43 - BODY COMPOSITION OF SCHOOL OF PUBLIC EDUCATION NETWORK OF STATE OF THE CITY OF ALTA FLORESTA D'OESTE-RO.

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INTRODUCTION

According INAN - National Institute of Food and Nutrition (1991) estimated that 32% of adults had some degree of overweight, especially in the lower classes. Of these, about 8% had been morbid obesity and 16% of children suffering from childhood obesity.

Abate, (1999), states that overweight in children and adolescents increases the risk of death from cardiovascular disease in adulthood, independent of BMI of the individual as an adult. The same author also states that children and young people with a BMI greater than the 75th percentile has twice the risk of getting ischemic heart disease than those with a BMI values between 25 and 49 percentiles.

On the issue of obesity, Anjos et al (1998), reports from the observation of the National Health and Nutrition - PNSN (INAN, 1991), in Brazil, the prevalence of obesity among adults occurs in all economic strata, experiencing what they call a nutritional transition, where the problem of malnutrition is replaced by the problem of obesity. Epidemiological data show that teens are experiencing health problems in your body composition is of great importance, especially those who are under school difficult because the processes of physical growth and learning of the individual (Araújo, 2000).

OBJECTIVE

This study aimed to analyze the body composition of school of public schools statewide in the municipality of Alta Floresta d'Oeste / RO. Describing the profile of the population studied in relation to sex and age; determining mass index and fat percentage and checking the relationship of body mass index with percentage of fat.

METHODOLOGY

Location, Time, Type of Study

This study was conducted in state schools in the municipality of Alta Floresta D'Oeste - RO. Between August and September 2010. The research used the direct method of field with a cross-sectional design using a statistical approach with qualitative and quantitative.

STUDY SAMPLE

The sampling method was stratified random Mattos e Col, (2004). The sample selection was to draw 25% of total students per school, with a margin of error of about 0.5% with confidence level of 95%. The sample was calculated using the statistical formula suited, according to Martins (2000) and Kazmier (1982).

PROTOCOLS

Objective measurements were performed by the researchers and consisted of: a) measurement of body weight, b) measurement of height, c) body mass index, d) measurement of skinfold thickness (triceps, biceps, subscapular and supra-iliac and added, for comparison).

a) total body weight - is the measure most used in nutritional assessment, by the easy availability of equipment, simple and accurate determination and good patient acceptance.

The subjects were weighed in the standing position, with arms stretched over the body, without shoes and wearing light clothing, a technique proposed by Carnaval, (2000). Filizola electronic scale was used, with a maximum capacity of 150 kg and minimum variation of 0.5 kg.

- The total body weight was recorded, considering the pounds and ounces, always before removing the individual's balance. b) Height - To obtain the height was used stadiometers Sanny Personal Caprice, models range from 1 cm and 1 mm precision. c) Body Mass Index (BMI) - was calculated from the formula BMI = weight (kg) / height (m) ² and this was used to classify the protocol of the First Latin American Consensus on Obesity Coutinho, (1999).

The triceps skinfold thickness, biceps, subscapular and suprailiac were measured from a caliper

Brand Cescorf scientific model and later added, for comparison using a comparison table adapted by Viunisk, (1999).

STATISTICAL ANALYSIS

Data were analyzed by the Laboratory of Epidemiology FACIMED (FACIEPI) using parametric tests, analyzing the mean and standard deviation and percentages of the collected data, calculated by the programs Microsoft Office Excel 2003 and EPI INFO.

RESULTS

The survey was conducted with 279 school children, 139 males (49.9%) and 140 females (50.1%). The weight of the children ranged from 20.0 to 69.0 kg, with an average of 33.55 ± 9.47 kg and a median of 31.0 kg (IQ 25-75% = 26.0 to 39.0 kg). The height of the respondents ranged between 1.16 m and 1.76 m, with a mean of 1.38 0.11 m and 1.36 m median (IQ 25 to 75% = 1.30 to 1.45 m). Comparing the values of central tendency of the weight, we found that there were no significant differences between boys and girls of the same population.

It was found in Table 1 that the percentage of normal children represents 5.4% of the sample, divided into male and 5.8% 5% females in relation to the overall sample. Regarding the classification of overweight was observed in this study that the percentage relative to the sample was 22.2% of the total, divided into 19.4% male and 25% female. Regarding the classification obesity, the incidence was 5.4% of the sample, boys accounted for 4.3% and 6.5% girls. The highest percentage of the sample

focused on normal classification representing 67% of the sample divided into 70.5% male and 63.5% female.

