

PRESENCE OF LORDOTIC POOR POSTURE RESULTED BY ABSENCE OF SPORT IN PRIMARY SCHOOL CHILDREN

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Abstract

The subject of this research is to determine the presence of lordotic bad body position of primary school students, depending on the reasons of not being involved in sports. The research was conducted on children age of 12 years, + - 6 months, and the sample consisted of 299 students. For the assessment of bad lordotic body position, we used the method of somatoscopy and somatometry, and in order to determine the poor posture we used the average value of mild criteria. Non engagement in sport activities was evaluated through questionnaire of the survey filled up by the respondents. The reasons for not being involved were high membership fee and other reasons for most students. The following reasons are long distance from the place of residence and training facilities while the other reasons are considerably balanced. The respondents with bad lordotic body position showed noticeably obvious bad posture in the group of respondents with 'other' as the reason for not being involved in sport and the respondents which stated that 'high fee' is the reason, while other respondent groups in their answers were considerably balanced. The values of Pearson Chi-Square test and Contingency Coefficient indicate the lack of statistically significant difference in existence of lordotic bad posture depending on the reasons of not participation in organized sport activities.

Key words: lordotic posture, not being engaged in sports, students

Introduction

A rapid and asymmetrical growth and other elements affecting children of certain school age (carrying heavy school bags, working conditions in school, at home, facilities, in bed and bad sleeping pillow bad position in chairs and so on) are certainly important elements in causing spinal deformity. Also, the reduction of physical activity, caused by the urban way of life and inadequate exercise in physical education classes, and not being involved in certain sport activities, leads to a weakening of the entire muscular system, and therefore it's important to avoid weakening of the muscle region of the spinal column, which leads to some disruption in the region in terms of poor posture, certain postural disorders and finally physical deformity appearance (Bogdanović, 2008). Disorders of posture in children, based on current research and statistics are mainly caused by muscle weakness of the back, chest or abdomen region.

In addition, weakness of muscles pelvis belt and lower extremities can lead to secondary disturbances in the upper part. The primary changes usually first appear in the muscles, then ligaments, and finally in skeleton. There are numerous studies confirming this: Živković, Milenković & Drobnjak (2004), Krsmanović & Bigović (2006), Protić-Gava, Čokorilo & Karanov (2006), Krsmanović (2007), Srzić, Kosinac & Bučević-Nik (2007), Medojević & Jakšić (2007), Milošević & Obradović (2008). Compared with urban children, rural children have more physical activity throughout their daily duties and they have minor deviations from normal.

Research was conducted to compare urban and rural schoolchildren, and the research undoubtedly confirmed that the village children have dramatically lower percentage of postural disorders generally (Živković & Karalejić, 1996). Today, school children have opportunities and variety of life activities. There are many sports clubs of team and individual sports.

Since there is a lot of natural resources in urban environment water sports and some extreme sports are developed. Research in this area indicates that a large percentage of elementary-school students do not take part in sport activities (Bogdanović, 2006), and it was hard to determine why since there are so much sports present in the area.

Aim

The subject of the research is to determine the presence of posture disorder in sagittal plane (bad lordotic posture) for primary school students regarding to participation in sport and not taking part in organized sport activities outside regular physical education turns out to be one of the biggest causes. The aim was to determine the number of students with low holding lordotic bodies, and determine the presence of lordotic bad posture, of a particular category of respondents listed, referring to membership fee as the reason for not practicing sports.

Methods

The survey was conducted in the city of Kragujevac in several elementary schools, fifth-grade children (12 years + - 6 months). The sample consisted of 299 students. In order to assess lordotic poor posture, we applied a method of somatoscopy and somatometry. In determining bad posture, we used less lenient criteria. All respondents who had a higher value than 45mm were recorded as subjects with bad posture and lordotic body. The respondents filled up a questionnaire why they are not participating in sport activities and the actual question was: What is the reason you are not in sports? Possible answers are as follows: not interested sport, common membership fee, bad success in school, live far, I have health problems and other reasons. Statistical significance between categories of respondents according to the indicators of control variables X, we calculated with the square-test. The existence and the size of the correlation between the investigated areas was calculated with Pearson correlation coefficient, which is in practice most commonly used when working with linear models, like Measure contingency coefficient correlation based on the X square test. All analysis was performed in person and was used to achieve less lenient criteria with the statistical package for data analysis (SPSS statistical computer package of 8.1 Social Sciences for Windows).

