101 - BODY MASS AND CHILDREN'S ENGINE DEVELOPMENT

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Introduction

Today's childhood is marked by a period where children are raised and live in an increasingly confined environment, whether they are apartments, smaller houses with no corridors or back yards, old open fields and areas that used to have trees, small plantations, and today they are limited to a growing stone jungle in the big cities, leaving the little ones with no room to play, for through this there is their motor development.

Still, there is an important determinant factor for this reduction of space and time for children to play: leaving the mother beyond working from home, adding a working day off, time that was once dedicated to educating the child or even picking it up, in the school on foot where the children came running, jumping, climbing trees or even balancing at the curb. As a way to compensate for this, parents are giving more and more electronic toys, video games, which together entertain them and the most serious of all, make their children sedentary individuals.

Motor development is the continuous change in the behavior of being throughout the life cycle, carried out by the interaction between the needs of the biological task and the conditions of the environment in which the individual is found (GALLAHUE, 2001). According to Rosa Neto (2002) , the human organism has a biological logic, an organization, a calendar of maturation and evolution. Child development is influenced by intrinsic and extrinsic factors. The environment in which we live the food, the space for games and games, the opportunity for socialization and formal education through the school, among other factors, are elements that will participate in the development of the child.

Obesity in childhood is the first of a number of health-related problems in adulthood. There is evidence that the psychomotor development of obese children is impaired to the detriment of disorders of the body schema. According to Castenassi (2007), these with the Body Mass Index (BMI) classified as overweight or obese may present motor deficit. These deficits in gross motor skill may lead to difficulties in performing more complex tasks, which require the combination of fundamental movements.

The school could contribute by implanting methods that work laterality, coordination, flexibility, time-space and balance within the classes of Physical Education that aim at the health, education and a better motor performance of the students, as well as the making of a space reserved for playground, so that during "recreation" times they could experience with better quality and time these motor experiences.

The objective was to evaluate the BMI (body mass index) of children from 6 to 10 years; and Classify motor development based on the TGMD-2 protocol; To compare the motor development according to the body mass between the masculine and feminine genders by age group.

BMI (Body Mass Index)

American College Sports and Medicine (ACSM) says that body mass index (BMI) is an anthropometric measure that uses a formula accepted as an international standard of measure to identify, in the best possible way, a person's degree of obesity. Knowing if weight is in accordance with height is a prime factor in analyzing a very important aspect about your health. It is an easy method by which anyone can get an indication, with a good degree of acuity, whether they are underweight, ideal weight, overweight or obese.

It is through the values of weight and height that the BMI is calculated. The formula relates the height to the body weight of an individual. Thus, according to the result of the Body Mass Index, it is possible to classify if an individual is deficient in weight, normal weight, overweight or obesity. It, together with age and sex, are considered the variables that influence the most distribution of body fat (SEIDELL, 1991).

TGMD-2

Motor Development Test (TGMD-2), proposed and validated in Brazil by (URICH & VALENTINI - 2011), is a protocol or instrument used to evaluate the child's motor development.

This test consists of two subtests: locomotor skills and object control skills.

Each subtest consists of 06 (six) skills, the locomotive subtest consisting of the skills of running, galloping, jumping with one foot, jumping over, horizontal jumping and lateral displacement. The object control subtest consists of the abilities of stamping, stamping, dribbling, receiving, kicking, throwing underneath and throwing on top.

As for the locomotive

The locomotive subtest of the TGMD-2 allows the assessment of gross and fundamental motor skills that require coordination of movements as children move from one point to another (ULRICH, 2000). This subtest consists of the following motor skills: Running: ability to move through fast steps so that both feet leave the ground for a brief period of time in each pass Gallop: ability to perform a fast locomotive pattern and 3 touches on the ground; Jump with one foot: ability to jump on one foot a short distance on each of the feet; Jump over: ability to perform all the movements required to perform a run while jumping over an object; Horizontal jumping: ability to perform a horizontal jump from a standing position; Lateral displacement: ability to move laterally in a straight line from one point to another.

