154 - PSYCHOMOTRICITY: INFLUENCE OF THE INTERVENTIONS IN THE INFANTILE MOTOR DEVELOPMENT

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INTRODUCTION AND OBJECTIVES

The infantile development meets influenced by a series of factors, including aspects cognition, psychological, biological and motor. In ours day-by-day, mainly in the pertaining to school scope, each time more verifies children who present learning difficulty, of relationship, social and affective lack and/or congenital problems, that finish generating a deficit in the global development of these children (GESSEL, 1989). It is known, through different studies and research (FONSECA, 1983; LE BOULCH, 1988; ROSA NETO, 2002), that children with problems of learning or some special necessity - either physical or mental it - present a more delayed development of the motor and cognition functions, what does not mean that they cannot reach a degree of even though superior normality or in the different scopes and periods of training of development. Studies have demonstrated that many deficiencies can be prevented and the intervention can prevent or attenuate incapacity to play activities waited for each age of the population (LORENZINI, 2002).

For Rosa Neto (2002), the intrinsecamente on development and the infantile learning then to the motricity, showing basic for the global development of the child, therefore make possible it to carry through multiples movements keeping the especificity of the gesture. It can be understood, therefore, that the motor development is a continuous and lasting process, that happens during all the life of the human being. It is commanded and sequential; this sequence is equal for all the children, only the progression speed varies. The domain order depends on the maturational factor; the degree and the speed depend on the individual experiences. Fonseca (1983) affirms that the movement is the way for which the individual communicates and transforms the world that encircles it. It is possible to say, then, that the psichomotricity acts in the psychic development, of intelligence and the emotional life through the movement.

The evolution of the psychomotricity assumes the dynamic interaction of the neurological maturation and the ambient stimulation. The psychomotricity, according to Le Boulch (1988), is defined as a science that studies the motor behavior as expression of the matures and development of the totality psycho-physics of the man, and has as one of the main objectives to make with that the individual discovers its proper body in relation with its internal and external world, and its capacity of movement. We find in the diverse theories that deal with the study of the psychomotricity as being the education through movements. The Psychomotricity Program of the Center of Physical Education, Physiotherapy and Disports - CEFID, of the University of the State of Santa Catarina - UDESC promotes a program directed to the stimulation and psychomotor in children with problems in the learning (learning disorders, Attention Deficit Hyperactivity Disorder, upheaval of behavior, alterations in the motor coordination) and sindrômicas children (syndrome of Down and Willians) directed by distinct institutions that work with this clientele, as well as for the familiar ones. This is developed in the dependencies of the CEFID/UDESC, as Project of University Extension, and counts on the participation of academics of the course of Physical Education and Physiotherapy, theater, students and collaborators of different areas of the health and the education, being carried through in two weekly sessions with duration of 50 minutes, in the turns morning and late.

This research considered to verify the influence of the psychomotor interventions in these children, being had as objective specific to analyze the evolution of the general motor quotient (QMG) in each child.

METHODOLOGY

The Psychomotricity Project, directed toward the accompaniment of children with problems in the learning, is developed by the Laboratory of Human Development - LADEHU/CEFID/UDESC since 2002 and already more than took care of to 140 children, between evaluations and interventions, being divided in 3 stages. In a first stage, the child, directed for institutions that take care of this clientele, is submitted to a battery of tests, composed for: a) Neurological evaluation, carried through for a medical neurologist; b) Evaluation Antropometric and Postural, carried through for a physiotherapist; c) Motor evaluation, carried through for a professor of physical education, using tests of Motor Development Scale EDM (ROSA NETO, 2002) that it evaluates the following motor aspects: fine and global motricity, balance, corporal project, space organization and temporal/language, as well as the laterality; d) Psychosocial evaluation of the family and the child searching to verify delays or deficits in the development, as well as discovering causal relations.