Results

Table 1. The reason of absence of sport

N.	Reasons of absence	Freq.	%
1	Not interested in sport	15	5
2	Large Membership	101	33.8
3	Records of achievement in schools	14	4.7
4	I live far away	46	15.4
5	I have health problems	8	2.7
6	other reasons	115	38.5
	Total	299	100

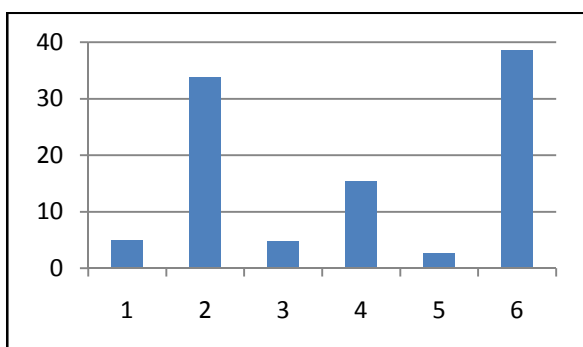


Chart 1. The reasons of absence of sport

From table 1 we can see that the reason for not practicing sports at most of the students' are other reasons (38.5%) and large fees (33.8%). The biggest reason is high amount of the fee in other words parents of the respondents cannot afford for the child.

The second biggest reason is the distance of the residence from the place where the desired disciplines are taking part with 15.4%, while other reasons are very balanced.

Table 2. The reason for not practicing sports * lordotic posture

N.	Reasons	Bad	% bad	Total
1	not interested in sport	4.00	73.33	15
2	Large Membership	31.00	69.00	100
3	records of achievement in	4.00	71.43	14
4	I live far away	15.00	67.39	46
5	I have health problems	2.00	75.00	8
6	other reasons	34.00	70.43	115
	Total	90.00	69.80	298

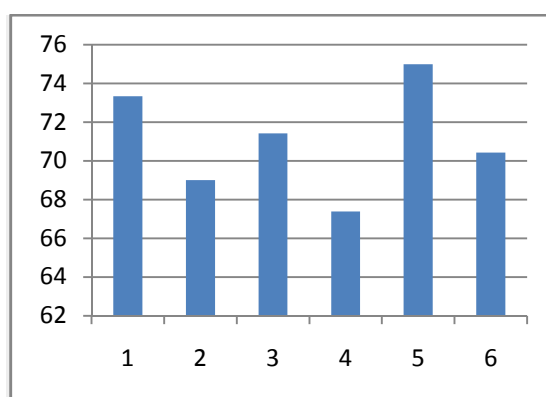


Chart 2. The reason for not practicing sports * lordotic posture

Table 3. Chi-Square Tests and Contingency Coefficient

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	0,38	5	0,99
Contingency Coefficient	0,04		0,99
N of Valid Cases	298		

Table 4. The reason for not practicing sports lordotic posture *gender

		Bad	% bad	Total
male	Not interested	1	25.00	4
	Large Membership	7	20.59	34
	records of achievement	2	28.57	7
	I live far away	5	38.46	13
	I have health problems	0	0.00	3
	other reasons	18	24.00	75
	Total	33	24.26	136
female	Not interested	3	27.27	11
	Large Membership	24	36.36	66
	records of achievement	2	28.57	7
	I live far away	10	30.30	33
	I have health problems	2	40.00	5
	other reasons	16	40.00	40
	Total	57	35.19	162

