

## 27 - ITHE CORRELATION OF THE BODY MASS INDEX EVALUATION AND THE BODY IMAGE SATISFACTION LEVEL OF SCHOOLS FROM 7 TO 10 YEARS OF THE CITY OF GUADALUPE-PI

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### 1. INTRODUCTION

The greater childhood is marked by the last moment of acceleration of growth, which needs a high nutritional demand (Chiarelli; Ulbrich; Bertin, 2011). It is worth noting that inadequate nutritional intake in this period may or may not be quantitatively and qualitatively sufficient to promote growth and development.

Body image (BI) is understood as our body is formed in our mind, which is subdivided into two dimensions: perceptive (judging size, shape and body weight) and attitudinal (thoughts, feelings and behaviors related to the body). At the end of greater childhood, BI is not clearly defined and may vary from individual to individual, and may have the same affected due to ideal body searching. It is worth noting that negative BI during childhood may be a risk factor for the development of late-life psychopathologies, which is associated with eating disorders, interpersonal relationship difficulties (LEITE et al., 2014).

Currently, studies involving the evaluation of body composition (BC) in children are increasingly being investigated in the literature, which have contributed to the diagnosis of overweight (OW) and obesity (OB) cases, thus collaborating with the indicators of risk factors for chronic diseases developed during childhood and adolescence (CHIARELLI; ULBRICH; BERTIN, 2011).

Studies have shown that children with OW in comparison to those of ideal weight for age may be negatively influenced in the development of fundamental motor skills (Gallahue and Ozmun, 2005), as well as difficulties in socialization, cardiorespiratory alterations, hypertension, abdominal circumference, the onset of various chronic diseases and that include the distortions in the perception of BI (SANTOS; VIEIRA, 2013).

International and national studies have presented high prevalences of OW in children; adolescents have an increased chance of maintaining such a condition in adult life (Mello et al., 2014); In Brazil, a study conducted by the Brazilian Institute of Geography and Statistics (IBGE), the Northeast region had a prevalence of 8.2% of obesity (Mello, et al., 2010). According to WHO reports, the prevalence of childhood obesity has grown by around 10-40% in most European countries in the last ten years.

During this period, the body also undergoes several changes in its shape, related to the conformation of the physical body that can directly influence the mental image of the subject, repercussions on positive or negative attitudes in the perception of body image, and may or may not trigger aggravating factors at the end of this process. It is pertinent to remember that body image is a multidimensional construct, which represents how individuals think, feel, and behave about their physical attributes. Disturbances in the perception of BI result in a sub or overestimation of the body as a whole or parts of it (GLANER et al., 2013).

Considering the context, the present study had as general objective to evaluate the body mass index and to analyze the level of body image satisfaction of schoolchildren of both genders, aged 7 to 10 years enrolled in a school in the public school system. municipality of Guadalupe.

### 2 MATERIAL AND METHOD

The present study is characterized as a transverse descriptive nature and with a quantitative approach (Gil, 2009) through an individual evaluation (ROUQUAYROL; ALMEIDA FILHO, 2003).

The initial population was composed of 123 schoolchildren, with insignificance level of 5% ( $<0.05$ ), 95% confidence level and, sample of 97, 42 girls and 55 boys with similar ages from 7 to 10 years, all enrolled in the first, second, third year A and B, and fourth year single, elementary school I, in the morning and afternoon shifts of a Municipal School located in the city of Guadalupe-PI. Students who missed school on the day of data collection, those who did not qualify for BMI and those who did not present the Informed Consent and Assent Terms were excluded from the study, as determined by Resolution 466/2012 of the National Council This study has a letter of agreement from the Municipal Department of Education.

The data collection took place in June 2017, in the morning and afternoon shifts, through the application of the protocols, which were performed by a single evaluator and a single annotator, who received training including the techniques used for the collection of data in order to standardize procedures.

For the evaluation of CC, the double-anthropometric method BMI was adopted, using the cut-off points proposed by Conde and Monteiro (2006) for the Brazilian population from 2 to 20 years of age according to gender. And to diagnose BI, the Adaptation of the Silhouettes Scale for Brazilian children between 7 and 12 years old was proposed by Kakeshita and Almeida (2008), separated by gender, which is composed of 11 body silhouettes in plastic cards. Each child was asked to show which figure has the silhouette that best represents their current physical appearance, and then which figure shows the silhouette you would like to have.

The Statistical Package for Social Sciences (SPSS) version 20.0 was used for the statistical treatment of the data.

