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LEVEL OF MOTOR PERFORMANCE AND ITS RELATIONSHIP WITH PHYSICAL FITNESS IN ADOLESCENTS

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ABSTRACT

This research was characterized as a quantitative cross-sectional descriptive. During the motor development process, a series of physical and mechanical changes occur, where the factors of physical growth, maturation, development of physical fitness, physical activity, age and experience are interrelated. The general objective of this study was to study the different effects of physical fitness on the motor performance of adolescents aged 13 to 16 years in the city of Itaituba / Pará. Methodology developed was with the n = sample of 102 students of both genders aged between 13 and 16 years old from the city of Itaituba / PA. All guardians signed the ICF and were released by the doctor for the tests, the instruments used were MABC-2, 6/9 walk / run, TG Lohman protocol, Wells Bank, Medicinibol Pitch, Sargent Jump Test, Impulse Test Horizontal, Anthropometric Scale. The statistics used were descriptive and inferential through the SPSS program that evaluated the relationship and or association of the results. Results: when compared between genders, boys showed an index of 85.4% and girls 72.2% within normal limits. For the Physical Fitness variable, only the values of the Medicinibol Throw, Horizontal Impulse and Flexibility tests showed above-average rates. When compared between genders, boys did not outperform girls in the abdominal, horizontal push and fat percentage test. In the analysis of the maturational state, performed through the Peak Growth Speed test, girls reached this state at around 12.9 years of age, while boys at 14.6 years of age. In the analysis of motor performance, only 38.9% of the girls are in the green zone, presenting 40.7% with indicative of BDD, in boys, 50% are in the green zone and only 18.8% have indicative of BDD. In the association of motor performance between age, physical fitness and nutritional status, the results point to significance only for the association between motor performance and an item of physical fitness, flexibility. We conclude that the process of acquisition of motor skills emerges due to environmental and socioeconomic influences, of course, without forgetting, mainly, the interaction between genotype and phenotype on motor performance. Nowadays we observe a huge decline in the provision of motor opportunities for children and adolescents, generating less stimulus and, therefore, few motor experiences.

INTRODUCTION

During the process of motor development there is a series of physical and mechanical changes, where the factors of physical growth, maturation, development of physical fitness, physical activity, age and experience are interrelated. The changes are represented by changes in somatomotor characteristics of the individual, which in different aspects is related to the performance of physical fitness (FERREIRA & BÖHME, 1998; GALLAHUE, 2000). The set of individualized characteristics that relate the ability to perform physical activity with qualitative elements, variations between individuals and variations between the different phases of the life cycle, has been defined as physical fitness. So that physical fitness can be considered as a product resulting from the process of motor development and physical activity. The link between physical activity and physical fitness is inserted in terms of frequency, intensity and time. The interaction between physical activity, genetics and nutrition suggests the upper limit of physical fitness that can be expected of an individual (BÖHME, 2003). Physical fitness has elements related to health and performance, and the interaction between fitness components related to health and physical activity are more focused on cardiorespiratory resistance, strength, muscle endurance, flexibility and body composition. At the same time, performance-related fitness and physical activity are more directed to speed, coordination, explosive strength, balance and agility capabilities (BÖHME, 1993; MATSUDO *et al*, 1998; GALLAHUE, 2000; SOUZA & NETO, 2002). One of the major questions analyzed when referring to the motor development of children and adolescents, is to verify what are the factors associated with a low level of motor performance. (SLINING, ADAIR, GOLDMAN, BORJA & BENTLY, 2010; SIEGEL, STOLTZFUS, KATZ, KHATRY & LECLERQ, 2005; MONTEIRO, MOURÃO-CARVALHAL, PINTO & COELHO, 2010; VALDIVIA, CARTAGENA, SARRIA, TÁVARA, SEABRA, SILVA & MAIA, 2008). It should be taken into account that sex, maturational status and health conditions of adolescents directly influence the components of physical fitness. And the maturational stage is directly linked to changes in body fat and motor skills learning. In view of the importance of stimulation, lifestyle and adequate nutrition in the various periods of development, we tried, through this study, to verify the effects of the impact of physical fitness, nutritional and maturational status on the motor performance of adolescents in the city of Itaituba/Pará/Brazil.

