27 - NEUROPSYCHOLOGICAL DEVELOPMENT BIOPSYCHOSOCIAL VARIABLE IN INFANT AND CHILDREN WITH CONGENITAL HEART DISEASE: IDENTIFICATION OF PSYCHOLOGICAL MARKERS

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INTRODUCTION

The neuropsychological development is the result of the interaction of several factors, including biological, psychological and social. The acquisition of new skills related to the age of the child and lived to interactions with other individuals of their social environment (Giron, 2005). Both Piaget and Luria characterized the formation and development of cognitive functions by a process of going through various stages of ontogenesis. The development and structure of mental activity may be altered, and the tasks will depend on the connections and in constant evolution, as well as the joint activity of the various units of the brain. For Piaget development goes far beyond the maturation of the nervous system, involving the relationship between the medium that is inserted and the ability to assimilate new information and structure (Muszkat & Miranda, 2004). The same authors also report that the neuropsychological development in this context is influenced by multiple variables, beyond the neurobiological nature and include social and cultural factors that may be decisive in modifying brain responses at various stages of child development.

Studies have shown that assessing environmental conditions and incentives are offered to children in their families can provide important data for the increase of preventive and promotional health (Martins Costa, Sarfocada and Cunha, 2004). The interaction between mother and child has been considered an important aspect for the study of childhood development and skills acquired in the context of this relationship. From conception, mothers and babies are embedded in a complex system of relationships that will be created, organized and modified by the course of evolution and cultural events brought to the subsequent development of both. The quality of the initial interaction between mother and child is considered an important mediator of child development, particularly with regard to communication, socialization and cognition (Zamberlan, 2002). Other factors such as income, maternal education, problems in pregnancy, interval between pregnancies, the baby's condition at birth, presence of chronic conditions, parental involvement and presence, parental mental health, hostile environment and stimulation offered to the child, were considered by Pilz and Schermann (2007) as some issues that are involved significantly in the neuropsychological development of children.

Muszkat and Miranda (2004) reinforce the idea that the brain-behavior interactions can be completely altered, depending on the initial emotional experiences in childhood or socialization. The culture that is related to learned behavior and experiences socialized, involves the totality of ideas, skills, manners in which every individual is born and grows. Cultural factors can change dynamically, and different brain development, which should be considered as a dependent variable that influences and is influenced by environmental factors.

The extent of improvement in neuropsychological assessment as the symptom is inserted into other systems such as emotional, psychosocial and family. According Antunha (2002) Neuropsychology aims to identify early changes in cognitive and behavioral development, becoming part of the assessment of child health, are necessary tools for this purpose as neuropsychological tests and rating scales of development. Within the context of neuropsychological assessment is also necessary to consider the social, economic and interactional, the biological aspects. Biological aspects refer to the illness in the organic affect the normal course of child development. Chronic diseases fall into these features, and one of the most important is the congenital heart disease. According to Silva (2006) congenital heart defects, depending on its severity can affect aspects of psychosocial development and trigger a deficit in motor development and consequently the child's neurological, bringing a delay that can be significant if compared to the normal development planned for the age.

Congenital heart disease encompasses a wide variety of anatomical malformations and therefore functional and is currently the most common in newborns, and 80 to 10 in 1000. The etiology of this disease is related, most often with a genetic-environmental interaction, but according to Zielinski (2006), pregnancies in which the risk of heart disease is greater in the infant are a parent with heart disease, other child with heart disease, when the fetus has a change to some other body or genetic disease like Down syndrome, when the baby has a heart rhythm disorder, in case of twin pregnancy, mothers of more than 40 (forty) years or less than 15 (fifteen) years, mothers with diabetes, lupus, Chagas disease or viral infections, mothers users of cigarettes, alcohol and illicit drugs.