### 3 ANALYSIS AND DISCUSSION OF RESULTS

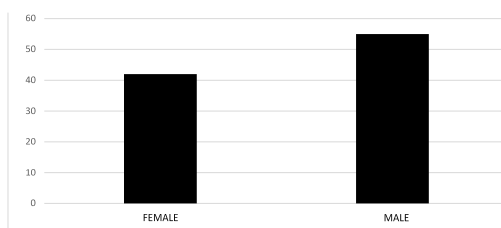


Figure 1: Frequency distribution of schoolchildren aged 7 to 10 years by gender from the City of Guadalupe-PI.

The sample consisted of the total number of 97 students (100%), being composed of 55 boys (57%) and 42 girls (43%), shown in Figure 1.

Table 1 shows the descriptive analysis of the students, for the female gender the values found for age in years 7 to 10 years (85 to 129 months), weight and height were, maximum 48 kg and 152 cm, minimum of 21 kg and 118 cm, and medium, 29,300 kg and 138,5 cm. For males aged 7 to 10 years (84 to 125 months), the respective values were, maximum 56 kg and 158 cm, minimum of 19 kg, 116 cm and mean of 27 kg and 134.5 cm.

Table 1: Descriptive analysis of 7 to 10-year-old schoolchildren from the city of Guadalupe-PI

VARIABLES	FEMALE		MALE	
	Weight	Stature	Weight	Stature
average	29.3	138.5	27.4	134.5
minimum	21	118	19	116
maximum	48	152	56	158
Standard deviation	6.688	8.926	8.059	9.295

Population studies have shown that OW in Brazilian children and adolescents has been growing drastically, research conducted in Brazil. In the present study, BMI analysis according to percentiles used as reference for age and gender, male children, revealed the prevalence of 20 with UW, 22 with EU, 10 with OW, 3 with OB, and for the female gender, revealed the prevalence of 15 children classified as underweight (UW), 15 with eutrophic (EU), 11 with overweight (OW), and obesity 1 (OB), as shown in Figure 2.

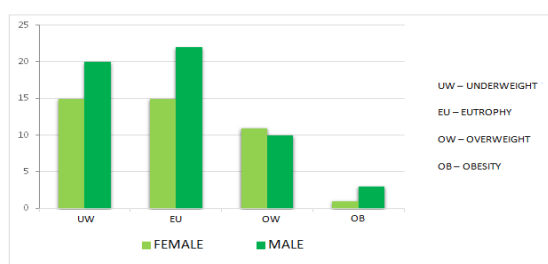


Figure 2: Frequency distribution of schoolchildren from 7 to 10 years of age in both genders of the City of Guadalupe-PI, according to the nutritional status classification proposed by Conde and Monteiro (2006).

Corroborating with the findings of this research, the study by Rosaneli et al. 2012, in the city of Maringá-PR with children aged 6 to 10 years, showed that the male gender had a higher index of overweight with respect to the female gender.

In a study conducted in the city of Teresina-PI in 2014, it was verified that 10% and 11% of schoolchildren aged 7 to 10 years had OW, girls and boys respectively. However, the male population was diagnosed with a higher OB index (RIBEIRO, SILVA and IBIAPINA 2014).

Such findings are important to contribute to the prevention of these indicators and alert to initiatives to intervene to these factors during childhood in order to memorize the risk of children presenting problems related to obesity and problems related to it in future stages.

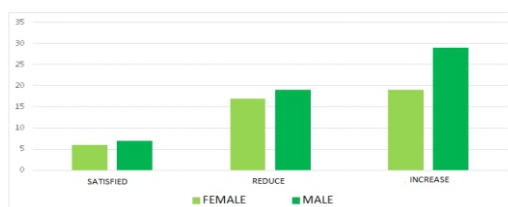


Figure 3: Frequency of schoolchildren aged 7 to 10 years old in both genders of the City of Guadalupe-PI according to the level of body silhouette satisfaction.

More than half of the students investigated in the present study are dissatisfied with BI. Figure 3 shows the values found regarding the frequency of the satisfaction index of schoolchildren with the silhouette, for the female gender were satisfied 6, dissatisfied with desire to increase 19, dissatisfied with desire to reduce the weight 17. Already for the male gender the values were, respectively, 7, 29, and 19.

Corroborating with the research, a higher prevalence of BI was observed in the city of Saudades - SC of 65.2% of boys than in boys of 54.3% (GLANER et al., 2013).

In contrast to this study, Santini's (2012) study showed that 65.4% of schoolchildren were dissatisfied with BI, of which 37.8% were more dissatisfied with the intention of reducing their silhouette. In analyzing the data by gender, the boys were more dissatisfied with the desire to increase and the girls with the desire to shrink.

The high proportions of dissatisfaction with BI in adolescence can be explained due to the influence of technological advances, along with the media that often imposes beauty standards, suggesting as ideal a body specific for each gender, usually boys with a profile of athlete and muscular, and already the girls a slender body, what often entails in a negative BI, represented by high levels of dissatisfaction with the perception of the corporal (GLANER et al., 2013).