Table 1: Distribution of students on the classification of Body Mass Index (BMI)

diagnosis	Boys		Girls		General	
	Nº	%	Nº	%	Nº	%
Low weight	8	5,8	7	5	15	5,4
Normal	98	70,5	89	63,5	187	67
Overweight	27	19,4	35	25	62	22,2
Obesity	6	4,3	9	6,5	15	5,4
Total	139	100	140	100	279	100

Source: Own authors, 2010.

Table 2 shows that, in relation to body fat percentage, 14.0% of the sample were classified as low, and in the male sample perfez a total of 5.4% and 8.6% female perfez. Only girls had the rating too low (1.7%). 69.2% of students achieved adequate classification, with 37.3% males and 31.9% female. Moderately high in the classification, the overall percentage of the sample represented 8.3% with 3,6% for males and 4.7% female. The classification high make up percentage of 5,8% of the overall sample and 2,5% for males and 3,3% female. Only boys had excessively high ratings (1.0%).

Table 2: Distribution of body fat percentage (% G)

Classification	Boys		Girls		General	
	Nº	%	Nº	%	Nº	%
Low	15	10,8	24	17,2	39	14,0
Excessively low	0	0	5	3,4	5	1,7
Adequate	104	74,82	89	63,6	193	69,2
Moderately High	10	7,2	13	9,3	23	8,3
High	7	5,03	9	6,5	16	5,8
Excessively high	3	2,15	0	0	3	1,0
Total	139	100	140	100	279	100

Source: Own authors, 2010.

DISCUSSION OF THE FINDINGS

Research has shown that children have predominance of normal nutritional status in the classification (67%).

The ratings overweight and obesity amounted to a combined percentage of 27,6% compared to the sample in general, what percentage is higher than the study of Costa and Col, (2006) where he observes a percentage of 15,7%, the study of Giugliano and Melo (2004) where this percentage was 18,8% and 21,2% of boys and girls of Giugliano and Carneiro (2004) found that percentage of 21,1% in boys and 22,9% in girls.

The low weight classification represents 5,4% of the sample, a result similar to that presented in the study of Costa and Col, (2006), this percentage reached 4,2% and 3,3% of boys and girls in the study of Giugliano and Carneiro (2004) this percentage was only 3,1% of the sample. As the percentage of fat (% BF) in this study found that 1.7% of the sample falling into the definition too low and the low rating was higher this number representing 14,0% of the sample and confirming with the study of Lopes and Neto, (1999) where this classification reached 12,25% of the overall sample.

The appropriate classification is presented in this study as 69,2% of the overall sample confirming similarities with the study of Lopes and Neto, (1999), which showed a percentage of 65.25%. The ratings high and too high totaled together, the percentage of 6,8% of the sample results lower than those found in research Lopes and Neto, (1999), which was 10,75%.

Comparing the variables of body composition, BMI, fat percentage, x, it appears that the BMI agreement with the percentage of fat, and no relation to the prevalence of normal weight index and the result of fat percentage is appropriate.

CONCLUSION

It is concluded that the classification of low BMI and obesity showed the same percentage, differentiating only between genders, where female students showed up from the classification of male obesity, occurring in otherwise low weight classification.

It was concluded that body composition of school corresponds to the appropriate indexes. For most of the school falls within the classification of normal BMI and fat percentage rated adequate.

It is up to professionals, keep this pattern among students in order to reduce future problems in relation to obesity, whether by physical inactivity or poor eating habits.

REFERENCES

ABATE, N. Obesity as a risky factor for cardiovascular disease. **The American Journal of Medicine.**107 (2A) .1999.

ANJOS, L.A.; VEIGA, G.V.; CASTRO, R. R. Distribution of values of body mass index of the population up to 25 years. **Revista Panamericana de Salud Publica.** 3 (3), p.164-173.1998.

ARAUJO, M. F. **Obesity in Children and Adolescents in private schools of the city of Aracaju.** (Undergraduate Thesis) - Federal University of Sergipe, São Cristovão - SE, 2000.

CARNAVAL, P. E. **Measurement and Evaluation in Sports Science.** Rio de Janeiro, RJ. Sprint Publishing, 2000.

CARVALHO, M. A. Ergonomics and Productivity. **Journal of Occupational Health,** October / November / December, 1984.

