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INCIDENCE OF SPINAL DEFORMITIES IN CHILDREN OF II AND III GRADE

Abstract

Problem physical activities children younger school-age children, with the basic tasks research is construction kinesitherapy adequate prevention and avoid postural disorders spinal column, optimal ontogenetic level morphological(anthropological) development. The main objective research is contents teaching physical education as well as and content that can be put in regular program teaching physical education with the basic task prevention potential and eliminate disorders spinal column, with auxiliary a harmonious biological development. The entities from which he was carried out sample size for this research is defined as population students male primary schools II and III grade. The first and basic condition was that they are included in teaching physical education in the course of this research sample is taken 778 respondents.-according to the manner elections respondents sample was targeted selected.were taken II and III grade elementary schools in Bijeljina, Teslic, Foca and Pale.

Key words: prevention, children, postural disruption spinal column

1. INTRODUCTION

Proper body posture involves the proper relationships among all segments of the body, and this is the condition of their functioning.

The most important role in forming and maintaining proper posture with muscles, as an active part of the apparatus to move.

The weakness of certain muscle groups, and their excessive unilateral load can cause the occurrence of various disorders of the spine, thorax, upper and lower segments, especially on foot. Because of the plasticity and sensitivity of child proper body posture status is of particular importance in school development in the early years of schooling.

Postural status of school children in our investigated by many authors whose results are somewhat different, although largely similar, however.

Radisavljević Street Arunović (3) the project in the sensitive period of development of motor abilities of children of younger school age children including track and determine the physical status and the status of the foot. The present results indicate that a relatively large number of students of both sexes, with a disturbed physical status and the status of the

foot. Disorders are generally winged scapula-21%, lordotic posture 44% of boys and 57% girls and 79% of flat foot. He also registered a large number of children with certain asymmetries shoulder blades and Lorentz triangles.

B.K. Velitčenko (1993) points out that more than 70% of school children have specific problems that result from lack of motion activities such as disturbances in the posture. In children with disorders in posture typically impaired locomotoric apparatus weakens the muscles are inflexible ligaments reduced the ability of the lower extremity and is especially important to the spinal column.

According to Petrovic-Radic (1996) for scoliosis with a curve of 70% of cases. Of these the thoracic scoliosis about 19%, 25% of lumbar and cervical scoliosis of about 1% of cases. According to the author of scoliosis with two curves waste 30% of cases of which the thoracic plus lumbar approximately 25%.

R. Krsmanović and associates (1988) were performed by the method of assessment N.Volanskog posture of the fifth and seventh grade in Sarajevo. Results showed that seventh grade students have a significantly worse posture than five grade where it is estimated that students seventh grade are often located in the area of shoulder and the neck.

Dealing with this problem Solarić (1971), Milekić (1971), Poljaković (1977) point out that the mere occurrence of physical deformity, regardless of their size significantly affect the mental state of a person especially if they are in adolescence. People do not adopt such a situation because of their impaired image conscious causing a disorder certain personality traits and psychological conditions that are reflected in introversion and sometimes aggressiveness, neuroticism, anxiety.

The subject of this study are spinal postural disorders in children of younger school age and procedures to prevent postural deformities of the spinal column-preventive exercise.

The aim of the research is to determine the physical education curriculum and content that can be put in the regular program of physical education, with the main task of prevention and potential elimination of manifest disorder of the spinal column.

Based on a target the following tasks are determined: a) to determine the current state of spinal posture status b) analyze the current way of organizing the physical education of children in schools, program content, means and methods by which the exercise of activities to meet the needs of children and the present state and the organization of professional work c) after this defined the future direction of development of physical education in part related to the prevention of spinal postural disturbances school age.

Consistent with the objectives and tasks of the research hypothesis was that there was no statistically significant difference between the experimental and control children groups in postural status of the spinal column. It was presumed that in the final stage of the procedure eksperimenatnog to be significant differences between the experimental and control groups in postural status in favor of the experimental subsample of children of junior school age, as well as the introduction of a special program of physical exercise significantly influences the establishment of good posture status of the spinal column, better and more harmonious development.

