10 - LEVEL OF PHYSICAL ACTIVITY AND OBESITY IN ADOLESCENTS OF SECONDARY EDUCATION

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INTRODUCTION

Obesity has increased dramatically over the last few years especially among teenagers, making it important to prevent it and treat it so that complications do not extend into adulthood. With the development of large urban centers, increasing the space for physical activity of children outdoors is becoming limited, this modification of modern society coupled with security issues, further restricts the environments that could serve to the development of recreational activities and socialization (SILVA et al . 2007).

Some factors that may influence the causes of settlement, as the fact that people have become less active and increasingly consuming high-calorie foods, which had not happened in the past, another factor related to obesity and decreased energy expenditure, ie independent of caloric intake, daily energy expenditure has decreased by more than was imagined (BOUCHARD, 2003).

As a consequence 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, 2009; Abrantes, LAMOUNIER and COLSIMO, 2002)

In addition to these chronic diseases can trigger obesity psychosocial disorders, so with the least ability to socialize, lower school performance, low self-esteem, and sleep disturbances and mood (BURROWS, 2000). Therefore, to include daily exercise and healthy eating in the lives of teenagers, the ideal is that the topic of obesity were included in the curricula through the content in health, even presenting an educational point of view (FOX et al., 2005).

Thus, it is believed that dietary reeducation and physical activity encouraged in schools are of vital importance because it may contribute to the prevention of child and adolescent obesity, minimizing the high cost that obesity generates for society with specialized medical care among other indirect expenses that involve the population in question. Additionally, you may prevent complications of physiological and psychosocial order caused by obesity affecting quality of life of individuals, reducing the chances of these individuals become obese adults of tomorrow. That said, this study aims to examine the anthropometric characteristics of high school students from an inner city of Paraná, as well as the level of physical activity in its different manifestations.

MATERIALS AND METHODS

A sample of this cross-sectional survey, comprised adolescents randomly selected, with high school students in the city of Quatiguá - Pr. The survey was conducted in the days of physical education classes, and applied the questionnaire in the classroom. Subsequent to this evaluation, anthropometric measures were taken in a private room with the presence of the assessor and the assessed. The results of the tests were 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.

To measure the height a stadiometer was used, with the value obtained in centimeters (cm), with an accuracy of 0.1 cm. The subject was positioned barefoot, with feet together, with the posterior surface of the heel, the pelvic girdle, the shoulder girdle and the occiput touching the measuring scale. For body mass a scale of Filizola® accurate to 0.1kg, with its value given in Kilograms (kg) was used. The estimated positioned standing with his back to the measurement scale, getting barefoot and using the minimum possible clothing.

The measurement of abdominal circumference was assessed with the standing position, with the abdomen relaxed, the end expiratory movement. A flexible tape measure, mark the Sanny®, accurate to 0.1 cm in the horizontal plane was used. The tape was positioned just above the umbilicus firmly around the body site to be measured without stretching excessively, thus avoiding compressing the subcutaneous tissue. Already, waist circumference was measured with rated in the standing position and the abdomen relaxed. Using a flexible tape measure, mark the Sanny®, accurate to 0.1 cm in the horizontal plane. The tape slightly above the navel and well calibrated measurement.

Starting from the same standing position, the flexible non-elastic tape measure Sanny® mark, with precision of 0.1 cm, positioned in the horizontal plane at the point of greatest prominence of the buttocks, as well by checking the value of the circumference of the hip. The measurements of the morphology of the sample was collected as described above by adopting the proposed Carnival (2004) protocol.

Statistical analysis was performed using the statistical package BioEstat 5.4 normality for the Shapiro -Wilk, and consequently the criterion ANOVA test for parametric data, whereas non-parametric data were analyzed using the test was used Kruskal-Wallis. Adopting significance to the value of $p \leq 0.05$.

RESULTS AND DISCUSSION

For the classification of groups of volunteers was taken into consideration the layout according to the classrooms, thus representing the average age at 15, 16 and 17 years respectively for first, second and third year of high school, respectively .

For the anthropometric characteristics of the sample body measurements, as well as the establishment of BMI and Waist-Hip Ratio and subsequently compared between the groups and the values expressed as mean ± standard deviation were analyzed, as shown in Table 01.

