39 - DEVELOPMENT TEST ENGINE: DATE AND CONSISTENCY FOR PROJECT SHELTERED COPAME

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INTRODUCTION

The identification of level of development of children and functionality is essential for the development of interventional programs which are intended to enhance the development of new abilities to remedy the difficulties already established and/or develop new strategies of movement. Motor development is characterized as a constant change during the life of the individual, having its beginning at conception and ending with death. Biological factors and conditions of the environment in which the individual is determined changes in motor behavior, as well as the influence and turn. The diagnosis of motor development allows professionals to identify the factors that make limited movement, enabling the decision making about what skills and/or criteria engines should be emphasized in the programs, the practice time for each skill, and performance goals of child. This ongoing process of transformation can be observed in the stages of life, through its extension which has directly linked to age (HAYWOOD; GETCHELL, 2004).

Childhood motor development is defined as obtaining large motor skill, which through the body control allows the individual to perform basic skills like getting up and manipulate different objects. Some of these skills are required in early life and necessary in everyday life of the child, either in their household chores and school, as well as their need for play. These transformations are driven qualitative and quantitative targets of constant investigations, having not only aim to describe such changes in motor behavior, but also investigate possibilities that can predict these changes. Some are the reasons that lead to growing interest in motor development, among them are the consequences of the diagnosis of growth and development of children, rehabilitation of individuals with developmental delays or detours and ownership of work environments and engines in the development stages (SANTOS; DANTAS; OLIVEIRA, 2004).

To evaluate the motor development of children of children from 2 to 11 years of age, Rosa Neto (2002) proposes a Motor Development Scale consists of a diverse set of evidence and graded difficulty, designed to measure the level of motor development of children in different sectors of development, fine motor, gross motor control, balance, body structure, spatial organization, temporal organization and laterality. In Brazil already been carried out using this instrument more than 130 scientific studies with different subjects, mostly investigated children who have a delayed development in motor functions and also cognitive (ROSA NETO et al, 2010).

The Fine mobility is characterized by the ability to control a set of motion activities of some segments of the body, with minimal use of force, reaching the desired response to the task. Kinetics refers to the overall dynamic body movements, involving the ability to control contractions of the large muscles of the body in the generation of large movements. Balance is the efficiency of the support body in any position against the force of gravity to counteract the forces acting on this body. Body schema defines as the ability to differentiate the body parts, can make all the gestures that the body normally performs and succeed in completing a task using the body. The spatial organization is aware of body size, both the environment and the body space, and the ability to assess the relationship between them. The temporal organization is the understanding of the structure over time that the perceptual transformations, characterized by order, chronological distribution, and duration of events (ROSA NETO, 2002; GALLAHUE; OZMUN, 2001).

The aim of this study was, by means of evidence of motor Motor Development Scale Rosa Neto (2002), to evaluate the motor development in children sheltered in the Association for the Support Minor - COPAME, Santa Cruz do Sul, in order to diagnose which areas of greatest deficit and the overall rating of the motor development in the areas of fine motor and gross motor control.

METHODOLOGY

The study comprised 24 children in shelters , including 11 boys and 13 girls, aged 35 months (2 years and 11 months) and 132 months (11 years), evaluated by COPAME Project, a partnership of the Community Association of Pro-Amparo lower with the University of Santa Cruz do Sul the children were evaluated between April and May 2013.

The tests were applied based on Motor Development Scale (EDM) proposed by Rosa Neto (2002), comprising six batteries of tests evaluating motor age on tests of fine motor, gross motor control, balance, body schema, spatial organization and temporal organization/language. There are 10 motor tasks for each area evaluated, divided between 2 and 11 years, and progressively structured in degree of complexity, being held at the end of the application the sum of successes and Motor Age determined from each of the areas mentioned. It also tests laterality with different methodolog. After the age is calculated gross motor (IMG) and general motor quotient (GMQ) of the child, the latter being obtained by dividing the IMG and chronological age multiplied by 100, and its output rated as table 1.

Table 1 - Values of motor quotient and its corresponding classification.

Motor quotient in months	Classification
130 or more	Much higher
120 – 129	Superior
110 – 119	High normal
90 – 109	Medium Normal
80 – 89	Low normal
70 – 79	Bottom
69 or less	Much lower

Source: Rosa Neto (2002)

For the following study sought to identify and characterize the variables related to motor development of each child, as chronological age (CA), general motor age (IMG), general motor quotient (GMQ), fine motor (IM1) and gross motor control (IM2). For the treatment of the data was used descriptive analysis, done by mean, variance, standard deviation, minimum and maximum value. The tests were applied with the aid of EDM Kit (Motor Development Scale).

