

## 60 - SCHOOL PHYSICAL EDUCATION : PHYSICAL RELATIONSHIP BETWEEN INACTIVITY AND BODY MASS INDEX IN CHILDREN OF VICTORY OF ST ANTONY-PE

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### 1. INTRODUCTION

In recent decades there has been positive progress in health conditions of children around the world . The diffusion of hygiene measures and public health has provided significant drop in rates of malnutrition . Nevertheless , urban life in modern societies has been linked to changes in behavior , especially in relation to bad eating habits and lack of physical activity . In developing countries such as Brazil , have often been the increase of overweight and obesity in children in the school . This calls for deepening .

Physical inactivity in children can be considered as a phenomenon in constant growth , especially in industrialized societies ( MAIA , 2004; MALINA , 2000) . Studies have shown that physical inactivity has multifactorial causes such as the advancement of technology resources , the reduction of urban conditions available for recreation and physical activity , social , economic and cultural . One of the major consequences associated with physical inactivity refers to the increasing prevalence of overweight and obesity , which is a risk factor for degenerative diseases and can be considered as a public health problem . In addition to the losses occurring during childhood and adolescence , is great the odds of a child become an inactive adult ( Gonçalves et al . , 2007; Matsudo et al . , 1998; SILVA et . Al . , 2007) .

The level of physical activity was assessed using the Physical Activity Questionnaire for Children ( Physical Activity Questionnaire for Older Children , PAQ - C ) . This questionnaire assesses the level of moderate and intense physical activity of children in the seven days prior to application. The questionnaire consisted of nine questions about the practice of sports and games and physical activities at school and in leisure time , including weekends . Each question is worth 1-5 and the final score is obtained by averaging the issues , representing the range of very sedentary ( 1 ) to very active ( 5 ) . Scores 2 , 3 and 4 indicate the categories sedentary , moderately active and active , respectively. Thus , from the score can classify individuals as active or sedentary. Assets are those with a score  $\geq 3$  , whereas sedentary are individuals with scores  $< 3$  .

To determine the level of overweight and obesity , we used the standard National Center for Health Statistics ( NCHS ) . The ( BMI =  $\text{kg} / \text{m}^2$  ) is expressed in standard deviation units ( Z score ) . Cole et al. The corresponding ( BMI  $25\text{kg} / \text{m}^2$  ) as overweight and  $30\text{kg} / \text{m}^2$  and obesity in children from two years old .

The aim is to investigate the relationship between physical inactivity and body mass index in children in the municipal city of Vitoria de Santo Antão - PE .

### 2. METHODS

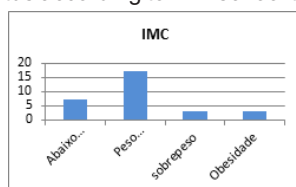
The present study was derived from a sample that involved sixty children from two schools of Vitoria de Santo Antao - PE in 2013 . Thirty children were analyzed in selected school in the central area of the city that includes the elementary school students with physical education classes . In the second school that is located in the periphery and is not assisted by such discipline , were also analyzed thirty children .

Anthropometric measurements ( weight / height ) were determined in two ways : the first in the weight determination was obtained in a single shot using a digital scale , WISO brand , model W835 , maximum capacity of 180 kg and 100 g precision . With evaluated in the upright position in the center of balance and in the second form stature was observed in a single measurement , using tape fixed to the wall with the zero point at ground level . The subject was in orthostatic position , barefoot and united , keeping in touch with your heels tape. Anthropometric measures are responsible for the construction of the IMC .

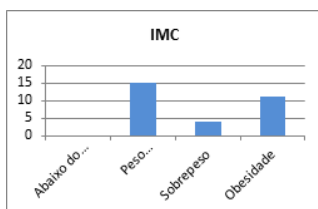
The PAQ - C was built by Crocker et al . (1997 ) validated by Kowalski et al. (1997 ) and adapted to the Brazilian context by Silva and Malina (2000 ) . This characterizes the level of physical activity of children in the seven days preceding the application and consists of nine questions . Each question is worth 1-5 and the final score is obtained by averaging the issues , representing the range of very sedentary ( 1 ) to very active ( 5 ) . Scores 2 , 3 and 4 indicate the categories sedentary , moderately active and active , respectively. The scores can classify individuals as active , which are those that have a score  $\geq 3$  , whereas sedentary are individuals with scores  $< 3$  .

