

Professional paper

## CAUSES OF IMPROPER BODY POSTURE IN CHILDREN AND POSSIBILITY OF PREVENTION

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**Abstract:** The modern way of life, which is characterized by insufficient movement, most often leads to poor posture. Children and young people exercise less and less and spend more and more time in passive sitting and lying positions. Such habits take them away from their natural needs for movement (hypokinesia) and significantly reduce most of their physical and functional abilities. The question is why do so many children sit with such poor posture? Habit is one of the main reasons, but not the only factor of poor posture when sitting. The article especially discusses the environment factors that may indicate the causes of improper posture, and occur during school: several hours of sitting in school desks, a large number of classes, short breaks, dysfunctional and inadequate classroom furniture, insufficient lighting of the work surface, heavy school bags and improper way of carrying one. Due to the influence of various factors: family, preschools, schools, and others in the formation of proper posture, it is necessary to create a system of preventative measures from an early age, which includes educating children. Prevention not only affects school success but also changes the attitude towards oneself, peers, and other people, which contributes to the development of positive traits and characteristics of the person and their successful socialization.

**Keywords:** *causes of improper posture, children, prevention*

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## INTRODUCTION

The biggest changes in a child's life take place in the period when they start school. From a carefree period, full of play and movement, a child undergoes a regime of school life: long sitting at a desk, doing homework, studying - which incomparably more mobilizes their mind and requires them to adapt changes in lifestyle. This transition from play to school work, from free and versatile activity to simple intellectual activity, sometimes has a bad effect on a child's development, especially on the posture of a pupil's body. It is a period of relatively fast growth when a much more active life would suit the child, and it is very difficult for them to keep up with the necessary school discipline.

Posture in children and young people is a global and always current problem of all countries in the world, causing great interest of both domestic and foreign experts from various fields. In the paper "*Review of domestic and foreign research in the field of postural disorders - from 2000 to 2007*", Purenović (2007) compares the methodology of work and research results in the field of posture, between studies of domestic and foreign authors. The research covered 50 studies (25 domestic and 25 foreign). Comparing the results of the studies, which examined poor posture, the following is observed: in case of children aged 7-10, lordotic poor posture is more present in children from Brazil (57.25%) (Penha et al., 2005, according to: Purenović, 2007), than in children from Serbia (33.5%) (Milenković et al., 2003, according to: Purenović, 2007), and when it comes to kyphotic poor posture, the situation is the opposite – Serbian children have more problems with this disorder of the spinal column in the sagittal plane (51.4%) (Milenković et al., 2003, according to: Purenović, 2007), than children from Brazil (33.75%) (Penha et al., 2005, according to: Purenović, 2007). Foreign authors have paid attention to improper posture (scoliosis) in athletes. Studies conducted on the domestic population on a sample of primary school students, conducted in foreign studies, indicate the following data: lordotic posture have children aged 7 years - 55%, 8 years - 61%, 9 years - 51%, 10 years - 61% , while kyphotic posture is represented in children aged 7 years - 21%, 8 years - 27%, 9 years - 45%, 10 years - 42% (Penha et al., 2005, according to: Purenović, 2007). Bogdanović (2005) and Purenović (2006) find a connection between the way of carrying a school bag and posture - kyphotic poor posture is most present in children who carry the bag on both shoulders.

Foreign authors have dealt more with the harmful effects of school bag weight and concluded that it has a negative impact on the work of the respiratory system (Chow et al., 2005) and on the occurrence of back pain (Korovessis et al., 2004). Domestic and foreign authors have reached the same

conclusion: the dominance of the one hand, in fact greater engagement of the one hand, is associated with scoliotic posture (Milenković et al., 2004; Grivas et al., 2006, according to: Purenović, 2007).

A review of the results of numerous previous studies points to the need to further develop appropriate multidisciplinary and interdisciplinary approaches in relation to the problem area: the formation of the correct posture of children of younger school age.