COSTA, R. F.; CINTRA, I. P.; FISBERG, M. Prevalence of Overweight and Obesity in School City of Santos, SP. **Arq Bras Endocrinol Metab**. 2006, 50 / 1:60-67.

COUTINHO, W. Consenso latino-americano de obesidade. **Arq Bras Endocrinol Metab,** São Paulo, v. 43, n. 1,

Feb. 1999 . Available from: <http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0004-27301999000100006 &lng =en &nrm=iso>. access on 03 May. 2009. http://dx.doi.org/10.1590/S0004-27301999000100003.

GIUGLIANO, R.; MELO, A. L. P. Diagnosis of overweight and obesity in schoolchildren: utilization of body mass index international standard. **Journal of Paediatrics** - Vol 80, No. 2, 2004

INAN (National Institute of Food and Nutrition), 1991. **Nutritional conditions of the Brazilian population: Adults and elderly. In: National Survey on Health and Nutrition (Ministry of Health)** - MS, ed., Brasilia: INAN / MS.

KAZMIER, L. J. **Statistics applied economics and management.** New York: McGraw-Hill, 1982.

LOPES, S. L.; NETO, C. S. P. N. Anthropometry and body composition of children with different ethnic and cultural characteristics in the state of Santa Catarina, Brazil. **Rev. Bras. of Cinean. and Development.** Human. 1999.

MATTOS, M.G.; JR, A. J. R., Blech, S. **Theory and Practice of Research Methodology in Physical Education - Building your academic work: monographs, scientific articles and action project**. New York: Phorte, 2004.

MARTINS, G. A. Manual for monographs and dissertations. Sao Paulo-SP. **Atlas Press. Second edition.** 2000.

VIUNISKI, N. **Childhood Obesity: a practical guide for health professionals.** Rio de Janeiro: EPUB. 1999.

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BODY COMPOSITION OF STATE PUBLIC STUDENTS SCHOOLS IN ALTA FLORESTA D' OESTE – RO.

ABSTRACT

This paper has like objective verifying whether body composition of schoolchildren in Alta Floresta D'Oeste - RO is within the predetermined standards for their age, using the protocol of Lohman (1986, 1988) for anthropometric measures and body mass index (IMC). We examined 279 children from 07 to 12 years who are properly registered and attending the state schools, with 139 males (49,9%) and 140 females (50,1%). The study used the direct method of field with descriptive design using cross was lifted with statistical approach quantitative. Comparing the values of central tendency of the weight, we found that there were no significant differences between boys and girls of the same population. 5,4% of the sample is divided into 5,8% male and 5% on the female sample general. As the classification of overweight was observed in this study that the percentage on the sample was 22,2% of the total, is divided into 19.4% males and 25% female. As the classification obesity, the incidence of the sample was 5.4%, boys accounted for 4.3% and 6,5% girls. The largest percentage of the sample was concentrated in the classification standard that represented 67% of the sample is divided into 70,5% males and 63,5% female. It was concluded that the body composition of students corresponds to the appropriate indexes. Well, most students fall within the classification of IMC as normal and fat percentage with appropriate classification.

KEYWORDS: body composition, students and anthropometry.

COMPOSITION DU CORPS DE L'ÉCOLE DE RÉSEAU ÉDUCATION PUBLIQUE DE L'ÉTAT DE LA CITE DE ALTA FLORESTA D'OESTE-RO.

SOMMAIRE

Cette étude visait à déterminer si la composition du corps des étudiants dans l'Ouest Alta Floresta D'Oeste – RO. est dans les normes prédéterminées pour leur groupe d'âge, en utilisant le protocole d'Lohman (1986, 1988), des mesures anthropométriques et l'indice de masse corporelle (IMC). Nous avons examiné 279 écoliers de 07 à 12 ans qui sont correctement inscrits et fréquentant les écoles d'Etat, avec 139 hommes (49,9%) et 140 femmes (50,1%). La recherche a utilisé la méthode directe de champ avec une conception transversale en utilisant une approche statistique pour qualitative et quantitative. En comparant les valeurs de la tendance centrale de la masse, aucune différence significative entre les garçons et les filles de la même population. Le pourcentage d'enfants ayant un faible poids représente 5,4% de l'échantillon, divisée en mâle et femelles de 5,8% à 5% par rapport à l'échantillon global. En ce qui concerne la classification du surpoids a été observée dans cette étude que le pourcentage par rapport à l'échantillon était de 22,2% du total, divisé en mâle et femelle de 19,4% à 25%. En ce qui concerne la classification de l'obésité, l'incidence était de 5,4% de l'échantillon, les garçons représentaient 4,3% et 6,5% des filles. Le pourcentage le plus élevé de l'échantillon concentré sur la classification normale qui représente 67% de l'échantillon divisée en mâle et femelle 70,5% 63,5%. On a conclu que la composition du corps de l'école correspond aux indices appropriés. Pour la plupart de l'école relève de la classification des IMC normal et pourcentage de graisse nominale adéquate.