### 3. RESULTS

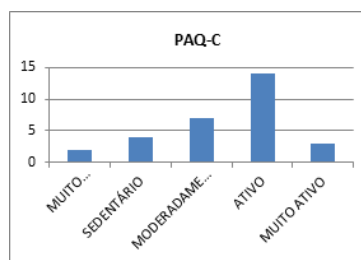
Graph 1 . Prevalence of nutritional status according to BMI school that is not contemplated by the Physical Education classes .



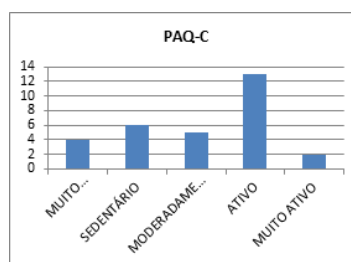
Graph 2 . Prevalence of nutritional status according to BMI school that is contemplated by the Physical Education classes .



Graph 3 . Prevalence of physical activity levels in school children which is not contemplated by the Physical Education classes according to the PAQ - C .



Graph 4 . Prevalence of physical activity levels in school children which is contemplated by the Physical Education classes according to the PAQ - C .



#### 4.DISCUSSION

The present study in two schools in the city of Vitoria de Santo Antao - PE allowed determination of the prevalence of physical inactivity levels and body mass index in primary schools . The PAQ - C , even with its limitations of use , especially with regard to the verification of physical activity levels in children and obtain the scores , has been one of the most commonly used procedures . Still, good features and reliability becomes increasingly widespread . BMI , despite being one of the most concerning the verification body composition , a procedure has been well used in the verification of body composition . The ease of measurement and the achievement of results , with a simple and noninvasive , makes it worthwhile .

In the present study , the prevalence of nutritional status according to BMI school that is not contemplated by the Physical Education classes , was observed that 23.3 % of children are underweight , 56.7 % normal weight , 10 % overweight and 10 % obese . The prevalence of nutritional status of school that is contemplated by the Physical Education classes , was found that 0 % of children are underweight , 50 % normal weight , 13.3% overweight and 36.7 % obese . The prevalence of physical activity levels in school children which is not contemplated by the Physical Education classes according to the PAQ - C was found that 6.7 % of children are very sedentary , sedentary 13.3% , 23.3 moderately active % , 46.7 % and 10 % active very active . The prevalence of physical activity levels in school children which is contemplated by the Physical Education classes , was observed that 13.3 % of children are very sedentary , 20 % sedentary , moderately active 16.7% , 43.3 % and active 6.7% very active .

#### 5.FINAL

The main objective was to investigate the relationship between physical inactivity and body mass index in children in the municipal city of Vitoria de Santo Antao - PE , which is deemed to have been achieved . Thus , according to analysis of these data in relation to the nutritional status of the two schools , mostly children are in eutrophic . Comparing the low weight , showed differences . The large distortion was the issue of obesity , which was almost four times the school assisted by such discipline . In relation to physical activity levels , no significant differences . However , items in very sedentary and sedentary , there was a slight increase in the school that is covered with the physical education classes . These results can be attributed to other aspects such as the location of schools , where they offer the discipline is in the central area of town and not available classes are located in the peripheral region .

It is recommended that further studies be carried out of this problem , seeking to broaden the investigation of other factors that may also be associated with physical inactivity and obesity in schools .

