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HYGIENE ASSESSMENT OF LIFESTYLE FACTORS SHAPING THE HEALTH OF PRIMARY STUDENTS IN GENERAL SCHOOLS

Joraev B.X.

Master, directions of hygiene, ASMI

Abstract: This article evaluates the hygienic aspects of lifestyle factors that shape the health of primary school students in general education schools. The study was conducted with the participation of 110 students in grades 1-4 at general education school No. 26 in the Bulaqbashi district of Andijan region. During the study, physical activity, nutrition, personal hygiene, rest regimen, and sanitary and hygienic conditions of the educational environment were studied. The results showed that students do not have enough physical activity, there are inconsistencies in their nutrition, and free time is spent mainly in passive activities. The school environment and educational loads do not fully comply with hygienic standards, which negatively affects children's health. The results of the study serve as a scientific basis for developing practical recommendations for the formation of a healthy lifestyle, strengthening hygienic education, and improving the health of the school environment.

Keywords: healthy lifestyle, hygienic assessment, primary school students, physical activity, nutritional culture, personal hygiene, educational environment, health promotion, school hygiene, health factors.

ГИГИЕНИЧЕСКАЯ ОЦЕНКА ФАКТОРОВ ОБРАЗА ЖИЗНИ, ФОРМИРУЮЩИХ ЗДОРОВЬЕ УЧАЩИХСЯ НАЧАЛЬНОЙ ШКОЛЫ ОБЩЕГО ОБРАЗОВАНИЯ

Жураев Б.Х.

Магистр, направления гигиены, АГМИ

Аннотация: В данной статье оцениваются гигиенические аспекты факторов образа жизни, формирующих здоровье учащихся начальной школы общего образования. Исследование проводилось с участием 110 учащихся 1-4 классов общеобразовательной школы № 26 Булагбашинского района Андижанской области. В ходе исследования изучались физическая активность, питание, личная гигиена, режим отдыха, а также санитарно-гигиенические условия учебной среды. Результаты показали, что учащиеся недостаточно активны физически, наблюдаются несоответствия в их питании, а свободное время в основном тратится на пассивные занятия. Школьная среда и учебная нагрузка не в полной мере соответствуют гигиеническим нормам, что негативно сказывается на здоровье детей. Результаты исследования служат научной основой для разработки практических рекомендаций по формированию здорового образа жизни, укреплению гигиенического воспитания и улучшению здоровья школьной среды.

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Ключевые слова: здоровый образ жизни, гигиеническая оценка, учащиеся начальной школы, физическая активность, культура питания, личная гигиена, образовательная среда, пропаганда здорового образа жизни, школьная гигиена, факторы здоровья.

Relevance: The health of children and adolescents is one of the most important factors in the socio-economic development and national security of any state. Therefore, one of the main tasks of the health care system is to protect the health of children, teach them a healthy lifestyle and ensure their healthy development. In our country, the development of preventive measures aimed at strengthening children's health, preventing diseases and creating a healthy environment is one of the priority areas of hygiene science.

coincide with their educational period . During this period, an increase in the educational load, incomplete compliance with hygienic requirements in the classroom, and an unfavorable internal school environment have a negative impact on children's health. Insufficient provision of hygienic requirements in the internal environment of educational institutions (classrooms, lighting, ventilation, furniture, level of physical activity) is considered a risk factor for weakening children's health. In recent years, the number of scientific studies devoted to strengthening children's health, improving hygienic conditions of educational institutions, and forming a healthy lifestyle has been increasing in the Republic of Uzbekistan. In particular, the areas of teaching students to a healthy lifestyle, increasing their responsibility for health, and forming a hygienic culture are gaining urgent importance. Although many scientific studies have been conducted to study children's lifestyle, the state of the educational environment, and their physical and psychological health, there is still a lack of research on the hygienic assessment of lifestyle factors that shape the health of primary school students and their impact on the formation of a healthy lifestyle. In this regard, primary school students The issue of hygienic assessment of lifestyle factors that shape health and identification of health-promoting factors is currently of urgent scientific and practical importance.

According to the theoretical assumption of the study, if the main hygienic factors determining a healthy lifestyle — the standardization of the course load, the level of physical activity, personal hygiene skills, and nutrition — are systematically analyzed, it will be possible to determine their interaction. This will allow us to develop practical recommendations for the development of a healthy lifestyle based on hygienic assessment criteria[3].

