compare changes in mental activity during the day in urban and rural settings. At the end of the day, the study found that rural students maintained employment and the number of errors was 1.6-1.7 times lower than urban students. The analysis of students' active movements during the day revealed that rural students spent 27.2 hours a week, urban students 22.2 hours a week, and 3.8 hours a week in urban areas with exercise and outdoor activities, and 2.5 hours in urban areas. hours, which leads to an increase in their mental stress and somatic diseases, leading to an increase in the number of cases during the year. It was observed that the contribution of rural students to the landscaping of the yard and the surrounding area is 2.9-3.3 hours per week, and in urban areas it does not exceed 0.5-1 hours. It was found that rural students engaged in physical labor had a higher mood and were 1.5 times more active than urban students (Table 2).

The impact of the conditions created in the school institutions in which children and adolescents are educated is also of great importance for the healthy growth and development of children and adolescents, as they spend the most active period of growth and development in secondary schools. For this reason, in-school conditions were studied in later stages. According to the results, landscaping in urban schools has been reduced by 28%, in rural areas by 40%, for sports and moving areas in urban areas by 39%, in rural areas by 50%, in rural areas by 25% in schools, due to increased enrollment Restriction of movement of students and non-compliance of school furniture with state standards (GOST 11015-93 "Student desks" and GOST - 11016-93 "Student chairs") is 57% in urban and 75% in rural schools, including in hot conditions Insufficient ventilation of the rooms, the provision of artificial lighting sources was found to be 100% in urban schools and 75% in rural schools.

As a result of a survey of students on the diet, the following were identified. Among students studying in urban areas, the average consumption of milk and dairy products, various vegetables (except potatoes), fresh fruits is 20.2-54.7%, while students studying in rural areas eat bread and bakery products, pasta (34%), 1.2-1.3 times the norm of potato and confectionery sweets; sugar cubes 1.7; margarine 2.8; fat products up to 1.5 times more and a carbohydrate-fat diet was identified in students (compared to SRN №-2020). In the general analysis of the diet of adolescents, all of them are deficient in fish, meat, eggs, bread and flour products by 40.5% more than the norm. When asked about beverages consumed during the day, 61% said that they drink at least 1 liter of non-carbonated water, 15% of sweet-tasting juices, the rest of carbonated cola, Pepsi drinks during the day. A study of foods between meals found that 53% of students did not eat chocolate, 12% ice cream, 10% potato chips, and the rest did not eat only by chewing gum.

**Table 2. Consumption of students' staple foods (gr)**

№	Name of products	City	The village	Physiological norm SRN-2020
1	Meat and meat products ( relative to meat)	100	80	94
2	Milk and dairy products ( recalculated in relation to milk)	140	225	340
3	Eggs ( pieces )	0.5	0.8	1.0
4	Bread and bakery products ( recalculated in relation to bread)	4 00	520	385
5	Potato	175	215	155
6	Animal fat	55	155	30
7	Vegetable oil	21	19	25
8	Vegetables and melons	75	125	255
9	Fruits and berries	225	175	190
10	Sugar and confectionery ( in relation to sugar)	63	128	35

As a result of the analysis, it was observed that a lack of protein in the diet of students can lead to a decrease in the nutritional value of the foods consumed, resulting in a decrease in body weight by 18% and height by 17%.

**Conclusion.** Surveys of the social status and nutritional status of urban and rural students show an increase in the number of cases among children and adolescents, increased distribution of workloads, inactivity during the day, poor organization of leisure time, lack of outdoor travel and sleep disorders. such deficiencies were identified. With this in mind, it is recommended to organize hot meals in schools, create lesson schedules and promote the concept of a healthy lifestyle among students in order to maintain and restore the health of schoolchildren studying in urban and rural areas.

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#### **List of abbreviations**

PD - Presidential Decree

HLS-Healthy Lifestyle

GOST- Governmental Standard

SRN- Sanitary rules and norms