Today, advances in diagnosis, early interventions considered, as well as cardiac surgery and postoperative care have resulted in an increased survival among patients with congenital heart disease (Rocha, Guardiola, Piva, Ricachinevski and Nogueira, 2009). But the presence of this disease is also linked to symptoms such as dyspnea, fatigue, dizziness, low weight, frequent infections, arrhythmias, and cyanosis. These factors depending on the degree restrictions can cause physical and motor inhibition that directly affect the emotional and cognitive development (Miller, 2003). Mahle (2001) notes that children often congenital heart disease may also develop neurological abnormalities caused by the pre, during and after surgery. And such neurological complications may worsen the patient's condition and further prognosis. In this context children with heart disease may get lower scores compared to children without heart disease, with respect to variables of neurological and psychological development (Campos Perez, Terreros, Montero, Madrid, Terreros, Muñoz, Fournier, 2003). Thus, the neuropsychological evaluation becomes a very important working instrument for the psychologist who assists these children. One of the most widely used instruments in the evaluation of children aged zero to six years of age is the Developmental Screening Test II Denver. This test is one of the most known and used, was published in 1967 and redesigned in 1990 in order to help detect possible problems in the development of children during the first six years of life (Giron, 2005).

When it comes to children with congenital heart disease, many studies are being conducted in order to show the effects of circulatory failure and chronic bouts of hypoxia on the child's cognitive development. There is also a concern about the effects of surgery, treatment and numerous hospitalizations during infancy. In addition to these aspects should be a concern about the attitudes and behavior of the family from the knowledge of the disease because the orientation and knowledge of these factors can significantly influence the psychological development and adjustment (Gianotti, 1996).

GENERAL PURPOSE

Evaluate behavioral expressions on the psychological development of children with congenital heart disease.

Specific Objectives

To characterize aspects of development in children with congenital heart disease;
Check the possibility of identifying behavioral markers;
To analyze the expression of markers against the development.

METHODOLOGY

An observational, cross-contrast case to characterize the neuropsychological development of children with and without congenital heart disease. They are part of the study 261 children from zero to six years, divided into three groups: Group 1 (G1-observational) 87 children in clinical follow-up congenital heart disease before surgery, Group 2 (G2-observational) 87 children in clinical follow-up congenital heart disease Post-surgery and Group 3 (G3-contrast) 87 children without heart disease. The observational groups are be recruited from the users of the Unified Health System in a hospital specializing in Cardiology of Rio Grande do Norte and the contrast group is recruited from publics kindergartens in the city of Natal-RN.

To calculate the sample was considered the power of 95%, with a significance level of 0.05.

Excluded from the study children with the syndrome associated with heart disease, children over six years of age and comorbidities associated with heart disease and those that do not accept the responsibility to participate in the research.

Data is collected through a questionnaire and application of the biopsychosocial Screening Test Development DENVER II, with the mother or the person who serves as the mother after receiving all the information about the goals and research procedures and sign a consent form Free and Informed Consent (IC).

In the analysis of the data is used as descriptive and inferential statistics to characterize the variables of the results. Given the consistency of the instrument studies is thought to employ the Cronbach's alpha. In turn associations between nominal variables are performed by means of Chi squared or Pearson correlation. In all cases it will use the spreadsheet to the statistical software SPSS, version 15.0.

They are followed the recommendations to resolution 196/96 of the National Health Ministry of Health and Resolution 016/2000 of the Federal Council of Psychology.

INSTRUMENTS

The instruments used for this study are:

Questionnaire biopsychosocial and clinical information, to collect demographic, social, maternal and clinical disease, developed specifically for this research.

Screening test development DENVER II consists of 125 items, divided into four domains of functions: personal-social, motor-adaptive, language and gross motor. Each of the 125 items is represented by a bar that contains the ages at which 25%, 50%, 75% and 90% of the children had the skills suggested. There is also data related to the child's behavior during the evaluation. The duration of the test varies between 35 and 45 minutes, taking into account the time of their application and interpretation (Cunha, 2008).

RESULTS

The project is in progress, which was referred to the committee of research ethics, and takes place concurrently with sample characterization and composition of groups, observational and contrast. Are listed the key elements highlighted in the international literature in order to check with each group the main behavioral manifestations. It should be noted here that besides the direct verification of observable behaviors, interviews with parents are characterized as a complementary way to verify the expression patterns, changes and other typical behaviors. Stated developmental aspects and their relation to the cases in question.

