

School students' posture: parents' view

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Abstract. One of the most discussed problems today is the postural hygiene of school students. The article reports the results of a questionnaire survey on perceptions and awareness about risk factors, postural health, and pro-health behaviors of children. The study aims to understand what parents know about correct posture and how they participate in the preservation of children's postural health. The results of the survey show that most parents have a correct awareness about signs of correct posture, walking, and sitting and also understand the importance of the way children wear school bags and correctly selected clothing and shoes. However, the answers to questions about children's health-oriented behavior indicate that children do not spend enough time in the fresh air outside of school and ignore outside physical education classes and morning exercises and also demonstrate a low level of parents' control of correct posture in various activities of children. At the same time, the respondents are ready to obtain knowledge and pay attention to this issue. The results of the questionnaire confirm the need to organize training and methodological support for teachers and parents in issues of disorders of the musculoskeletal system and the formation of correct posture in children.

Keywords: survey, school, health, posture.

1 Introduction

Health promotion of school-aged children is reported to be a very important issue worldwide [1-3]. Modern school environments especially in megapolis require children to sit for long periods with a lack of physical activity that causes musculoskeletal disorders. Today, incorrect school students' posture constitutes a significant social problem [4, 5].

That's why one of the most discussed problems today is the postural hygiene of school students [6-8]. One of the important topics of activity in modern school is improving knowledge about postural health with the help of educational programs among school students, their parents, and school teachers [9-13].

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Despite the relevance of the topic, we did not find any reports on such programs in recent years in Moscow schools. In this regard, as part of urban research of education, we decided to study the awareness of Moscow city parents about the issue of postural health.

The study aims to understand what parents know about correct posture and how they participate in the preservation of children’s postural health. The article reports results of a questionnaire survey on perceptions and awareness about risk factors, postural health, and pro-health behaviors of children. The data obtained show a lack of awareness among parents about the formation and maintenance of correct posture in children.

The results of the questionnaire confirm the need to organize training and methodological support for teachers and parents in issues of disorders of the musculoskeletal system and the formation of correct posture in children.

2 Methods

As part of this study, we developed a questionnaire survey for parents. The questionnaire contained closed questions about signs of correct posture, sitting at the school desk, walking, health-oriented behavior of children, risk factors in posture formation, and questions about parental control and readiness to pay attention to these issues. The survey was attended by 559 parents of school children from 108 Moscow schools. The survey was conducted between March and December 2019 using the electronic system Survey Monkey for online surveys. The questionnaire was sent to school groups of parents on social networks and was anonymous and voluntary.

3 Results

Table 1 shows the parents’ answers to the question about the signs of correct posture.

Table 1. The signs of correct posture.

Answer options	Parents’ answers, %
Head and torso in a straight position	88.9
Shoulders are at the same level	80.5
Correct walking	52.2
Chest slightly protrudes forward	35.6
Legs bent in the knees	3.9
Stomach is protruding	0.2

The largest number of parents correctly noted the straight position of the head and torso, followed by the answer “shoulders are at the same level”. At the same time, only half of the parents mentioned the sign of good posture as “correct walking”, and only a third mentioned “chest slightly protrudes forward”.

Table 2 shows the parents’ answers to the question about the signs of correct sitting at the school desk.

Table 2. The signs of correct seating at the school desk.

Answer options	Parents' answers, %
There is a space between the chest and the desk about the size of a fist	78
Legs bent at right angles in the knees, standing with the whole foot on the floor or at an obtuse angle – on the stand	72.6
Shoulders are at the same level	64.0
The back is straight and rests on the back of the chair in the area of the scapula and lumbar	62.1
Sitting occupying the entire seat	53.7
Sitting on the edge of the chair	4.8
Chest meets the edge of the table	1.3
Head lowered down	0.2

More than half of the parents chose the right signs of children correctly sitting at the school desk.

Table 3 shows the signs of correct walking noted by the parents of school children.

Table 3. The signs of correct walking.

