

Faculty of Sport and Physical Education
University of Novi Sad



3rd International Scientific Conference

EXERCISE AND QUALITY OF LIFE

April 12/13th 2013

Proceedings

Editor

Dejan Madić

Novi Sad, 2013

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BODY MASS INDEX IN PRESCHOOL CHILDREN FROM AUTONOMOUS PROVINCE OF VOJVODINA

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Abstract

The assessment of Body mass index (BMI) was conducted on a sample of 2432 pre-school children 4-7 years old in Autonomic Province of Vojvodina. The aim of this assessment was to determine changes in BMI values depending on age and gender, as well as determining the presence of obesity in observed population. The sub-samples was defined by age in intervals of 0.5 decimal years. The differences in BMI values were tested with Analysis of Variance, and the statistical significance was set at $p < 0.01$. The results showed statistically significant differences in BMI values in relation to age ($F=7.345$, $p=0.0001$) and gender ($F=6.232$, $p=0.013$) of children. There were found noticeably higher values of BMI with elderly children compared to their younger counterparts. In addition, all the boys, regardless to age had higher BMI values than girls did. Obesity categorization of children in relation to BMI values showed that 73.6% of children had normal BMI values and only 5.4% of them were categorized in extreme obese group.

Keywords: overweight, obesity, preschool children

Introduction

Overweight and obesity is a medical and social problem of the global future mankind. As a health problem, obesity in the United States occurs in 18.8% of children with an average age of 12, while in Switzerland the percentage is much lower - 6.5 [1]. In the EU countries, 38.2% of school age children were overweight and of these, 10% were obese [2]. In Serbia, 6.4% of children and adolescents aged 7-19 years were obese [3]. The prevalence of overweight in children has markedly increased over the past few decades in France, as in all Western countries. The result of Péneau et al. [4] shows that the overall trend in prevalence of overweight children between 1996 and 2006 was stable at population aged from 6 to 15. Obesity in children appears to increase every year, a trend which was observed in all highly industrialized countries [5]. Health experts and researchers talk about a paediatric 'obesity epidemic' with exponentially increasing rates of obesity and overweight. Although levels of Australian paediatric overweight remain high, the prevalence of overweight and obesity seems to have flattened and also have not followed the anticipated exponential trajectory [6]. The prevalence of overweight among US children and adolescents increased between 1980 and 2004 [7].

Body mass index (BMI), is one of the most common and widely applied measures of obesity. The correlation of BMI with fat is high, but at the same time for different terminals [8]. The emergence of obesity and excessive amounts of adipose tissue has an impact on cognitive, motor, emotional, and social development of children.

Bradley et al. [9], suggest that children with high BMI before starting school do not have problems with socialization, but school entering experience may cause problems that lead to anxiety and depression.

The aim of this study was to analyse differences in BMI for boys and girls aged 4-7 years.

Method

The sample of subjects

The sample of subjects was drawn randomly from a number of pre-school children in Vojvodina (Serbia), a total of 2432 children aged 4-7 (1391 boys and 1048 girls). All subjects and their parents were fully informed about the nature and demands of the study and all parents voluntarily gave their informed consent for their child, to participate in the study, which was approved by the University's Ethical Advisory Commission in accordance with the Helsinki Declaration. All measurements were carried out in the morning (from 8:00 to 12:00 h) by the same-trained measurers, who used the same measuring instruments and protocols. Decimal age of subjects was calculated according to the International Biological Program (IBP) and treated the children's age on the day of measurement and testing.

The sample of measures

Body weight and body height were measured without shoes and body mass index (BMI) was calculated (kg/m^2). "Underweight", "Normal", "Over-weight" and "Obese" were defined using the age- and sex-specific criteria [10,11]

Statistical procedures

Differences between distinguished taxonomic groups in motor variables and variable for the assessment of general cognitive ability were determined using multivariate analysis of variance (MANOVA), and univariate analysis of variance (ANOVA).

All data were analysed using IBM SPSS Statistics (version 19.0) program for Windows.

Results

Results of BMI values for boys and girls divided into seven categories are presented in Table 1 as Mean + (SD).

Table 1. BMI Mean Values and Standard Deviations for age groups and gender

Age	Boys	Girls	Total
4 yrs B; N=35; G; N=26	16.00 (1.61)	15.02 (1.39)	15.58 (1.59)
4.5 yrs B; N=123; G; N=108	15.80 (1.62)	16.10 (1.76)	15.94 (1.69)
5 yrs B; N=181; G; N=115	15.83 (1.75)	15.67 (1.29)	15.77 (1.58)
5.5 yrs B; N=238; G; N=167	16.09 (1.81)	15.78 (1.83)	15.96 (1.82)
6 yrs B; N=269; G; N=204	16.15 (2.01)	15.96 (1.96)	16.07 (1.99)
6.5 yrs B; N=516; G; N=409	16.59 (2.37)	16.22 (2.37)	16.43 (2.37)
7 yrs B; N=39; G; N=19	17.18 (2.41)	16.61 (2.63)	16.99 (2.47)
Total B; N=1391; G; N=1048	16.26 (2.09)	16.01 (2.05)	16.15 (2.08)