FINAL CONSIDERATION

One can understand that child development is a complex process and dependent on numerous factors. According Andraca, Pino, La Parra & Marcela (1998) how parents organize the physical environment and interact with their children influences their development. On the other hand it is necessary to evaluate the physical and biological conditions of the child. Children with congenital heart disease have hampered its development not only for pathophysiological factors such as low weight, cyanosis, among others, but also the chronicity of the disease that impose the life of these, numerous hospitalizations, tests, physical restrictions, school dismissal and of the conviviality with other children.

The need for markers that can support the assessment process for safely and efficiently can define future approaches for the psychological intervention, supporting and advising thus the welfare of children with these diseases.

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NEUROPSYCHOLOGICAL DEVELOPMENT BIOPSYCHOSOCIAL VARIABLE IN INFANT AND CHILDREN WITH CONGENITAL HEART DISEASE: IDENTIFICATION OF PSYCHOLOGICAL MARKERS

SUMMARY

Introduction: You can understand that child development is a complex process and dependent on numerous factors. It is considered that the acquisition of new skills related to the age of the child and lived to interactions with other individuals of their social environment (Giron, 2005).

Objective: To assessment behavioral expressions on the psychological development of children with congenital heart disease.

Methodology: An observational study to characterize the neuropsychological development of children with and without congenital heart disease. Sample is composed of 261 children from zero to six years, divided into three groups: Group 1 (G1-observational) 87 children in clinical follow-up congenital heart disease before surgery, Group 2 (G2-observational) 87 children in clinical follow-up congenital heart disease Post-surgery and Group 3 (G3-contrast) 87 children without heart disease. For data collection a questionnaire will be used biopsychosocial and Development Screening Test II Denver.

Results: The study is ongoing, and was referred to the research ethics committee, and takes place concurrently with sample characterization and composition of groups, observational and contrast. Are listed the key elements highlighted in the international literature in order to check with each group the main behavioral manifestations.

Final considerations: The need for markers that can support the assessment process for safely and efficiently can define future approaches for the psychological intervention, supporting and advising thus the welfare of children with these diseases.

KEY WORDS: neuropsychological development, biopsychosocial variables, congenital heart disease.

DEVELOPPEMENT NEUROPSYCHOLOGIQUE INFANTILE ET VARIABLES BIOPSYCHOSOCIAUX EN ENFANTS AVEC CARDIOPATHIE CONGENITALE: IDENTIFICATION DE MARQUEURS PSYCHOLOGIQUES

RESUMÉ

Introduccion : C´est possible comprendre que le développement infantile est un processus complexe et dépend de nombreaux facteurs. Il est considéré que l´acquisition de nouvelles compétences est liée à l´âge de l´enfant et aux interaction vécues avec d´autres individus de leus environnement social (Giron, 2005).

Objectif: Évaluer les expression comportamentales sur le développement psychologique des enfants avec cardiopathie congénitale.

Methode: Étude observationnellepour la caracterization de le développement neuropychologique des enfants avec et sans maladie cardiaque congénitale. L´échantillon est composé de 261 enfants de zéro à six ans, divisés en trois groupes: groupe 1 (G1 – observation) 87 enfants avec cardiopathie congénitale avec un suivi clinique avant la cirurgie, groupe 2 (G2 – observation) 87 enfants avec cardiopathie congénitale avec un suive post-cirurgie, et le groupe 3 (G3 – contraste) 87 enfants sans maladie cardiaque. Pour la collecte des informations sera utillisé un questionnaire biopsychosocial et le Test de Examen Préalable du Développement Denver II.

Résultat: L´étude est em cours. Il a été envoyé au comité éthique en recherche, et se déroule simultanément avec la caractéristion de l´échantillon et la composition des groupes d´observation et de contraste. Sont énumérés les éléments clés mis en évidence dans la littérature internetionale pour vérifier auprés de chaque groupe les principales manifestations comportamentales.

Considérations Finales: Le besoin de marqueurs que peuvent soutenir le processus d´évaluation de façon secure et efficace peut définir des approches futures pour l´intervention psychologique, soutenir et conseiller ainsi le bien-être des enfants atteints de ces maladies.

MOTS-CLÉ: développement neuropsychologique, variables biopsychosociales, maladies cardiaque congénitales.