Identify, Research And Collect Idea: The main objective of this study was to describe the different effects of physical fitness, nutritional status and maturational status on the motor performance of adolescents aged 13 to 16 years in the city of Itaituba/Pará. This research is characterized as quantitative descriptive cross-sectional. A descriptive study, according to Cervo and Bervian (1989), observes, records, analyzes and correlates phenomena or facts without characterising them. The cross-sectional study is a research method in which samples of subjects from different age groups are selected to evaluate the effects of growth and development (THOMAS & NELSON, 2002). The variables investigated in the study were physical fitness related to adolescent health and motor performance classification. The study met resolution 466/2012, This study had some limitations, which we describe below. The sample may not be as large as expected. Because of the number of tests to be performed, they had to be performed in several stages and with time between them so that the child is not fatigued. With this, there may be withdrawal on the part of the child, besides having to count on the frequency of the same in the classroom
Variable Sand Plan

Write Down Your Studies And Findings

Sample Characterization: This research was carried out in the city of Itaituba/Pará, a city located to the west of the state of Pará. The target population of this study consists of 400 high school students, but the sample was 102 students, of both genders, aged 13 and 16 years, regularly enrolled and attending the Federal Institute of Education, Science and Technology of Pará - Campus Itaituba, institution is intentionally selected by the researcher, due to the displacement of the same to this place, due to the access of the researcher to the place of data collection and the duration of the duration for the research.

The composition of the participants followed the following inclusion criteria:

- The school member must have the consent form signed by the parent or guardian; (2) male or female;
- Present or not Indicative of Coordination Development Disorder - BDD;
- Be in the age group of 13 to 16 years;
- Does not have any physical problem and/or general medical condition (e.g., cerebral palsy) that temporarily or definitively prevents it from performing the collection, being identified by observation of the evaluators or by indication of the teacher and/or guardian.

The composition of the participants followed the following exclusion criteria:

- The person responsible does not sign the authorisation;
- The student is not enrolled in the Federal Institute of Pará (Campus Itaituba);
- It is not in the age group studied;
- Did not appear on the dates set for the evaluations.

Instruments

Checklist (Motion ABC Check List): The ABC Movement test, proposed by Henderson and Sugden (1992), is a standard test and referenced criteria composed of two complementary instruments: the motor test battery (BTM) and the motor performance checklist (LC). For, while BTM verifies the significance of the disorder in an experimental situation, LC focuses on the difficulties of a functional nature of daily life.
BTM consists of three sections: manual dexterity, ball skills performance and static and dynamic balances. After performing each task, there is a score corresponding to the adolescent's performance. Its application meets the specific guidelines contained in the manual (Annex 2), therefore it must be done by trained examiners.

THE LC-MABC-2 is a screening instrument (Appendix 2), to identify children (between 5 and 12 years) with motor difficulties (HENDERSON *et al*., 2007; RAMALHO *et al*., 2013). The LC-MABC-2 is composed of 3 sections, listing motor behaviors observed in the daily life of the child, at home and at school (HENDERSON *et al*., 2007; RAMALHO et el., 2013):

Section A: the child is observed in a static and/or predictable environment.

Section B: Refers to the observation of motor behaviors in a dynamic and/or predictable environment. Thus, the scores in sections A and B are organized on a *Likert scale* with values of 0, 1, 2 and 3 referring to the quality of movement execution. The instrument provides a Total Motor Score (TM) composed of the sum of section A and B; categorizing motor behavior into: *Age-appropriate* Motor Competence (CM); *Risk of Engine Delays* (RAM) when it demonstrates some minor movement problems that need to be monitored; and, *with Severe Motor Difficulties*- DMG.