Materials and methods: To solve the research tasks and achieve the goal, hygienic and statistical analysis methods, as well as questionnaires and social methods of analysis were used in the work.

The study was conducted among primary school students studying at secondary school No. 26 in the Bulaqbashi district of Andijan region . A total of 110 primary school students (grades 1–4) participated. Of these, 63 (57.3 %) were boys and 47 (42.7%) were girls (Diagram 1). The study examined the hygienic factors that shape students' healthy lifestyles - physical activity, nutrition, personal hygiene skills, rest regimen, and the sanitary and hygienic condition of the school environment (external and internal) .

The weekly workload of primary (1–4) grade students of secondary school No. 26 in the Bulaqbashi district of Andijan region was studied using the observation method. During the study, data on class schedules, number of lessons, duration of daily classes, and break times were

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collected and compared with the requirements of paragraphs 10.5–10.6 of the document SanQvaM (Sanitary Rules and Standards) No. 0341-16 “Sanitary and hygienic requirements for the organization of the educational process in secondary schools” approved by the Ministry of Health of the Republic of Uzbekistan on December 22, 2016 [14].

Data were also collected using a questionnaire . A total of 110 primary school students (grades 1–4) participated in the study. The questionnaire was dedicated to the topic “Hygienic assessment of lifestyle factors shaping the health of primary school students in general education schools” .The questionnaire included 51 questions about students' age, gender, family composition, academic workload, leisure time, eating habits, physical activity, personal hygiene, and sanitary and hygienic conditions of the learning environment. The questions were explained to the children in the presence of teachers and completed individually.

Results and discussion: In recent years, many international studies have examined the relationship between healthy lifestyles and the education system. For example, Smith and Hammel's study showed that developing healthy lifestyles at an early age can reduce the risk of chronic diseases throughout a person's life by up to 40% [17].

During the primary school years (7–11 years), the child's physiological and psychological development is rapid. During this period, the student's body is sensitive to external factors , and an unhealthy lifestyle can have long-term negative consequences for their health. Therefore, the correct organization of hygienic factors, i.e., the sitting position of students, the level of lighting, air exchange, cleanliness, and rational nutrition, should be under constant medical and hygienic control [8].

Physical activity is also an important component of a healthy lifestyle. According to the WHO recommendation , students aged 7–11 should engage in at least 60 minutes of physical activity per day [18]. In the experience of Finland and Canada, the introduction of movement exercises into the lesson process based on the “Active Classroom” model increased student attention by 15–20 percent [6].

Sleep hygiene is also important. According to the American Sleep Association, students need at least 9–10 hours of sleep. Lack of sleep can lead to poor concentration and irritability [1].

According to observations conducted in Uzbek schools, 35 percent of students do not get enough sleep at night [12]. The hygienic condition of the school environment is also important for health. According to the regulations of the Republic of Uzbekistan “SanQvaM 0267-09”, each student should have at least 1.25 m² of space, but this norm is often not met [13]. This leads to a decrease in attention and fatigue.

SV Averina continued this direction in her research, substantiating the importance of the combination of the educational environment and external social factors in the formation of a healthy lifestyle of primary school students. She proposed creating a healthy environment at school, monitoring the individual psycho-emotional state of students, improving leisure and nutrition conditions as the main directions. Also, Averina in her research assessed the factors of the extracurricular environment (family, media, circle of friends) as the leading components in the formation of a healthy lifestyle. This approach created a scientific basis for the development of health programs in Russia and European countries. The results of this study are as follows: 92.4 %

