13 - COMPARISON OF LEVEL OF PHYSICAL ACTIVITY AND OBESITY AMONG CHILDREN OF BASIC EDUCATION

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INTRODUCTION

According to Wang, Monteiro and Popkin (2002) is significant increase in the occurrence of overweight and obesity in various countries, in various age groups, especially in children, which can lead to greater attention to childhood obesity.

Some factors that may influence the causes of settlement, as the fact that people have become less physically active and increasingly consuming high-calorie foods, which had not happened in the past, a factor that links obesity with decreased energy expenditure, or is, independent of caloric intake, daily energy expenditure has decreased considerably (BOUCHARD, 2003).

As a consequence of this phenomenon, there is the onset of obesity and with it come the chronic diseases, the decrease in quality of life may occur in addition to being a risk factor for other diseases such as diabetes type 2 milito, hypertension, dyslipidemia, metabolic syndrome and clinical events related to atherosclerosis, such as myocardial infarction and stroke (WHO, 2000; Abrantes, LAMOUNIER and COLSIMO, 2002).

For prevention and treatment of obesity should be a change of behavior in society, which encourages a healthier life with quality food and the practice of physical activity as prevention. In addition, public actions, should allow all people know the consequences of obesity for well control of the disease occur (MONTEIRO et al., 2004).

When it comes to physical activity in children, it is perceived that the programs of school physical activity influence positively. These activities should not be stuck only to the school environment, most also remained throughout life, and in community settings (Steven et al. 2000).

To include daily exercise and encourage healthy eating, the ideal is that the topic of obesity were included in curricula across the health content, thus presenting an educational point of view (FOX et al. 2005).

Thus, the aim of this study is to analyze the conditions of anthropometric measurements that show obesity in children as well as the physical activity level of these related to the demonstrations of daily activities.

MATERIALS AND METHODS

The study population consisted of 165 students of both sexes from elementary school in the city of Quatigua - PR, divided according to the proposed by the college ensalamento being recruited students from the 6th, 7th, 8th and 9th grades. All with the completion and signing of informed consent by those responsible.

Data collection was carried out on the premises of the institution of education to which students were linked in times of physical education classes. Responded primarily to the Baecke questionnaire in the classroom and later procedures for anthropometric assessment in a private room in the presence of the evaluator and evaluated, with the results recorded on individual sheets.

For assessing the level of physical activity, we used the Baecke questionnaire, comprising 16 questions about activities the individual performs: household chores or work, sports and leisure activities. Each answer consists of numerical alternatives as well, add up the values, understanding that the valence is directly proportional to their respective classification. While anthropometric measurements for height, body mass, waist and hip circumferences were performed in compliance proposed by the Carnaval (2004) protocol.

Statistical analysis was performed using the statistical package BioEstat 5.4, to establish the normality Shapiro-Wilk test was used, then there, the Anova test a criterion for parametric data and Kruskal-Wallis for nonparametric data. Adopting significance at $p \leq 0.05$.

RESULTS AND DISCUSSION

Given that volunteers are all elementary school students in the city of Quatigua within the Paraná, the data were analyzed according to the distribution in the classroom, in the 6th, 7th, 8th and 9th year and thereafter, the analyzes were performed between groups of students, comparing them in cross section in order to verify the morphological status of the volunteers and the physical activity level of the same.

After analyzing the data we found that students separated according to the proposed educational institution ensalamento obeys an expected range according to the chronological age of the volunteers was that for the 6th, 7th, 8th and 9th year, respectively, the mean ages are 11, 12, 13 and 14 years, accompanied by a 1-year standard deviation for all groups analyzed, which was expected, since the entry into elementary school is governed by age chronological students.

Regarding the anthropometric characteristics of the volunteers, the results are shown in Table 01, in which we can highlight the differences between height and weight, however, not observed in BMI, and correction factors for BMI, which is the circumference abdominal and waist / hip ratio.

In Table 01, one can see that the present values related to height difference ($p \leq 0.05$) between the 7th and the 8th year, however, this difference is more pronounced when comparing the 6 th year with the 8th and 9, which repeats itself when we compare the 7th and 9th grades ($p < 0.01$), which somehow reveals a growing homogeneity in the maturation process in which students are passing (ZEFERINO et al, 2003 GEITHNER et al., 2004; MALINA, BOUCHAR and BAR-OR, 2009).

