153 - LEVELS OF OVERWEIGHT AND OBESITY IN CHILDREN AND ADOLESCENTS NETWORK OF MUNICIPAL PUBLIC EDUCATION ARAPIRACA-AL

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INTRODUCTION

Over the past decades there has been a significant increase of overweight and obesity in children and adolescents (ENES & SALTER, 2010). In addition to the inactive lifestyle, has seen other risk behaviors associated with contributing to the development of diseases and disorders noncommunicable (Dante's), both these phases of life, as in adulthood, such as poor diet, the smoking and consumption of alcoholic beverages (JUNIOR Farias et al., 2009). The relationship between risk and incidence of Dante's physical activity and / or fitness is given as cause and effect. Due to the framework, children and adolescents have been investigated in recent years (Fonseca et al. 1998; Balaban and Silva, 2001; Glaner, 2003; Fisberg & Oliveira, 2003; Farias & Salvador, 2005, Neves et al., 2006; Chest et al., 2007, Gomez et al., 2007, Pearson et al. 2010; Usfar et al., 2010).

Obesity is a serious health problem that reduces life expectancy, which increases the individual risk of developing coronary artery disease, hypertension, type II diabetes, obstructive pulmonary disease, osteo arthritis and certain cancers (Heyward & Stolarczyk, P. 2, 2000). However, regardless of the amount of total body fat, distribution of body fat may be a more accurate indicator for identifying cardiovascular risk factors, both for adults and children (Fernandez et al., 2004).

It is based on the recognition of the important influence that living conditions have on the physical growth and the prevalence of obesity, the international health agencies such as the World Health Organization (WHO) and national, as the Ministry of Health (MOH) and the Brazilian Society of Pediatrics (SBP), advocate monitoring as a routine procedure in the care of children and adolescents (Fisberg & OLIVEIRA, 2003; Zeferino et al., 2003).

In this context, anthropometry has been used in most studies of this nature. The anthropometric assessment, even when restricted to the weight and height, is of great nutritional importance in the diagnosis of the child, but the assessment of nutritional status by anthropometry becomes complex due to the variability of growth and body dimensions, which depend on age, sex and sexual maturation (SALVADOR & Farias, 2005; Soleto et al. 2004; Vitolo et al., 2007). For Malina and Bouchard (2009), due to the contribution to the health of anthropometry, the study of children and adolescents is critical, because physical activity habits developed during childhood are assumed and continued during adolescence and adulthood.

Based on the above and since there is a lack of research with this population in Alagoas, especially in the city of Arapiraca, the study aimed to identify the levels of overweight and obesity in children and adolescents enrolled in municipal schools of Arapiraca-AL in 2010.

METHODOLOGY

It is a descriptive epidemiological study, a cross-sectional (Thomas & Nelson, 1996). This study was approved by the Ethics Committee in Research of the Federal University of Alagoas, with the number of protocol 003360/2011-75.

The sample consisted of 1,634 children and adolescents of both sexes, aged between 9 and 14 years, enrolled in 2010 in public schools and municipal schools who attended the assessment day. Children and adolescents participated voluntarily and had to submit the Statement of Informed Consent (IC) signed by parents or guardians.

Data collection was conducted between April and June 2010, for individuals previously trained in order to maintain standardization of collection.

We measured height (m) using a stadiometer Personal Sanny ® Caprice, whose accuracy is 1 mm, consisting of a vertical base with a metric scale graduated in cm, and total body mass (kg) using scales Techline ® BAL-150Pa , properly calibrated and measured, the accuracy is 100 grams and the scale ranges from 0 to 150 kg. The collection was performed according to protocol described in Alvarez and Pavan (2003). To measure the waist circumference was used Anatomical Trena Sanny Anthropometric Metallic ®, 200 cm long and 0.1 cm precision, following the protocol proposed in Norton et. al. (2005).

Subsequently, the data collected were used for the determination and classification of BMI (Conde and Monteiro, 2006), and waist circumference Anatomy (Fernandez et al. Al., 2004).

For data processing we used the statistical central tendency (mean and standard deviation) with the help of Epi Info.

RESULTS

Classification of BMI and waist circumference according to the Anatomical age in females is described in Table 1.

Table 1: Classification of BMI and waist circumference according to the Anatomical age in females.