In second stage, when necessary, the child is directed to the sessions of "Psychomotor Intervention", carried through twice a week, with duration of 50 minutes, in the dependence of the CEFID/UDESC, being that only the group of the morning had the participation of sindrômicas children. The sessions understand the accomplishment of playful activities and stimulants, as games, sung tricks, couriers, circuits, mimic, manual activities and of socialization, being programmed in agreement the motor areas proposals for the "EDM". For the accomplishment of the activities, they had been used diverse materials, individually or in small groups, aiming at to the necessities of each child. Amongst the used materials, manipulation toys consisted (miniatures of animals, domestic utensils, foods...), mirror, balls, arcs, ropes, sheets of paper, chalk, boxes, figures, simple puzzle and rabbet parts of varied forms.

Each carried through session received due register in fiche from specific comment for this end (SÁNCHES, 2003), consisting: number of the session, dates, name of the children, subject of the intervention, objectives, used development of the activities, materials and comments. In the third stage, after a minimum period of six months of intervention (equivalent the 30 sessions), the child is reevaluated by the same battery of initial evaluation, aiming at a comparative degree. From the necessity, and being the responsible ones in agreement, the process is restarted. The research is characterized as experimental, therefore according to Gil (1995), it consists of determining a study object, selecting the 0 variable and to define the forms of control and comment of the effect that the 0 variable produces in the object. In this research, the "object in study" is the sindromicas children with problems in the learning (learning disorders, Attention Deficit Hyperactivity Disorder, upheaval of behavior and alterations in the motor coordination) and sindromicas children (Down and Willians) and the "0 variable" is the psychomotor intervention.

The sample was composed for the 19 (nineteen) children who had participated of the Psychomotricity Project in 2º semester of 2005 and for the 11 (eleven) children that they had participated of the Project in 1º semester of 2006, totalizing 30 children, with age between 05 and 10 years. For better visualization of the data, the group in 2 was divided:

G1 - Children with problems in the learning (learning disorders, Upheaval of the Attention Deficit Hyperactivity Disorder, upheaval of behavior and motor alterations);

G2 Children with syndromes (Down and Willians).

In the motor evaluation the tests of Motor Development Scale EDM (ROSA NETO, 2002). had been used to evaluate the fine and global motricity, balance, corporal project, space organization and organization temporal/laterality. From the results of the specific areas, the general motor development, determined here was defined for the results of the general motor quotient (QMG), that it is gotten by the division between the motor age and the chronological age multiplied by 100. The result of the QMG allows the classification of the development in levels, to know: "very inferior" (69 or less); "inferior" (70 - 79); "normal low" (80 - 89); "normal medium" (90 - 109); "normal high" (110 - 119); "superior" (120 - 129); "very superior" (130 or more).

For the analysis of the data it was used descriptive statistics, being the same ones presented as study methodology individually multi-cases. The referring results to the motor evaluation had been stored and calculated in the "EDM" program (ROSA NETO, 2002) being analyzed of quantitative and qualitative form, using comparative study of the type daily pay and after-test.

RESULTS AND DISCUSSION

The results demonstrate advances in the diverse motor areas (fine motricity, global motricity, balance, corporal project, space organization, secular organization and language.

Year 2005 (2º semester): 11 children had participated of G1 and 8 of the G2, being that the results can better be visualized in tables 1 and 2.

Table 1 - Results of the General Motor Quotient of the G1 (before and after-test)

CASE	QMG BEFORE	QMG AFTER
A	64	70
B	81	90
C	45	59
D	86	86
E	59	59
F	75	76
G	56	56
H	82	82
I	16	16
J	43	43
K	55	55

Source: researchers (2005)

As if it can observe, the results of the G1 demonstrate that 4 children had presented evolution in the QMG and 7 had been remained in the same level, remembering that the 3 last cases ("I", "J" and "K") had carried through only one evaluation, therefore had entered in the end of the year of 2005 e, therefore, its indices are the same ones. To leave of these results, some possibilities can be raised, to justify the low index of evolution: change of appraisers of a semester for another one, disposal of the child in the hour of the evaluations, low number of interventions (30 sessions), and faults of the children in the participation of the project.