Table 1. regarding the anthropometric characteristics of the sample values

	1° Ens. Méd.	2nd Ens.Méd.	3rd Ens. Méd.	p Value
Height (m)	1,66± 0,08	1,65± 0,08	1,67± 0,06	0,60
Body mass (kg)	61,1± 11,7	60,5± 13,2	64,8 ± 16,6	0,52
BMI (Kg/m2)	22,0 ± 3,2	22,2 ± 4,5	23,1 ± 5,3	0,68
Circ. Abdominal (cm)	76,1 ± 9,4	76,0 ± 12,5	78,1 ± 13,0	0,78
Waist (cm)	70,4 ± 8,0	72,6 ± 10,2	73,8 ± '3,8	0,77
Hip (cm)	93,0 ± 8,2	89,0 ± 16,2	95,8 ± 8,9	0,38
WHR	0,75 ± 0,05	0,83 ± 0,17	0,76 ± 0,07	0,22

p=0,05

As it is with individuals less than 18 years old, BMI should be ranked in percentile (WHO, 2009), sense as well, all the series analyzed showed the 50th percentile, according to WHO classification getting as normal verified is then normality in all series with respect to BMI.

For values related to physical activity level using the Baecke questionnaire, the results are shown in Table 02, referring to the indices and the total, with values expressed as median (interquartile range).

Table 02. Results obtained with the Baecke

	1° Ens. Avg.	2nd Ens.Méd.	3rd Ens. Méd.	p Value
Work Index	2,3 (0,5)	2,1 (0,7)	2 (0,9)	0,91
Sports Index	2,2 (0,9)	2 (0,6)	2 (0,7)	0,63
Lazer Index	2,5 (0,6)	2,0 (0,8)	2 (0,75)	0,06
Total	6,6 (1,8)	6,6 (1,5)	6,3 (1,2)	0,48

p=0,05

On the level of physical activity, you can see assimilation activities in both the Work Index, Index Sports and Leisure Index as well as in total physical activity, taking into account that prior to enrollment in secondary education is the 9th year elementary school, as stated by Henriques (2000), since then, the leisure activity tends to show decline, probably due to the charging of the family to which adolescents are dedicated to more studies in this age group.

Vasconcelos and Maia (2001) study showing that boys and girls during middle school there is a closer relationship with youth sports practices in Physical Education, which may lead to an identification of this practice outside school clubs or athletic activities Overall, however, this practice in the present study was not confirmed.

Although no significant difference is found between the work activities, leisure and sport, you can check out a practice aimed decreased leisure over time, reflecting that leisure, according to Vasconcelos et al., (2012) could be dealt with certain priority over public policies of leisure practices in all possible environments of everyday activity, even as a prophylactic measure quality of life. Understanding how physical exercise during leisure activities is prevention against chronic diseases such as obesity, so the importance of proper evaluation of physical exercise in leisure (PATE et al., 1995).

Another important factor that may be influential in the results is related to the social class of volunteers. Guedes et al., (2001) noted in their study that teenagers have a higher social class intermediate involvement with sport-related activities, whereas this difference was not observed in higher social classes.

Dietz (1993) found in their study that adolescents from different social classes have different behaviors regarding the practice of leisure, in a process similar to that found by Guedes cited earlier, in which leisure activities are more common in lower social classes while than in more affluent these activities are small.

However, this study shows that this homogeneous activity refers to the distribution of activities, gives up because it was considered a community in which you exist several classes inserted in the sample, which may increase or decrease the values found, taking into account that analyzed the city is characterized by a small town in the interior of Paraná.

CONCLUSION

Finishing the present study we can see that the population tested showed great homogeneity in relation to anthropometric characteristics and the level of physical activity of volunteers.

Regarding the morphological values of population there was average in normal parameters, thus showing that there is no apparent risk of physiological disorders or possible occurrences of diseases resulting from disorders caused by obesity, both the simplified analysis of BMI, by making use of correction factors the same.

Regarding the level of physical activity was apparent equating of the manifestations of this practice on a regular basis in all series analyzed, both for the work index, as for leisure and sport which may reflect the practices developed during lessons Physical education is serving as positive reinforcement for sports and leisure activities outside the school environment, as well as the labor practice, exercised by volunteers sometimes are equivalent practices of relaxation in the everyday routine of the same.

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LEVEL OF PHYSICAL ACTIVITY AND OBESITY IN ADOLESCENTS OF SECONDARY EDUCATION

ABSTRATC

Obesity in children and adolescents has been spreading increasingly in recent decades, this due to the increase in technology and sedentary lifestyle, their appearance at this age becomes a disturbing fact because the disease can remain throughout adulthood and triggers other health problems, decreasing the quality of life of the individual. Therefore, the aim of this study was to examine the relationship between physical activity and obesity in high school students in the city of Quatiguá - PR. For data collection anthropometric measures of body mass and height in order to get the BMI of students, and 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. Statistical analysis was used Bioestat 5.4 software for testing the normality of Shapiro-Wilk, and consequently the criterion ANOVA test for parametric data was used, whereas non-parametric data were analyzed using the Kruskal-Wallis test. Adopting significance to the value of $p \leq 0.05$. The results showed that in this population with respect to characteristic anthropometric second WHO (2009), has been a normality of all series examined in relation to the BMI. Ever, with respect to the Baecke questionnaire revealed that the equalization was notorious manifestations of this practice on a regular basis in all series analyzed, both for the work index, as for leisure and sport.