Section C: contains items about factors that possibly negatively affect movement, these questions are organized in dichotomous responses (yes/no). It was conceived as a screening tool, which is*easy*to apply by adults connected to the child, such as their parents and teachers (Ferreira, 2008). Besides being considered a complementary instrument to identify possible Indicative of Coordination Development Disorder (BDD). This instrument was not taken into consideration in our research, because its application is made until the age of 13 years, and the age group of our sample n exceeds this age.

Validity: The test was validated with a population of 1,234 American children from different geographic regions (HENDERSON & SUGDEN,1992). It meets the requirements of the American Psychiatric Association (APA, 1994). And in Brazil, the translation, adaptation and validity of the face, content and construct and the reliability of the version in Portuguese of LC-MABC-2 were verified; in addition to verifying the usefulness of the screening instrument by Ramalho *et al*. (2013).

MABC-2: For the students' motor evaluation, the *second* edition of the Movement Assessment Battery for Children - Movement ABC-2 (MABC-2) was used, proposed by Henderson, Sugden and Barnett (2007). This test is one of the most used to identify children with delays in motor development, whether those who already have difficulties in movement, including DCD, or those who are prone to motor problems (Ruiz *et al*, 2003; Henderson, Henderson, Sugden; Barnet, 2007). According to Geuze *et al* (2001), The MABC is a useful measurement instrument in the clinical and educational context widely used by researchers in the field of motor development. The MABC-2 has become the most frequently used test to operationalize the DSM-IV Criterion A, which says that DCD can manifest itself as marked delays in reaching motor milestones, propensity to drop objects, clumsyness, poor performance in sports and/or unsatisfactory calligraphy (Henderson; Sugden; Barnet, 2007).

MABC-2 is intended for the evaluation of children from 3 to 16 years of age. It consists of two separate tests, one consisting of a battery testing engine (MABC-2 test) and the other is a questionnaire in the form of a checklist (MABC-2 checklist). According to Henderson, Sugden and Barnett (2007), either the test or the checklist can be used to identify a child with motor difficulties. The battery of motor tests is organized in three age groups: age group 1 refers to children aged three to six years; age group 2 (Annex C) refers to children aged seven to ten years, and age group 3 refers to children aged 11 to 16 years. For each age group there is a set of eight tasks involving manual dexterity skills, throw/receive skills, and static and dynamic balance skills. Manual dexterity skills involve speed and precision activities; launch and receive tasks involve accuracy tasks in launching and receiving objects, and static and dynamic balance skills comprise precision and concentration tasks. According to the child's income is assigned a value such as time spent to perform the task, number of errors or number of hits (Henderson, Sugden and Barnett, 2007). Each age group of the test has its own color-identified registration form. The home page has space to record the child's data, to write down the raw scores of each task and their respective standard scores, to calculate the three scores of the components (manual dexterity, throw/receive and balance), as well as to record their standard scores. The component scores are summed resulting in the total test score. In addition, percentile degrees are provided for the three component scores and for the total test count. The tables containing the values of the raw scores and the equivalent standard scores of the tasks are distributed by age group. In manual dexterity skills tasks, the lower the raw score, the better and higher your standard scores are. In the throwing and receiving skills and in the balance skills, the higher the crude score, the higher the standard score. Regarding the sum of each component, a higher score indicates a higher standard score and, consequently, a higher percentile. The same is true for the total test score. Thus, the score of the components and total score of the test and their respective standard scores and percentiles are directly proportional. A high test score.

This study began with 120 selected students, but only 102 participated in the research. The sample consisted of 54 girls (52.9%) and 48 boys (47.1%), whose mean age ranged between 15.82 and 15.97 years, respectively. Statistical information regarding the variables of Physical Fitness analyzed is presented in Table 03. Physical fitness is the ability to perform physical activities, being dependent on innate characteristics and/or acquired by an individual, defined in this way by Caspersen *et al*. (1985). It is approached in two ways: physical fitness related to health and physical fitness related to sports abilities, and each sport has specific requirements. In general, the components that are part of physical fitness related to sports skills are: speed, power, agility, balance, coordination and reaction time (GLANER, 2003).