#### 4 FINAL CONSIDERATIONS

After analyzing the results, it can be seen that according to age and gender, the majority of students studied are within the EU standards established by BMI, although many have been diagnosed with OW, females had a larger fraction. It concludes that the prevalence of BI dissatisfaction is high, and that the desire to increase the silhouette was the most chosen by schoolchildren, especially the male gender.

These data indicate the need to carry out diagnostic and intervention work, with classes based on food education, aiming primarily at health promotion in the school environment, in order to encourage healthy habits and to encourage the participation of schoolchildren in physical activities. in order to prevent the development of physical and mental disorders. of the BI.

The data also indicate the need for diagnostic and interventional work, which both girls and boys were diagnosed with OW, have HF dissatisfaction and the desire to increase their silhouette because they have a distorted silhouette, because they are with OW and with UW.

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## THE CORRELATION OF THE BODY MASS INDEX EVALUATION AND THE BODY IMAGE SATISFACTION LEVEL OF SCHOOLS FROM 7 TO 10 YEARS OF THE CITY OF GUADALUPE-PI

The greater Childhood is marked by the last moment of acceleration of growth that can be directly influenced in the mental image of the subject and requires a high nutritional demand with positive or negative repercussions on the perception of the body image (HF), which may or may not trigger the overestimation of the body end of this process. The objective of the present study was to analyze the correlation of body mass index assessment and the level of body image satisfaction of schoolchildren aged 7 to 10 years in a public school in the municipality of Guadalupe - PI. Cross-sectional, descriptive study of a quantitative approach with a sample of 97 schoolchildren of both genders. The IMC protocols with classification proposed by Conde and Monteiro 2008 and the Silhouettes Scale proposed by Kakeshita and Almeida (2008) were applied. The data analysis was performed through the SPSS 20.0 statistical program, through simple descriptive analysis (mean, minimum, maximum, standard deviation and percentage). As a result, the low weight (BP) (36% and 36%), eutrophic (EU) (40% and 36%), overweight (EP) (18% and 26%) and obesity (OB) (5% and 2%). The level of satisfaction of the Body Image, presented as satisfied (6 and 7), reduce the silhouette (17 and 19), and increase the silhouette (19 and 29). In view of the results, we conclude that female students were diagnosed with PD, as well as having a higher level of HF dissatisfaction. The data indicate the need for diagnoses and interventions that both girls and boys were diagnosed with CHD, have HF dissatisfaction, and wish to increase their silhouette because they have a distorted silhouette because they are found with PE and BP.

KEYWORDS: Anthropometry. Body image. Obesity.

## LA CORRÉLATION DE L'ÉVALUATION DE L'INDICE DE MASSE DU CORPS ET DU NIVEAU DE SATISFACTION DE L'IMAGE CORPORELLE DES ÉCOLES DE 7 À 10 ANS DE LA VILLE DE GUADALUPE-PI

L'enfance est marquée par le dernier moment de croissance accélérée qui peut être directement influencé l'image mentale du sujet et nécessite une demande nutritionnelle un impact positif ou négatif sur la perception de l'image corporelle (IC), ou non déclencher la surestimation du corps fin de ce processus. Le but de cette étude était d'examiner l'évaluation de la corrélation entre l'indice de masse corporelle et le niveau de satisfaction de l'image corporelle des élèves âgés de 7 à 10 ans dans un enseignement public dans la municipalité de Guadalupe - PI. Étude transversale et descriptive d'une approche quantitative avec un échantillon de 97 écoliers des deux sexes. protocoles BMI avec classification proposée ont été appliqués par Conde et Monteiro 2008 et l'échelle Silhouette proposé par Kakeshita et Almeida (2008). L'analyse des données a été réalisée à l'aide du programme statistique SPSS 20.0, au moyen d'une analyse descriptive simple (moyenne, minimale, maximale, écart-type et

pourcentage). En tant que résultat a été obtenu pour le respectivement mâle et femelle, l'état de faible poids (BP) (36% et 36%), poids normal (I) (40% et 36%), de poids excessif (SE) (18% et 26%) et l'obésité (OB) (5% et 2%). Le niveau de satisfaction de l'image corporelle, est apparu comme satisfait (06h07), réduire la silhouette (17h19), et d'augmenter la silhouette (19h29). Au vu des résultats, nous concluons que les étudiantes ont reçu un diagnostic de MP, ainsi qu'un niveau plus élevé d'insatisfaction HF. Les chiffres montrent la nécessité de réaliser des diagnostics de travail et les interventions, les filles et les garçons ont reçu un diagnostic EPC, ayant l'insatisfaction de l'IC et le désir d'augmenter le chiffre de présenter la silhouette déformée, parce qu'ils se sentent avec le PE et BP.