Table 1. Regarding the anthropometric characteristics of the sample values

	6th	7°th	8°th	9° th	p Valor
Stature (cm)	1,51 ± 0,08*	1,53 ± 0,08*§	1,60 ± 0,09*§	1,62 ± 0,08*	*<0,01 §<0,05
Body Mass (kg)	49,2 ± 16,3	46,8 ± 11,8§	53,6 ± 14,1	59,1 ± 10,1§	<0,05
IMC (kg/m²)	20,9 ± 5,4	19,7 ± 3,6	20,4 ± 4,0	22,4 ± 4,1	0,21
Circ abdominal (cm)	71,0 ± 13,1	72,1 ± 11,1	71,7 ± 10,9	78,0 ± 11,7	0,18

Waist (cm)	66,7 ± 12,9	66,6 ± 11,2	66,4 ± 10,1	71,8 ± 10,4	0,33
Hip (cm)	83,2 ± 12,1	83,1 ± 9,3	86,5 ± 12,3	90,8 ± 9,8	0,06
RCQ	0,79 ± 0,06	0,79 ± 0,06	0,77 ± 0,06	0,85 ± 0,27	0,35

Stature: * Significant difference between the 6th, 8th e 9th; and between 7th e 9th (p<0,01),
§ Significant difference between 7th e 8th (p<0,05);

In relation to body mass, the difference is noted between the 7th and 9th grades ($p \leq 0.05$), a result that contrasts the findings according to the height of the volunteers, however, is valid to emphasize that the analysis performed in this study did not took into account the gender of the volunteers much less the maturational stage, which may be a contributing factor in this variable, since girls and boys may have outliers according to the maturational level as I was expected according to the studies of Malina, Bouchard Bar-Or (2004) and Castro-Piñero (2009).

However, the values of height and weight, which provides, in the Body Mass Index, which reflects even differences explained between school years BMI remains unchanged, not reflecting disorders in any one that is a step in elementary school, in which, both for 6th, 7th, 8th and 9th grades, revealing uniform BMI in the 50th percentile for all classes, which, according to the WHO (2009) reflects normal range with percentile between 5 and 84.

To the values for the correction factors of BMI, which are abdominal circumference, and waist / hip ratio also showed normality, however, with an increasing trend for the 9th year, which can be explained by the same reason for the discrepancy in height and weight, showing a time of peak growth velocity since the study did not take into account the sex of the volunteers. With reference to the percentile between 85 and 95 as a condition to determine the BMI of children and adolescents, greater than or equal to the 85th percentile and lower than the 95 numbers are classified at risk of overweight, while larger than 95 are classified as overweight (POPKIN and UDRY, 1998).

To check the level of physical activity in volunteers studied, using the Baecke questionnaire, which divides activities into indices according to the work (Work Index), which in this study was understood as participation in the studies, since there volunteers did not perform work activities. Also highlights indices related to sport and leisure, thus making the total according to the level of physical activity (Table 02).

Table 2. Results obtained with the Baecke

	6° th	7°th	8° th	9° th
Work Index	1,6 (0,6)*	2,5 (0,8)*	1,9 (0,35)	2,3 (0,8)
Sports Index	2,3 (0,0)	2,3 (0,3)	1,8 (0,5)	2 (0,5)
Lazer Index	2,8 (1,0)*	3,2 (0,6)§	2,3 (1,1)§	2,5 (1)§
Total	6,8 (1,0)*	8,1 (1,1)*§	6,5 (1,3)§	6,7 (1,6)§

*difference between 6° e 7°th
§ difference between 7°, 8° e 9° th
p≤ 0, 05

Regarding the Work Index, you can see a significant difference between the 6 th and 7 th year, and in the 7th year the result was high compared to the 6 already in the sports index was observed homogeneity in activity level physics, whereas the expression level of physical activity related to leisure, one can notice the difference between the 6 th and 7 th grade again, and among the 7th, 8th and 9th grades.

The results of this study are similar to that found by Pereira (1999) when young women were analyzed with regard to the comparison between the activities of Leisure and Sport, which can result in the need for a new analysis of this stuff taking into consideration the sex of the volunteers.

Since, in this study, school activity was represented in the questionnaire by the students as a form of profession (Work Index-student). The verified results corroborate the study by Ferreira (2007), in which the rate of school physical activity had an average of 2.66 which was lower compared to the average index of physical leisure activity 2.92, proving that school in school are more inactive than in leisure activities.

Corresponding to a survey of students in this study corroborate values observed when a higher average physical activity during leisure time, this compared with the levels of work and sports, reflecting that leisure should address the most current public policies (VASCONCELOS et al, 2012) note that. Leading to the practice exercises at leisure, is prevention against chronic diseases such as obesity, so the importance of proper evaluation of physical exercise in leisure (PATE et al, 1995).

