

**104 - BABIES MOTOR DEVELOPMENT INSERTED IN DIFFERENT STIMULATION PROGRAMS.**

MÔNICA MORCÉLLI  
 FABRICIO MADUREIRA  
 FACULDADE DE EDUCAÇÃO FÍSICA DE SANTOS – FEFIS/UNIMES  
 SANTOS – SP – BRASIL  
[morcelli.m@gmail.com](mailto:morcelli.m@gmail.com)

**INTRODUCTION**

Several studies in Brazil and around the world have used scale to assess Alberta maturation of motor development in babies (FERÔNIO et al., 2011, HERRERO et al., 2011). However, this type of tool often used by pediatricians and physical therapists, still has limited use in the area of Physical Education. Moreira et al. (2009) investigated the incidence in nurseries that delay is significant and that the role of professional Physiotherapy is very important to educate, guide and train the nursery monitors, in order to enable them to contribute to the proper babies development that are under their care, stimulating the motor acquisitions until full development. However, state of the art in babies development, is strongly focused on the possible factors involved in it, and stimulation strategies babies, but limited efforts have been made for the construction and testing of the applicability of the evaluations that can be inferred effects of the problems presented.

Basis of questioning above, it can be observed that despite the increasing knowledge about the motor stimulation importance for normal babies development (SACCANI & VALENTINI, 2010), a social antagonism settles negatively, that is, the growing absence of fathers in the stimulation process their children and increased working hours which seems to be critical for these events. As a result of this equation, the parents end up directing increasingly custody of their babies to daycare centers or private schools. This increase in forwarding educational increasingly deserves academic attention, in other words, are kindergartens and/or nurseries really prepared to receive them?

Barros et al. (2003) evaluated 100 healthy children from two public and one private school in order to identify some risk factors for motor development. The results indicated that the development of biologically healthy children may suffer negative influences of environmental risk factors that have been identified as: absence of parents, the use of inappropriate toys for age, where the child was kept at early ages of childhood, lack of mentoring and socialization outside the family early and low socioeconomic status family.

To Halpern e Figueiras (2004), children have different opportunities in their development given by their personal attributes and the social environment in which they live, however, there may be direct threats to development problems generated by acquired genetic and biological, and especially by the lack of opportunities stimulation.

Based on these works becomes increasingly necessary to use instruments to monitor the development of babies in normal and stimulation directed. For this purpose the scale of Alberta has emerged as an instrument easy to use and efficient in its proposal of measures.

To Edwards e Sarwarky (2005), scale Alberta was well designed and has been validated by identifying the presence of delayed or abnormal motor development. The test has very high confidence requiring minimal training of those who will administer it.

According to Mancini et al. (2002) using the Alberta Infant Motor Scales for being predominantly a test of observation and which was developed to assess motor skills of children from birth up to eighteen months of age, with the proposal along to document the motor development of children who are at risk for delay in motor acquisition.

In Brazil, Valentini, (2011) investigated the validity of the scale in 561 babies. Concluding that the Portuguese version of the Alberta Infant Motor Scale proved to be valid and reliable in assessing motor acquisition of Brazilian children, which makes it a useful tool in many areas of scientific research.

The scale consists of 58 items Alberta grouped into four sub-scales that describe the development of spontaneous movement and motor skills in basic positions, prone, supine, sitting and standing. During the assessment, the examiner should observe the movement of the child in each of the basic positions, taking into account aspects of motor performance, such as weight bearing, posture and antigravity movements. The application of the test takes about 20 minutes. Each item found in the repertoire of motor skills the child receives one score and each item receives zero if not observed, the items found in each of the subscales are summed, resulting in four subtotals (prone, supine, sitting and standing). The total score of the test is given by the sum of the subtotals obtained in each sub-scale. This total score can be converted to percentile performance motor established based on the normative sample test.

Based on the problems presented with babies motor development and imperative that the physical educator profession needs tools for the analysis of motor behavior in this phase of life, there is a need for initiatives to investigate the interaction between these variables above.

**OBJECTIVE**

To investigate the maturation of babies motor development inserted in different stimulation programs.

**SAMPLE**

To sample were assessed 15 babies of both gender, mean age  $9.5 \pm 2.1$  months. Two schools (public and private) in Santos city, São Paulo.

**MATERIALS AND METHODS**

The data collection was used internationally, called Alberta Infant Motor Scale (AIMS) is composed of 58 items by prone posture (21 items), supine (9 items), sitting (12 items) and standing (16 items). A camcorder brand "Sony" was used to record the postures adopted by babies in each experimental situation. A mat that allowed the baby to move without any friction with the ground. There was not any kind of risk in the data collection, the babies had their motor responses filmed, the positions put forward by the experimenter.