- Statistically significant differences between age groups;
- statistically significant differences between genders

Results obtained by testing differences of BMI between age groups showed statistically significant difference between them ($F = 6.343$; $p = 0.000$) in addition to significant differences obtained with respect to gender ($F = 6.232$; $p = 0.013$). However, interaction of these two factors did not show statistically significant difference indicating that children within age groups did not differ significantly regarding the values of BMI. Nevertheless, results presented on Graph 1 are showing that regardless to age group that boys are constantly ahead of girls in BMI values

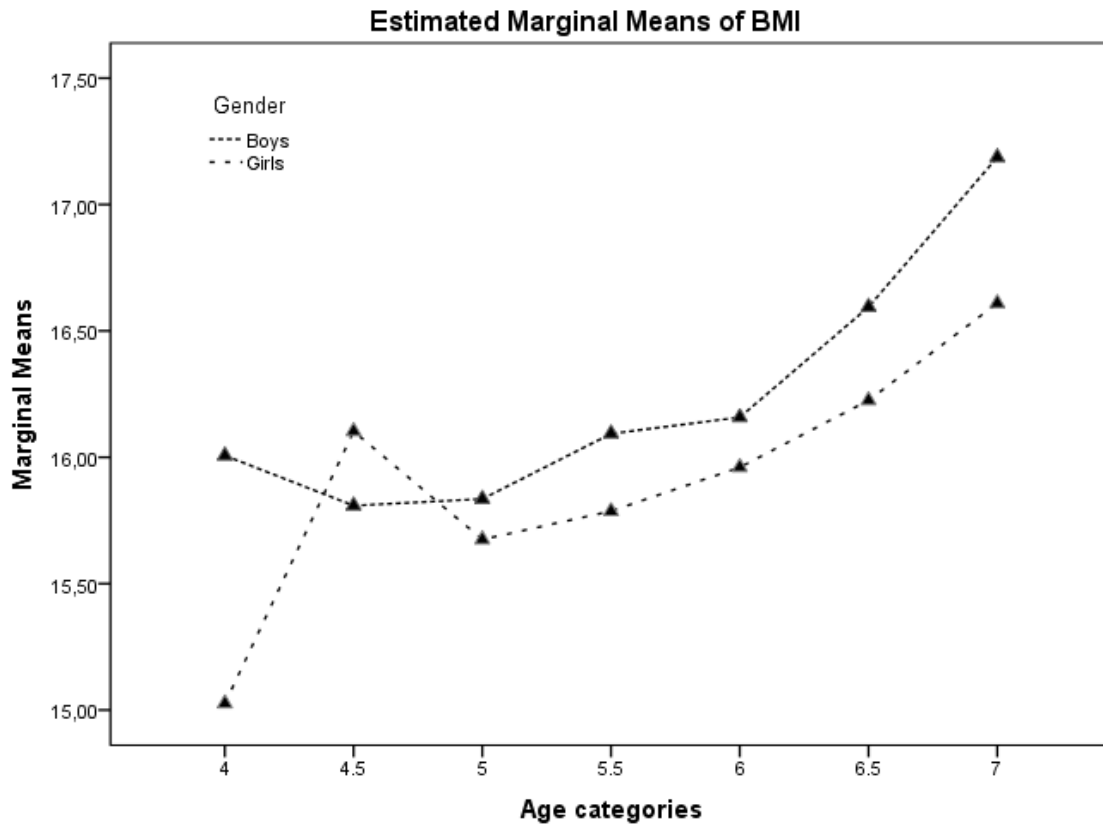


Figure 1. Average values of BMI for boys and girls divided into seven age categories

Testing the differences between groups that was formed based on normative values for BMI and gender, showed that there was statistically significant difference between genders, however in some age categories these differences between genders were not statistically ($F=0,081$; $p=0,970$).

In table 2 are presented mean values with standard deviations for BMI values for boys and girls divided into four categories.

Table 2. Mean Values and Standard Deviations for BMI regarding gender

Category	Gender <input type="checkbox"/>	BMI	N
Underweight	Boys	13.60 (0.77)	109
	Girls	13.34 (0.58)	87
Normal	Boys	15.69 (0.88)	1023
	Girls	15.51 (0.90)	771
Overweight	Boys	18.51 (0.71)	177
	Girls	18.31 (0.74)	140
Obesity	Boys	22.07 (2.07)	82
	Girls	21,88 (2.84)	50
Total	Boys	16.26 (2.09)	1391
	Girls	16.00 (2.05)	1048

Statistically significant differences between genders; level of significance is set to $p=0.001$

Discussion

The main finding in this study is that there were found noticeably higher values of BMI with elderly children compared to their younger counterparts. It is well known that BMI is widely used as an indicator of body fat because of its simplicity but it is not the most accurate predictor of body fat percentages, especially with children [12]. It must be taken into consideration that with the growth and period of child's development, BMI is very artificial value representing no true body proportions, and one should

be careful when coming to conclusion, because BMI does not measure adiposity directly. BMI is highly correlated with adiposity and it varies with age and sex in children [13].