Guedes et al., (2001) contributes what was previously mentioned, because in their study the fact that adolescents belonging to family socioeconomic status was found to be the intermediary who demonstrated greater involvement in physical exercise and sports, but fact that drew attention was that none of the girls analyzed in the study belonging to the high socioeconomic class family became involved with physical exercise and sports.

Rowland (2006) explains that the newest prefer sedentary leisure practices, which confirms second Mendes et al., (2012), in their study that they play sports, ride bikes and take walks were items that had mean values their sample, unlike that watching television has been characterized as a frequent habit.

A cross-sectional analysis conducted with adolescents from different sociais classes, showed that the level of habitual leisure time physical activity is higher in disadvantaged classes because children participate in outdoor play unlike individuals of high social class that has access to electronic games (SOUZA, 2014). This can also be observed in the sample who composed this study because most of the population participating in the sample belong to lower sociais classes and the media that explains the higher occurrence of the index of physical activity during leisure, as these young people and adolescents has increased contact with open environments where it is conducive to practice and participate in regular physical activities.

FINAL THOUGHTS

Finishing the present study it can be concluded that the students in the sample had high levels of leisure, comparing with other results showed significant leisure unlike sports physical activity levels, with no significant values, this is explained by the fact that children and adolescents prefer to exercise with less systematic and commitment that are characteristic of sports training, so individuals choose to prioritize activities adapted to the playfulness of what activities that emphasize performance and athletic performance, given that this study was conducted in a town with few inhabitants and predominance of small, it is evident that the practice of physical exercises will be performed in suitable environments due to lack of infrastructure, so there is more grip from the practices of leisure.

Already the work related item, ie Work Index, levels of physical activity were low because the work was related to the term student, or school hours, so despite the students think tiring to go to school, the work done on it is low level, they remain most of the time sitting and practicing a few activities on the range, and when it comes to physical education classes, the demand for them these exercises are not enough to influence an improvement in activity indices physics.

Thus major stimulus in school physical activity, even in the upper grades, so that students learn the importance of practices of sports and physical activities that seek a better quality of life, even after the end of term is necessary because it can prevent the development of chronic degenerative diseases caused by physical inactivity.

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COMPARISON OF LEVEL OF PHYSICAL ACTIVITY AND OBESITY AMONG CHILDREN OF BASIC EDUCATION

ABSTRACT

Childhood obesity has been spreading increasingly in recent decades, this is due to increased technology and sedentary lifestyle, their appearance at this age becomes a disturbing fact because the disease can remain throughout adulthood and trigger other problems health diminishing the quality of life of individuals. Therefore the aim of this study was to analyze the level of physical activity and obesity in children, elementary school students from the city of Quatiguá-PR. For data collection anthropometric measures of body mass and height in order to get the BMI of students, and also measures of waist and hip circumference in order to establish the WHR were measured; the Baecke questionnaire was used to assess levels of physical activity among individuals. For statistical analysis was used software BioStat 5.4, adopting the standard of significance at $p \leq 0.05$. The results showed that in this population divided according to ensalamento was no significant difference between the rooms of chronological age, height and body mass. Ever, with respect to the Baecke questionnaire revealed significant differences in the values of work and leisure index, confirming the overall outcome of the survey, which also showed significant differences between the different school years. It is possible to conclude that the students studied did not show in his paintings most worrying in relation to obesity beyond levels of leisure time physical activity were more significant compared to the other items.

KEYWORDS: Obesity, Children, Physical Activity.