Answer options	Parents' answers, %
The back and head in a straight position	88.6
The foot is placed straight, the heel touches the ground first	65.1
Stomach tightened	62.1
The foot is placed straight, the toe touches the ground first	17.4
Legs completely straightened in the knees	15.4
Small step	7.7
Toes are heavily spread to the outside	2.2

The majority of the parents said that when walking, the back and head must be kept straight, which is correct. However, only two-thirds of the respondents pointed to the answer options “the foot is straight when walking, with the heel touching the ground first” and “the stomach tightened”, which are also true signs of correct walking. Only 15.4% of the respondents knew that their legs must be completely straightened in the knees. The rest of the answers offered to parents reflect the wrong signs of walking. Almost a quarter of the respondents said that when walking, the toe first touches the ground and 7.7 % of parents believed that the step should be small, which is incorrect.

The next section of the questionnaire contained questions about health-oriented behavior in school children.

Table 4 shows the parents' answers to the question of whether their child walks during daylight hours if they are out of school.

Table 4. Frequency of staying outside during daylight hours.

Answer options	Parents' answers, %
Every day	44.2
Only on weekends	25.8
Every other day	20.8
Only in warm seasons	5.7
No	3.5

Less than half of the school children walked outdoors every day during daylight hours, and there was a high percentage of children who did not walk every day. It was also noted

that among modern school children, there were children who only took walks in the warm season and children who did not spend time outdoors at all. This is most likely due to the heavy workload of school children and the lack of time for rest.

When asked about children’s outdoor exercise activities, 32.6% of the parents gave an affirmative answer and 43.5% said that their children sometimes exercised in the open air, while the remaining 24% of parents gave a negative answer. Thus, one-quarter of the children did not attend outdoor physical education classes. Based on the above-mentioned, it must be stated that the number of walks and the insolation of modern school children have decreased, which adversely affects the development of their musculoskeletal system.

An equally important question that we asked parents concerned the food required to properly form the musculoskeletal system and prevent postural disorders. Parents put cottage cheese first (90.3%), followed by fish (83%), vitamin D (76.4%), fish oil (64.4%), meat (64.0%), and milk (62.3%). In other words, products for the correct formation of children’s musculoskeletal system, such as meat, milk, and fish oil, were mentioned by just over half of the parents of the total number of the respondents.

The next question in the questionnaire concerned the motor activity characteristics of modern school children “Does your child do morning exercises?” (Fig. 1).

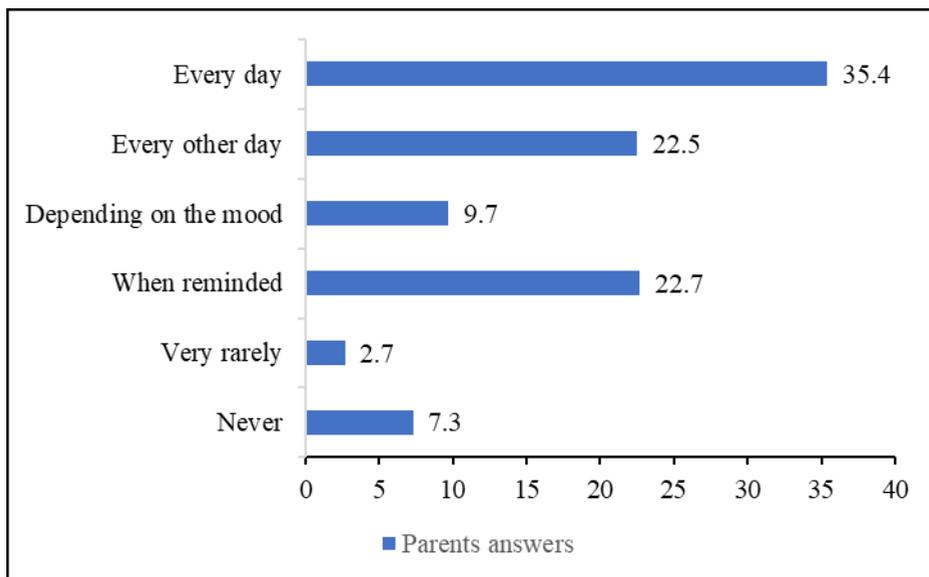


Fig. 1. Parents’ answers to the question: “Does your child do morning exercises?”

