149 - PHYSICAL ACTIVITY AS A REMEDY FOR BETTER HEALTH AND FUNCTION OF PATIENTS WITH CEREBRAL PALSY

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INTRODUCTION

The inclusion of students with disabilities in schools has allowed advances in cognitive and motor learning, enabling better quality of life for these. Cerebral palsy (CP) is a disorder that affects 7 / 1000 live births in developing countries (Duck et al., 2002). There is a chronic progressive encephalopathy of childhood, characterized by a sequel brain aggression, persistent disorder and unvarying in tone, posture and movement. Appears in early childhood and influences the neurological maturation at different levels (Miller and Clark, 2002; MORIMOTO et al., 2004). The causes can be varied and occur in pre-and perinatal, especially perinatal hypoxia and ischemia (Duck et al., 2002), infections and / or premature birth (Teixeira, 2008). The causes of postnatal PC are often associated with meningitis, traumas and poisoning.

Although not progressive injury in the brain, the consequences can be aggravated by lack of physical activity. However, the CP patients are able to adapt and respond to stimuli, while the stagnation may worsen the case, regardless of the degree of disability.

The subject investigated due to the interest of knowing the causes and manifestations of the PC as well as the results of the stimuli provided through physical activity, specifically in physical education classes. In this context, this research aims to expand the bibliographic information, clarify and relate concepts and ideas in order to become familiar the topic being investigated, the formulation of relevant approaches to the development of possible further studies. What can contribute to a greater inclusion of students with CP in physical education classes, considering the great benefit that the stimulus caused by the movement can bring to them. And in order that that many people with CP do not have other opportunities to exercise unless the school whether special or common.

Studies show that physical activity can help maintain the physical capabilities do not allow the advancement of motor difficulties characteristics of PC, such as spasticity, and promoting the welfare and social integration, improving thereby the quality of life of patients with PC (COTMAN and Berchtold, 2002; Cargnin and Mazzitelli, 2003; Texeira, 2008). The Adapted Physical Education (EFA) represents a way to benefit those with PC through activities such as games, sports, recreation, with and without wheelchairs, stretching, among others (Strapasson, 2005; Strapasson and Carniel, 2007; MILK AND PRADO, 2004; Strapasson, Martins and Schutz, 2002; string, 1994). Thus, students should be included in activities, but the teacher should meet your needs, explore your potential with creative and challenging activities, but which provide opportunities for success, promoting the well-being and zest for practice.

THEORETICAL

CEREBRAL PALSY

In 1843 Litlle studied children with spasticity and termed this condition Litlle Syndrome (Teixeira, 2008) and in 1862, this picture related to the abnormal delivery (MILK and PRADO, 2004). In 1897, Freud suggested the term cerebral palsy, later adopted by Phelps, referring to a group of children who had motor disorders more or less severe due to injury of central nervous system, similar or dissimilar to the motor disorders of Syndrome Little (Rotter, 2002; DIAMENT and CYPEL, 1996). In 1964, it was defined and used by most experts, the definition of cerebral palsy as a disorder of movement and posture due to non-progressive defect or lesion of the immature brain, or in early life (MILK and PRADO, 2004; TEIXEIRA, 2008).

Currently, several authors define cerebral palsy with other terminology associated with disturbances in muscle tone and posture: Cerebral palsy is also known as chronic non-progressive encephalopathy of childhood, characterized by a sequel brain aggression, persistent and unchanging disorder of the tone, posture and movement. Appears in early childhood and influences the neurological maturation at different levels (Miller and Clark, 2002; MORIMOTO et al, 2004). For Lepage and Noreall, 1998, is a consequence of static damage, which occurred in the pre, peri or post-natal that affects the central nervous system in the process of structural and functional maturation. It is also described as a sensorimotor dysfunction involving disturbances in muscle tone, posture and movements. These disorders are characterized by a lack of control over the movements and adaptive changes in muscle length, resulting in some cases, bone deformities (SHEPHERD, 1998). Bobath (1969), says that along with the motor disorder may be associated with problems of speech and language, vision and hearing, with various types of disturbances of perception and / or sensitivity (skin, muscle and bone), revealing intellectual disabilities, seizures, educational, and behavior.