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of students eat hot food for lunch. Between lunch and dinner, 51.7 % of schoolchildren eat pies, pastries, and sweets, and 65.5% eat fruits. 48.1 % of students eat again in the evening after dinner, most of them do it alone, and a quarter do it with their parents. Such a diet is a risk factor for the development of digestive system diseases. The share of children of primary school age who eat meat dishes (soup, second courses) every day or several times a day is 42.2 % . Dairy products such as sour cream, cottage cheese and yogurt are present in the diet of children in 40.4 % of cases. Expensive products - fish and seafood - are consumed daily or several times by 19.1 % , several times a week by 20.1%, once a week by 35.2%, and very rarely by 26.9%. New foods such as pizza, hamburgers, Big Mac are not widespread - they are consumed by only 10.8% of students. Rye bread is the most important vegetable food in the menu of students (32.5 % and wheat bread is 46.3%). Every sixth child eats rye bread only once a week, and every ninth child eats it very rarely or not at all. Potatoes (boiled or fried) are the most consumed vegetables , and pasta is consumed less often. As a result of the assessment of the food diversity index (FDI), 7.7% of students were found to have optimal nutrition, 26.6% were found to have sufficient nutrition, 38.8% were found to have average nutrition, and 27.6% were found to have insufficient nutrition. Another important indicator is the relationship between the quality of nutrition and the level of material security of the family. Insufficient nutritional diversity is typical for families with low material security. However, even in middle-class families, 28.9 % of cases were found to have insufficient nutrition. Physical activity According to Averina's study , more than 77% of primary school students confirm the importance of physical education and sports. However, more than 30% of children exercise very little outdoors. Regular participants in sports clubs are about 60%. The most popular sports are swimming (21.3%), dancing (12.9 %), karate (8.2%), basketball (6.9%) and winter sports (7.9%). Children's physical activity is closely related to the activities of their parents: 39.2 % of mothers and 34.4% of fathers do not play sports. This leads to the widespread prevalence of a passive lifestyle in children. Most students spend their free time watching TV or playing computer games: on weekdays , 21.3 % of children watch TV for more than 3 hours, and on weekends this figure rises to 38.8%. Those who play computer games for more than 3 hours on weekends account for 25.4%, and on weekdays for 13.4%. In families with low financial security, 90.5% of children spend their free time in front of the screen, while in families with high financial security this figure is 76.3%. Correlation analysis showed that as the frequency of sports increases, the time spent in front of the TV and computer decreases. On the contrary, the more time children spend in front of the screen, the more time they spend on computer games, and their eating habits change negatively. The study also studied the emotional state of children. Students with low mood usually have poorer academic results, less desire to engage in physical education, have shortcomings in their eating habits, and express a discontented mood in their appearance . 48.2 % of children expressed satisfaction with their sports achievements , 48% rated themselves as very satisfied, and 50.8% were satisfied with their appearance. However , 10.6 % of children believe that others are stronger than them. In the study , 18.4 % of children reported that they often get upset for no reason, and 22.5% preferred to spend their free time alone. 5.8 % of children are constantly in a low mood. As for physical development , the growth and body mass indices of students did not differ significantly by school type (lyceum, gymnasium, traditional school). The percentage of students who were within the norm ranged from 81.7 % to 85.1%. When assessed according to the Kromayer-Hauschild method, 40.4 % of boys and 49.2% of girls had average physical development. Low body mass was detected in 2-3% of children, and high body mass in 10-14% of boys . Boys are more likely to be overweight than girls (39.2% versus 28.4%). The study also assessed the level of social adaptation of students. This indicator was determined by

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students' relationships with classmates, participation in team work, and active communication with teachers. According to the results, 56.7 % of students reported that they have good relationships with classmates and enjoy team work. 28.4 % of students prefer to communicate only with close friends. At the same time, 10.2 % of students noted that they cannot fully adapt to the class team and sometimes feel lonely. Differences were also observed in the way students interact with teachers: 64.5 % of students are not afraid to communicate with teachers, 22.7% hesitate before asking a question, and the remaining 12.8% of students consider it uncomfortable to directly interact with the teacher. These results show that the level of social adaptation of students is directly related to their general psycho-emotional state, and this indicator is much lower in students with low self-confidence and inactiveness. It was also found that students with a high level of social support (i.e. those who have strong relationships with their parents and friends) have a positive adaptation level 2-2.5 times higher . According to the results of the study , 6% of children fell into the low-risk group based on the sum of lifestyle factors. They had minimal risk in terms of physical activity, nutritional diversity , and dietary habits. 5.3 % of children had the maximum risk in terms of all healthy lifestyle factors. Thus, the authors developed a methodology for regular monitoring of the main factors shaping the lifestyle of primary school students.