Regarding object control

The object control subtest of the TGMD-2 enables the evaluation of gross and fundamental motor skills that require

the efficient movements of throwing, bouncing and receiving an object (ULRICH, 2000). This subtest consists of the following motor abilities: Rebating a stopped ball: ability to hit a stopped ball with a plastic club; Dribbling stopped: ability to dribble with a basketball at least 4 consecutive times with the dominant member before holding the ball ball with both hands, without removing the foot from the ground; Receiving: ability to receive a rubber ball thrown from the bottom up; Kicking: ability to kick a stationary ball with the preferred foot; Throw above: ability to throw a ball on the wall with the preferred member; Launch underneath: ability to throw the ball underneath, close to the ground, in an area delimited by two cones with the preferred member.

Methodology

The study was descriptive developmental with a transversal design, according to (THOMAS, NELSON & SILVERMAN, p. 311 - 2012). This type of study investigates changes in behavior over the years, with children in the age group of 06 to 10 years of age. The sample consisted of 30 children of both genders. The children were chosen randomly.

The students were filmed, with the numbering of 1 to 30, where the twelve exercises required for the test were applied, where six were of performance of locomotive ability and another six of objects control, being made three attempts, the first with the intention of to make the child understand the movement demonstrated by the researcher, counting only to score in the assessment sheet (attached), the second and the third attempt to perform the determined movement of the subtest.

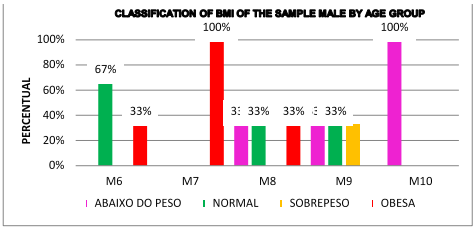
In conclusion, the footage was analyzed and reviewed in slow motion, in order to guarantee the score in the second and third movements of each child, so as to certify the score of each subtest required in each protocol test, the score between zero or one ", and at the end of the 6 tests, the total was added, and the values obtained and their equivalents in the general table of equivalent age (attached) were calculated, gross values for each subtest were calculated, being able to reach the maximum of forty-eight points for the locomotive subtest and 46 points for the control subtest of objects.

Results and discussions

The results will be presented with descriptive statistics with data TGMD-2 and BMI, being M6 (male children aged 6 years), M7 (male children aged 7 years), M8 (male children aged 8 years), M9 (male children aged 9 years) M10 (male children aged 10 years), F6 (female children aged 6 years), F7 (female children aged 7 years), F8 8 years) F9 (female children aged 9 years), F10 (female children aged 10 years).

Graph 1 shows the body mass index of 6- to 10-year-old boys, who presented M6.67% of boys with normal BMI and 33% with obesity. The M7 Group has 100% of boys with obesity, which is worrying, although there was no motor loss, the group remained with the motor age above the chronological age.

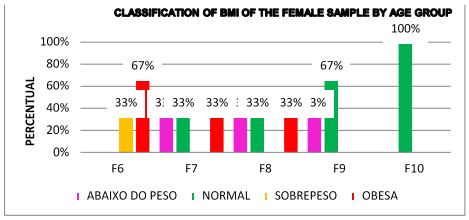
The M8 group presented 33% of the sample in this underweight group, 33% within normality and 33% obese. Despite this, they did not present significant motor deficit. The M9 group consisted of 33% underweight, 33% within normal and 33% with mild overweight. There were no motor difficulties. The M10 group presented a differentiated data: 100% underweight. He still had motor difficulties.



Graph 1. Classification of the BMI of boys from 6 to 10 years old.

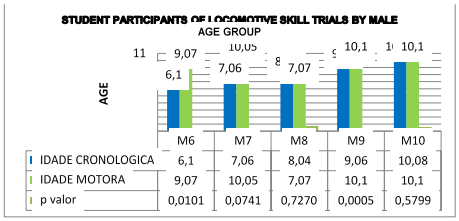
Graph 2 shows the body mass index of 6-to-10-year-old female children, who presented 33% of the girls with BMI classified as overweight and 67% with obesity without interference. Group F7 has 33% of overweight girls, 33% normal, 33% obese, although there were no motor problems, the group remained with the motor age.

The F8 group presented 33% of the sample in this underweight age group, 33% within normality and 33% obese. Despite this, they did not present significant motor deficit. The F9 group consisted of 33% underweight, 67% under normal. There were no motor difficulties. The F10 group also presented a differentiated data: 100% normal. He still had motor difficulties.