Table 2 - Results of the General Motor Quotient of the G2 (before and after-test)

CASE	QMG BEFORE	QMG AFTER
A	43	53
B	26	36
C	50	53
D	27	33
E	50	62
F	45	50
G	63	65
H	33	38

Source: researchers (2005)

Already, in the G2, the 8 children had gotten improvement in the QMG, demonstrating evolution in the different areas of the motricity, being that some had evolved more, other little. However, all had been remained in "very inferior" level of classification of the "EDM", resulted of certain form waited for being children with neurological alterations (syndroms).

Year 2006 (1º semester): 6 children had participated of the G1 and 5 had participated of the G2, being that the results can better be visualized in tables 3 and 4.

Table 3 - Results of the General Motor Quotient of the G1 (before and after-test)

CASE	QMG BEFORE	QMG AFTER
A	16	34
B	43	53
C	35	44
D	82	82
E	55	55
F	20	21

Source: researchers (2006)

In 1º semester of 2006, of the 6 children who had participated of the project, 4 had gotten improvement in the QMG and 2 had remained in the same level, having represented a good percentage of profit.

Table 4 - Results of the General Motor Quotient of the G2 (before and after-test)

CASE	QMG BEFORE	QMG AFTER
A	26	41
B	50	54
C	43	56
D	45	46
E	50	62

Source: researchers (2006)

In the G2, all the participant children (n=5) had reached superior levels in the revaluation, having represented great improvement in its motor development, although still to remain themselves in "the very inferior" level of the EDM, what already it is waited for children with syndrome of Down. Front to the return of the parents, perceived an immense and unanimous satisfaction of the same ones in relation to the Project and the general development of the children, either in the half pertaining to school, social or familiar.

Analyzing the motor parameters of the children with problems in the learning in study, a delay in the motor development is verified, as much in the initial evaluation how much in the final evaluation, agreeing to the literature that suggests a great bond between the motor riots and the pertaining to school learning (ROSA NETO et al. 2005).

In relation to the syndrom group, our results demonstrate delays in the motor acquisitions of the children in the initial and final evaluation, agreeing to literature (ALMEIDA, 2004).

Despite the presented motor difficulties in the two evaluated groups, we find resulted positive after the psychomotors interventions. The benefits of the psychomotricity had been evidenced by Fonseca (1983), when affirming that about this of activity the brain thinks about movements designed in function of an end, making to intervene the superior psychic functions.

Some researchers had carried through studies directed toward the psychomotor intervention and had gotten resulted positive, confirming our findings (POETA; ROSA NETO, 2005; ALMEIDA, 2004). Poeta and Rosa Neto (2005) had carried through 25 sessions of psychomotor intervention in a child with diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) and had found evolution of the motor development, that passed "according to" of normal "the inferior" standard for "low EDM", beyond improvements observed in the pertaining to school learning, the attention and the relationship. Almeida (2004) found positive advances in the motor development, especially in the global motricity and the secular organization of a child with syndrome of Down after to be submitted the 30 sessions of psychomotor intervention.

Beyond the motor benefits we can emphasize some advances related for the family of the children in whom if it relates to the socialization (contact and respect for the colleagues and professors, limits, participation in classroom and friendship). These information coincide with Lorenzini (2002), of that the trick is an instrument that gives to the child necessary experience to its sensorial development, motor, perceptual, cognition and cultural. Of this form, the fact of the activity to be developed in spaces stimulants can induce the child to a different dimension of its reality and, thus, carry through its capacity of creation and communication. Therefore, the stimulation can have if constituted in a determinative variable for the results of this study.

It has, also, evidence that the training of a controlled movement can result cerebral modification, as well as has evidence indicating the relation between motor training and cognition performance (Majorek et al. 2004). Majorek et al. (2004) they had studied five cases of children with TDAH and difficulty of learning that had participated of a therapy of the movement involving cognition, emotional and volitional elements, focusing the language and the musical activity in relation to the movement. The therapy consisted of sessions of 30 minutes, carried through a time per week, being that the number of sessions for child was between 7 and 25, depending on the available time of each pupil. The balance, the rhythm and the coordination had been evaluated eye-hand eye-foot, by means of Lincoln-Oseretsky Scale (LOS FK 18), being that the results had shown improvement in the evaluated areas and the social behavior. Therefore, the trick provides to the child necessary experience to its sensorial, motor, perceptual, cognition and cultural development.