RESULTS

The chronological age (CA) average child was 100.95 months (SD = 31.02). In relation to age motor (IM), it was found that the age general motor (IMG) was 87.08 months, and age related motor fine motor (IM1) and overall motor (IM2) showed values of 92 75 months (SD = 36.08) and 95 months (SD = 36.37), respectively, which are shown in Table 2. However, it can be verified in this way, a delay of 8.2 months for the fine motor and 5.95 months for the overall motor in relation to chronological age.

Table 2 - Distribution of the behavior of the variables of the motor assessment.

Variables	Average	Variance	DP	Minimum	Maximum
IC	100,95	962,28	31,02	35	132
IMG	87,08	926,51	30,43	20	119
IM1	92,75	1302,19	36,08	24	132
IM2	95	1323,13	36,37	24	132
QMG	86,72	296,95	17,23	31,25	120
QM1	90,20	409,38	20,23	37	118
QM2	93,16	568,84	23,85	37	135
IP	3,25	9,33	3,05	1	7
IN	17,42	122,36	11,06	4	44

The same table can also be noted that the general motor quotient (GMQ) showed an average of 86.72, which, according to the Motor Development Scale, is classified as a low normal. With respect to the ratio of specific motor areas, children showed very similar values, with an index of 90.20 in the area of fine motor and gross motor control in 93.16, classified as average normal. Presented acceptable levels of content validity. These results corroborate the findings of Rosa Neto et al (2010), to evaluate the motor profile of children 6-10 years found the averages of 107.13 and 99.64 in QM1 QM2, classified as average normal.

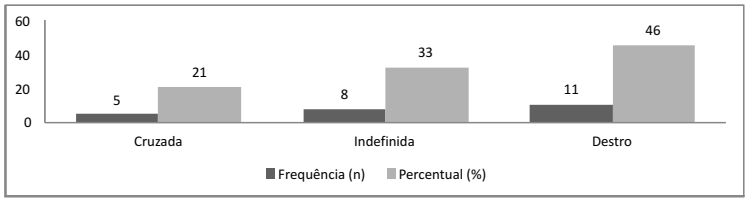
For Rosa Neto (2002), fine motor coordination can be understood by the vision manual, which operates, for example, the motion of picking up an object, write and cut, being composed of a set object/hand/eye. This type of coordination is elaborated so gradually along with the evolution motor. Motility refers to the overall dynamic bodily movements involving a series of movements of large muscle groups. It is instructive in motor activity control yourself, obtained by the precision and skill of its execution, which leads to stress that each child has their own pace, it is very important to respect the individual characteristics of each.

Table 3 – Classification of motor assessment.

Classification	(QM1) Frequency	%	(QM2) Frequency	%
Much higher (>130)	-		1	4,2
Superior (120 - 129)	-		2	8,3
High normal (110 - 119)	3	12,5	2	8,3
Normal Medium (90-109)	12	50,0	13	54,2
Low normal (80 - 89)	3	12,5	1	4,2
Bottom (70 - 79)	3	12,5	1	4,2
Much lower (<70)	3	12,5	4	16,6
Total	24	100	24	100

By analyzing the data in isolation, it was found as Table 3, which tests fine motor (QM1), 6 (25%) children were classified as very inferior or less and 18 (75%) children had normal motor development, these 3 (12.5%) were classified as normal low, 3 (12.5%) as high-normal and 12 (50%) children had normal development mean for their chronological age. As for the test motor overall (QM2), 5 (20.8%) children were classified as very inferior or inferior, 3 (12.5%) had upper motor development or much higher, 16 (66.7%) children showed normal motor development, while 13 (54.2%) of these had motor development compatible with your chronological age - average normal and 2 (8.3%) children had normal development tall and 1 (4.2%) low normal.

Graph 1 - Distribution of laterality of the children.



With respect to the type of laterality of the children (graph 1), it was found that 67% are defined laterally, however, preferably lateral varied. Of these, 46% showed a preference right side - right handed-complete (hands, eyes, feet) and 21% have crossed laterality. Handedness was undefined in 33% of children. These results differ from those found in a study of Rosa Neto et al (2010), which showed in a sample of children with CI 97.91 average, only 3% of the children showed laterality indefinite and 97% already had defined laterality, 35% of those having lateral preference varied. As to the results found by Pazin, and Frainer Moneira (2006), these were presented close to those found in this study, yielding 54.6% in the population studied in preference to full-handed and 35.6% cross-handedness.

Table 4 - Distribution of laterality of the children by age.