MOTS-CLÉS: Anthropométrie. L'image corporelle. Obésité.

#### LA CORRELACIÓN DE LA EVALUACIÓN DEL ÍNDICE DE MASA CORPORAL Y EL NIVEL DE SATISFACCIÓN DE IMAGEN CORPORAL DE ESCOLARES DE 7 A 10 AÑOS DE LA CIUDAD DE GUADALUPE-PI

La infancia es marcada por el último momento de aceleración del crecimiento que puede ser influenciada directamente en la imagen mental del sujeto y necesita de una elevada demanda nutricional repercutiendo positiva o negativamente en la percepción de la imagen corporal (IC), pudiendo o no desencadenar la sobreestimación del cuerpo al final de este proceso. El objetivo del presente estudio fue analizar la correlación de la evaluación del índice de masa corporal y el nivel de satisfacción de la imagen corporal de los escolares de 7 a 10 años en una escuela de la red pública de enseñanza del municipio de Guadalupe - PI. Estudio transversal, descriptivo de abordaje cuantitativo con muestra de 97 escolares de ambos géneros. Se aplicaron los protocolos del IMC con clasificación propuesta por Conde y Monteiro 2008 y la Escala de Siluetas propuesta por Kakeshita y Almeida (2008). El análisis de los datos fue realizado a través del programa estadístico SPSS 20.0, por medio de análisis descriptivo simple (promedio, mínimo, máximo, desviación estándar y porcentaje). Como resultado se obtuvo para el género masculino y femenino respectivamente, el estado de bajo peso (BP) (36% y 36%), eutrofia (EU) (40% y 36%), exceso de peso (EP) (18% y el 26%) y obesidad (OB) (5% y 2%). El nivel de satisfacción de la imagen corporal, se presentó como satisfecho (6 y 7), reducir la silueta (17 y 19), y aumentar la silueta (19 y 29). Ante los resultados señalados se concluye que los escolares del género femenino fueron diagnosticados con EP, así como también poseen un mayor nivel de insatisfacción de la IC. Los datos denota la necesidad de realizar trabajos de diagnósticos e intervenciones, que tanto niñas y niños fueron diagnosticados con EPC, poseer la insatisfacción de la IC y con el deseo de aumentar la silueta por presentar silueta distorsionada, por encontrarse con EP y con BP.

PALABRAS CLAVE: Antropometría. Imagen corporal. Obesidad.

#### A CORRELAÇÃO DA AVALIAÇÃO DO ÍNDICE DE MASSA CORPORAL E O NÍVEL DE SATISFAÇÃO DE IMAGEM CORPORAL DE ESCOLARES DE 7 A 10 ANOS DA CIDADE DE GUADALUPE-PI

A infância é marcada pelo último momento de aceleração do crescimento que pode ser influenciada diretamente na imagem mental do sujeito e necessita de uma elevada demanda nutricional repercutindo positiva ou negativamente na percepção da imagem corporal (IC), podendo ou não desencadear a superestimação do corpo ao final deste processo. O objetivo do presente estudo foi de analisar a correlação da avaliação do índice de massa corporal e o nível de satisfação da imagem corporal dos escolares de 7 a 10 anos numa escola da rede pública de ensino do município de Guadalupe - PI. Estudo transversal, descritivo de abordagem quantitativa com amostra de 97 escolares de ambos os gêneros. Foram aplicados os protocolos do IMC com classificação proposta por Conde e Monteiro 2008 e a Escala de Silhuetas proposta por Kakeshita e Almeida (2008). A análise dos dados foi realizada através do programa estatístico SPSS 20.0, por meio de análise descritiva simples (média, mínimo, máximo, desvio padrão e porcentagem). Como resultado obteve-se para o gênero masculino e feminino respectivamente, o estado de baixo peso (BP) (36% e 36%), eutrofia (EU) (40% e 36%), excesso de peso (EP) (18% e 26%) e obesidade (OB) (5% e 2%). O nível de satisfação da Imagem Corporal, apresentou-se como satisfeito (6 e 7), reduzir a silhueta (17 e 19), e aumentar a silhueta (19 e 29). Diante dos resultados apontados conclui-se que os escolares do gênero feminino foram diagnosticados com EP, assim como também possuem um maior nível de insatisfação da IC. Os dados denotam a necessidade da realização de trabalhos de diagnósticos e intervenções, que tanto meninas e meninos foram diagnosticados com EPC, possuírem a insatisfação da IC e com o desejo de aumentar a silhueta por apresentar silhueta distorcida, por se acharem com EP e com BP.

PALAVRAS CHAVE: Antropometria. Imagem Corporal. Obesidade.