**RESULTS**

TABLE 1: Babies motor development classification enrolled in daycare and private school

	Age	Prono	Supinated	Sitting	Standing	AIMS	Percentile
PUBLIC	8	7	6	10	2	25	50 a 75 TH
	10	21	9	11	9	50	10 a 25 TH
	10	21	9	11	7	48	50 a 75 TH
	11	21	6	12	15	54	50 a 75 TH
PRIVATE	5	7	5	1	1	14	10 a 25 TH
	7	21	7	8	2	38	> 90TH
	7	11	7	2	2	22	10 a 25 TH
	8	11	7	7	4	29	10 a 25 TH
	10	15	7	12	10	44	10 a 25 TH
	10	16	8	12	10	46	50 a 75 TH
	11	20	7	12	5	44	10 a 25 TH
	11	21	7	10	7	45	10 a 25 TH
	11	18	9	12	4	43	10 a 25 TH
	12	20	7	10	14	51	10 a 25 TH
	12	21	9	11	15	56	50 a 75 TH

Percentile - 5TH - They have motor delays evident; 10 to 25TH - present signals risk for motor delays; 50 TO 75TH - present favorable motor development; Above 90TH - present full motor development

**DISCUSSION**

Analyzing the groups separately, the results show that 25% of the sample of babies in the nursery are ranked between 10 and 25TH percentile, and this equates to show signs of risk for motor delays. The other 75% of the sample represent the percentile between 50 A 75TH (present favorable motor development). These data do not corroborate a study by MOREIRA, 2009, where babies studied had motor delays in municipal center of education. In return babies to private school analyzed, only 9% have the 90TH percentile above (show full motor development), another 19% have a standard 50 A 75TH percentile (present favorable motor development), where a and around DE73% the sample exhibits 10 to 25TH (signals of risk for motor delays).

**CONCLUSION**

When analyzing the group as a whole can be concluded that 7% had levels of full motor development, 33% showed favorable motor development and 60% showed signals risk for motor delays. These indications point to the emerging need of the intervention of physical education professionals at this stage of life. Results have shown substantial limitation of motor proficiency in early childhood as a triggering agent of inactivity in adulthood.

Future studies investigating the correlation between weight, Apgar score, length of motor stimulation, time watching television and AIMS will enable to understanding the factors that are critical in babies motor development.

**REFERENCES**

- BARROS, K.M.; FRAGOSO, A.G.C.; OLIVEIRA, A.L.B.; CABRAL, J.E.; CASTRO, R.M. Do environmental influences alter motor abilities acquisition? A comparison among children from day-care centers and private schools. Arquivo de Neuro-Psiquiatria. v.61, n. 2<sup>a</sup>, 2003.
- EDWARDS, S.L., SARWARK, J.F. Infant and child motor development. Clin. Orthop. Relat. Res. n. 434, p. 33–39, 2005.
- FERÔNIO, J.S.; COELHO, A.R.; GRAÇAS, L.A.; RIBEIRO, L.C. Estado nutricional e desenvolvimento motor grosso de lactentes entre seis e dezoito meses de idade. Revista Brasileira Crescimento e Desenvolvimento Humano. v. 21, n. 1, p. 30-38, 2011.
- HALPERN, R., FIGUEIRAS, A.C.M. Influências ambientais na saúde mental da criança. Jornal de Pediatria. v. 80, n2 Supl, p104-110, 2004.
- HERRERO, D.; GONÇALVES, H.; SIQUEIRA, A.A.F.; ABREU, L.C. Escalas de desenvolvimento motor em lactentes: Test of infant motor performance e a Alberta Infant Motor Scale. Revista Brasileira Crescimento e Desenvolvimento Humano. 2010
- MANCINI, M.C., TEIXEIRA, S., ARAÚJO, L.G., PAIXÃO, M.L., MAGALHÃES, L.C., COELHO, Z.A.C., GONTIJO, A.P.B., FURTADO, S.R., SAMPAIO, R.F. Estudo do desenvolvimento da função motora aos 8 e 12 meses de idade em crianças nascidas pré-termo e a termo. Arq Neuro-psiquiatria. v. 60, p.974-980, 2002
- MOREIRA, H.; LIMA, A.C.; VILAGRA, J.M; MELIN, M.B. Um olhar da fisioterapia no atraso do desenvolvimento motor em creches públicas. Revista Varia Scientia, v.09 , n.15, p.27-34, 2009.
- SACCANI, R.; VALENTINE, N. Análise do desenvolvimento motor de crianças de zero a 18 meses de idade: representatividade dos ítems da Alberta Infant Motor Scale por Faixa Etária e Postura. Revista Brasileira Crescimento e Desenvolvimento Humano. v. 20, n. 3, p. 711-722, 2010.
- VALENTINI, N.C., SACCANI, R. Escala Motora Infantil de Alberta: validação para uma população gaúcha. Revista Paulista de Pediatria. v. 29, n. 2, p. 231-8, 2011.