## CAUSES OF IMPROPER BODY POSITION

The high percentage of children's improper posture has encouraged several researchers to determine the causes of this mass phenomenon. The causes that can directly or indirectly affect the disruption of proper posture can be classified into several groups. The most common causes of poor posture are divided into congenital and acquired, intrinsic (endogenous) and extrinsic (exogenous) (Kosinac, 1998). Since the study space is related to motor skills and movement, as a basic tool in physical education, attention will be focused on the external causes of improper posture of children. All those factors that condition human nature play an important role in this: bio-typological, psychological, environmental, and and they can indicate the causes of poor posture in children. In children, a special role in the development of improper posture can be played by static disorders and various bad habits that children adopt and that should be resolutely fought against, which can be called intrinsic environmental factors (Kosinac, 1998). One of the environments that affects a child's development is its school. In this paper, we will describe only those that occur during at school age:

- several hours of sitting at school desks,
- a large number of classes,
- short breaks,
- dysfunctional and unadapted classroom furniture,
- insufficient lighting of the work surface,
- school bag weight
- improper way of carrying a school bag.

The most common occurrence of poor posture in children is due to the weakness of certain muscle groups of the tonostatic musculature, namely: neck and trunk extensors, shoulder girdle muscles, thigh and lower leg extensors, and foot muscles. Hypotonia of the tonostatic muscles has a detrimental effect on maintaining a normal upright posture, because the weakening of these muscles, for any reason, leads to a disorder of "good posture" - an upright posture. This phenomenon can be explained in two aspects. This is the period when the child, when going to school, is exposed to an increased

stato-dynamic load - prolonged sitting at a school desk, writing in a bent position, carrying heavy school bags. On the other hand, children are focused on improving the fine motor skills of the distal parts of the upper extremities, on the function of the hand to improve writing, and there is a certain redistribution of basic and action tone (Kosinac, 1998).

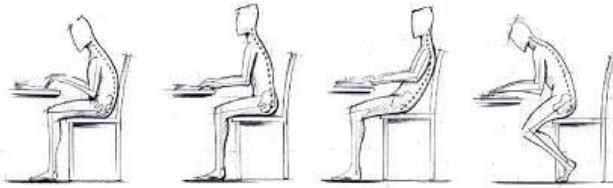
Today's urban child is increasingly replacing free play and natural forms of movement with sedentary or indoor activities. As a consequence of psychosomatic stress and emotional adaptation during longer sedentary activities, various subjective difficulties appear over time, so school results are often not in line with expectations. The question is why do so many students sit in such poor posture? Habit is one of the main reasons, but not the only factor of poor posture when sitting. After sitting with a bent spine for many years, the body gets used to such a position. Namely, research shows that sitting alone is not so much hard work as the activity of muscles that must maintain the required position when sitting (Kosinac, 1998). Children need the ability to achieve a dynamic and active body position while sitting. In that sense, teachers should not interpret this as "fidgeting in class". The problem becomes even bigger due to external factors such as: the needs of each classroom, which is attended daily by several classes of different age groups. The sitting positions that children occupy are often incorrect, because classroom furniture in many cases does not correspond to the age of the children, and they are forced to occupy such positions.

The student sits at school or at home on inadequate chairs, benches, and writes on a table that is not adapted to their anthropometric features and body structure. Depending on the students' age, in the first three classes they can, in principle, sit properly and generally follow the lessons with interest. It becomes critical after the third hour, as a consequence of mental and physical intolerance to prolonged static loads. Mental and physical disorders such as fatigue, decreased concentration, pain in the head, neck and back, decreased precision and coordination are often the results of prolonged incorrect sitting positions (Kosinac, 1998).

A good sitting position implies a position when the body is upright or slightly tilted forward, the head is properly raised and thus stimulates light and constant tension of other muscles of the spine and short muscles of the neck. The upper and lower limbs are in a symmetrical position, the feet are placed parallel and the entire surface rests on the floor. This position provides the best distance of the eyes from the reading surface and less fatigue (Kosinac, 1998).

Research confirms that the problem and inconsistency of anthropometric values of students of a certain age with the dimensions of the school chair are closely related to the poor posture of students, which causes fatigue (Domljan et al. 2005). There are several incorrect sitting positions that students consciously or unconsciously take while writing or studying.

