

Postural defects correction in the process of physical education and sport

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Abstracts.

Postural defects are the real blight of the contemporary world. The scientific research has shown that the more inactive and sedentary lifestyle one leads, the faster their muscular system becomes dysfunctional. It also loses the ability of active spinal stabilization, which results in postural defects, a serious 21st century problem among young generation. Postural defects are believed to be caused by the lack of physical activity. Undoubtedly, physical education and sport play an important role in prevention and correction of poor posture as in this way particular body systems are affected, which consequently can lead to the elimination of postural defects or at least to their reduction. The objective of the article is to justify the need for corrective exercise during physical education classes as well as to show the role of sport and physical activity in maintaining good body posture and in correcting the existing defects.

Keywords: physical education, physical education objectives, postural defect, postural defect correction

INTRODUCTION

One of the current problems affecting our civilization is poor posture in children and adolescents. Postural defects may be caused by physical inactivity, constant rush and parents' stress, and living in a computerized world. Both the civilization progress and higher and higher standards of living contribute to physical inactivity, which results in a low physical fitness and breaking with the tradition of doing sports. Sedentary lifestyle raises the risk of the incidence of postural disorders, which leads to the occurrence of postural defects. The analysis of test screening from 2002 and 2005 showed a growing proportion of children and adolescents with postural defects and scolioses [1,2]. Moreover, the Polsat Foundation programme "Prosto do Europy" ('Straight to Europe') developed for screening tests among children aged 6-14 showed, after having examined 23 888 children, an enormous proportion of children with postural defects in the age group [3]. Therefore, the problem of postural defects and spinal curvatures is spreading with high intensity, which stresses the necessity for prophylactics and corrective exercise among children as well as to satisfy proper conditions for postural deviation elimination.

Undoubtedly, one of the main causes of postural defects is the lack of sport and physical activity. In pre-school and early school education a child needs a great dose of movement while sedentary lifestyle becomes harmful for a young organism. That is way, it is extremely important for the teachers to emphasize the role of physical education and sport to the children as a way to fight the postural defects problem.

According to contemporary knowledge of the human body, systematic physical activity improves health as well as influences the length and quality of life. Physical exercise strengthens the body and influences the changes in the body systems. In the locomotor system, physical activity affects skeletal mineralization and growing bones in children and adolescents, strengthens and stabilizes the joints, strengthens tendon and ligament attachment, increases the cross-section and volume of the muscle fibres, increases the tension, elasticity and muscle strength. In the respiratory system, physical activity contributes to an increase in lung capacities and in this way to an increase in breathing depth. Activity also positively affects the nervous system through stimulating the process of maturing the motor areas in the brain which contributes to the development of the locomotor skills. Moreover, an improvement in nerve impulses conduction and locomotor coordination is observed. All the above-mentioned factors prevent postural defects and play a great role in postural defects correction. The strong relation between physical activity and health shows that exercise is essential for the proper functioning of the body while its lack may cause numerous disorders and disease.

At an early age, exercise is realized by activation of a young person to participate in sporting events and physical education classes. When performed systematically, the forms of activity reduce the risk of postural defects occurrence. That is why, sport and physical activity need to be understood in terms of health.

Physical education can be defined as ... *the process of preparing a young person to participate in physical culture at an early age in a whole lifetime through involvement in locomotor activities as well as social and emotional situations connected with them. The main role of physical education is to shape the child's attitude towards his/her body, physical skills, and health* [3]. According to B. Crum this is the ... *process of preparing a child to a self-reliant and lifetime participation in physical culture. Its mission is to provide children with the skills necessary for the qualified participation in the physical culture and to encourage children in a systematic participation in it* [4]. Trześniowski reckons ... *physical education is a branch of education which by using typical physical teaching means, mainly the movement, aims at shaping biological (physical) side of personality and particular educational tasks are realized within the educational process* [5]. Regardless of which definition we accept, they all relate to a positive influence of physical activity on biological and mental sphere of a human being.