#### 6.REFERENCES

1. ALVES , João Guilherme , et al . Excess weight and physical inactivity in children living in slums in the metropolitan region of Recife, Pernambuco, Recife , Journal of Pediatrics, vol.85,p.67-71,2009.
2. GIUGLIANO , R. , Carneiro , E. C. Factors associated with obesity in school . Journal of Pediatrics,vol.80,n.1,p.17-22,2004.
3. SILVA , M. S. et al. Relationship of TV time and physical fitness of students from a region of low socioeconomic level . Brazilian Journal of Science & Motion, vol.15,n.4, p. 21-30 ,2007.
4. SILVA , R. R. ; MALINA , R. M. Level of physical activity in adolescents in the city of Niterói , Rio de Janeiro , Brazil . Journal of Public Health , vol . 16 , n . 4 , p. 1091-1097 , 2000.
5. SILVA , R. R. ; MALINA , R. M. Overweight , physical activity and TV viewing time among adolescents from Niterói , Rio de Janeiro , Brazil . Brazilian Journal of Science & Motion , vol . 11 , n.4 , p.63-66,2003.
6. Siqueira , F. V. et al. Counseling for physical activity as a strategy for health education . Journal of Public Health,vol.25,n.1,p.203-213,2009.
7. TERRES , N. G. et al. Prevalence and factors associated with overweight and obesity in adolescents . Public Health Magazine , vol . 40 , no. 4 , p. 1-7 , 2006.
8. Monego , Estelamaris ; . et al. Determinants of cardiovascular risk in schoolchildren . Goiânia , Brazilian Archives of Cardiology - Volume 87 , No. 1 , 2006.
9. Matsudo , S. M. M. et al. Level of physical activity in children and adolescents from different regions of development. Brazilian Journal of Physical Activity & Health , v.3 , n . 4 , p. 14-26 , 1998.
10. CONDE , W. L. ; MONTEIRO , C. A. Critical values of body mass index to determine the nutritional status of Brazilian children and adolescents . Journal of Pediatrics , vol . 82 , no. 4 , p. 266-272 , 2006.

### SCHOOL PHYSICAL EDUCATION : PHYSICAL RELATIONSHIP BETWEEN INACTIVITY AND BODY MASS INDEX IN CHILDREN OF VICTORIA HALL OF SAINT ANTONY - PE.

#### ABSTRACT

A growing number of obese and inactive children . Several factors can be Attributed to this situation , such as technological advances , bad eating habits and lack of physical activity . Therefore , we Performed a sample of 60 children from two schools in the elementary school , 50 % of children in a school that is covered with the physical education classes and 50 % of Those who are not assisted . Some criteria were used in order to determine the level of overweight , obesity and physical activity . The level of physical activity was avaliado using the Physical Activity Questionnaire for Children ( Physical Activity Questionnaire for Older Children , PAQ - C ) . This questionnaire assesses the level of moderate and intense physical activity of children in the seven days prior to application . It Consists of nine questions , each one with values ranging from 1 to 5 and the final score is Obtained by averaging the issues , Representing the range of very sedentary ( 1 ) to very active ( 5 ) . Scores 2 , 3 and 4 Indicate the categories sedentary , moderately active and active , respectivamente .. To determine the level of overweight and obesity , we used the standard National Center for Health Statistics ( NCHS ) . The ( BMI = kg / m<sup>2</sup> ) is expresso in standard deviation units ( Z score) . Cole et al. The Corresponding ( BMI 25kg / m<sup>2</sup> ) the overweight and 30 kg / m<sup>2</sup> and obesity in children from two years old .

**KEY - WORDS :** physical inactivity , body mass index and School .

### ÉDUCATION PHYSIQUE SCOLAIRE : RELATION PHYSIQUE ENTRE L'ACTIVITÉ ET LA MASSE CORPORELLE INDEX CHEZ LES ENFANTS DE VICTORIA HALL DE SAINT ANTOINE - PE.

#### RÉSUMÉ

Un nombre croissant d'enfants obèses et inactifs. Plusieurs facteurs peuvent être attribués à cette situation, comme les progrès technologiques , les mauvaises habitudes alimentaires et le manque d'activité physique. Par conséquent , nous avons effectué un échantillon de 60 enfants de deux écoles de l'école primaire , 50% des enfants dans une école qui est couverte par les cours d'éducation physique et 50 % de ceux qui ne sont pas assistés . Certains critères ont été utilisés afin de déterminer le niveau d'activité en surpoids , l'obésité et physique. Le niveau d'activité physique a été évaluée en utilisant le questionnaire d'activité physique pour les enfants ( Questionnaire d'activité physique pour les enfants plus âgés , PAQ - C). Ce questionnaire évalue le niveau d'activité physique modérée et intense des enfants dans les sept jours précédant l'application. Il se compose de neuf questions , chacun avec des valeurs allant de 1 à 5 et le score final est obtenu en faisant la moyenne des enjeux, représentant toute la gamme des très sédentaire (1) à très active (5) . Scores 2, 3 et 4 indiquent les catégories sédentaires , modérément actif et active, respectivement .. Pour déterminer le niveau du surpoids et de l'obésité , nous avons utilisé le National Center for Health Statistics norme (NCHS) . L' ( IMC = kg / m<sup>2</sup> ) est exprimée en unités d'écart-type ( score Z ) . Cole et al. Le correspondant (IMC 25 kg / m<sup>2</sup>) le kg en surpoids et 30 / m<sup>2</sup> et l'obésité chez les enfants de deux ans.