According to Leite and Prado (2004), the clinical observation of cerebral palsy, it is the extent of motor impairment, its intensity and especially semiotic characterization of this disorder. So Cerebral Palsy has several clinical forms, namely: Hemiplegia: It is the most common manifestation, with greater involvement of the upper limb, accompanied by a release signs such as spasticity, hyperreflexia and Babinski sign. Bilateral hemiplegia (tetra or quadriplegia): Takes place from 9 to 43% of patients. Lesions are diffuse bilateral pyramidal system beyond giving severe spastic quadriplegia, and there may still microcephaly, mental retardation and epilepsy. Diplegia: Occurs in 10 to 30% of patients, the most found in premature infants. It is a commitment of the lower limbs, usually showing a marked hypertonus of the adductors, which sets the appearance in some

patients semiological called Little syndrome (posture with crossing the lower limbs and gait "scissors"). In severe cases the child can stay in one of these stages throughout his life, but the show usually goes spastic hypertonia with severe downturns. Dyskinesia: Today is the rarest, as manifested by involuntary movements, especially dystonias axial and / or choreoathetoid movements of the extremities. In general, when these patients are relaxed to passive movement is facilitated. Ataxia: Also rare. Initially it may be reflected by hypotonia and slowly, there are changes of balance (ataxia axial) and, less commonly, coordination (appendicular ataxia). His gear is made with increasing base of support may present intention tremor. Mixed forms: It is the combination of the previous demonstrations, corresponding generally to meet choreoathetoid and dystonic movements or a combination of ataxia with plegia (especially diplegia). In total, about 75% of sick patients with cerebral palsy pattern is spastic. In addition to motor impairment, required for the characterization of cerebral palsy, the clinical manifestations may also include other accessory with variable frequency: Mental Deficiency: Occurs 30 to 70% of patients. Forms is more associated with quadriplegia, diplegia or mixed epilepsy varies from 25 to 35% of cases, occurring most often associated with the form hemiplegic or quadriplegic, language disorders, visual disturbances, behavioral disorders, which are more common in children with normal or borderline intelligence, but they are frustrated by their limited dexterity, aggravated in some cases by over protection or family rejection, and orthopedic disorders.

ETIOLOGY OF A PC

There is a factor specific for cerebral palsy (CP). The etiology may depend on several factors, among which stand out perinatal hypoxia and ischemia (Duck et al., 2002). According to Teixeira (2008), around 85% of PC cases occur due to problems occurring in the pre-or perinatal infections due to, and / or premature births. The causes of postnatal PC are largely associated with meningitis, traumas and poisoning gas, corresponding to 15% of cases. In developed countries, the estimated incidence of 1-2 children with CP per 1000 live births, however, in underdeveloped countries the incidence may reach 7 / 1000 live births, with no statistical difference in prevalence between the sexes (DUCK et al., 2002).

CEREBRAL PALSY AND PHYSICAL ACTIVITY

Physical activity is defined by the Brazilian Society of Sports Medicine as "any movement as a result of skeletal muscle contraction can increase energy expenditure above the rest." This concept encompasses and includes all kinds of recreational activity, leisure, occupational, household, or even therapy. And exercise is defined as a subcategory of physical activity, planned, structured, repetitive and intentional in the sense that improvement or maintenance of one or more components of physical fitness is the goal (Lazzoli, et al., 1998).

The Central Nervous System (CNS) has neural plasticity refers to the ability to change some morphological and functional activities in response to environmental changes. That is, in the CNS lesions tries to regain lost functions or strengthen similar functions related to the originals (Kempermann, Kuhn, and Gage, 1988). And exercise can increase brain plasticity, since the brain is responsive to physical activity (COTMAN and Berchtold, 2002). They can promote the improvement of muscle strength and flexibility in the lower limbs, improved aerobic capacity, or both in addition to representing improvements in gait variables (velocity, step length and cadence) and not only the quality of life (Cargnin and Mazzitelli, 2003) . The isotonic exercise and stretching are very important for patients with PC, they can help prevent muscle atrophy, the disability itself and assist in improving range of motion (ROM). Muscle fibers also have the ability to adapt, such as the CNS and adapt to stimuli generated by physical activity, improving function, but also adapt to positions of immobilization, worsening disability, especially for those with spasticity (Texeira, 2008). Spasticity is the result of the release of tonic reflex activity, in severe cases, can approach the stiffness. The PC spastic always uses force and effort, for he is always trying to overcome the resistance of the spastic muscles (Bobath, 1969). Thus exercises that promote stretching and strengthening exercises are important for patients with PC, it prevents the shortening and atrophy of muscles. A recent study showed that the causes of the major limitations in motor function in individuals with cerebral palsy are related to decreased muscle strength and no spasticity (Engsberg and Ross, 2007). Just as people without disabilities, those who have PC, are able to respond to stimuli of physical activity. Physical activities for the disabled began in order to rehabilitate injured in the battles of First and Second World War and were introduced by the physician (neurologist and neurosurgeon) Ludwig Guttman, who believed to be an essential part of medical treatment for recovery of disability and social integration. (Adams et al. 1985; MILK and PRADO, 2004). Currently there is a growing awareness of physical activity contributes to the improvement of the motor, social and cognitive skills.