Nevertheless, all the boys in this study, regardless to age had higher BMI values than girls did, which is in line with some previous studies [14,15]. Obesity categorization of children in relation to BMI values showed that 73.6% of children had normal BMI values and only 5.4% of them were categorized in extreme obese group. Even though percent of obese children in this research considers being low, prevention of obesity in preschool children should be of importance, for it is estimated that obese children are most likely to be obese in adolescence and as adult. Overweight and obesity are chronic disorders that have multiple causes and significant impact on both physical and psychological health on children, thus it should be more investigated.

Acknowledgement

This research was conducted as a part of a science-research project “Anthropological status and physical activity of Vojvodina population”, that is co-financed by the Provincial Secretariat for Science and Technological Development of Vojvodina, which is accomplished by the Faculty of Sport and Physical Education in Novi Sad (No: 114-451-00606/2007-02, head researcher: Gustav Bala, PhD).

References

1. Lasserre, A. M., Chiolero, A., Paccaud, F., & Bovet, P. (2007). Worldwide trends in childhood obesity. *Swiss medical weekly*, 137(9-10), 157-158.
2. Wang, Y., & Lobstein, T. (2006). Worldwide trends in childhood overweight and obesity. *International Journal of Pediatric Obesity*, 1(1), 11-25.
3. Ministarstvo zdravlja Republike Srbije (2007). *Istraživanje zdravlja stanovnika Republike Srbije 2006 – Finalni izveštaj (Population Health Survey in the Republic of Serbia 2006 – Final Report)*. Beograd: Ministarstvo zdravlja Republike Srbije.
4. Péneau, S., Salanave, B., Maillard-Teyssier, L., Rolland-Cachera, M. F., Vergnaud, A. C., Méjean, C., Czernichow, S., Vol, S., Tichet, J., Castetbon, K., & Hercberg, S. (2009). Prevalence of overweight in 6- to 15-year-old children in central/western France from 1996 to 2006: trends toward stabilization. *Int J Obes*, 33, 401-407.
5. Jakimaviciene, E.M., & Tutkuvienė, J. (2007). Trends in body mass index, prevalence of overweight and obesity in preschool Lithuanian children, 1986-2006. *Collegium antropologicum*, 31(1), 79-88.
6. Olds, T.S., Tomkinson, G.R., Ferrar, K.E., & Maher, C.A. (2010). Trends in the prevalence of childhood overweight and obesity in Australia between 1985 and 2008. *International Journal of Obesity*, 34, 57–66.
7. Ogden, C.L., Carroll, M.D., & Flegal, K.M. (2008). High body mass index for age among US children and adolescents. *Journal of American Medical Association*, 299 (20), 2401-2405.
8. Allison, T.G., Korinek, J., Batsis, J.A. (2010). Accuracy of Body Mass Index to Diagnose Obesity In the US Adult Population. *Int J Obes*, 32(6), 959-966.
9. Bradley, R. H., Houts, R., Nader, P. R., O'Brien, M., Belsky, J., & Crosnoe, R. (2008). The relationship between body mass index and behavior in children. *The Journal of Pediatrics*, 153 (5), 629-634.
10. Cole, T.J., Bellizzi, M.C., Flegal, K.M., & Dietz, W.H. (2000). Establishing a standard definition for child overweight and obesity worldwide: international survey. *BMJ*, 320 (7244), 1240-3.
11. Cole, T.J., Flegal, K.M., Nicholls, D., Jackson, A.A. (2007). Body mass index cut offs to define thinness in children and adolescents: international survey. *BMJ*, 28, 335 (7612), 194.
12. Stupnicki, R. Tomaszewski, P., Milde, K., Czezelewski, J., Lichota, M. & Glogowska, J. (2009). Body fat-based weight norms for children and youths. *Pediatric Endocrinology, Diabetes and Metabolism I*, 15, 3, 139-143.

13. Ogden, C.L., Carroll, M.D., Curtin, L.R., Lamb, M.M., & Flegal, K.M. (2010). Prevalence of High Body Mass Index in US Children and Adolescents, 2007-2008. *Journal of the American Medical Association*, 303 (3), 242-249.
14. Ogden, C.L., Connor, G.S., Rivera, D.J., Carroll, M.D., Shields, M., & Flegal, K.M. (2009). The epidemiology of childhood obesity in Canada, Mexico, and the United States. In: L.A.M. Aznar, W. Ahrens, & I. Pigeot, (Eds.), *Epidemiology of Obesity in Children and Adolescents: Prevalence and Etiology*. New York, NY: Springer.
15. Sundblom, E., Petzold, M., Rasmussen, F., Callmer, E., & Lissner, L. (2008). Childhood overweight and obesity prevalence leveling off in Stockholm but socioeconomic differences persist. *Int J Obes (Lond)* 32 (10), 1525-1530.