Laterality	2–3 years		4-5 years		6-7 years		8-9 years		10-11 years	
	F(n)	P(%)	F(n)	P(%)	F(n)	P(%)	F(n)	P(%)	F(n)	P(%)
Right-handed	1	50	3	100	3	50	1	50	3	27,3
Sinister	-	-	-	-	-	-	-	-	-	-
Crusade	-	-	-	-	2	33,3	1	50	2	18,2
Undefined	1	50	-	-	1	16,7	-	-	6	54,5
Total	2	100	3	100	6	100	2	100	11	100

When viewed in isolation, Table 4, it is noteworthy that 6 children 10 to 11 years are undefined laterality, which deviates from the set by BARELA, 2008. The correlations between motor-test criteria were also satisfactory. Each criterion engine proved satisfactorily correlated with their own sub test and there were no negative correlations between a criterion and the total test engine which the child has its lateralization set between 6-7 years, and many factors are linked to the prevalence of a side. For Rosa Neto (2002), laterality is characterized by a preference in using one of the anatomical parts and symmetrical pairs of the human body, such as legs, hands and eyes.

CONCLUSION

From the results obtained on tests of fine motor skills and overall, it was concluded that the children studied showed motor development below chronological age, having been using the testing Motor Evaluation of Rosa Neto (2002). The comparison between the chronological age (CA) and the motor age (IM), it is noteworthy that the latter is in arrears in two areas evaluated , and fine motor skills in the expense was higher , which highlights the need to develop actions that improve this area, and that it is essential and indispensable in many daily tasks. To bring the positive intervention is necessary to know the individual, which is the goal of any assessment, and in this particular study, the proposed purpose of the evaluation motor.

Regarding the profile engine, it could be seen that the vast majority of children lies within the average level of normality, with more than 60% of children were classified as high normal motor age, average normal or low normal in the evaluation tests. However more than 20% rated themselves as lower or much lower, demonstrating the importance of interventionist actions of Physical Education professionals entered this reality, especially in improving the areas of motor development that is in arrears.

The results allow to conclude that children may be enjoying unlike the set of motor activities by Project COPAME (Physical Education). This assessment can help to understand the process of DM by all involved with the children, allowing the design, customize the range of activities and to create development opportunities in specific components. Therefore, specific resources must be adopted to restore motor age children through regular activities that allow the integral development of motor development, taking into account the social vulnerability that installs between the children, because they are housed in an institution for smaller, and their period of stay at the shelter is transient.

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ABSTRACT

Motor development is characterized as a constant change during the life of the individual, having its beginning at conception and ending with death. The aim of this study was, by means of evidence of motor Motor Development Scale, to evaluate the motor development in children sheltered in the Association for the Support Minor - COPAME, Santa Cruz do Sul, in order to diagnose which areas of greatest deficit and the overall rating of the motor development in the areas of fine motor and gross motor control. The study comprised 24 children in shelters, including 11 boys and 13 girls, aged 35 months and 132 months, project participants COPAME. Tests were conducted to evaluate the global and fine motor skills as well as laterality. The results showed that the children studied showed an IC motor development below, checking if a delay of 8.2 months for fine motor and 5.95 months for gross motor control in relation to chronological age. Regarding the profile engine, it was observed that more than 60% of children were classified with high normal motor age, average normal or low normal in tests of QM1 and QM2. However more than 20% were classified as lower or much less in both tests. As regards the handedness, it was found that 67% are defined laterally, however, preferably lateral varied. Handedness was undefined in 33% of children. It is thus to be adopted specific resources to restore motor age children through regular activities that allow the integral development of motor development.

KEYWORDS: fine motor, gross motor control, motor evaluation.

DÉVELOPPEMENT MOTEUR DE TEST: DATE ET COHÉRENCE DE PROJET ABRI COPAME
RÉSUMÉ

Le développement moteur se caractérise par une évolution constante au cours de la vie de l'individu, dont le début à la conception et se terminant par la mort. L'objectif de cette étude était, au moyen de preuves de moteur Motor Development échelle, pour évaluer le développement moteur chez les enfants à l'abri de l'Association pour le soutien Minor - COPAME, Santa Cruz do Sul, afin de diagnostiquer les zones de plus grand déficit et la note globale de la mise au point du moteur dans les domaines de la motricité fine et le contrôle de motricité. L'étude comprenait 24 enfants dans les refuges, dont 11 garçons et 13 filles, âgés de 35 mois et 132 mois, les participants du projet COPAME. Des tests ont été menés pour évaluer les habiletés motrices globales et fines, ainsi que latéralité. Les résultats ont montré que les enfants étudiés ont montré une évolution du moteur IC ci-dessous, en vérifiant si un délai de 8,2 mois pour que la motricité fine et 5,95 mois pour le contrôle de la motricité globale par rapport à l'âge chronologique. En ce qui concerne le moteur de profil, il a été observé que plus de 60% des enfants ont été classés avec l'âge normal du moteur élevée, normale ou faible moyenne dans les tests de QM1 et QM2. Cependant plus de 20% ont été classés comme faible ou beaucoup moins dans les deux tests. En ce qui concerne l'impartialité, il a été constaté que 67% sont définis latéralement, cependant, varier de préférence latérale. Impartialité est définie dans 33% des enfants. Il doit donc être adoptée ressources spécifiques pour restaurer enfants d'âge automobiles à travers des activités régulières qui permettent le développement intégral de développement moteur.