In the field of health, components of physical fitness seek to harbor biological attributes that can offer some protection to the onset and development of organic disorders induced by impairment of the functional condition. On the other hand, physical fitness related to athletic performance includes those attributes necessary exclusively for the most efficient practice of sports (GUEDES *et al*, 2002). Operationally, the components of health-related physical fitness (AFRS) include indicators regarding cardiorespiratory capacity, muscle strength/endurance, flexibility and body fat (CORBIN & LINDSEY, 1997).

Regarding health-related physical fitness, Pate (1988) defines it as the ability to perform daily tasks vigorously and to demonstrate traits and characteristics that are associated with a low risk of premature development of hypo kinetic diseases. This concept, very similar to that elaborated by ACSM (1996), which states that AFRS having a better index in each of its components is associated with a lower risk of developing diseases and/or functional disabilities (ACSM, 1996). These components comprise the following factors: morphological, functional, motor, physiological and behavioral. Taking into account the components of Physical Fitness, cardio respiratory resistance has the greatest implications for health throughout life. Cardio respiratory resistance reflects people's ability to maintain vigorous activity. It is important for two broad reasons. First, participation in many physical activities requires maintaining vigorous efforts.

Table 01. Operational plan of variables

Variable	Test		Description	Domain	Und	Type	Function
Motor Performance	MABC		Motor Battery	3 – 16	Years	Quantitative	Characterization
Physical Fitness:	Walk/ Race 6 and 9 minutes	Aerobic Power	Neuromotor test	Childhood/adolescence	Period	Quantitative	Characterization
	T.G. Lohman Protocol	Body Composition	% G analysis	0 - 18	Years	Quantitative	Characterization
	Sit-and-Reach	Flexibility	Neuromotor test	6 - adulthood	Years	Quantitative	Characterization
	Medicinibol Throwing	Strength/Resistance Muscle MMSS	Neuromotor test	Any age	Years	Quantitative	Characterization
	Sargent Jump Test	Strength/Resistance Muscle MMII	Neuromotor test	6 - university age	Years	Quantitative	Characterization

Table 02. Evaluation Instruments

MABC-2	Engine performance analysis	Protocol
Walk/Race 6 and 9 minutes	Neuromotor test that analyzes aerobic potency	Protocol
T.G. Lohman Protocol	Body Composition Analyzer	Protocol
Wells Bank	Flexibility analyzer	WCS Wood
Medicinibol Throw	Neuromotor test that analyzes muscle strength	Protocol
Sargent Jump Test	Neuromotor test that analyzes muscle strength and endurance	Protocol

Section A: Movement in a static and/or predictable environment

0 = Very Well	1 = Only Well	2 = Almost	3 = Not near	NO=Not observed

In section B the sections: Movement in a dynamic and/or unpredictable environment

0 = Very Well	1 = Only Well	2 = Almost	3 = Not near	NO=Not observed

Section C: Non-motor factors that can affect movement

Disorganized (ex; leaves clothes scattered so it takes time to dress, puts on shoes before socks	Yes	No

Table 03. Characteristics and tasks of the MABC-2 test for age group 3 (11 to 16 years)

Skills	Tasks	Measures
Manual Dexterity	Forsousing pins	Time in seconds
	Threading triangle screws	Time in seconds
	Track Track 3	Number of hits
Launch/receive skills	Getting The Ball with Each Hand	Number of hits
	Throwing the ball at the target on the wall	Number of hits
Balancing Skills	Balance on two boards	Time in seconds
	Walking backwards	Number of hits
	Jumping zig-zag on carpets	Number of hits