2. METHODS

2.1. Sample respondents

The sample is derived from a population of younger school age children, male and female.

Children attending primary schools in the Pale, Foca, Bijeljina and Teslic. The number of respondents was 778 of which 396 boys and 382 girls.

2.2. Sample variables

To determine the status of the spinal column was used: determination of the degree of spinal deformity in children of school age with surplus, ruler and defrmograf, preklon test. To determine the status of the spinal column, it was necessary that the subject which takes the status of the spinal column turned back to the examiner, but a bit spaced parallel set foot in his usual position. All subjects were in her underwear in the rooms where the temperature ranged from 20-23 degrees.

2.3. Description research

Assessment and measurement of the respondents made in the school premises. Children at the same time they were barefoot and in underpants. The inspection was performed in each patient from a distance of about 2 m, with individual segments were analyzed according to the established order of authority.

The collected data were reviewed, arranged in measurement lists specifically for each patient, and then sorted by gender and subjected to mathematical and statistical analysis. The results are discussed and finally conclusions.

2.4. Methods processing

The results were analyzed according to frequency of occurrence in certain categories of postural status in particular by gender. The situation in some segments of the body is expressed numerically and procents.Relevance difference between boys and girls (p) was analyzed by t-test. For test the null hypothesis we used two thresholds of significance:

- When the $p < 0.05$ to 0.00 -rejects the null hypothesis and is considered to be statistically significant deference.
- When $p > 0.05$ accepts the null hypothesis and concluded that there was no statistically significant differences.

2.5. Experimental procedure, the draft and the course of research

The research contained in exdpermental procedures and control subsamples. The experiment lasted for one year. With the experimental group was three times a week for 45 minutes per group. They worked for trained teachers of physical education. Subjects in the experimental subsamples were trained by the program for the prevention of postural disorders that were made after the initial measurement. Content activity in experimental subsamples consisted of a prevention program of postural disturbances of the spinal column and regular activities directed at the activities of physical education.

The concept of physical exercise is made so that it is implemented through a form of applied activity in physical education of school age. With any physical exercise begins with the preparation of the body, primarily focused on the physiological and emotional. Cardiovascular function of load introduction that is yet to follow was the initial

physiological lost. Emotionally introduction to this type of special program had great significance. Each exercise is performed from easier to more difficult. In order to obtain the best effect, special attention is addressed to the following:

- Proper demonstration exercise, because it is a strictly defined movements. Therefore, after each explanation and demonstration, the children are just trying to do it. The explanations were brief and concerned the manner of performance and goal specific exercises with respect to age.

The content of the program were not static they are adapting to changing situations given, supplemented, depending on the motivation of the time because some of the exercises the children have become monotonous and decreased attention to the proper execution of movement.

3. RESULTS AND DISCUSSION

Results are presented in tabular form with tekst interpretation of the experimental and control sample.

The significance of differences postural status of experimental and control groups of boys and girls at the initial and final measurements of kyphotic posture and lordotic type II class

Table 1.

	kifotično loše držanje(K)		lordotično loše držanje(L)	
	inicijalno mjerenje	finalno mjerenje	inicijalno mjerenje	finalno mjerenje
	ne=102	ne=102	ne=102	ne=102
	nk=103	nk=103	nk=103	nk=103
boys	ke=11	ke=1	le=12	le=4
	kk=11	kk=15	lk=11	lk=10
	t=0,081	t=3,990	t=0,124	t=1,1825
	p>0,05	p<0,001	p>0,05	p<0,05
	ne=92	ne=92	ne=92	ne=92
	nk=92	nk=92	nk=92	nk=92
girls	ke=19	ke=10	le=15	le=13
	kk=17	kk=15	lk=14	kk=16
	t=0,090	t=2,701	t=0,107	t=1,605
	p>0,05	p<0,01	p>0,05	p>0,05

In the experimental group of boys after the final measure was statistically significant ($p<0.001$) was no difference compared to the control group, when it comes to bad kyphotic posture.

The significantly less postural disturbance irregular kifotic poses the type of experimental grupe. Posturalni disorders lordotic type on the final measurement showed a tendency to decrease in the experimental group of boys, but not statistically significant in boys of the control group. ($P > 0.05$).