MOTS-CLÉS: composition corporelle, l'école, l'anthropométrie.

COMPOSICION CORPORAL DE LA ESCUELA DE LA RED DE EDUCACION PUBLICA DEL ESTADO DE LA CIUDAD DE ALTA FLORESTA D'OESTE-RO.

RESUMEN

Este estudio tuvo como objetivo determinar si la composición corporal de los estudiantes en Alta Floresta D'Oeste - RO está dentro de los estándares predeterminados para su grupo de edad, utilizando el protocolo de Lohman (1986, 1988), las mediciones antropométricas y el índice de masa corporal (IMC). Se examinaron 279 escolares de 07 a 12 años de edad que estén debidamente inscritos y que asisten a escuelas del estado, con 139 varones (49,9%) y 140 mujeres (50,1%). La investigación utilizó el método directo de campo con un diseño transversal, utilizando un enfoque estadístico de cuali-cuantitativa. Comparando los valores de tendencia central del peso, no hubo diferencias significativas entre niños y niñas de la misma población. El porcentaje de niños con bajo peso representa el 5.4% de la muestra, dividida en hombres y 5,8% mujeres del 5% en relación con el total de la muestra. En cuanto a la clasificación de sobrepeso se observó en este estudio que el porcentaje relativo a la muestra fue de 22,2% del total, dividido en 19,4% hombres y 25% mujeres. En cuanto a la clasificación de la obesidad, la incidencia fue de 5,4% de la muestra, los niños representaron el 4,3% y 6,5% niñas. El mayor porcentaje de la muestra se centró en la clasificación de lo normal que representa el 67% de la muestra dividida en hombres 70,5% y 63,5% mujeres. Se concluyó que la composición corporal de la escuela corresponde a los índices adecuados. Para la mayoría de la escuela cae dentro de la clasificación de IMC normal y el porcentaje de grasa era adecuada.

PALABRAS CLAVE: la composición corporal, la escuela, la antropometría.

COMPOSIÇÃO CORPORAL DE ESCOLARES DA REDE DE ENSINO PÚBLICO ESTADUAL DO MUNICÍPIO DE ALTA FLORESTA D'OESTE-RO

RESUMO

O presente estudo teve como finalidade verificar se a composição corporal dos escolares de Alta Floresta D'Oeste – RO. está dentro dos padrões predeterminados para sua faixa etária, utilizando o protocolo de Lohman (1986, 1988), para as medidas antropométricas e o Índice de massa corporal (IMC). Foram examinados 279 escolares de 07 a 12 anos que estão devidamente matriculados e frequentam as escolas estaduais, sendo 139 do sexo masculino (49,9%) e 140 do sexo feminino (50,1%). A pesquisa utilizou o método direto de campo com delineamento descritivo transversal utilizando-se de levantamento estatístico com abordagem quali-quantitativo. Quando comparados os valores de tendência central do peso, não houve diferenças significativas entre meninos e meninas da mesma população. O percentual de escolares com baixo peso representa 5,4% da amostra, dividindo-se em 5,8% masculino e 5% o feminino em relação à amostra geral. Quanto à classificação de sobrepeso, observou-se nesse estudo que o percentual em relação à amostra foi de 22,2% do total, dividindo-se em 19,4% masculino e 25% feminino. Quanto à classificação obesidade, a incidência da amostra foi 5,4%, os meninos representaram 4,3% e as meninas 6,5%. O maior percentual da amostra se concentrou na classificação normal que representou 67% da amostra dividindo-se em 70,5% masculino e 63,5% feminino. Concluiu-se que a composição corporal dos escolares corresponde aos índices adequados. Pois, a maioria dos escolares se enquadra na classificação de IMC considerado normal e percentual de gordura com classificação adequado.

PALAVRAS-CHAVE: composição corporal, escolares, antropometria.