The objectives which physical education is supposed to fulfill result from defining physical education process. S. Tuzinek writes that ... *the major objective of physical education is both the improvement of the body and psychosomatic functions, as well as forming a proper system of knowledge, skills, habits, and attitude towards physical culture, which in practice could constitute a constant need for physical fitness* [6]. The objective defined in this way demonstrates that activity is a main biological body stimulator as it affects somatic and mental development.

OBJECTIVES

Physical education comprises two parallel educational processes. One of them relates to physical education of a human being. The other is linked with his/her personal development. Regardless of which process we are involved in, both of them fulfill the need for taking care of health and form values which strengthen this need. That is why, the objectives of this work are to:

1. Present the essence and objective of using corrective and compensation exercise in terms

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- of posture defects in the process of physical education
2. Present the importance of sport and physical activity for maintaining good body posture and correcting the existing defects.

DISCUSSION

Despite the fact that every adult is aware of the importance of sport and physical education to maintain good health and well-being, recently more and more is heard about the crisis in physical education. The problem was raised in 1999 in Berlin during the World Summit on Physical Education. The major final report concluded with the statement that physical education nowadays is frequently perceived as unnecessary element in a young person's education which has a limited influence of his/her future. However, scientific study shows that the role of sport and physical education in fighting body disorders is enormous, which is confirmed by physical education functions such as: stimulating, adaptive, compensation, and corrective functions [7].

In case of the stimulating function, the activity is realized through stimulating the body to improve body functions, and to stimulate the development of locomotor skills, morphologic characteristics, and inner organs. The activity inefficiency and body overstrain contribute to improper and often adverse functioning of the movement apparatus and body organs, and at the same time to the postural defects occurrence. The adaptive function enables the organism to adapt to physical exertion and different life conditions and work in different environments. Undoubtedly, apart from the fact that physical exercise affects general health condition and adaptation to exertion and different life environments, it has a great impact on the proper body built and correct body posture. This is the role of the corrective and compensation function of physical education. Through physical activity in physical education classes, locomotor system can be strengthened, and in this way it acts prophylactically on the system by reducing the risk of postural defects incidence. Moreover, introducing corrective exercise in physical education classes can reduce existing defects or prevent their deterioration. Thus, the corrective and compensation function is believed to prevent postural defects incidence and to correct the existing ones.

A young person's organism is extremely flexible in the time of their physical development. That is why, it is susceptible to disorders due to negative factors but at the same time, it is the best time for corrective and compensation exercise. After the puberty time, it is definitely harder to cure postural defects.

In order to have correct posture, it is essential for a child to take care of it and learn how to create a habit of having good posture. Due to overload resulting from carrying heavy schoolbags, it is hard to maintain good posture. According to A. Romanowska, a 1st grade student's schoolbag weighs 3 kg, and 2nd grade student's schoolbag weighs 4 kg. The weight increases according to the time of passing a student to the next grade. The schoolbag of a gimnazjum student (aged 13-16) weighs 7 kg [8]. When preventing possible postural defects, it is essential to strengthen postural muscles because the muscular system is the primary system which permits the body movement and maintains posture. Suitable activities in physical education classes contribute to the development of the mass and strength of the muscles, and at the same time they teach children to maintain correct posture. Therefore, both strengthening the postural muscles and teaching a good habit of maintaining correct posture by physical education teachers or coaches have a significant influence on a decrease in postural defects incidence as well as correction of the existing ones. That is why, it is of crucial importance to

implement corrective and compensation exercise in physical education classes.

Moreover, it is significant to use the principle of versatility during corrective and compensation exercise. The principle refers to versatile locomotor education of children in terms of agility, strength and endurance, which positively affects maintenance of correct and stabilized posture. Complying with the principle improves coordination processes, which results in optimal functioning of the system of controlling the body posture, and at the same time it develops the habit of maintaining good posture. It is also important to adopt body shaping exercise which act on particular muscle groups and mobility of the joints. In this way they model the system of movement control which is also responsible for the movement habits in terms of good posture. Therefore, applying the principle of versatility in physical education classes in children contributes to forming an appropriate morphological and functional basis for good body posture. However, applying the principle may sometimes bring adverse results. It is advisable to remember that a proper choice of exercise or activities, the right way to work out and the willingness to participate are of key importance.