KEYWORDS: Obesity, Adolescents, physical activity

NIVEAU D'ACTIVITÉ PHYSIQUE ET L'OBÉSITÉ CHEZ ADOLESCENTS DE L'ENSEIGNEMENT SECONDAIRE

RÉSUMÉ

L'obésité chez les enfants et les adolescents a été répand de plus en plus au cours des dernières décennies, ce en raison de l' augmentation de la technologie et 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 détente d'autres problèmes de santé, diminuant la qualité de vie de l'individu. Par conséquent, le but de cette étude était d'examiner la relation entre l'activité physique et l'obésité chez les élèves du secondaire dans 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. L'analyse statistique a été utilisé 5,4 Bioestat logiciel pour tester la normalité de Shapiro-Wilk, et par conséquent, le critère de test ANOVA pour les données paramétrique a été utilisé, alors que les données non paramétriques ont été analysées en utilisant le test de Kruskal-Walis. L'adoption d' importance pour la valeur de $p \leq 0,05$. Les résultats ont montré que, dans cette population par rapport à la seconde caractéristique anthropométrique OMS (2009), a été une normalité de toutes les séries examinées en relation avec l'IMC. Jame, en ce qui concerne le questionnaire Baecke a révélé que la péréquation était manifestations notoires de cette pratique sur une base régulière dans toutes les séries analysées, à la fois pour l'indice de travail, comme pour les loisirs et le sport.

MOTS-CLÉS: obésité, adolescentes, activité physique

NIVEL DE ACTIVIDAD FÍSICA Y LA OBESIDAD EN ADOLESCENTES DE EDUCACIÓN SECUNDARIA

RESUMEN

La obesidad en niños y adolescentes se ha ido extendiendo cada vez más en las últimas décadas, esto debido al 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 el gatillo otros problemas de salud, la disminución de la calidad de vida del individuo. Por lo tanto el objetivo de este estudio fue examinar la relación entre la actividad física y la obesidad en estudiantes de secundaria en 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. Se utilizó el análisis estadístico BioEstat software 5.4 para probar la normalidad de Shapiro-Wilk, y por lo tanto se utilizó la prueba de ANOVA criterio para datos paramétricos, mientras que los datos no paramétricos se analizaron mediante el test de Kruskal-Walis. La adopción de importancia para el valor de $p \leq 0,05$. Los resultados mostraron que en esta población con respecto a la segunda característica antropométrica OMS (2009), ha sido una normalidad de todas las series examinado en relación con el índice de masa corporal. Alguna vez, en relación con el cuestionario Baecke reveló que la ecualización fue manifestaciones notorias de esta práctica de forma regular en todas las series analizadas, tanto para el índice de trabajo, como para el ocio y el deporte.

PALABRAS CLAVE: Obesidad, adolescentes, actividad física

NÍVEL DE ATIVIDADE FISICA E OBESIDADE EM ADOLESCENTES DO ENSINO MEDIO

RESUMO

A obesidade infantil e na adolescência 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 individuo. Portanto o objetivo deste estudo foi analisar a relação entre nível de atividade física e obesidade em alunos do Ensino Médio da cidade de Quatiguá - PR. Para coleta de dados foram mensuradas medidas antropométricas de massa corporal e estatura, a fim de obter o IMC dos alunos, e também medidas de Circunferência de cintura e quadril a fim 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, para a normalidade foi utilizado o teste de Shapiro-Wilk, e, conseqüentemente o teste de Anova

um critério para os dados paramétricos, enquanto que os dados não paramétricos foram tratados utilizando o teste de Kruskal-Walis. Adotando a significância com o valor de $p \leq 0,05$. Os resultados mostraram que na presente população estudada, em relação à característica antropométrica segundo (WHO,2009), foi verificado normalidades entre todas as séries analisadas em relação ao IMC. Já, no que diz respeito ao questionário de Baecke, revelou que foi notório a equiparação das manifestações dessa prática de maneira regular em todas as séries analisadas, tanto para o índice de trabalho, quanto para lazer e esporte.

PALAVRAS-CHAVE: Obesidade, Adolescentes, Atividade Física.