The parents’ answers in Figure 1 clearly show that only 7.3% of children did morning exercises every day, while the rest of the children either did not do them at all or rarely did them even when they were reminded by their parents. This may be due to the fact that parents underestimate the importance of exercise because they believe that their children already have enough motor activity during the day. For example, almost half of the respondents said that their children attended various sports clubs as additional education regularly.

We then asked the parents to answer questions about the risk factors that have the greatest impact on the musculoskeletal system disorders of school children, such as the weight of a school bag and the wrong clothes and shoes.

Table 5 presents the parents’ answers to the question about what school children use to carry school supplies.

Table 5. The way textbooks are carried by school children.

Answer options	Parents' answers, %
Shoulder backpack	45.8
Shoulder knapsack	38.1
Briefcase	13.2
Shoulder bag	0.9

The answers showed that the majority of the parents understood the harm that can be done to their child's health by carrying textbooks in one hand.

When asked whether parents control the weight of the knapsack/briefcase of the child, only 36.1% of the parents gave an affirmative answer, 35.3% said that they do this sometimes, and almost one-third (28.6%) gave a negative answer.

When asked about clothes and footwear that contribute to the formation and maintenance of correct posture and foot, most parents correctly pointed to clothes that do not restrict movement (78.0%), shoes with low heels (63.0%), or special supinator (70.0%). However, there were also responses indicating that wearing trainers as school replacement shoes (9.7%) or plimsoll shoes as everyday shoes (2.2%) contributes to the formation of correct posture and feet.

Further, we asked parents if they control their child's posture. The answers to this question are presented in Table 6.

Table 6. Parental supervision of maintaining the correct posture of the child in various activities.

Answer options	Parents' answers, %
Yes	46.7
Sometimes	51
No	2.3

Only half of the parents monitored the correct posture of their child, while the other half said that they sometimes monitored the posture of their child; 2.3% did not pay attention to this issue.

The results of our survey showed that most parents had a clear idea of the signs of correct posture, walking, and sitting and also understood the importance of the way children wear school bags and the right clothes and shoes.

However, the answers to the questions about children's health-oriented behavior showed that children did not spend enough time outdoors in the fresh air, did not attend outdoor physical education lessons and did not do morning exercises, did not make the right choice of food and also showed a low level of parental control over correct posture in various activities of children.

At the same time, 70% of the parents gave an affirmative answer to the question about their readiness to pay attention to the correct posture regularly.

4 Discussion

Despite the relevance of the topic of school-related postural disorders, scientific literature has not covered the issue sufficiently in recent years. The answers of 388 parents of primary school students from Poland about the posture of their children were analyzed in detail in the work done by A. Jankowicz-Szymańska, B. Nowak, and Ł. Słomsk in 2010 [14]. The authors pointed to the lack of parental awareness of postural disorders and ways to prevent and eliminate these disorders. It was noted, however, that the respondents were

ready to receive knowledge and pay attention to this issue. It was also noted that the motor activity of both parents and school children was quite low.

We are also interested in the work by N.B. Mirskaya, who ten years ago conducted a survey of 788 parents on postural disorders in Moscow school children [15]. It can be stated that since 2010, parental perceptions and awareness of musculoskeletal disorders and the formation of correct posture in children have not changed much [14, 15].

5 Conclusion

The results of the questionnaire survey of Moscow parents showed that they were not sufficiently informed about such risk factors as low levels of insolation and motor activity, the quality of nutrition, and the issues of forming and maintaining correct posture during childhood and adolescence. This has a negative impact on the musculoskeletal system as a whole and consequently leads to more serious health problems for school children.

The obtained data confirm the necessity to organize training and methodological support for teachers and parents in the issues of musculoskeletal disorders and the formation of correct posture in children, considering the current conditions in general education institutions.

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