COMPARAISON DE NIVEAU D'ACTIVITÉ PHYSIQUE ET L'OBÉSITÉ CHEZ LES ENFANTS DE L'EDUCATION DE BASE

RÉSUMÉ

L'obésité infantile a été répand de plus en plus au cours des dernières décennies, cela est dû à l'augmentation de la technologie et de mode de vie sédentaire, leur apparition à cet âge devient un fait troublant parce que la maladie peut rester tout au long de l'âge adulte et déclencher d'autres problèmes de santé en diminuant la qualité de vie des individus. Par conséquent, le but de cette étude était d'analyser le niveau d'activité physique et l'obésité chez les enfants, les élèves des écoles élémentaires de la ville de Quatiguá - PR. Pour la collecte de données les mesures anthropométriques de masse corporelle et de la hauteur afin d'obtenir l'IMC des élèves, ainsi que des mesures de taille et de hanche afin d'établir le WHR ont été mesurés; le questionnaire Baecke a été utilisé pour évaluer les niveaux d'activité physique chez les individus. Pour l'analyse statistique logiciel BioStat 5.4 a été utilisé, l'adoption de la norme de la signification à $p \leq 0,05$. Les résultats ont montré que dans cette population divisé selon ensalamento avait pas de différence significative entre les chambres de l'âge chronologique, la hauteur et la masse corporelle. Jamais, en ce qui concerne le questionnaire Baecke révélé des différences significatives dans les valeurs du travail et de l'indice de loisirs, ce qui confirme le résultat global de l'enquête, qui a également montré des différences significatives entre les différentes années scolaires. Il est possible de conclure que les élèves ont étudié n'a pas montré dans ses peintures les plus inquiétantes en ce qui concerne l'obésité au-delà des niveaux d'activité physique durant les loisirs étaient plus significative par rapport aux autres éléments.

MOTS-CLÉS: obésité, enfants, l'activité physique.

COMPARACIÓN DEL NIVEL DE ACTIVIDAD FÍSICA Y OBESIDAD ENTRE LOS NIÑOS DE LA EDUCACIÓN BÁSICA

RESUMEN

La obesidad infantil se ha ido extendiendo cada vez más en las últimas décadas, esto se debe a un aumento de la tecnología y el estilo de vida sedentario, su aparición en esta edad se convierte en un hecho preocupante porque la enfermedad puede permanecer a lo largo de la edad adulta y provocar otros problemas de salud disminuyendo la calidad de vida de los individuos. Por lo tanto el objetivo de este estudio fue analizar el nivel de actividad física y la obesidad en los niños, los estudiantes de la escuela primaria de la ciudad de Quatiguá - PR. Para la recolección de datos las medidas antropométricas de masa corporal y la altura con el fin de obtener el índice de masa corporal de los estudiantes, así como las medidas de la cintura y la circunferencia de la cadera con el fin de establecer la RHO se midieron; Se utilizó el cuestionario Baecke para evaluar los niveles de actividad física entre los individuos. Para el análisis estadístico se utilizó el software BioStat 5.4, la adopción de la norma de significación de $p = 0,05$. Los resultados mostraron que en esta población dividida de acuerdo con ensalamento hubo diferencia significativa entre las habitaciones de la edad cronológica, la altura y masa corporal. Alguna vez, en relación con el cuestionario Baecke revelado diferencias significativas en los valores del trabajo y el índice de ocio, lo que confirma el resultado global de la encuesta, que también mostró diferencias significativas entre los diferentes años escolares. Es posible concluir que los alumnos estudiados no mostraron en sus pinturas más preocupantes en relación a la obesidad más allá de los niveles de actividad física de tiempo libre fueron más significativas en comparación con los otros elementos.

PALABRAS CLAVE: Obesidad, niños, la actividad física.

COMPARAÇÃO DO NIVEL DE ATIVIDADE FISICA E OBESIDADE ENTRE CRIANÇAS DO ENSINO FUNDAMENTAL

RESUMO

A obesidade infantil vem se alastrando cada vez mais nas últimas décadas, isto devido ao aumento das tecnologias e estilo de vida sedentária, seu surgimento nesta faixa etária se torna um fato preocupante pois, a doença pode permanecer durante a vida adulta e desencadear outros problemas de saúde diminuindo a qualidade de vida do indivíduo. Portanto o objetivo deste estudo foi analisar o nível de atividade física e obesidade em crianças, alunos do Ensino Fundamental da cidade de Quatiguá-PR. Para coleta de dados foram mensuradas medidas antropométricas de massa corporal e estatura, afim de obter o IMC dos alunos, e também medidas de Circunferência de cintura e quadril afim de estabelecer o RCQ; foi utilizado o questionário de Baecke para verificar os níveis de atividade física dos indivíduos. Para análise estatística foi utilizado o software Bioestat 5.4, adotando o padrão de significância em $p \leq 0,05$. Os resultados mostraram que na presente população divididos de acordo com o ensalamento houve diferença significativa entre as salas de idade cronológica, estatura e massa corporal. Já, no que diz respeito ao questionário de Baecke, revelou diferenças significativas nos valores do Índice de trabalho e de lazer, confirmando o resultado total do questionário, o qual também apresentou diferença significativa entre os diferentes anos letivos. É possível concluir que os alunos estudados não apresentam, em sua maioria quadros preocupantes em relação à obesidade além do que os níveis de atividade física no lazer foram mais significativos que nos outros itens comparados.

PALAVRAS-CHAVE: Obesidade, Crianças, Atividade Física.