1. A methodology for assessing lifestyle factors has been developed, which allows for the diagnosis and prediction of the health-promoting effects of children's experiences in school and out-of-school environments.
2. The educational environment of the three types of secondary schools studied was rated as optimal. The most important factors of the internal school environment were: the mode of the educational process, educational and educational conditions, and the amount of daily physical activity (17-30 points).
3. The health of primary school students deteriorates during the school years: eye diseases (myopia) increase from 3% to 8.5%, diseases of the digestive system increase from 1.7% to 2.4%, and diseases of the nervous system decrease by 3 times. The proportion of healthy people in group I decreases from 8.8 % to 1.4%, and in group II there is an increase in health from 64.7% to 86.6%. Inharmonious physical development occurs in 56.4 % of children (21.6% - underweight, 33.8% - overweight).
4. Five main factors shaping children's health were identified: the level of material support in the family, nutritional diversity, eating habits, physical activity, and the level of passive eating.
5. The preventive importance of each factor in the formation of a healthy lifestyle was determined: adverse indicators of physical activity – 7.9%, passive rest – 23.4%, relatively adequate nutrition – 58.9%, sufficient material support – 46.3%, optimal level – 25.3%, excellent level – 6.8%
6. Lifestyle levels were classified as follows: unhealthy – 5.3 % , acceptable – 88.7%, and optimally healthy – 6%.

This classification allows for improved diagnostics and individual approaches to the formation of a healthy lifestyle. Based on the studied factors , it was found that the majority of students have a moderate health risk [3].

Active learning activities play an important role in shaping the health of primary school students, as they reduce sedentary time during the learning process, increase healthy physical activity in children, and have a positive effect on overall well-being. Studies have shown

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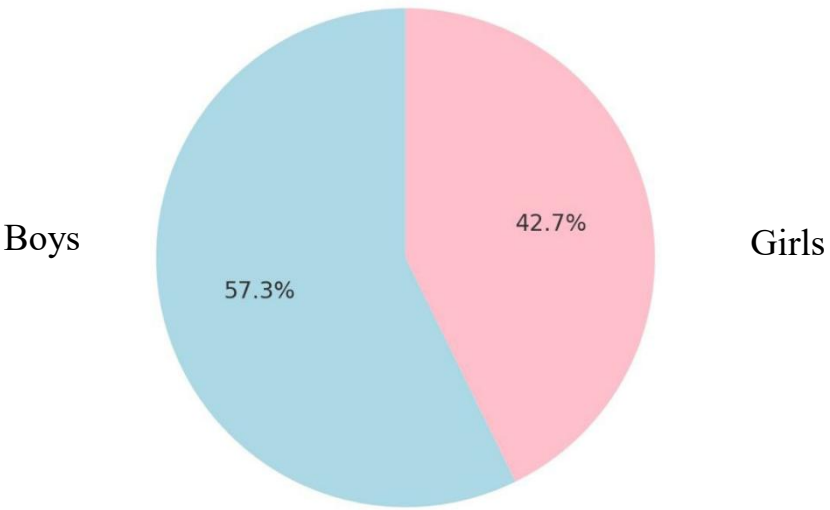
that active learning activities not only increase physical activity, but also increase students' concentration and activity levels in the lesson [16, 5, 7].

In the early 2000s, issues of school hygiene and child health in Russia began to be considered on the basis of new scientific approaches. In this direction, the study “School and Children's Health: Sanitary-Hygienic Aspects of the Educational Process” (School and Children's Health: Sanitary-Hygienic Aspects of the Educational Process) conducted under the leadership of VS Kukushkin is one of the most influential scientific sources in recent years [9]. The main goal of the study was to assess the impact of the educational environment, organization of the educational process, lighting, microclimate, seating position, lesson load, and break system on student health in secondary schools from a hygienic point of view . In this regard , the idea of “hygienic monitoring of the educational process” put forward by Rapoport IK and Nechayeva NA was also used [15]. Studies show that the most negative changes in children's health are observed precisely during the school period, that is, in the years of starting general secondary education. This is mainly due to insufficient compliance with hygienic requirements in the school environment , which increases the risk of developing chronic diseases. The internal environment of the school contains risk factors that directly affect children's health . Therefore, improving the hygienic conditions of learning in educational institutions and introducing health technologies is one of the important directions of our time. Also, the issues of developing motivation and personal responsibility in forming a positive attitude towards a healthy lifestyle have been covered in many hygienic studies. At the same time, there are many studies that study the factors of children's lifestyle, their study, rest, nutrition and physical activity regimes. However, the results of these scientific works are often not implemented in practice or systematically analyzed. [4, 10, 11, 19, 2].