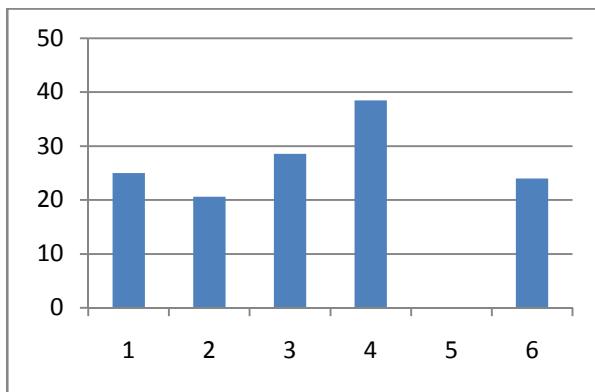


Chart 3. The reason for not practicing sports lordotic posture - Male

Table 2 presents good and bad lordotic posture depending on the reason for not participating in sports. The largest presence of bad lordotic posture is in reference with the respondent living far 32.60%, followed by a group response to the high fees of 31%, and then follows the answer for the wrong reasons (other) 29.56%, and so on. Values of Pearson chi-square test of 0.38 and contingency coefficient of 0.04 significance level of 0.99, indicating the lack of statistically significant differences in presence of bad lordotic posture, depending on the reason of participation in organized sport activities, in analyzed responses by group respondents. In Table 4 we present the presence of lordotic posture depending on the gender of respondents. The presence of lordotic bad posture prevails in female patients (35.19%) compared with male (24.26%). In male subjects, the largest presence of lordotic bad posture is among the respondents who live far away (38.46%), followed by those who have records of success in school (28.57%) and the ones that are not interested in sports (25%), and finally other reasons. In female patients, health problems and other reasons (40%) are the most common reason for not practicing sports, followed by high membership fee (36.36%), living far away (30.30%) and finally success in school and disinterest for the sport with almost identical percentages.

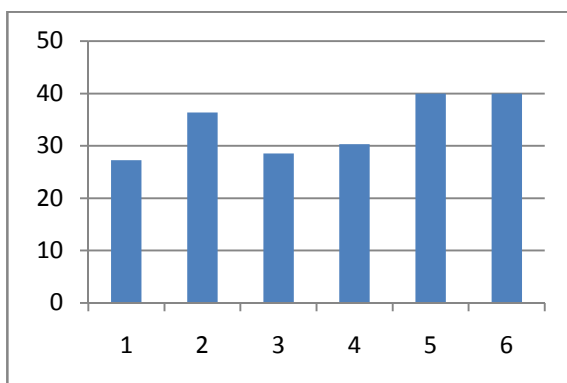


Chart 4. The reason for not practicing sports lordotic posture - Female

Table 5 Chi-square test / Contingency Coefficient

		Value	df	Asymp.
Male	Pearson Chi-Square	2,71	5	0,74
	Contingency Coefficient	0,14		0,74
	N of Valid Cases	136		
Female	Pearson Chi-Square	1,28	5	0,94
	Contingency Coefficient	0,09		0,94
	N of Valid Cases	162		

Values of Pearson chi-square test and contingency coefficient with their significance level in Table 5, are indicating the lack of statistical significant differences in lordotic poor posture depending on the gender of respondents.

Discussion and Conclusion

The majority of respondents stated 'other' as the reason and common fees as well in other words high membership fees, which parents cannot afford for their children. The following is the distance from the place of residence and any sport discipline preferred SA, while other reasons are very balanced. The largest presence of lordotic bad posture, is expressed in the reason; respondent lives far away, followed by the high fee, and then the answer follows; "other reasons".

In the analysis of subjects with bad lordotic posture, noticeably greater presence of bad posture was found in the group of subjects who specify "other reasons" for practicing active sports. Values of Pearson Chi-square test of 0.38 and Contingency coefficient of 0.04 level of significance of 0.99, indicate the lack of statistically significant differences in presence of bad lordotic posture, depending on the reason of participation in organized sports activities. In male subjects, the largest presence of bad lordotic posture is among the respondents with the reason living far away, followed by those who have poor grades in school and those respondents who are not interested in sport. In female patients, health problems and other reasons are present as the reason for not participating in sports, followed by the high fees, distant housing and final plates as well as success in school and lack of interest in sports with almost identical percentages. From the previous result, we can conclude that very high percentage of examinees stated that the reasons for not participating in sports are not material.

Therefore we can say it is necessary to take certain steps at all levels in order to provide the ability to mass involvement in the preferred forms of sports activities and sports-recreation for wider strata of the population; younger school age and older. Therefore, in order to increase the quality of life, we have to preventively impact on the appearance of postural disorders and various physical deformities, which is increasingly affecting explored space.