FEMALE GENDER							
		9 anos	10 anos	11 anos	12 anos	13 anos	14 anos
IMC	BP	13 (9,56%)	15 (9,1%)	13 (7,74%)	9 (5,17%)	8 (5,97%)	3 (4,22%)
	NO	93 (68,38%)	126 (76,36%)	111 (66,07%)	133 (76,43%)	102 (76,12%)	53 (74,65%)
	SP	24 (17,64%)	15 (9,1%)	34 (20,24%)	26 (14,94%)	19 (14,18%)	14 (19,72%)
	OB	6 (4,42%)	9 (5,44%)	10 (5,95%)	6 (3,46%)	5 (3,73%)	1 (1,41%)
PCINT	SR	131 (96,32%)	162 (98,18%)	162 (96,43%)	172 (98,85%)	133 (99,25%)	71 (100%)
	RIS	5 (3,68%)	3 (1,82%)	6 (3,57%)	2 (1,15%)	1 (0,75%)	0 (0,00%)

(Legend: BP - Low Birth Weight, NO - Normal, SP - Overweight, OB - Obesity, BMI - Body Mass Index, PCINT - Anatomical waist) Source: Data from the research itself, 2010.

The results show that 72.88% of children and adolescents who comprised the sample are within the normal range, but children aged 11 years of age had a prevalence of overweight and 26.19% (20.24%) and obesity (5.95%). Taking into account the classification proposed by Fernandez et al., Was observed in relation to anatomical waist 98% of children and adolescent females not at risk for developing non-communicable diseases and injuries, on the other hand, in the range age of 11 years of age was observed that 3.57% at risk of developing Dante's.

The results, described in Table 2 shows the classification of BMI and waist Anatomically according to age in males.

Table 2. Classification of BMI and waist Anatomically according to age in males.

		MALE GENDER					
		9 anos	10 anos	11 anos	12 anos	13 anos	14 anos
IMC	BP	7 (5,42%)	8 (5,37%)	2 (1,38%)	3 (1,76%)	5 (4,03%)	0 (0,00%)
	NO	102 (79,08%)	119 (79,86%)	114 (78,62%)	135 (79,42%)	100 (80,64%)	57 (81,44%)
	SP	14 (10,85%)	18 (12,08%)	24 (16,55%)	29 (17,06%)	17 (13,71%)	11 (15,71%)
	OB	6 (4,65%)	4 (2,69%)	5 (3,45%)	3 (1,76%)	2 (1,62%)	2 (2,85%)
PCINT	SR	125 (96,9%)	144 (96,64%)	140 (96,55%)	165 (97,05%)	122 (98,38%)	70 (100%)
	RIS	4 (3,1%)	5 (3,36%)	5 (3,45%)	5 (2,95%)	2 (1,62%)	0 (0,00%)

(Legend: BP - Low Birth Weight, NO - Normal, SP - Overweight, OB - Obesity, BMI - Body Mass Index, PCINT - Anatomical waist) Source: Data from the survey itself, 2010.

Regarding BMI, the results show that 79.66% of children and adolescents who comprised the sample are within the normal range, but children aged 11 years of age had a prevalence of 20% for overweight (16 55%) and obesity (3.45%). The perimeter of the waist Anatomically, when considering the classification proposed by Fernandez et al. (2004), it was observed that 97.33% were not at risk for developing Dante's, yet children aged 11 years of age showed a prevalence of 3.45% for the development of these morbidities.

DISCUSSION

It is necessary to consider some aspects related to the limitation of the study: a) the fact that the same have been conducted in a specific region of our country, b) using the technique of anthropometry for data collection, c) because it deal with a cross-sectional study, d) not taken into account the maturational stage and eating habits of the individuals.

In a study by Sune et al. (2007) with children and adolescents aged 11 to 13 years of age in the south, it was observed that 75.2% of children had BMI within the normal range, confirming the present study. However, it should be noted that in the study by Sune et al. (2007) a higher number of boys were classified as overweight and obesity in relation to girls, whereas in this study, there is a higher number of girls classified as overweight or obese than boys.

As observed in other research areas of the country, levels of overweight and obesity observed in this study are higher than the studies in Corumbá / MS (6.2% overweight and 6.5% obese) (Baruk et al. 2006) and Belo Horizonte/MG (8.4% overweight and 3.1% obese) (Ribeiro et al., 2006), and inferior to the study performed in Santos / SP (15.7% overweight and 18% obese) (COSTA et al., 2006), and similar to a study carried out in Fortaleza / CE (19.5% of overweight and obesity) (Campos et al., 2007). The differences in the results of the levels of overweight and obesity in this study and those cited may be due to several factors, including: different ages, different cutoff points used and different cultural characteristics of each region (RECH et al. 2010). In the study by Rech et al. (2010) school with a mountain town of Rio Grande do Sul, had rates higher than the present study. We observed the prevalence of overweight and obesity of 19.9% and 8% respectively. However, no significant differences were found between boys and girls.

