40 - BODY COMPOSITION AND PHYSICAL FITNESS RELATED TO THE HEALTH OF SCHOOL CHILDREN FROM 14 TO 18 YEARS OF A PARTICULAR SCHOOL OF THE CITY OF MANAUS

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INTRODUCTION

According to Barbanti (2003) health-related Physical Fitness is the ability to yield that includes components of physiological functioning that are believed to offer protection against degenerative diseases.

In the field of physical fitness are two aspects: Physical Fitness related to Health (AFRS) and Physical Fitness related to Motor Performance. The AFRS components should include indicators of cardiorespiratory fitness, muscle strength / endurance, flexibility and body fat (PETROSKI et al., 2011)

In this sense, scientific evidence indicates that the low level of physical fitness is associated with a higher risk of developing cardiovascular diseases and all-cause mortality in both men and women. On the other hand, improvements in physical fitness are associated with improvements in musculoskeletal, cardiorespiratory and positive changes in the lipid, blood glucose and blood pressure profile (Friedman & Anderson, 2005; Dumith, Júnior & Rombaldi, 2008).

According to studies, it is important to identify the factors associated with low AFRS, since this information may contribute to specific interventions being performed in different groups (PEREIRA; BERGMANN; BERGMANN, 2016).

Thus, one of the factors that contributes to the low level of physical fitness in children and adolescents is the absence of physical activity in their daily lives, characterizing the sedentary lifestyle. This is a crucial factor for increasing body fat by developing overweight and obesity in children and adolescents. In this context, physical activity is a protective factor against obesity and overweight, so more active children have a lower percentage of body fat (DEHEEGER, ROLLAND-CACHERA and FONTVIEILLE 1997 apud BARUKI et al., 2006).

A number of studies examine the low level of health-related ApFRS, but few studies are working on an intervention in the population. The objective of this study was to identify the behavior of the variables of corporal composition and Physical Fitness of adolescents male and female, in the age group of 14 to 18 years.

METHODOLOGY

The exploratory descriptive study was carried out in 2018 in the city of Manaus (AM). The survey took place in the period from October 5 to 10.

The sample consisted of 51 students of both sexes, aged 14 to 18 years, enrolled in a private school in the city of Manaus (AM), the ninth year of elementary school and the first to the third year from highschool

To measure the weight, a digital scale of the brand Welmy model W 200/5 with capacity for 200 kg and precision of 0,05 kg was used. The stature was measured through a stadiometer with cursor and precision of 0.1 cm. During the measurement students were instructed to remove their shoes and maintain their upright position with their scapulae and heels pressed against the ruler.

The components of Physical Fitness related to Health were measured through the motor performance tests following the sequence: Sit and Achieve (Flexibility), modified abdominal (muscular strength / endurance) and 12 minute walk / walk (cardiopulmonary resistance). The AFRS was evaluated through the tests established by the AAHPERD and for the interpretation of the results the criteria established by American College were used.

For statistical analysis, the SPSS 23.0 for Windows package was used. The variables were described by mean and standard deviation, median, minimum value and maximum value. The Student's t-test was used to verify independent samples. The level of significance was set at $p < 0.05$.

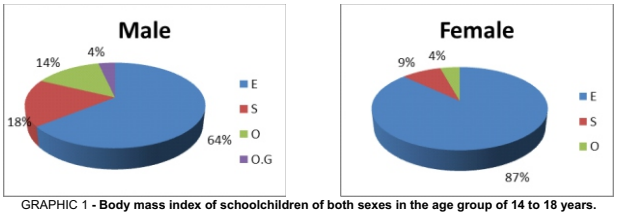
RESULTS

In TABLE 1 we present the values of the variables Body Weight (Kg) and Stature (cm) between the male and female sexes, where no statistically significant differences were found.

TABLE 1 - Comparison of the means and value of the Student's t-test of the variables of body weight and height of schoolchildren of both sexes from 14 to 18 years old.