**Figure 1.** *Incorrect sitting*



(Taken from: Domljan, Jazbec, Bogner, 2005)

The incorrect position of the head, which hangs forward emphatically or is bent to one side, is very common for students when they are doing homework or studying. A more severe form of incorrect sitting is when one leg is bent or stretched without a firm support on the ground and one arm is stretched forward or to the side, which leads to multiple curvatures of the spine. One of the frequent irregular sitting positions in students is the so-called "Low seating" in a chair while reading or watching TV. A feature of this position is the bending of the whole body with the head relaxed and protruding forward and down. The legs are stretched without firm support on the ground. Maintaining this incorrect sitting position becomes a bad habit, which over time grows into a kyphotic posture (Domljan et al., 2005).

The sitting positions that children take during classes and at home are very diverse and, unfortunately, often irregular. In many cases, school furniture does not correspond to the height and age of the children, so they are forced to take incorrect positions. Inadequate height and distance of the desk on which there are writing utensils, notebooks, books, force children to sit in an incorrect position for more than 4 times for 30-45 minutes during the day (Grbac and Domljan, 2007).

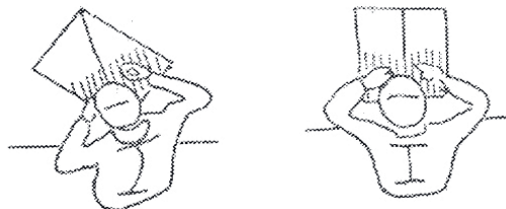
A very common position that children occupy in one of the sitting positions (Figure 1) can be described as follows: the head with the neck is moved forward and bent towards the notebook, book, etc., which exposes it to the stronger action of gravity. In this way, the tonic muscles of the head and neck are burdened. Their longer retention in this position leads to muscle fatigue and a more passive position of the normal physiological curve of the dorsal part of the spine. Accustomed to such a sitting position, a student maintains it while standing and throughout daily activities. The upper segments: head, neck, shoulders, chest and arms that are pulled forward, with their weight further emphasize the back curve (Jeričević, 1969). All this leads to an uneven load on the feet, and the common and accompanying occurrence of poor postures is flat feet.

There are other ways of sitting that also have a negative effect on the positions of the upper body segments. When observing students sitting at a school desk, it can be noticed that they often keep their right hand on the

desk, and the left one slightly lower (Figure 2). This position of the arms follows the spinal column, bending towards the right arm, which is on a higher plane in relation to the left arm. Due to such a position of the spine and uneven level of the shoulders, the head is tilted towards the left side and in that way, the curvature of the spinal column is emphasized. This retention of poor posture in other school and daily activities leads to the head being slightly bent to the side in a standing position, to asymmetry in the shoulder-scapular girdle, asymmetry in the area covered by the arms when they are casually relaxed across the body, chest and pelvis, and gluteal asymmetry regions (Jeričević, 1969). The correction of the scoliotic posture is much more difficult in relation to the mentioned kyphotic and lordotic posture of the body because there is an asymmetry of the muscle tone of one half of the body in relation to the other.

Incorrect sitting position, especially in students of younger school age, can be risky because, at that age, bones and muscles are very susceptible to changes that can quickly and easily take a pathological form of the posture. Any position in which a student has to be for a long time, causes fatigue. By changing the position and posture, the student tries to eliminate the feeling of fatigue. For elementary school students, furniture design is very important, and in the last few decades, experts are in charge of designing it. However, the fact is that students can sit badly in bad desks, but also sit well in badly designed furniture.

