

Analysis of the Opportunities for Motor Development in Home Environments of Infants Served in an Early Stimulation Sector

ORIGINAL

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Abstract

Introduction: The home environment has been appointed as the extrinsic factor that most influences child development.

Objective: The objective is analyzing the opportunities for motor development in homes of infants treated at an early stimulation sector in Paraiba.

Method: The study was conducted in an early stimulation sector of a Physiotherapy School Clinic of a Higher Education Institution in the state of Paraiba, Brazil, and consisted of 10 infants' parents attended. The instrument used was the questionnaire Affordances in the Home Environment for Motor Development (AHEMD) 18-42 months. After the questionnaire application, the data collected were introduced and classified with the help of a Microsoft Excel application (AHEMD Calculator VPbeta 1.5.xls).

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Results: The results obtained are numbered 1 to 5, where 1 is a very weak stimulation, 2 poor, 3 good, 4 very good and 5 excellent. It was used the SPSS statistical program for descriptive analysis of the frequency distribution of the subscales, gender and income. It was observed that although the sample investigated show a good level of domestic household stimulation, favoring, therefore, the motor development, is still very weak the existence of external home stimulation and materials that stimulate the fine and gross motor skills of children in developing.

Conclusions: So, it was found that, in general, the opportunities present in the home show as inefficient to promote motor development of children.

Keywords

Physiotherapy; Ambulatory Care; Early Intervention.

Introduction

Child development is a process that starts from intrauterine life involving various aspects, such as neurological maturation, physical growth and building of skills related to behavior and cognitive, emotional and social spheres of the child. The first years of human life are marked by motor physical, mental and social important formations, and the period in which the child has special sensitivity to environmental stimuli from which come to it through their senses [1].

Motor development occurs with great intensity in childhood, during which there is a wide plasticity of the central nervous system, allowing an increase in engine and integrated systems gains [2-4]. The first two years of life are critical for child development, occurring rapid brain growth and intense cognitive and sensorimotor advance, which can be influenced by a number of biological and environmental factors [5].

Child development is influenced not only by biological issues, but others such as prematurity, en-

vironmental factors, parental education, family dynamics and socio-economic structure of the family [6]. Among them, the home environment has been appointed as the extrinsic factor that most influences child development [7].

The physical structure of the houses consisted of indoor and outdoor spaces is of great importance because it is the child's first media experience in their early years of life [8]. Also, furniture, toys, and care provided by caregivers, configure the opportunities in the home with possible repercussions on developing of children's motor skills [7], socio-economic status may be a factor that intervenes or not [9-10].

The environment in which the child lives influences in their motor learning, and the house is the main agent of learning and development. Cultural practices, toys and games available to children, influence the development of their motor skills and, especially, in their parents' encouragement in this process. The mother or caregiver should observe her child, encourage him and arrange for him to be

offered toys or equipment that can help you in his development and training [7, 11].

Therefore, this study aimed to analyze the opportunities for children's motor development in a domestic environment.

Methods

This was a field research, of applied nature, with a quantitative approach and exploratory objectives, which was held in a Clinical School of Physiotherapy of a Higher Education Institution (HEI), located in a city of high backlands of Paraiba. It had beginning with the application of research during the second half of 2014, after being approved by the Ethics Committee in Research under protocol number 31100914.4.0000.5181.

The population consisted of 20 parents of infants assisted in an early stimulation sector that are undergoing treatment in the chosen institution. And the study sample was made up of the parents of these children, chosen at random, adding to the total a sample of 10 parents. To be included in the survey, the parents must meet the following criteria: have a child in the early stimulation treatment sector of the institution; not to oppose to participate; not have done some research on the subject matter and sign the Free and Informed Consent Term. Exclusion criteria are parents who did not meet the above criteria.

The instrument used was the questionnaire Affordances in the Home Environment for Motor Development (AHEMD) 18-42 months. This is a questionnaire with the initial part intended to identify the characteristics of the child and family, and 67 questions related to family environment, divided into five subscales: outer space, inner space, variety of stimulation, fine motor materials and coarse motor equipment.

After the questionnaire, the data were introduced and classified with the help of a Microsoft Excel application (AHEMD Calculator VP beta 1.5.xls). The

results are numbered 1 to 5, where 1 corresponds to very weak stimulation, 2 weak, 3 good, 4 very good and 5 excellent. SPSS was used for descriptive analysis of the frequency distribution of the subscales, gender and income.