Anthropometric Measurements	Sex	N	Average	"t" Test	Standart Deviation	Minimum Value	Maximum Value
WEIGHT	M	28	68,346	0,129	14,112	41,100	103,900
	F	23	55,354		10,028	43,800	80,850
STATURE	M	28	171,3	0,153	6,3	153,0	183,1
	F	23	159,6		4,0	153,2	168,3

Regarding the nutritional status of schoolchildren, in GRAPHIC 1 we identified that of 64% of the male group and 87% of the female group was considered as Eutrophic. As for overweight and obesity, 36% were found for the male group and 13% for the female group. The male group had 4% of severe obesity.



GRAPHIC 1 - **Body mass index of schoolchildren of both sexes in the age group of 14 to 18 years.**

E = Eutrophy; S = Overweight; O = Obesity; O.G = Severe Obesity.

In GRAPHIC 2 we present the Physical Fitness Classification of the students in the Sit-and-Reach Test, according to the health criteria recommended by ACSM, 2016. It was identified that 71% of male students and 79% of female students are below acceptable levels of health (Reasonable, Bad and Very Bad). In the criterion of good classification are found 24% of male schoolchildren and 6% female.

For the Modified Abdominal Test (GRAPHIC 3), 96% of male students and 83% of female students were found to be below acceptable levels of health (Reasonable, Bad and Very Bad). In the criterion of good classification are found 4% of male schoolchildren.

In the Run/Walk Test of 12 minutes (GRAPHIC 4), it was identified that 100% of male and female schoolchildren are below acceptable levels of health (Reasonable, Bad and Very Bad).

DISCUSSION

In relation to the Nutritional Status, the results of this study are in line with the findings of Montoro et al. 2016, where it is pointed out for prevalence of overweight and obesity. The evaluation of this variable points to the emergence of risk situations, in the nutritional diagnosis and in the planning of actions to promote health and prevent diseases among children and adolescents.

For physical fitness related to the health of schoolchildren, low levels of motor performance in the sit-and-reach, modified abdominal and run / walk tests of 12 minutes for both sexes were identified. These findings are similar to those in other regions of our country, where children and adolescents did not meet the minimum health criteria (Pereira, Bergmann and Bergmann, 2016, Petroski et al., 2011, Nogueira and Pereira, 2014).

CONCLUSION

Based on the objective of the study and according to the data obtained it is concluded that the level of AFRS in schoolchildren in a private school in Manaus is below internationally accepted levels of health, presenting risks of diseases independent of gender or age.

The practice of physical activity should be encouraged by Physical Education professionals for a better development of motor skills related to health.

Other researches in the region are emphasized regarding interventions, eating habits. To better understand the reasons that interfere with the results found.

We also understand that with the permanent investigation of growth and physical fitness, we will have support for evaluation of motor skills, indicating the level of health of children and adolescents.

BIBLIOGRAPHIC REFERENCES

AAHPERD. Health Related Physical Fitness Test Manual. reston: American Alliance for Health, Physical Education, Recreation and Dance, p.24-36. 1980.

BARBANTI, V. J. Dicionário de educação física e esporte. 3 ed. Barueri: Manole, 2011.

BARUKI, S. B. S., ROSADO, L. E. F. P. D. L., ROSADO, G. P., & RIBEIRO, R. D. C. L. Associação entre estado nutricional e atividade física em escolares da Rede Municipal de Ensino em Corumbá - MS. Revista Brasileira de Medicina Do Esporte, 12(2), 2006.

DUMITH, S. C., & FARIAS JÚNIOR, J. C. (2010). Sobrepeso e obesidade em crianças e adolescentes: comparação de três critérios de classificação baseados no índice de massa corporal. Revista Panamericana de Salud Pública, 28(1), 30–35.

GAYA, A., GAYA, A. Projeto Esporte Brasil; Manual de Testes e Avaliação. Ed. Perfil, p. 18 – 21, 2016.

GUEDES, D. P. Crescimento, Composição Corporal e Desempenho Motor em Crianças e Adolescentes do Município de Londrina (PR), 1994.

GIUGLIANO, R., CARNEIRO, E, C. (2004). Fatores associados à obesidade em escolares. Jornal de pediatria, 80(1), 17 – 22, 2004.

LEÃO, D. P., FERREIRA, I. J. Aptidão Física de Crianças e Adolescentes: Manual de Medidas Antropométricas e