Second, the health of the cardiovascular and respiratory systems is related to the level of physical endurance, largely because the training that increases endurance makes these systems more efficient (Haywood & Getchell, 2016). For many years, experts thought that children's cardiovascular and respiratory systems limited their ability to perform prolonged work because measurements of their blood vessel size were misinterpreted (KARPOVICH, 1937). For Haywood & Getchell (2016) there is a strong relationship between absolute maximum oxygen consumption and body weight. This consumption in relation to body weight remains approximately the same during childhood and adolescence in boys and girls, probably decreases because of increased adipose tissue (fat). Leading Malina & Bouchard (1991) to conclude that body weight seems to increase slightly faster than the maximum oxygen consumption around puberty. This is exactly what we observed in the result presented in Table 04 regarding the 6-minute Walk Test (VO2) and the Fat Percentage (%G). It is worth noting that 64.6% of boys are in the healthy classification and 72.9% have very low %G, while in girls only 22.2% are within the healthy VO2 classification and only 27.8% have very low %G. Vo2 max increases significantly over cross-sectional samples of men in the pre-pubertal, circumpubertal and adult periods and among girls in the pre-pubertal and circumpubertal periods when the data are adjusted by metric allo models, which make adjustments for body mass (MALINA *et al*, 2009).

Table 01: Physical Fitness Results.

Physical Fitness	N=102	%	P
Walk 6 min			
Healthy	43	42,2%	0,1131
ZRS	59	57,8%	
Result (mean± deviation)	1024.7±271.6		
Pitch			
Weak	23	22,5%	0,0003
Reasonable	22	21,6%	
Good	23	22,5%	
Very good	31	30,4%	
Excellence	3	2,9%	
Result (mean± deviation)	4.1±1.0		
Discharge			
Weak	22	21,6%	<0.0001*
Reasonable	13	12,7%	
Good	19	18,6%	
Very good	45	44,1%	
Excellence	3	2,9%	
Result (mean ±deviation)	1.8±0.4		
Abdominal			
Healthy	30	29,4%	<0.0001*
ZRS	72	70,6%	
Result (mean ±deviation)	24.9±8.8		
G%			
Too low	50	49,0%	<0.0001*
Low	22	21,6%	
Ideal	19	18,6%	
Moderately high	5	4,9%	
High	5	4,9%	
Too high	1	1,0%	
Result (mean ±deviation)	12.5±9.0		
Flexibility			
Healthy	87	85,3%	<0.0001*
ZRS	15	14,7%	
Result (mean ±deviation)	32.7±7.7		

Table 02. Characterization of the physical fitness of adolescents according to gender

Nutritional characteristics	Female		Male		P
	n=54	%	n=48	%	
Walk 6 min					
Healthy	12	22,2%	31	64,6%	<0.0001*
ZRS	42	77,8%	17	35,4%	
Result (mean ±deviation)	854.9±176.1		1215.8±230.6		<0.0001*
Pitch					
Weak	15	27,8%	8	16,7%	0,4507
Reasonable	12	22,2%	10	20,8%	
Good	9	16,7%	14	29,2%	
Very good	17	31,5%	14	29,2%	
Excellence	1	1,9%	2	4,2%	
Result (mean ±deviation)	3.3±0.5		4.9±0.7		<0.0001*
Discharge					
Weak	11	20,4%	11	22,9%	0,6293
Reasonable	9	16,7%	4	8,3%	
Good	8	14,8%	11	22,9%	
Very good	24	44,4%	21	43,8%	
Excellence	2	3,7%	1	2,1%	
Result (mean ±deviation)	1.6±0.3		2.0±0.3		<0.0001*
Abdominal					
Healthy	22	40,7%	8	16,7%	0,0145*
ZRS	32	59,3%	40	83,3%	
Result (mean ±deviation)	20.1±6.9		30.3±7.6		<0.0001*
G%					
Too low	15	27,8%	35	72,9%	0,0002*
Low	17	31,5%	5	10,4%	
Ideal	13	24,1%	6	12,5%	
Moderately high	5	9,3%	0	0,0%	
High	4	7,4%	1	2,1%	
Too high	0	0,0%	1	2,1%	
Result (mean ±deviation)	16.7±9.0		7.8±6.3		<0.0001#
Flexibility					
Healthy	46	85,2%	41	85,4%	0,8048
ZRS	8	14,8%	7	14,6%	
Result (mean ±deviation)	33.1±7.5		32.2±7.9		0,5570

Table 03: Association between motor performance and physical fitness, nutritional status of adolescents