CONCLUSIONS

The psychomotors interventions in children with problems in the learning and children with syndrom had influenced positively in the global development, demonstrating positive advances in the diverse worked motor areas (fine motricity, global motricity, balance, corporal project, space organization and organization temporal/language). The referring analysis to these presented data allows to consider that the objectives of the motor interventions if had shown efficient in the motor development although some children to remain itself in "the very inferior" level of classification of the "EDM", resulted of certain waited form, for being children with neurological alterations. Thus being, one programs continuous of psychomotors activities, that works the areas most deficient of the child can provide a recovery in its motor development, favoring the learning and/or perfectioning of basic the motor elements. Of this form, it makes possible the skillful acquisition of the coordination of its gestures and movements, being able to cure its current difficulties, as well as preventing future inadaptations.

For the stimulation to be a crucial factor in this process and the motor activity of utmost importance for the global development, the work of Psychomotricity demonstrates to have positive effect on the infantile development. The satisfaction of these necessities, front to the riots psychomotors, ahead keeps the child in position of equality of its group, or of children of the same age, diminishing the anxiety, tension, unreliability, as well as emotional problems that could intervene with its intellectual activities and its partner-affective adaptation.

Front to the return of the parents, perceived an immense and unanimous satisfaction of the same ones in relation to the Project and the general development of the children, either in the half pertaining to school, social or familiar. However, these results cannot be generalized in virtue of the reduced sample. Valley to also stand out that this improvement cannot only be attributed to the motor interventions, therefore external factors had not been controlled, consisting in limitations factors. An intervention with bigger number of sessions is suggested, therefore it is possible that bigger advances in the motor development are evidenced.

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PSYCHOMOTRICITY: INFLUENCE OF THE INTERVENTIONS IN THE INFANTILE MOTOR DEVELOPMENT

ABSTRACT

The purpose of this study was to verify the influence of the psychomotor interventions in children with problems in the learning and children with syndroms (Down and Willians). The research is experimetal. Was utilized the tests of Motor Development Scale EDM (ROSA NETO, 2002). The sample involved 30 children, age between 5 and 10 years, that participate of the Psychomotricity Program of the Laboratory of Human Development in the CEFID/UDESC, being 19 children in 2º semester of 2005 and 11 in 1º semester of 2006. The related project promotes a program directed to the psychomotor stimulation and re-education to these children, through playful activities and stimulants, working the areas fine and global motricity, balance, corporal project, space, secular organization and laterality. The interventions had been carried through two times in the week, with duration of 50 minutes each, divided in two groups (morning and late), being that only the group of the morning had the participation of sindrômicas children. The joined results demonstrate advances in the diverse worked motor areas, in the two groups. Front to the return of the parents, perceived an immense and unanimous satisfaction of the same ones in relation to the Project and the general development of the children, either in the half pertaining to school, social or familiar.

Key-words: Motor development. Psychomotricity. Problems in the learning.

PSYCHOMOTRICITÉ: INFLUENCE DES INTERVENTIONS DANS LE DÉVELOPPEMENT MOTEUR INFANTIL

RéSUMé

L´étude propose de vérifier l´influence des interventions psychomotrices chez des enfants avec des problèmes dans l´apprentissage et des enfants syndromiques (Down et Willians). Il s´agit d´une recherche expérimentale où a été utilisée comme instrument de mesure la batterie de tests de l´Echelle de Développement Moteur EDM (ROSA NETO, 2002). L´échantillon regroupait 30 enfants, de 5 à 10 ans, qui participent du Projet de Psychomotricité du Laboratoire de Développement Humain (LADEHU) du CEFID/UDESC, soit 19 enfants au 2nd semestre 2005 et 11 enfants au 1er semestre 2006. Le projet cité développe un programme visant à la stimulation et à la rééducation psychomotrices de ces enfants, à travers des activités ludiques et stimulantes, par un travail dans le domaine de la motricité fine et globale, de l´équilibre, du système corporel, de l´organisation spaciale et temporelle et de la latéralité. Les interventions ont été réalisées deux fois par semaine, avec une durée de 50 minutes chacune, divisées en deux groupes (matin et après-midi), sachant que seul le groupe du matin comprenait des enfants syndromiques. Les résultats montrent des progrès dans les divers domaines moteurs travaillés, dans les deux groupes. De la part des parents, on percevait une immense et unanime satisfaction concernant le Projet et le développement général des enfants, aussi bien en milieu scolaire, social ou familial.