MOTS-CLÉS: la motricité fine, grossière contrôle moteur, l'évaluation du moteur.

DESARROLLO DE LA PRUEBA DEL MOTOR: FECHA Y COHERENCIA PARA PROYECTO ABRIGO COPAME
RESUMEN

El desarrollo motor se caracteriza como un cambio constante durante la vida del individuo, que tiene su inicio en la concepción y termina con la muerte. El objetivo de este estudio fue, por medio de pruebas de motor Motor Desarrollo a Escala, para evaluar el desarrollo motor de los niños refugiados en la Asociación de Apoyo a Menores - COPAME, Santa Cruz do Sul, con el fin de diagnosticar que las áreas de mayor déficit y la valoración global del desarrollo motor en las áreas de motricidad fina y el control de la motricidad gruesa. En el estudio participaron 24 niños en centros de acogida, entre ellas 11 niños y 13 niñas, con edades entre 35 meses y 132 meses, los participantes del proyecto COPAME. Las pruebas se llevaron a cabo para evaluar las habilidades de motricidad fina y mundiales, así como de lateralidad. Los resultados mostraron que los niños estudiados mostraron un desarrollo motor IC a continuación, comprobar si un retraso de 8,2 meses para la motricidad fina y 5,95 meses para el control motor grueso en relación con la edad cronológica. En cuanto al motor de perfiles, se observó que más del 60% de los niños fueron clasificados con la elevada edad de motor normal, normal, normal o baja promedio en las pruebas de QM1 y QM2. Sin embargo, más de 20% se clasificaron como más baja o mucho menos en ambas pruebas. En cuanto al uso de las manos, se encontró que 67% se define lateralmente, sin embargo, variar preferiblemente lateral. Que mano no estaba definido en el 33% de los niños. Es así que se adopten recursos específicos para restaurar los niños en edad de motor a través de actividades regulares que permitan el desarrollo integral del desarrollo motor.

PALABRAS CLAVE: motricidad fina, control motor grueso, evaluación motora.

TESTE DESENVOLVIMENTO MOTOR: VALIDADE E CONSISTÊNCIA PARA OS ABRIGADOS DO PROJETO COPAME
RESUMO

O desenvolvimento motor caracteriza-se como uma mudança constante do indivíduo durante a vida, tendo seu início na concepção e término com a morte. O objetivo do presente estudo foi, por meio de provas motoras da Escala de Desenvolvimento Motor, avaliar o desenvolvimento motor em crianças abrigadas na Associação Pró Amparo Ao Menor - COPAME, de Santa Cruz do Sul, no intuito de diagnosticar quais as áreas de maior déficit e a classificação geral do seu desenvolvimento motor nas áreas de motricidade fina e motricidade global. O estudo foi composto por 24 crianças abrigadas, sendo 11 meninos e 13 meninas, com idade entre 35 meses e 132 meses, participantes do Projeto COPAME. Foram realizados testes para avaliar a motricidade fina e global, assim com a lateralidade. Os resultados demonstraram que as crianças avaliadas apresentaram um desenvolvimento motor abaixo da IC, verificando-se um atraso de 8,2 meses para a motricidade fina e de 5,95 meses para a motricidade global em relação à idade cronológica. Com relação ao perfil motor, pôde-se verificar que mais de 60% das crianças classificaram-se com idade motora normal alto, normal médio ou normal baixo nos testes de QM1 e QM2. Entretanto mais de 20% classificaram-se como inferior ou muito inferior em ambos os testes. Quanto à lateralidade, verificou-se que 67% possuem lateralidade definida, no entanto, com preferência lateral variada. A lateralidade foi indefinida em 33% das crianças avaliadas. Conclui-se assim que devem ser adotados recursos específicos para restabelecer a idade motora das crianças, através de atividades regulares que permitam o progresso integral do desenvolvimento motor.

PALAVRAS-CHAVES: motricidade fina; motricidade global; avaliação motora.