**Figure 2.** *Forms of poor posture during schoolwork and homework*

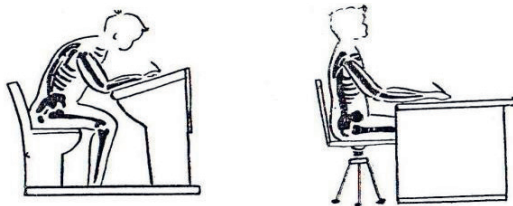


(Taken from: Jeričević, 1969)

One of the conditions for the proper development of the body, primarily the spine, is changing the position of the body and limbs. When sitting, a person has a labile balance, so it is more comfortable to sit if a part of the body leans against the back of the seat. If the lumbar part of the spine leans against the backrest, minimal muscular strength is needed for sitting, the chest is straight, breathing is calm, and the organs of the abdominal cavity are not suppressed. Proper sitting largely depends on the size and shape of the furniture, the seat should follow the shape and size of the thigh and pelvis. If the position of the neck is upright, the neck and back muscles are the least tired (Cekuš, 1996).

The most important part of classroom furniture that has a great influence on the correct sitting position is the chair and the desk. The furniture should be adequate for the posture of the body that corresponds to reading or writing. The height of the table and chairs should be in accordance with the height of the student, the edges should be rounded, and the height of the seat should be variable. The optimal seat height should be 28% of the body height. When a student is sitting, their feet should lie on the ground and most of their thighs should be placed on the seat. Seat depth is the distance from the edge of the seat to the backrest and should be 20% of the body height. This depth of the seat provides wider support for the body and unimpeded blood circulation in the lower extremities. The slight tilt of the seat backward also prevents the body from slipping. The backrest should be slightly tilted backward by 10-15 degrees and follow the curve of the spine. If the distance from the backrest to the counter is large, the student cannot lean back and bend forward and a poor posture emerges. The backrest distance from the counter should be 17% of the body height and it changes when sitting and getting up. What position the student will take when sitting or standing depends on the *distance of the desk*, which represents the distance between the vertical lowered from the front edge of the desk and the front edge of the seat. Negative distance is favorable for writing and reading when the seat is slightly underlined under the table because the student can lean on the backrest. Positive distance is justified only when getting up and standing at a desk because the torso bends a lot, which leads to fatigue. *Good differentiation* means that the elbows, as well as both forearms, are at the height of the front edge of the table and that in this position the shoulders are neither lowered nor raised (Figure 3b). A student sits correctly if their eyes are 30 cm away from the table surface when writing or reading. The most suitable difference is 17% of female student's body height, and 16% of male students' body height (Cekuš, 1996).

**Figure 3.** a) *Poor posture of students* b) *Correct posture of students' bodies*



(Taken from: Cekuš, 1996)

In addition to the positive consequences of the introduction of information technology, the negative consequences of these media on the health of children are increasingly noticeable. If the body spends a long period in one sedentary position, a certain group of muscles is constantly active, to keep the

body in that position. Over time, these muscles get tired because they do not have the opportunity to rest and relax. The application of new technologies - computers, implies longer time spent in a sedentary position, during which the child gradually develops a kyphotic posture as a consequence of the constant tension of certain muscles.

Proper sitting position behind the computer means that the spine is straight, the neck is straight in extension, and the arms are properly bent at the elbows. The lower back rests on the chair, the hips, and the body; the body and the knees are at a 90-degree angle while the feet are on the ground. Dynamic sitting supported by individually adjustable chairs provides children and young people with greater balance between body posture and mental activity (Figure 4b) (Kosinac, 1998).

**Figure 4.** a) *Incorrect sitting* b) *Correct sitting*



(Retrieved from: Kosinac, 1998)

The prolonged strain on the organs of sight when reading, writing, drawing, looking at the blackboard, prolonged TV watching and working on the computer, incorrect sitting and holding the head, tire the muscles - the eye movers. The fact is that about 90% of impressions from the external environment is received through the organs of sight. The frequency of wearing a corrective aid, glasses ranges from 20-35% (Kosinac, 1998). In order to establish or maintain active communication with the environment, the student accommodates the lens, while moving certain parts of the body, and often takes an incorrect sitting position. Preventative action would consist of choosing a proper place in the classroom so that the short-sighted students are closer to the board and the table and the far-sighted ones are further away from the board or the TV. Unlike visually impaired students, those who have hearing difficulties are not noticed immediately. If the damage does not affect both hearing organs, the student often turns their head towards the sound source, changing the position of the body - sitting, which is usually incorrect.