Literature

- Bogdanović, Z. (2006). Prisustvo lošeg držanja tela učenika mlađeg školskog uzrasta u zavisnosti od vrste sporta kojima se bave. [The presence of poor posture of students of junior school age depending on the type of the sport]. *Fizička kultura*, 2, 186-188.
- Bogdanović, Z. (2008). *Deformiteti kičmenog stuba u sagitalnoj ravni-prevencija i korekcija*. [Spinal deformities in the sagittal plane-prevention and correction]. Kragujevac: Interprint.
- Protić-Gava, B., Čokorilo, R., & Karanov, B. (2006). Socijalni status roditelja i posturalni status predškolske dece Vojvodine. [The social status of parents and postural status of preschool children in Vojvodina]. In G. Bala (ed.) *Anthropological status and physical activity of children and adolescents*, pp, 213-219. Novi Sad.
- Živković, D., & Karalejić, S. (1996). Relacije lordotičnog lošeg držanja i morfoloških karakteristika dece prepubertetskog perioda. [Relationships lordotičnog poor posture and morphological characteristics of children of pre-puberty period]. *FIS Komunikacije, Peti međunarodni simpozijum*, Niš.
- Živković, D., Milenković, S., & Drobnjak D. (2004). Stanje posturalnih poremećaja i telesnih deformiteta dece mlađeg školskog uzrasta u opštinama Zaječar, Kruševac i Čačak. [The state of postural disorders and physical deformities of children of young school age in counties of Zaječar, Kruševac, Čačak]. *Sport Mont*, 2-3(2), 421-426.
- Krsmanović, T., & Bigović, M. (2006). Relacije gipkosti i devijacija kičmenog stuba u frontalnoj ravni. [Relations between flexibility and deviation of the spinal column in the frontal plane]. In G.Bala (ed.) *Anthropological status and physical activity of children and adolescents*, pp: 193-200. Novi Sad.
- Krsmanović, T. (2007). Posturalni poremećaji i kako ih sprečiti. [Postural disorders and how to prevent them]. *Glasnik Antropološkog društva Srbije*, 42, 345-351.
- Medojević, S., & Jakšić, D. (2007). Razlike u posturalnim poremećajima između devojčica i dečaka od 7-15 godina na teritoriji Vojvodine. [Differences in postural disorders between girls and boys from 7-15 years in the territory of Vojvodina]. In G.Bala (ed.) *Anthropological status and physical activity of children, youth and adults*, pp:49-54. Novi Sad.
- Milošević, Z., & Obradović, B. (2008). Posturalni status dece novosadskih predškolskih ustanova uzrasta 7 godina. [Postural status of preschool children aged 7 years]. *Glasnik Antropološkog društva Srbije*, 43, 301-309.

POSTOJANJE LORDOTIČNOG LOŠEG DRŽANJA U OSNOVNOJ ŠKOLI OVISNO O RAZLOZIMA NESUDJELOVANJA U SPORTU

Sažetak

Predmet ovog rada je utvrđivanje postojanja lordotičnog lošeg držanja tijela kod učenika osnovnoškolskog uzrasta u ovisnosti od razloga nesudjelovanja u sportu. Istraživanje je sprovedeno na učenicima uzrasta 12 godina, +/- 6 meseci, a uzorak je brojao 299 učenika. Za procjenu lordotičnog lošeg držanja tijela, korištena je metoda somatoskopije i somatometrije, a za utvrđivanje lošeg držanja korištena je srednja vrijednost blažeg kriterija. Nesudjelovanje u sportskim aktivnostima, procenjavano je anketnim upitnikom popunjavanim od strane ispitanika. Razlog nesudjelovanja kod najvećeg broja učenika su drugi razlozi i visoka članarina. Slijedi udaljenost stanovanja od mjesta održavanja željenih sportskih disciplina, dok su ostali razlozi veoma ujednačeni. Kod ispitanika sa lordotičnim lošim držanjem tijela, primjetno je izraženije loše držanje u grupi ispitanika gdje su navedeni 'drugi razlozi za nebavljenje sportom', i ispitanika izjašnjenih da ih u tome sprječava visoka članarina, dok su ostale grupe ispitanika u datim odgovorima približno ujednačene. Vrijednosti Pearsonovog Hi-kvadrat testa i Koeficijenta kontingencije, ukazuju na nepostojanje statistički značajne razlike postojanja lordotičnog lošeg držanja u ovisnosti od razloga nesudjelovanja u organiziranim sportskim aktivnostima.

Ključne riječi: lordotično držanje, nesudjelovanje u sportu, učenici

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