In strengthening the health of primary school students, the formation of knowledge, skills and habits related to a healthy lifestyle plays an important role. Children's views on personal hygiene, nutrition, recreation and physical activity, practical habits and the level of parental control directly affect their healthy development. Therefore, we conducted a survey among students of grades 1–4 of secondary school No. 26 in the Bulaqbashi district of Andijan region to assess the factors of a healthy lifestyle from a hygienic perspective.

Diagram 1

Gender composition of primary school students



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A total of 110 students participated in the survey, of which 63 (57.3%) were boys and 47 (42.7%) were girls. The study covered primary school students aged 7 to 11. The survey was conducted to "Assess the status of adherence to a healthy lifestyle among primary school students " and included 51 questions on eating habits, sleep and rest, physical activity, personal hygiene, the learning environment at school, and parents' attitudes towards health.

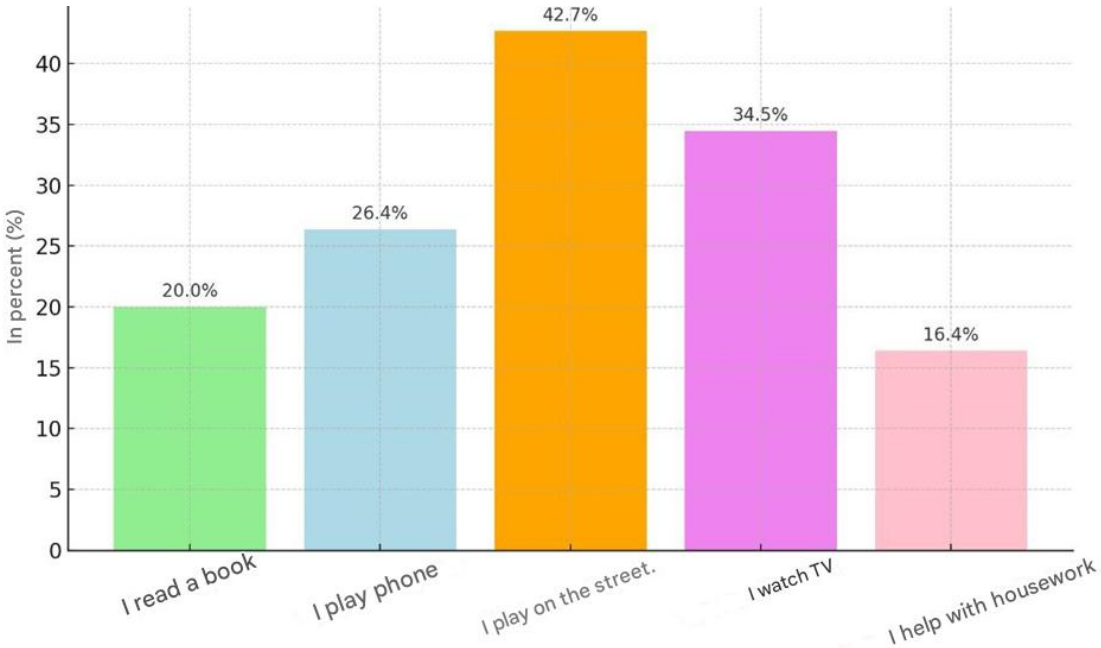
Figure 1 shows the gender composition of the 110 students who participated in the survey. Of these, 63 (57.3 %) were boys and 47 (42.7%) were girls.

Students do in their free time is one of the important indicators of a healthy lifestyle. Therefore, during the survey, the question " What do you do in your free time?" was answered as follows. 42.7% of students said that they spend their free time playing on the street, 34.5% of students said that they prefer to watch TV, and 26.4% said that they prefer to play on the phone. Only 20% of students read books, and 16.4 % said that they help with household chores.

The majority of students spend their free time in passive activities (watching TV, playing on the phone), and there is relatively little physical activity.

Diagram 2.

Free time of primary school students ("What do you do in your free time from studying?").



Question: What foods do you eat the most (Figure 3)? To this question, 35.5 % said they eat fruits and vegetables, 30% meat and fish, 23.6% bread and pasta, and 10.9% fast food.