It can be concluded that repeated incorrect sitting leads to poor posture and, over time, to spinal deformities. The arguments presented in this way can be described by the scheme: fatigue supports the burden on the muscles, this intensifies incorrect sitting position, which causes a large burden on the muscles. In this way, a poor posture is formed (Kosinac, 1998).

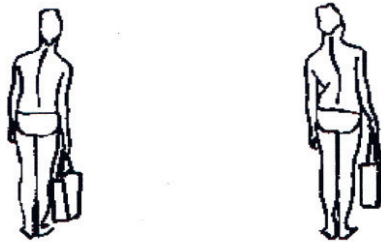


Incorrect sitting, standing, carrying (too) heavy school bags, inadequate bed and sleeping pillow, various forms of movement activities, as well as certain endogenous factors, systematically act on the spinal column, burdening the spine. Cumulative action through repetitive and long-lasting positions and movements leads to shortening or weakening of certain muscles, leading to muscle imbalance, which is the primary factor for the appearance of poor posture and the development of body deformities. Incorrect sitting and school bags are considered to be largely related to the occurrence of poor posture. Various factors are listed, such as age and gender, fatigue, load time, weight, shape, and manner of carrying a school bag, asymmetric load, emotional conditions, etc. (Kosinac, 2004).

Children can often be seen carrying large or too heavy school bags in their hands or on their shoulders because parents and teachers do not pay enough attention to the fact that a heavy and incorrectly carried bag can affect proper posture and stimulate the development of spinal deformities.

Students carry school bags passively or actively. Considering the weight, size, shape, age of the child, there are several different ways of wearing the same: in one arm, on the back, on one shoulder, over the shoulder, and on the opposite side. When a bag is carried in one hand or on one shoulder, we are talking about passive carrying of a school bag. Then, one shoulder is lowered in relation to the other and in relation to the anatomical structure and constitution. Over time, a larger number of students can form a poor posture of the body, primarily in the frontal plane (Figure 5a). Actively carrying the bag implies that both shoulders are in the same plane (Figure 5b) (Kosinac, 1996).

**Figure 5.** *a) Carrying a bag passively in one hand*  
*b) Carrying a bag actively in one hand*



(Retrieved from: Kosinac, 1996)

Students often carry a bag on their back (Figure 6a). To establish balance, the body and the head are bent forward, because the weight of the school bag pulls the upper part of the body back and down. If the school bag is carried in this way for a long time, the back, chest and shoulder muscles get tired,

which makes it difficult to breathe. If the bag is not tightened enough and is close to the body, lordotic posture occurs, because the school bag hangs deep down the back. From a biomechanical point of view, carrying a bag over the shoulder or on the opposite hip is the most acceptable (Figure 6b). The force of gravity in this way of carrying the bag does not burden both hips the same, but this action is more acceptable in relation to the previously mentioned examples (Kosinac, 1996).

**Figure 6.** *a) Carrying the bag on the back*  
*b) Carrying the bag over the shoulder and the opposite hip*



(Retrieved from: Kosinac, 1996)

The results of the research of Kosinac in 1976, 1986, and 1996, who, by inspecting school bags on a sample of 24 primary school students and a sample of 480 male and female students from I to VIII grade of elementary school in Split, determined the optimal weight of school bags that can serve to students, parents, teachers, school bag manufacturers as a preventative measure in combating poor posture (Kosinac, 1996). A useful preventative measure is a requirement that a school bag does not exceed the weight of 2 kg, which parents and teachers of primary school children need to respect and this can prevent the occurrence of poor posture. Therefore, early detection and preventative measures are of great importance. With prevention, we not only influence the success in teaching but also change the attitude towards ourselves, peers, and other people, which contributes to the development of positive traits and characteristics of a person and its successful socialization.

## **PREVENTION OF IMPROPER POSTURE OF CHILDREN'S BODIES**

In the prevention of improper posture, it is important to influence the constant proper posture in everyday life activities: sitting, lying down, walking. All these measures alone are not enough if a child does not engage in

enough physical activity. The personal example of educators, teachers, and parents can arouse a child's desire for identification and encourage them to build a personal feeling and the habit of holding the body properly. Above all, it is necessary to ensure a child's completely free development and to develop a sense of proper posture.