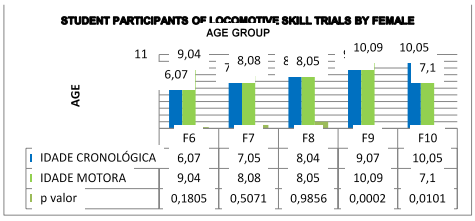
Graph 2. Classification of the BMI of children from 6 to 10 years of age.

Graph 3 shows the comparison between the chronological and motor ages of the boys when the locomotor skills test was applied. The results of the motor age were higher in the M6, M7, M9 and M10 groups, leaving only the M8 group presenting motor deficit.



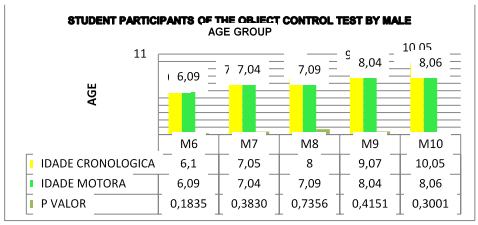
Graph 3. Comparison of chronological and motor ages of male children aged 6 to 10 years.

Graph 4 shows the comparison between the chronological and motor ages of the girls when the locomotor skills test was applied. The results of the motor age were higher in the F6, F7, F9, F8 groups without significant difference neither for less nor for more, leaving only the F10 group presenting motor deficit.



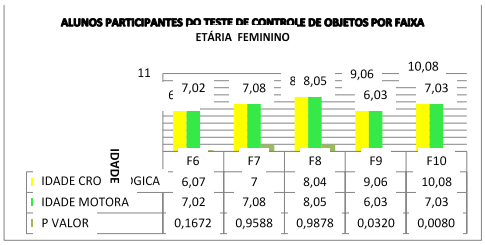
Graph 4. Comparison of chronological and motor ages of 6 to 10 year-old female children.

Graph 5 shows the comparison between ages: chronological and motor of the boys when the object control test was applied. The results of motor age and chronological age were the same in groups M6, M7. Groups M8, M9 and M10 presented motor deficit.



Graph 5. Comparison of chronological and motor ages of male children aged 6 to 10 years.

Graph 6 shows the comparison between ages: chronological and motor of the girls when the object control test was applied. The results of motor age and chronological age showed that only the F6 group achieved higher motor age compared to chronological age. Groups F7, F8 were compared as regards the relation. The M9 and M10 groups presented motor deficit.



Graph 6. Comparison of chronological and motor ages of female children aged 6 to 10 years.

Final considerations

The Physical Education curricular component plays a dominant role in the formation of the child's motor experience. In this age group of 6 to 10 years, the seat of the body for moving and discovering other universes in the motor field is immeasurable, being of great relevance the elaboration of activities directed to the ludic, but with objectives of well defined motor development Therefore the education of the movement has as its priority the motor aspect for the formation of the student. It is the role of the teacher / educator to make his / her classes attractive, dynamic and interesting, so that the child develops his / her body and his / her mind without realizing it and, most importantly, developing himself by joking.

Thus, in the five age groups (6, 7, 8, 9 and 10 years of age), the results obtained, as shown in the graphs, show that although in some cases the sample presented increase or decrease in body mass, motor skills desirable, equal to above average, ie, body mass above normal, there was no motor loss, only one of the female groups had below normal body mass and motor deficit.

Confronting the data: chronological age with motor age, the sample presented satisfactory performance, almost always being equal or even above average.

Furthermore, it is suggested that more research be done to better diagnose this relation body mass / gross motor development with children included in this age group of 6 to 10 years and to make a comparison between them in the public and private networks.

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BODY MASS AND CHILDREN'S ENGINE DEVELOPMENT

The Physical Education in the school is one of the curricular components of great importance for transformation and corporal consciousness of the child. It is noticed that in the present day due to several factors, children see losing their creativity in the play, replacing jokes that provide much more the motor development by toys like video games, computers, and other electronic devices, stopping to move, factor that causes motor deficit, resulting from living in small and confined apartments, street violence, leaving the mother to work, among other factors. This research investigates whether there is a relationship between body mass and motor development in children aged 6 to 10 years. It has as sample thirty children actively participating in school physical education classes, being 15 males and 15 females. The present study is developmental descriptive with cross-sectional design. It was verified that it is possible that the higher BMI in boys and girls is directly interfering in the level of motor learning. When the results were compared between the boys and the girls, it was found that they presented on average a body mass within the recommended limits and better levels of motor development than girls.