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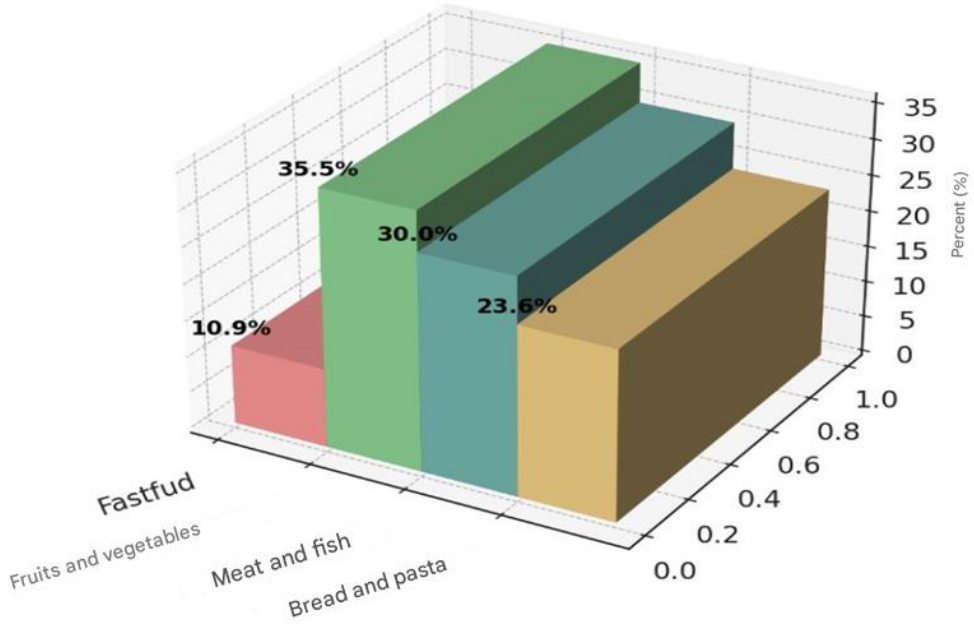
Diagram 3

What foods do you eat the most? Results of the questionnaire.



In order to determine the level of participation of students in sports clubs, 136% of them responded to the question “Do you regularly participate in sports clubs ?” 3 times a week, 25.5% 1-2 times a week, 30.9% occasionally, 17.3% previously participated, but do not participate now, and 12.7% did not participate in sports clubs at all (Table 1).

Table 1

Students were asked, “Do you regularly participate in sports clubs?”questionnaire survey result

Answers	In absolute terms	In %
More than 3 times a week	15	13.6
1-2 times a week	28	25.5
Only from time to time	34	30.9
I attended, not now.	19	17.3

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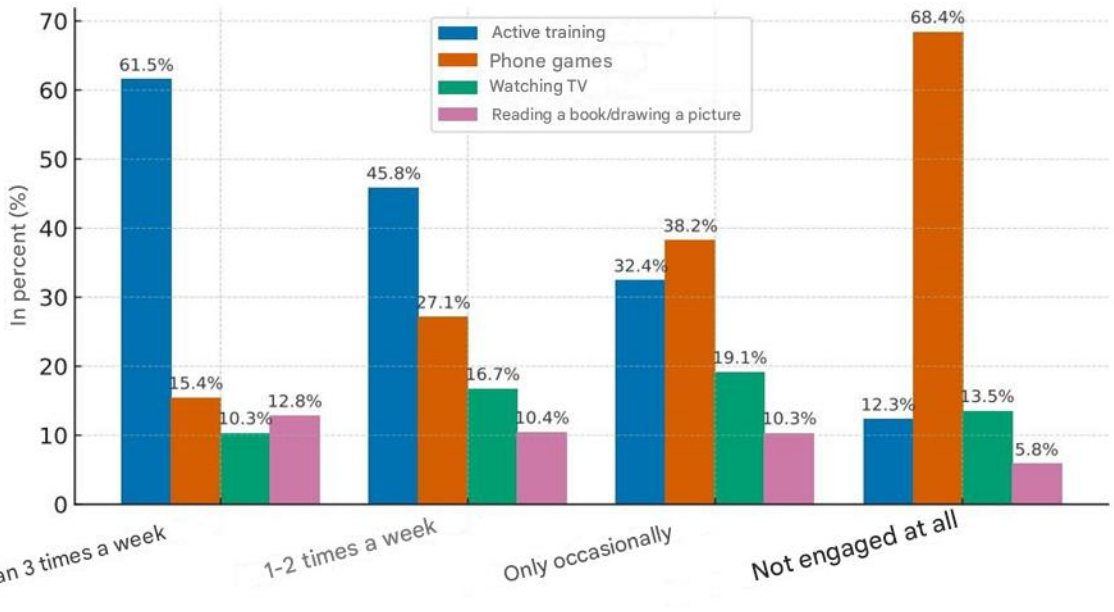
I don't participate at all.	14	12.7
Total	110	100.0