**MOTS - CLÉS :** l'inactivité physique, l'indice de masse corporelle et l'école .

### ESCUELA DE EDUCACIÓN FÍSICA: RELACIÓN FÍSICA ENTRE EL SUEÑO Y ÍNDICE DE MASA CORPORAL EN NIÑOS DE LA VICTORIA MUNICIPAL DE SAN ANTONIO - PE.

#### RESUMEN

Un número creciente de niños obesos e inactivos. Hay varios factores que pueden atribuirse a esta situación, como los avances tecnológicos, los malos hábitos alimenticios y la falta de actividad física. Por lo tanto, se realizó una muestra de 60 niños de dos escuelas en la escuela primaria, el 50% de los niños en una escuela que se cubre con las clases de educación física y el 50% de los que no son asistidos. Algunos criterios se utilizaron con el fin de determinar el nivel de actividad de sobrepeso, obesidad y física. Se evaluó el nivel de actividad física con el Cuestionario de Actividad Física para Niños (Cuestionario de Actividad Física para niños mayores, PAQ-C). Este cuestionario evalúa el nivel de actividad física moderada e intensa de los niños en los siete días anteriores a la solicitud. Se compone de nueve preguntas, cada una con valores que van de 1 a 5 y la puntuación final se obtiene promediando los problemas, lo que representa el rango de muy sedentaria (1) a muy activa (5). Las puntuaciones 2, 3 y 4 indican las categorías sedentarias, moderadamente activo y activo, respectivamente .. Para determinar el grado de sobrepeso y obesidad, se utilizó el Centro Nacional de Estadísticas de Salud estándar (NCHS). El (IMC = kg / m<sup>2</sup>) se expresa en unidades de desviación estándar (Z score). Cole et al. El correspondiente (índice de masa corporal de 25 kg / m<sup>2</sup>) con sobrepeso y 30 kg / m<sup>2</sup> y la obesidad en niños de dos años de edad.

**PALABRAS - CLAVE:** falta de actividad física, índice de masa corporal y la escuela.

### EDUCAÇÃO FÍSICA ESCOLAR: RELAÇÃO ENTRE INATIVIDADE FÍSICA E ÍNDICE DE MASSA CORPORAL EM CRIANÇAS DA REDE MUNICIPAL DE VITÓRIA DE SANTO ANTÃO - PE.

#### RESUMO

É cada vez maior o número de crianças inativas e obesas. Diversos fatores podem ser atribuídos a esta situação, tais como os avanços tecnológicos, maus hábitos alimentares e a falta de atividades físicas. Para tanto, realizamos uma amostragem com 60 crianças de duas escolas do Ensino Fundamental I, sendo 50% das crianças de uma escola que é contemplada com as aulas de educação física e 50% daquelas que não são assistidas. Alguns critérios foram utilizados no intuito de determinar o nível de sobrepeso, obesidade e de atividade física. O nível de atividade física foi avaliado através do questionário de atividade física para crianças (Physical Activity Questionnaire for Older Children, PAQ-C). Tal questionário avalia o nível de atividade física moderada e intensa de crianças nos sete dias anteriores à aplicação do mesmo. É composto por nove questões, sendo cada uma com valores que variam de 1 a 5 e o escore final é obtido pela média das questões, representando o intervalo de muito sedentário (1) a muito ativo (5). Os escores 2, 3 e 4 indicam as categorias sedentário, moderadamente ativo e ativo, respectivamente.. Para determinação do nível de sobrepeso e obesidade, foi utilizado o padrão da National Center for Health Statistics (NCHS). O (IMC=Kg/m<sup>2</sup>) é expresso em unidades de desvio padrão (escore Z). Cole et al. Corresponde o (IMC 25kg/m<sup>2</sup>) como sobrepeso e 30kg/m<sup>2</sup> como obesidade em crianças a partir de dois anos de idade.

**PALAVRAS - CHAVES:** Inatividade física, Índice de Massa Corporal e Escolares.