For girls the situation is similar and in which there exists a statistically reduce irregular kifotic poses posture in the experimental than in the control group ($p < 0.01$), but also just a tendency of decrease of lordotic curve types in this group without statistical significance. ($P > 0.05$).

The table where the data t-test significance proportions we can observe the relevante quivalence groups in the initial measurement ($p > 0.05$) in boys and girls. The significant differences were determined between experimental and control groups measure at this age.

But at the final measurement was found highly significant differences between experimental and control groups at this age kifotic posture ($p < 0.001$), namely the experimental group significantly in boys.

This can not be said for postural disturbances lordotic types that are not establishing any changes.

The significance of differences postural status of experimental and control groups of boys and girls at the initial and final measurements of kyphotic posture and lordotic type III class

Table 2.

	kifotično loše držanje (K)		lordotično loše držanje (L)	
	inicijalno mjerenje	finalno mjerenje	inicijalno mjerenje	finalno mjerenje
boys	ne=98	ne=98	ne=98	ne=98
	nk=93	nk=93	nk=93	nk=93
	ke=19	ke=10	le=18	le=18
	kk=12	kk=15	lk=13	lk=14
	t=0,782	t=3,960	t=0,00	t=0,564
	p>0,05	p<0,001	p>0,05	p>0,05
girls	ne=99	ne=99	ne=99	ne=99
	nk=99	nk=99	nk=99	nk=99
	ke=16	ke=10	le=16	le=12
	kk=18	kk=13	lk=18	kk=17
	t=0,541	t=1,743	t=0,541	t=1,778
	p>0,05	p>0,05	p>0,05	p>0,05

For girls of this age showed no statistically significant differences in the final measure in any case, but there is a tendency to reduce the decline of postural disorders in the experimental group compared to controls both types of irregular kifotic poses disorders and disorders lordotic type.

As a brief summary of the analysis of quantitative differences in the measurement of postural status indicators can be concluded that the statistical methods established a positive correlation relationship between the effects of experimental factors and postural status of the spinal column, which was under the influence of the above factors in relation to the control group showed a tendency improvement.

On this way is confirmed that a special exercise program significantly affects the establishment of good posture status of children of school age at which the applied experimental procedure.

4. CONCLUSION

Preventing the emergence of postural disorders is very important element in maintaining the health of children, because disturbances in its evolution can progress to deformity, the consequences are far more difficult than it might assume. There impact is very significant for the overall physical and mental development.

The results indicate the following facts:

- The study monitored effects specifically programmed to work with the postural status of school children and third grades.

- Special-work program that applied in the study had significant effects on the prevention of postural disorders.

- The applied-prevention program of postural disorders is well fit in the activities implemented in schools institution, and it can be said that the scheme with certain modifications may put in the regular program of activities aimed at the area of physical education.

- Research indicates the need for longitudinal study of postural status of population. So a long-term research that would in the long interval followed, the state provided no change in posture status, given the manifest objective of postural behavior disorders in relation to the applied program.

5. REFERENCE

1. Bjeković, G., Vuković, M., Bratovčić, V. (2005). How to protect your spine, Pale: Faculty of Physical Education
2. Jovović, V. (1994). Determination of the deformities of the body of school children and youth in Montenegro and Podgorica: Ministry of Education and Science of Montenegro
3. Krsmanović, R. (1988). Identifying the students' posture classes V and VII as a condition for the formation of homogeneous groups in order to prevent and eliminate. Šibenik, Proceedings VIII Summer School PFKJ
4. Koturović, Lj., Jeričević, D., (1988). Corrective gymnastics, Belgrade: GRO, Sports Book
5. Radisavljević, M., Ulić, D., Arunović, D. (1997). Sensitive periods of development of motor abilities of early school culture. Physical 5, p. 34-37. Niš: Faculty of Philosophy
6. Radisavljević, M. (1992). Corrective exercises with the basics kinesitherapy, Belgrade: University of Belgrade
7. Ulić, D. (1997). Possibility of eliminating bad posture means of physical culture. Physical culture 46:1 p. 36-37. Beograd: Faculty of Physical Education