Endereço: Rua Don Lara nº 54 apto. 21  
CEP: 11045-160 – Santos/SP – Brasil  
e-mail: morcelli.m@gmail.com

**BABIES MOTOR DEVELOPMENT INSERTED IN DIFFERENT STIMULATION PROGRAMS.****ABSTRACT**

Despite the limited act of physical education professional with babies interventions in schools or in daycare, recent studies have appointed to an urgent review motor stimulation programs in this stage of life and tools that can infer the quality of motor behavior are essential for babies analyzes of the unfolding of interventionist initiatives. This study aimed to analyze babies motor development inserted in different stimulation programs. We analyzed 15 babies of both gender, mean age  $9.5 \pm 2.1$  months of two nurseries, one municipal and other private. The group analysis showed that 25% of babies in daycare are classified with risk for motor delays while others present favorable motor development. For private school 9% of babies had full motor

development while, 19% had motor development and 73% favorable signals risk for motor delays. In conclusion it was shown that 7% of the total sample have levels of full motor development, motor development have 33% and 60% favorable signals of risks to motor delay.

**KEYWORDS:** Babies, stimulation programs, AIMS

#### DÉVELOPPEMENT DES BÉBÉS MOTEUR INSERER DANS DIFFERENTS PROGRAMMES DE STIMULATION. RÉSUMÉ

Malgré les performances limitées des professionnels des interventions d'éducation physique dans les écoles ou avec des bébés en garderie, des études récentes ont mis en évidence un besoin urgent revisitant des programmes de stimulation automobiles de cette étape de la vie et des outils qui peuvent inférer la qualité du comportement moteur sont essentielles pour bébés analyse du déroulement des initiatives interventionnistes. Cette étude visait à analyser le développement moteur des enfants placés dans des programmes de stimulation différents. Nous avons analysé 15 bébés des deux sexes, d'âge moyen de  $9,5 \pm 2,1$  mois deux crèches municipales, l'un et l'autre privé. L'analyse du groupe montre que 25% des bébés en garderie sont classés au risque de retards de la motricité tandis que d'autres présentent le développement moteur favorable. Pour l'école privée de 9% des nourrissons présentaient développement moteur plein temps, 19% avaient développement moteur et 73% des signaux favorables pour les risques de retards à moteur. En conclusion, il a été montré que 7% de l'échantillon total ont des niveaux de développement complète du moteur, développement moteur ont 33% et 60% des signes favorables de risques pour retarder moteurs.

#### DESENVUEVIMIENTO MOTOR DE BEBES INSERIDO EN DIFERENTES PROGRAMAS DE ESTIMULACIÓN RESUMEN

A pesar de la limitada actuación del profesional de Educación Física en participaciones con bebés en escuelas o jardín infantil, estudios actuales han mostrado para una revisión urgente en los programas de estimulación motora en esta fase de la vida e instrumentos que pueden inferir la calidad del comportamiento motor de los bebés son imprescindibles para las análisis de desdoblamiento de iniciativas intervencionistas. Este trabajo tuvo como objetivo analizar el desenvolvimiento motor de bebés inseridos en diferentes programas de estimulación. Fueron analizados 15 bebés de ambos sexos con media de edad  $9,5 \pm 2,1$  meses de dos jardines infantiles, siendo uno de la red municipal y otro particular. El análisis de los grupos demostró que 25% de los bebés del jardín infantil están clasificados con riesgos para atrasos motores mientras que los demás presentan desenvolvimiento motor favorable. Para la escuela particular 9% de los bebés presentaron desenvolvimiento pleno; mientras que 19% presentan desenvolvimiento motor favorable y 73% señales de riesgos para atrasos motores. Como conclusión fue evidenciado que 7% de la muestra total presentan los niveles de desenvolvimiento motor pleno, 33% presentan desenvolvimiento motor favorable y 60% señales de riesgos para atrasos motores.

#### DESENVOLVIMENTO MOTOR DE BEBÊS INSERIDOS EM DIFERENTES PROGRAMAS DE ESTIMULAÇÃO. RESUMO

Apesar da limitada atuação do profissional de Educação Física em intervenções com bebês em escolas ou creches, estudos recentes têm apontado para uma revisitação urgente em programas de estimulação motora nesta fase da vida e instrumentos que possam inferir a qualidade do comportamento motor dos bebês são imprescindíveis para as análises do desdobramento de iniciativas intervencionistas. Este trabalho teve como objetivo analisar o desenvolvimento motor de bebês inseridos em diferentes programas de estimulação. Foram analisados 15 bebês de ambos os sexos, com média de idade  $9,5 \pm 2,1$  meses de duas creches, sendo uma da rede municipal e outra particular. A análise dos grupos demonstrou que 25% dos bebês da creche estão classificados com riscos para atrasos motores enquanto os demais apresentam desenvolvimento motor favorável. Para a escola particular 9% dos bebês apresentaram desenvolvimento motor pleno enquanto; 19% apresentaram desenvolvimento motor favorável e 73% sinais de riscos para atrasos motores. Como conclusão foi evidenciado que 7% da amostra total apresentam os níveis de desenvolvimento motor pleno, 33% apresentam desenvolvimento motor favorável e 60% sinais de riscos para atraso motores.

**PALAVRAS-CHAVE:** Bebês, programas de estimulação, AIMS