DESARROLLO NEUROPSICOLÓGICO BIOPSICOSOCIAL EN LACTANTES Y NIÑOS CON CARDIOPATÍA CONGÉNITA: IDENTIFICACIÓN DE MARCADORES PSICOLÓGICOS

RESUMEN

Introducción: Se puede entender que el desarrollo del niño es un proceso complejo y depende de numerosos factores. Se considera que la adquisición de nuevas habilidades relacionadas con la edad del niño y vivía a las interacciones con otros individuos de su entorno social (Girón, 2005).

Objetivo: Evaluar las expresiones de comportamiento en el desarrollo psicológico de los niños con cardiopatía congénita.

Metodología: Se realizó un estudio observacional para caracterizar el desarrollo neuropsicológico de los niños con y sin enfermedad cardíaca congénita. Muestra está compuesta por 261 niños de cero a seis años, divididos en tres grupos: Grupo 1 (G1-observación) 87 niños en el seguimiento clínico cardiopatía congénita antes de la cirugía, el grupo 2 (G2-observación) 87 niños en el seguimiento clínico la enfermedad cardíaca congénita después de la cirugía y Grupo 3 (G3-contraste) 87 niños sin enfermedad cardíaca. Para la recolección de datos un cuestionario se utilizará y el desarrollo biopsicosocial prueba de detección II Denver.

Resultados: El estudio está en curso, y se remitió al comité de ética de la investigación, y se lleva a cabo simultáneamente con la caracterización de la muestra y composición de los grupos, la observación y el contraste. Se enumeran los elementos clave que se destacan en la literatura internacional con el fin de verificar con cada grupo de las manifestaciones conductuales principal.

Consideraciones finales: La necesidad de marcadores que pueden apoyar el proceso de evaluación de manera

segura y eficiente puede definir los futuros enfoques para la intervención psicológica, apoyo y asesoramiento a lo que el bienestar de los niños con estas enfermedades.

PALABRAS CHAVE: el desarrollo neuropsicológico, las variables biopsicosociales, enfermedad cardíaca congénita.

DESENVOLVIMENTO NEUROPSICOLÓGICO INFANTIL E VARIÁVEIS BIOPSICOSSOCIAS EM CRIANÇAS COM CARDIOPATAIS CONGÊNITAS: IDENTIFICAÇÃO DE MARCADORES PSICOLÓGICOS

RESUMO

Introdução: Pode-se compreender que o desenvolvimento infantil é um processo complexo e dependente de inúmeros fatores. Considera-se que a aquisição de novas habilidades relaciona-se à faixa etária da criança e às interações vividas com os outros indivíduos do seu meio social (Giron, 2005).

Objetivo: Avaliar expressões comportamentais quanto ao desenvolvimento psicológico de crianças com cardiopatias congênitas.

Metodologia: Estudo observacional para caracterização do desenvolvimento neuropsicológico de crianças com e sem cardiopatia congênita. Amostra será composta por 261 crianças, de zero à seis anos, divididas em três grupos: Grupo 1 (G1-observacional) 87 crianças cardiopatas congênitas em acompanhamento clínico pré-cirúrgico, Grupo 2 (G2-observacional) 87 crianças cardiopatas congênitas em acompanhamento clínico pós-cirúrgico e Grupo 3 (G3-contraste) 87 crianças sem cardiopatia. Para coleta de dados será utilizado um questionário biopsicossocial e o Teste de Triagem do Desenvolvimento de Denver II.

Resultado: O estudo encontra-se em andamento, sendo que foi encaminhado ao comitê de ética em pesquisa, e realiza-se concomitantemente a caracterização amostral e a composição dos grupos, observacionais e de contraste. Estão sendo arrolados os principais elementos apontados pela literatura internacional de forma a verificarmos junto a cada grupo as principais manifestações comportamentais.

Considerações finais: A necessidade de marcadores que possam amparar o processo avaliativo de forma segura e eficiente pode definir futuras abordagens técnicas da intervenção psicológica, amparando e assessorando assim, o bem estar de crianças com estas doenças.

PALAVRAS-CHAVES: desenvolvimento neuropsicológico, variáveis biopsicossociais, cardiopatia congênita.