In order to make a progress in the whole process, physical education teachers should introduce suitable types of exercise for young people which would encourage their participation, rather than discourage them from any physical activity. That is why, further teacher training is so important especially in case of young teachers. During the training teachers should be offered a variety of physical activities which develop locomotor skills in children. By strengthening the postural muscles, children would maintain the right body posture and in this way children learn to adopt the right position during exercise and in future would maintain the right position automatically. However, in order to apply the methods of corrective and compensation exercise, teachers must be familiar with the objectives of correction.

The major objectives of correction are the education and the personality development. The former relates to making children with a bad posture aware of the need for its correction, and changing their attitude towards their disorder and to the need for its constant correction. The latter, on the other hand, refers mainly to forming in young people, by suitable means, the pro-corrective characteristics personality which is defined as *the overall potential for choices of corrective aims, values, and behaviours of a child* [9].

Fulfilling those objectives is frequently very difficult as a child's awareness is not usually so deep to understand the problem. That is why, it is significant to realize the objectives related to controlling the body posture in physical education classes. It is even more difficult for the teachers as the problem requires taking actions both 'towards' correction and 'in' correction. That is why, the personality development aspect of physical education comprises influencing emotional and voluntary sphere as well as intellectual sphere and fitness of a child in terms of postural defects correction [9]. Shaping a pro-corrective attitude is probably the primary goal of the corrective gymnastics but it is also very important in physical education. When a child with a postural defect notoriously misses the corrective gymnastics classes, physical education classes should provide him/her with some, not complex, corrective actions.

CONCLUSIONS

Preventing postural defects nowadays does not refer only to the area of medicine, but it is also a big social problem. This social environment defined as a set of conditions and factors of personal and material arising from the interaction of people that play a major role in shaping the social personality of the unit is largely responsible for the upbringing. An important aspect of the analysis of the social environment and, consequently, child care, is its objectification. According to P. Petrykowski [10] "speaking from the position of the social environment of a

particular entity it will always" someone else ", the environment of the specific unit. At the same time, however, you can extract a sequence of experiences entity formed by frequent contact with other people with whom you connect the unit more durable social phenomena, where similar conditions are the basis of similar social experiences. It will be so is a certain peculiar conditions created by the sum of the collective life in shaping the life of the individual " [10]. So if your child from an early age will were in an environment where asks attention to posture and its determinants of the risk of the appearance of defects in adolescence is less . In addition, certain situations understood as a stimulus , which in the event of corrective compensation will correct posture habits and exercise, through repetition and regularity will be brought up - pupil - unit toward such social activities (extra-curricular sports) to ensure its strong ligamentous -muscular apparatus which will contribute to maintaining good posture.

Physical education and sport , whose objective is shaping pro-somatic attitudes, is also to develop a habit of good posture. Moreover, considering so great a number of children with poor posture, it is a primary issue to implement corrective gymnastics into the education system of a young person. In some schools corrective gymnastics classes are obligatory in 1st-3rd grades, and older children are advised to participate in extra classes which are generally unpopular among children. In gimnazjum corrective gymnastics classes are rare or they are not organized at all. The results of the tests for postural defects performed on young children and adolescents by E. Olszewska and D. Trzcińska indicate that the problem of postural defects in different development phases is serious. Undoubtedly, the incidence of postural statics disorders is higher in the group of younger children whereas the severity of changes is higher in the group of older children. The results prove that uncorrected changes in body posture in the group of younger children can cause a number of fixed changes in the body posture in the group of older children. That is why, the corrective and compensation activity should be the priority actions taken in physical education classes to prevent postural defects [1]. Once the problem of postural defects is a social issue, it will probably generate disorders at an older age. Thus, there is a need for corrective and compensation activity in physical education classes because they provide a young person with a great dose of movement targeted on shaping a habit of making good posture, and in case of already existing defect , they can contribute to its reduction.

Therefore, the general conclusion is to take care of a young generation in order to protect them from spinal defects and other disorders which are troublesome in everyday life. Let's open our eyes , let's remain alert to children's problems, let's live in good health and promote a healthy lifestyle. Let's try to make our children take part in physical activities and let's participate with them.

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