Results

It was analyzed 10 children, 08 male (80.0%) and 02 females (20.0%) aged between 18-42 months. It was also seen that 7 children (70.0%) have a family income below 1000.00 and only 03 (30.0%) above 1000.00.

There was a prevalence of male children. Different from what was shown in the study of Pilattiet al. [12], with more female children (57.1%) than males (42.9%). (Tables 1, 2, 3, 4 and 5)

Table 1. Standardized Value with respect to the external environment.

	Frequency	Percentage	Percentage Valid	Percentage Cumulative
Very weak	7	70.0	70.0	70.0
Weak	3	30.0	30.0	100.0
Total	10	100.0	100.0	

Source: data obtained on the period of October 2014.

Table 2. Standardized Value with respect to the internal environment.

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Weak	2	20.0	20.0	20.0
Very good	8	80.0	80.0	100.0
Total	10	100.0	100.0	

Source: data obtained on the period of October 2014.

Table 3. Standardized value with respect to the array of stimulation.

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Very weak	5	50.0	50.0	50.0
Weak	3	30.0	30.0	80.0
Good	2	20.0	20.0	100.0
Total	10	100.0	100.0	

Source: data obtained on the period of October 2014.

Table 4. Standardized Value with respect to the fine motor skills.

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Very weak fraco	9	90.0	90.0	90.0
Weak	1	10.0	10.0	100.0
Total	10	100.0	100.0	

Source: data obtained on the period of October 2014.

Table 5. Standardized Value with respect to gross motor skills.

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Very weak	9	90.0	90.0	90.0
Weak	1	10.0	10.0	100.0
Total	10	100.0	100.0	

Source: data obtained on the period of October 2014.

Discussion

The parents' economic status appears to be related to greater access to information and, consequently, greater knowledge about the mechanisms that can generate more suitable motor development and stimulating environment for children. According to the literature, infants with better economic levels showed better opportunities for motor development [13].

When addressed about the external environment offered to children, it was observed that 7 children (70.0%) have very weak environment and 3 (30.0%) weak environment. (Table 1).

Regarding the internal environment offered to children, it was observed that 2 children (20.0%) have weak environment and 8 children (80.0%) very good atmosphere. (Table 2).

The findings highlighted in this study are in line with what was also observed in the study by Müller and Nobre et al. [10, 14], where it was found that the outer space of more than half of the analyzed households did not provide sufficient opportunities for motor development of

children. These data indicate the need to promote an approach in the areas of civil engineering, architecture and physical education, specifically in engine development. May provide guidance for the development of architectural strategies that better structures the physical space of homes and public spaces. The same does not occur in interior space item, where most got very good rating, in both studies.

It was found that 5 children (50.0%) presented a variety of very weak stimulation, 3 (30.0%) week and 2 low (20, 0%) solid. (Table 3).

Contrary to these results, in the study of Schobert [4]it was found that in 94.2% of the investigated homes, the array of stimulation was rated as very good. The same results were also found in Castro's study [15]. According to Stabelini Neto et al. [16], the stimulation is critical for child development, because it is from the motor operation that the child will develop the knowledge of itself and the external environment in which they live.

In the materials that stimulate fine motor and gross motor skills, 9 children (90.0%) had a very low level (Table 4 and 5).

The results were worrying for fine motor skills, which according to Godtsfriedt [17-20], with regard to materials and toys, whose handling involves the coordination of small muscles and coordination between eyes and hands, as well as to the coarse motor skills, which, for Silva [18-20], is the global dynamic movements (running, jumping, walking, etc.), important in improving the body dynamic balance, sensations and perceptions.

Conclusions

According to the obtained data, it can be observed that, although the sample studied show a good level of internal home stimulation, favoring, therefore, themotor development, is still very weak the existence of external home stimulation and materials that encourage fine and gross motor skills of

the developing child. Therefore, it was found that, in general, the opportunities present in the home show to be inefficient to promote motor development of children. It is necessary to emphasize the importance of knowledge that health professionals should have on environmental stimulation for child development. In order that, in the present study, we used a limited number of patients, it is suggested future work up using a larger sample, a fact which will enable, thus, higher reliability compared to the results.

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