The role of parents, teachers, and physical education teachers is of special importance. Teachers can prevent poor body posture with selected exercises during physical education classes. The role of the teacher would be reflected in pointing out to children and parents the importance of proper posture when sitting, standing, and giving instructions and explanations on how and why to take care of the proper carrying of a school bag and what the possible consequences are.

In the system of physical education, the factors that directly or indirectly affect the prevention of improper posture are (Kosinac, 1997):

- systematic monitoring and control of the growth and development of children for whom we determine changes in body posture;
- adequate choice of exercises and activities for a certain age;
- proper performance of elementary and complex motor tasks, ensuring proper motor movement control;
- permanent professional training of teaching staff (assessment of posture and the possibility of preventing improper posture);
- expertise and consistency in implementation and
- absolute responsibility for children's health.

*Prevention of improper posture of children includes the following* (Kosinac, 1997; Domljan and Grbac, 2003):

- Considering that one of the causes of poor posture is a child's sitting position, it is necessary that teachers are familiar with this. They should be warned to pay attention to the posture of students during classes. This will reduce the number of students with poor posture during schooling.
- Parents are also very important collaborators, who will control and correct the positions of body segments at home while a child is studying or performing other activities. In that way, children will be controlled all day, which is certainly useful for prevention and correction.
- Students spend a significant part of their school time sitting at a desk, or doing homework at home. That is why it is necessary to continuously monitor the way of sitting and work on the formation of the correct posture, to get children used to taking such a posture that will cause the least fatigue.
- To achieve an optimal position without harmful movements of other parts of the body, it is necessary to have the surface of the desk on which the student writes slightly inclined - like a reading stand.

- Furniture in everyday use must be in accordance with medical requirements, but also biological, anatomical, psychological, sociological, or emotional characteristics of students with regard to the spine as a pillar of the body. The dimensions of the furniture in the classrooms should follow the anthropometric changes of the students. Because in the last few decades the height of children of the same age is increasing, the average height of children aged 7 to 10 has increased by an average of 5-7 cm, while the height of children from 11 to 14 years of age has increased by as much as 7-10 cm (Domljan and Grbac, 2003). The staff at school should also be acquainted with the data obtained during the measurement of students at systematic examinations because in that way they can have an insight into the anthropometric changes of students when making a decision on the purchase of furniture of certain dimensions. The furniture should be maximally adjusted to the child's position in the school desk and anthropometric dimensions with regard to age (Domljan and Grbac, 2002).
- The most important factor in forming the correct posture of students is knowing how to sit. It is necessary to point out the importance of a child's growth and development, their body height, and posture when sitting. Prevention also includes education on how to sit at a school desk and how to hold one's body when writing, reading, and following classes.
- It is necessary that the school, pedagogues, teachers, textbook authors, and manufacturers of classroom equipment, and other experts keep in mind the contents and weight of the school bag.
- Propaganda-educational action of school bag manufacturers is one of the possible forms of preventative action: demonstrations, leaflets on how to properly carry a school bag would be of use to children, parents, and teachers.
- One of the preventative measures would be that students leave textbooks and notebooks at school in lockers provided for that purpose. If a school bag must be carried, it is necessary to keep in mind that only those didactic materials that are provided according to the daily schedule are carried in the school bag. The weight of the bag, which would be about 2-3 kg, is a tolerable load that would not cause negative effects on the proper posture of a student's body (10% of the child's body weight). If a first-grader weighs 20 kg, the bag must not weigh more than 2 kg.
- One of the important preventative measures for relieving the spine is to create a habit in students that there is room in the school bag only for the didactic material that will be used at school that day. The role