Des mots clé: Développement Moteur. Psychomotricité. Problèmes dans l´apprentissage.

PSICOMOTRICIDAD: INFLUENCIA DE LAS INTERVENTIONES EN EL DESARROLLO MOTOR INFANTIL

RESUMÉN

El propósito de este estudio era verificar la influencia de las interventiones psicomotoras en niños con problemas en aprendizaaje y los niños sindromitos (Down y Willians). La investigación es experimetal. Fue utilizado las pruebas de la escala del desarrollo del motor - EDM (ROSA NETO, 2002). La muestra implicó a 30 niños, edad entre 5 y 10 años, que participan del programa de Psicomotricidad del Laboratorio del Desarrollo Humano en el CEFID/UDESC, siendo 19 niños en el 2º semestre de 2005 y 11 del 1º semestre de 2006. El proyecto relacionado promueve un programa dirigido al estímulo y a la re-educacio'n psicomotores a estos niños, a través de actividades juguetonas y de estimulantes, trabajando las áreas motricidad fina y global, el balance, el proyecto corporal, el espacio, la organización secular y la lateralidad. Las intervenciones fueran hechas dos veces en la semana, con la duración de 50 minutos cada, dividida en dos grupos (matutino y vespertino), siendo que solamente el grupo de la mañana tenía la participación de los niños sindromitos. Los resultados demuestran avances en las diversas áreas trabajadas de la motricidad, en los dos grupos. Afronte a la vuelta de los padres, percibida una satisfacción inmensa y unánime en lo referente al proyecto y el desarrollo general de los niños, sea en la escuela, social o familiar.

Palabras claves: Desarrollo motor. Psicomotricidad. Problemas en aprendizaje.

PSICOMOTRICIDADE: INFLUêNCIA DAS INTERVENçõES NO DESENVOLVIMENTO MOTOR INFANTIL

RESUMO

O estudo propôs verificar a influência das intervenções psicomotoras em crianças com problemas na aprendizagem e crianças sindrômicas (Down e Willians). Trata-se de uma pesquisa experimental, onde foi utilizada como instrumento de medida a bateria de testes da Escala de Desenvolvimento Motor - EDM (ROSA NETO, 2002). A amostra envolveu 30 crianças, com idade entre 5 e 10 anos, que participam do Projeto de Psicomotricidade do Laboratório de Desenvolvimento Humano (LADEHU) do CEFID/UDESC, sendo 19 crianças no 2º semestre de 2005 e 11 no 1º semestre de 2006. O referido projeto promove um programa direcionado à estimulação e reeducação psicomotora a essas crianças, através de atividades lúdicas e estimulantes, trabalhando-se as áreas motricidade fina e global, equilíbrio, esquema corporal, organização espacial, temporal e lateralidade. As intervenções foram realizadas duas vezes na semana, com duração de 50 minutos cada, divididas em dois grupos (matutino e vespertino), sendo que apenas o grupo da manhã tinha a participação de crianças sindrômicas. Os resultados encontrados demonstram avanços nas diversas áreas motoras trabalhadas, nos dois grupos. Frente ao retorno dos pais, percebeu-se uma imensa e unânime satisfação dos mesmos em relação ao Projeto e ao desenvolvimento geral das crianças, seja no meio escolar, social ou familiar.

Palavras-chave: Desenvolvimento Motor; Psicomotricidade; Problemas na Aprendizagem.