Features	Motor Performance	
	r (95% CI)	P
Age		
Full years	-0.12 (-0.31 to 0.08)	0,2374
Physical fitness		
6 Mins	-0.04 (-0.23 to 0.16)	0,7172
Pitch	0.10 (-0.10 to 0.29)	0,3138
Discharge	0.03 (-0.16 to 0.22)	0,7595
Abdominal	-0.12 (-0.30 to 0.08)	0,2454
%G	-0.13 (-0.32 to 0.06)	0,1770
Flexibility	0.24 (0.05 to 0.41)	0,0160*
Nutritional status		
Weight	0.17 (-0.03 to 0.35)	0,0895
Stature	0.17 (-0.02 to 0.36)	0,0800
Bmi	0.19 (-0.01 to 0.37)	0,0565
Height Z score for age	-0.17 (-0.35 to 0.03)	0,0956
BMI Z score for age	-0.06 (-0.25 to 0.14)	0,5557

*Significant result for pearson correlation test (p≤0.05).

Longitudinal cross-sectional studies show that maximum absolute oxygen consumption increases linearly in children from 4 years of age to late adolescence in boys and up to 12 or 13 years in girls (Krahenbuhl, Skinner & Kohrt, 1985; Mirwald & Bayley, 1986; Shuleva, Hunter, Hester & Dunaway, 1990). Table 3 shows the association of motor performance between age, physical fitness, nutritional status. The results indicate significance only for the association between motor performance and one item of physical fitness, flexibility.

DISCUSSION

Castetbon & Andreyeva (2012) evaluated 9,800 children aged 4 to 6 years in the United States and found an association between motor skills and nutritional status. A similar result was found in the studies by Graf *et al* (2004). Zhu *et al* (2011), when investigating in Thai children with and without BDD the association between obesity and motor coordination ability, found that, both in boys and girls, increased BMI was associated with poor motor coordination, being more evident in the assessment of body balance. Berleze *et al.* (2007) found in their study that children with high BMI presented a disadvantage when performing motor tasks, including jumping, running, throwing and balancing. Usually these children do not engage in situations that require motor demands and gradually move away from physical activities, which can lead them to have a low conditioning, as well as high body mass indexes (HAGA, 2009). It is noteworthy that in addition to BDD, overweight is also a conditioning factor for quality of life, since it can lead to risk factors prevalent in childhood and adolescence (Contreira *et al*, 2013). Studies indicate that overweight has a negative influence on the performance of young people in motor tests of speed, flexibility, agility, balance, among others (BUVET *et al*, 2007; Gouveia *et al*, 2007). Currently, studies relating motor performance and physical fitness present only the means of the components of physical fitness and motor performance relating them to the sex of the participants, or even to subjects who have motor difficulties or not (CAPISTRANO *et al*, 2016). Understanding this process is important, because the literature indicates that low motor performance and low performance in physical fitness components are related (SANTOS *et al.*, 2012). In the studies by Krebs *et al.* (2011) when relating motor performance with physical fitness, he observed weak correlations, but in those of Haga (2008), she observed a strong correlation.

It is noteworthy that Krebs *et al* (2011) used p TGMD-2 to evaluate motor performance, while Haga (2008), mabc. In this study, only the flexibility, between body composition, strength, muscle resistance, cardiorespiratory endurance, of the components of physical fitness, presented significance in the association with motor performance, a result, on the contrary, that found by Santos *et al* (2012). Flexibility is one of the key factors in motor improvement and development of body awareness (DANTAS, 2005). Low levels of flexibility can lead to little assimilation of motor skills, restricted levels of strength, speed, coordination (PLATONOV, 2004). Age is highlighted in some studies as an intervening factor in flexibility, and women tend to be more flexible than men since the age of five, with a sharp increase after puberty (MINATTO *et al*, 2010). From this phase, the speed of gain is slowed, then declining, but with progression of the difference between sex (ARAÚJO, 2008). This difference may be associated with the growth spurt of pubescent growth, in which the long bones add a higher longitudinal growth index than the muscles and tendons, recurrent of hormonal changes, causing a temporary decrease in flexibility rates, until the growth of these structures is achieved (ULBRICH *et al*, 2007). Malina & Bouchard (2002) portray the increase in flexibility for girls and, on the other hand, a decrease for boys, with the period pubertal. In relation to this decrease in flexibility in boys, it can occur even before the peak growth rate, stabilizing soon after this period (PHILIPPAERTS *et al*, 2006). Although scarce, when the studies used PVC maturation, such as Levreve *et al* (1990) that observed variables of explosive force, static force, upper limbs speed, the correlation coefficients were moderate and high (0.47 to 0.86), clearly related to maturation status (PVC) and in the study by Machado *et al* (2009) that suggest a high association between PVC and motor performance.