The following illustrates the relationship between the level of participation in sports clubs and the form of leisure time spent by students. The data shows that 61.5 % of students who regularly participate in sports spend their leisure time actively - sports, walking, or active games.

68.4 % of students who do not engage in sports at all reported spending their free time playing phone games. This indicates a passive lifestyle and lack of physical activity.

Diagram 4

Sports activities and leisure time habits of primary school students.



hygiene products at home ? According to the survey results, 70.9 % of students reported that they have complete hygiene products at home. 20.9 % of students noted that these products are only partially available, and 8.2% noted that they are not always available.

Question: Do your eyes or back hurt during class ? To this question, 17.3% of students said they felt pain in their eyes or back every day, while 22.7% said they felt pain often. 31.8 % of students said they felt pain only sometimes, 18.2% said they felt pain very rarely, and 10% said they felt no pain at all.

Question: What diseases do you suffer from most ? To this question, 45 (40.9%) students said that they suffer most from colds (ARVI, flu, cough). 26 (23.6%) students said that they often suffer from gastrointestinal diseases, and 18 (16.4%) said that they often suffer from allergic

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conditions (rash, nasal congestion). 12 (10.9%) students said that they suffer from eye or ear diseases (conjunctivitis, otitis), and 9 (8.2%) students answered that they do not get sick at all.

Discussion : The results of the study showed that the main hygienic factors that influence the formation of a healthy lifestyle among primary school students — nutrition, physical activity, personal hygiene, and balance of educational load — are not sufficiently provided.

According to the survey results, more than 40 percent of students reported feeling discomfort in the eye or back area during classes. This is explained by the hygienic conditions of educational work, desks and lighting fixtures that do not fully correspond to the anthropometric dimensions of the child. At the same time, the fact that the educational load exceeds hygienic standards causes fatigue and passivity in children.

The analysis showed that students who regularly participate in sports clubs have relatively good health - most of them have not been sick in the last 6 months. On the contrary, passive types of recreation (playing phone games, watching TV) prevail among students who do not play sports , which is associated with a lack of physical activity and a violation of a healthy lifestyle.

on personal hygiene showed that more than 70% of students were fully provided with hygiene products at home, but about a third had problems in this regard. This indicates the need to further strengthen hygiene education

Conclusions: In general, the conducted study confirms the relevance of hygienic approaches in assessing lifestyle factors affecting the health of primary school students. The results of the study show that the measures implemented to form a healthy lifestyle are effective, but not yet fully systematized.

One of the main problems during the study was the indifference of some students to the questionnaires and the time constraints of teachers in the data collection process. Despite this, the results obtained had analytical reliability and provided the necessary basis for hygienic assessment.

Based on the above, the following recommendations are made.

1. Aligning training workloads with hygienic standards.

The weekly workload for primary school students should not exceed 21–26 hours in accordance with the requirements of SanPiN 0341-16. The duration of classes, desk height, lighting level , and body position should be assessed based on hygienic requirements to prevent fatigue and eye and back strain in students.

2. Increase the number of after-school sports clubs.

showed that students who regularly engage in sports have lower morbidity rates and better overall physical condition . Therefore, it is recommended to increase the number of after-school sports clubs in schools, organize them in various areas (football, swimming, gymnastics, athletics, etc.), and encourage active participation of students.

3. Conduct educational activities to improve hygiene culture among students .

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on healthy lifestyles , and "Hygiene Weeks" in collaboration with parents should be held. This will help students develop a conscious attitude towards cleanliness, healthy eating, and physical activity.

4. Establishing a healthy eating system in a school setting .

School canteens and cafeterias should introduce a balanced menu appropriate to the age of children and based on hygienic requirements. The quality of breakfast and lunch should be constantly monitored, the proportion of fatty, sweet and fast foods should be reduced, and the use of vitamin-rich and natural products should be expanded.

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