Finally, it should be noted that non-communicable diseases and injuries (Dante's) are the major cause of death in developed countries, and also has been increasing in developing and transition countries. A set of risk factors, identified as metabolic syndrome, represented by arterial hypertension, overweight / obesity, increased triglycerides, decreased HDL cholesterol and glucose intolerance / type 2 diabetes are increasingly present in children and adolescents (Lakka et al . 2002; Brandao et al., 2005).

CONCLUSION

The results of this study point to a profile of schoolchildren within the normal range for both BMI and waist circumference to the Anatomical, resulting in a low risk for the development of Dante's. However, it is important to note that levels of overweight and obesity was higher among girls, confirming the findings in the literature.

It is recommended that further studies and implementation of intervention programs aimed at modifying the current frame.

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LEVELS OF OVERWEIGHT AND OBESITY IN CHILDREN AND ADOLESCENTS NETWORK OF MUNICIPAL PUBLIC EDUCATION-AL ARAPIRACA

ABSTRACT

The objective was to identify the levels of overweight and obesity in children and adolescents from public schools in municipal Arapiraca-AL. The transversal study had a sample of 1634 schoolchildren of both sexes enrolled in 2010. We collected values for the total body mass and height (to calculate body mass index - BMI), waist circumference as well as anatomical. We used the statistic of central tendency. For both genders the results pointed to a profile within normal limits for both BMI and waist circumference for anatomical. However, when analyzed by gender, levels of excess weight (overweight and obesity) were 19.92% for females and 17.16% for males. As for the waist anatomical results pointed to a profile within normal limits. It is concluded that the students of both genders had normal levels of BMI and waist circumference, but by gender, females had higher levels of overweight corroborating with the literature.

KEYWORDS: Overweight, Obesity, Children, Adolescents.

NIVEAUX DE SURPOIDS ET D'OBÉSITÉ CHEZ ENFANTS ET ADOLESCENTS DE RÉSEAU ÉDUCATION PUBLIQUE MUNICIPALE-AL ARAPIRACA

RÉSUMÉ

L'objectif était d'identifier les niveaux de surpoids et d'obésité chez les enfants et les adolescents des écoles publiques dans les municipalités Arapiraca-AL. L'étude transversale a eu un échantillon de 1634 écoliers des deux sexes inscrits en 2010. Nous avons recueilli des valeurs pour la masse totale du corps et la hauteur (pour calculer l'indice de masse corporelle -

IMC), tour de taille ainsi que l'anatomie. Nous avons utilisé la statistique de la tendance centrale. Pour les deux sexes les résultats souligné un profil dans les limites normales pour les deux IMC et tour de taille pour les anatomiques. Toutefois, lorsque analysées par sexe, le niveau d'excès de poids (embonpoint et obésité) ont été 19,92% pour les femmes et 17,16% pour les hommes. Comme pour les résultats anatomiques ceinture a un profil dans les limites normales. Il est conclu que les élèves des deux sexes avaient des niveaux normaux de l'IMC et du tour de taille, mais par le sexe, les femmes avaient des niveaux plus élevés de surpoids concordants avec la littérature.

MOTS-CLÉS: Surpoids, obésité, enfants, adolescents.

NIVELES DE SOBREPESO Y OBESIDAD EN NIÑOS Y RED MUNICIPAL DE ADOLESCENTES DE EDUCACIÓN PÚBLICA, AL ARAPIRACA

RESUMEN

El objetivo fue identificar los niveles de sobrepeso y obesidad en niños y adolescentes de escuelas públicas municipales Arapiraca-AL. El estudio transversal tuvo una muestra de 1.634 escolares de ambos sexos matriculados en 2010. Se recogieron los valores de la masa corporal total y la altura (para calcular el índice de masa corporal - IMC), circunferencia de la cintura, así como anatómicos. Se utilizó la estadística de tendencia central. En ambos sexos los resultados señalaron un perfil dentro de los límites normales de IMC y circunferencia de la cintura para anatómicas. Sin embargo, cuando se analiza por sexo, los niveles de exceso de peso (sobrepeso y obesidad) fueron 19,92% para las mujeres y 17,16% para los hombres. En cuanto a los resultados anatómicos cintura señaló un perfil dentro de los límites normales. Se concluye que los estudiantes de ambos sexos tenían niveles normales de IMC y circunferencia de la cintura, pero por el género, las mujeres tenían mayores niveles de sobrepeso que corrobora con la literatura.

PALABRAS CLAVE: sobrepeso, obesidad, niños, adolescentes.