Pate (1988) argued that the components focused on motor skills have greater sensitivity to changes as a result of the evolutionary process presented by children and adolescents, while changes in the components of physical fitness related to health would be subject more strongly to the exposure of young people to stimuli of the environment. In this perspective, the phenomenon of motor development is not caused by this or that factor, but by a multitude of elements that interact with each other (BELTRÃO *et al*, 2017). Motor coordination is dynamic, resulting from changes in the functional and structural level of the individual throughout the life cycle, in permanent interaction with physical and social involvement (MONTEIRO *et al*, 2006).

As observed, the weights of the variables investigated in this research represent, even in low proportions, the possibility of predictability of a behavior that is influenced by several factors simultaneously.

Conclusion

The results found in this study revealed that in the motor tests administered, differences were detected between both sexes. And in the variable physical fitness and motor performance, the values achieved are below ideal for the age group surveyed. This reminds us that the process of acquisition of motor skills emerges due to environmental and socioeconomic influences, of course, without forgetting, mainly, the interaction between genotype and phenotype on motor performance. Nowadays we see a huge decline in the offer of motor opportunities for children and adolescents, generating less stimuli and, therefore, few motor experiences. This scarcity of movement initiated in childhood, which can be determined by the increase in the use of technological "toys", mostly, with the consent of parents, which increases a lower participation of parents' involvement in games with their children, was the removal of children's interaction with the environment, due to violence disseminated today. They are subject to smaller environments for their movement. In view of this, childhood is a determining phase, and should be marked by many motor experiences, stimulating their participation in motor and sports activities, because it is very likely that the amount of stimuli generated in this period is determinant in their profile, in the next phase, adolescence. It is noteworthy that usually children and adolescents who have low levels of physical fitness and motor performance, end up being excluded from any physical activity and physical education classes, leading them to a picture of inactivity and even hypokinesia, and generating many poor levels of motor skills, reflecting in their motor learning process. The variability of motor performance, which occurred in adolescence, is due in parts to the rhythm of biological maturation and the set of previous experiences. And when we studied groups, in this case, comparison between boys and girls, we noticed that practical opportunities are mainly restricted for girls. This is due to sociocultural factors, such as encouraging boys more to perform exercises and activities with greater efforts.

Unfortunately, nowadays, activities aimed at children and adolescents are built on top of molds used for adults, based on competition, selectivity and success. It would be very important to insert activities that stimulate psychomotor skills into the school environment, mainly through ludicity, cooperation and pedagogical competition. But for this to occur, it is necessary to diagnose the motor profile of the students (through specific evaluation), and unfortunately, this does not occur frequently in our schools. The evaluations revolve around a test that boils down to analysis, anthropometric variables, strength, endurance and flexibility. From this, it is clear the importance of motor evaluation in children and adolescents, in order to trace the characteristics of schoolchildren and detect their motor difficulties, in order to build an intervention proposal, with effective/efficient didactic and methodological options in order to opportunist stimuli for the development of the students' motor skills. In addition, knowing the particularities of adolescence is fundamental for planning. In future studies, it would be interesting to take longitudinal design to promote a greater understanding of physiological changes during adolescence and their interaction with other variables, such as lifestyle, level of physical activity and perception of competence.

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