Key words: Body Mass Index. Motor development. Motor Evaluation.

MASSAGE DU CORPS ET DÉVELOPPEMENT DU MOTEUR DES ENFANTS

L'éducation physique à l'école est l'une des composantes curriculaires d'une grande importance pour la transformation et la conscience corporelle de l'enfant. Il est remarqué que de nos jours, en raison de plusieurs facteurs, les enfants voient perdre leur créativité dans le jeu, remplaçant les blagues qui fournissent beaucoup plus le développement moteur par des jouets comme les jeux vidéo, ordinateurs et autres appareils électroniques, arrêtant de bouger, provoque un déficit moteur, résultant de la vie dans de petits appartements confinés, de la violence dans la rue, laissant la mère au travail, entre autres facteurs. Cette recherche examine s'il existe une relation entre la masse corporelle et le développement moteur chez les enfants âgés de 6 à 10 ans. Il a comme exemple une trentaine d'enfants participant activement aux classes d'éducation physique à l'école, étant 15 hommes et 15 femmes. La présente étude est descriptive développementale avec un design transversal. Il a été vérifié qu'il est possible que l'IMC plus élevé chez les garçons et les filles interfère directement dans le niveau d'apprentissage moteur.Lorsque les résultats ont été comparés entre les garçons et les filles, on a constaté qu'ils présentaient en moyenne une masse corporelle dans les limites recommandées. de meilleurs niveaux de développement moteur que les filles.

Mots-clés: indice de masse corporelle. Développement moteur. Évaluation du moteur.

MASAJE CORPORAL Y EL DESARROLLO MOTOR GRUESO DE LOS NIÑOS

La Educación Física en la escuela es uno de los componentes curriculares de gran importancia para la transformación y la conciencia corporal del niño. Se observa que en los días actuales debido a varios factores, los niños ven perdiendo su creatividad en el juego, reemplazando bromas que proporcionan mucho más el desarrollo motor por juguetes como videojuegos, computadoras, y otros dispositivos electrónicos, dejando de moverse, factor que que es un déficit motor, consecuentes al vivir en apartamentos pequeños y confinados, de la violencia en las calles, salida de la madre para trabajar, entre otros factores. Esta investigación investiga si hay una relación entre la masa corporal y el desarrollo motor en niños con edades de 6 a 10 años. En el caso de las mujeres, se observó un aumento de la mortalidad infantil. El presente estudio es descriptivo desarrollable con delineamiento transversal. En él se verificó que es posible que el IMC más elevado en los niños y niñas esté interfiriendo directamente en el nivel del aprendizaje motor. Cuando comparado los resultados entre los niños y las niñas, se constató que ellos presentaron en promedio una masa corporal dentro de los límites recomendado y mejores niveles de desarrollo motor que las niñas.

Palabras clave: Índice de masa corporal. Desarrollo del motor. Evaluación de Motora.

MASSA CORPORAL E O DESENVOLVIMENTO MOTOR GROSSO DA CRIANÇAS

A Educação Física na escola é um dos componentes curriculares de grande importância para transformação e consciência corporal da criança. Nota-se que nos dias atuais devido a vários fatores, crianças vêem perdendo a sua criatividade no brincar, substituindo brincadeiras que proporcionam muito mais o desenvolvimento motor por brinquedos como vídeo games, computadores, e outros dispositivos eletrônicos,deixando de se movimentar, fator que causa déficit motor, conseqüentes do morar em apartamentos pequenos e confinados, da violência nas ruas, saída da mãe para trabalhar, dentre outros fatores. Esta pesquisa investiga se há uma relação entre a massa corporal e o desenvolvimento motor em crianças com faixa etária de 6 a 10 anos. Tem como amostra trinta crianças participantes ativamente das aulas de educação física escolar, sendo 15 do sexo masculino e 15 femininos. O presente estudo é descritivo desenvolvimental com delineamento transversal. Nele foi verificado que é possível que o IMC mais elevado nos meninos e meninas esteja interferindo diretamente no nível do aprendizado motor.Quando comparado os resultados entre os meninos e as meninas, foi constatado que eles apresentaram em média uma massa corporal dentro dos limites recomendado e melhores níveis de desenvolvimento motor do que as meninas.

Palavras-chave: Índice de Massa Corporal. Desenvolvimento Motor. Avaliação Motora.