- of parents is great in creating this habit, so they must be active participants in it, especially in case of younger students.
- The following preventative procedures can be performed: when walking, it is necessary to change the load of the bag from one shoulder or arm to the other. Exercises for strengthening the back muscles and abdominal muscles have a very favorable effect on the suppression of poor posture (Kosinac, 1997). Tired muscles can be relieved and recovered if a small rest with a delayed bag is practiced.
  - Purposeful shaping and breathing exercises lasting 10-15 minutes a day can ensure proper sitting of students is realized.
  - Walking exercises and visual self-control of children in front of the mirror have a very great motivating effect, which engages their attention in correcting the position of certain body segments to eliminate bad habits.
  - One of the ways of preventive measures is a good use of the comparative advantage of music and dance. In the formation of proper posture in addition to abdominal breathing in front of a mirror with counting and music, dancing is also useful in many ways as a means of encouraging proper, harmonious, and correct posture in children.
  - Irregular appearance, muscle tension, and sore back can be overcome through adequate muscle exercise and posture. The effectiveness of exercises for strengthening the deep back muscles and abdominal muscles is very high in combating poor posture.
  - The possibility of preventative actions can be expanded by giving homework. In these cases, the role of the physical education teacher is very important, who, by determining the status of the posture, in cooperation with the parents and the teacher, can contribute to the prevention of poor posture. The function of homework is great, the execution of homework is controlled by the teacher at school based on the achieved success, and parents are obliged to create conditions for work at home and to control children in doing their PE homework.

## CONCLUSIONS

A large number of authors in our country and the world have been engaged in research into the poor posture of school children of younger and older school-age, both in their identification and in their prevention and elimination. Based on the obtained results of this researches, it is concluded that the percentage of children of younger and older school-age with poor posture is very high. The researchers looked for causes that contribute to the disruption of proper posture and the critical period of the beginning of the creation of

conditions for the appearance of improper posture. The negative influences of certain endogenous and exogenous factors that contribute to the development of poor posture, as well as the age suitable for acquiring bad habits, and the occurrence of poor posture, are quite certain. Proper posture is less and less taking present in children's daily activities. One of the primary preconditions for poor posture is insufficient movement. Automation and computerization in all spheres of life lead to hyperkinesia. Accordingly, it is necessary to provide conditions and motivate children to physical activity, because this positive habit is most easily adopted at younger school age. Due to the influence of various factors: families, preschools, schools, and others in the formation of proper posture, it is necessary to create a system of preventative measures from an early age, which includes educational work with children. In that sense, it is suggested to parents, educators, teachers, pedagogues, and psychologists to work patiently and persistently with children on consciously creating the habit of maintaining proper posture.

Early acquired knowledge about the importance of physical exercise, as well as the adoption of the habit of regular physical exercise, significantly contribute to the quality of health during childhood and represent the basis for the formation of proper posture. Physical exercise is a powerful means of preventing poor posture. All the famous ancient philosophers advocated basically humanistic ideas of the need for a harmonious development of the personality, of the symbiosis of body and spirit. From ancient China and India, Assyria and Persia, Sumerian and Cretan-Mycenaean culture to Athens and Rome, in addition to the formation of certain human virtues, physical exercise is an integral part of education. The thoughts of Confucius, Homer, Socrates, Plato, and Aristotle could be summarized in the message that human health and formation are necessarily related to muscle activity. "Numerous works by thinkers and pedagogues, especially Jean-Jacques Rousseau, emphasize the need for harmonious personality development and the importance of the exercise process for optimal and harmonious human development, believing that "it is important that your body exercises" and that exercise achieves educational components and aesthetic, emotional and moral values" (Dedaj, 2011, 346).

It can be concluded that the complexity of educational work in general, and especially the specifics and complexity of work in the characteristic area of physical education, imposes the need for a different approach to the student. This includes, in addition to cooperation with parents, which should be part of the development plan of each school, an individualized approach to the student, taking into account their needs, interests, and abilities in general. Therefore, it is necessary to conceptualize the contents of physical education in such a way that the student sees a point in it, its value, finds pleasure in exercising, and in that way, they will be motivated to exercise and develop their

motor skills. Then, poor posture will not occur. It is necessary to motivate students to take an active part in a personally beneficial activity and patiently build positive attitudes towards exercise.

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