The Adapted Physical Education (EFA), a term more commonly known in our country, involves modifications or adjustments to the traditional physical education activities to enable children with disabilities to participate safely in accordance with their functional capabilities (string, 1994). The EFA aims to prevent complications that exacerbate the disadvantage, discharge of tension and aggression, and psychomotor behavior. His practice often contributes to maintaining health, with her in the form of games, sports, recreation, walking, stretching, among others. Thus, an EF program challenges students should contain allow the participation of all, respect their limits and explore its capabilities, promote autonomy and emphasize the potential in the motor domain and integral (MILK and PRADO, 2004).

The guy with the PC depends on an external stimulus to develop their motor coordination. Physical education plays an important role in this structuring motor, it provides resources to such stimuli (Strapasson, 2005).

Strapasson, Martins and Schutz (2002), argue that physical activities to promote improved with CP of WMD and its maintenance, and also improves the overall development, making them more self-confident, daring and independent. Strapasson (2005) shows that subjects with PC expanded and improved the bodily movements involved, rescued the self-esteem, self-esteem, self-motivation, acceptance and overcoming their own expectations, because the opportunities and the successive situations of success, adapted game called Polybat.

According to the studies cited the practice of physical activity is necessary because as the child grows and evolves, other factors combine with the effects of the injury to exacerbate functional impairments. (MILK and PRADO, 2004). Therefore, patients must be referred to the principles of inclusion and encourage physical activity, taking account of the failure to generate frustration at being unable to perform the exercises and encouraging progress in the execution of movements, observing a person's ability to not aggravate the condition physical and motor with CP.

METHODOLOGY

For this study used the research literature and exploratory nature, that in view of studies Schapp and Silva (2002), enables the composition of a diagnosis of the situation investigated to expand the information, clarify and relate concepts and ideas in order to become familiar the topic being investigated, the formulation of relevant approaches for the development of further studies.

CONCLUSION

Individuals with CP have limitations, but respond to stimuli and is capable of evolution, considering the state of disability. Thus, it is important to perform exercises or other motor activities, which fall under the term physical activity. And the school can create opportunities through physical education classes, physical activities adapted, improved and / or maintenance of range of motion, muscle strengthening and sociability, preventing future contractures and deformities due to spasticity, posture, among other distinguishing features of the PC preserving the physical and mental health, turning the bearer of Cerebral Palsy in a more healthy and better and better prospects of life through sports activities, recreational and psychomotor.

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PHYSICAL ACTIVITY AS A REMEDY FOR BETTER HEALTH AND FUNCTION OF PATIENTS WITH CEREBRAL PALSY

ABSTRACT

Cerebral palsy (CP) is a motor disorder that occurs in the pre, peri or post-natal care. May be associated with other intellectual problems, speech and language, vision and hearing, disorders of perception and / or sensitivity. It is an irreversible condition that focuses on 7 1000 live births in developing countries. The PC also defined as chronic non-progressive encephalopathy of childhood presents as ataxia, dyskinesia, diplegia and hemiplegia. Since a total of about 75% of patients patients with CP have spastic pattern. The objective of this study consists of an exploratory literature review is to understand the PC, causes, effects and manifestations, and how physical activity can relate to this deficiency. The Central Nervous System (CNS) as well as the muscles have plasticity, the ability to change some morphological and functional activities in response to environmental changes. And physical activity can promote the adaptation process, influencing the strength, flexibility and aerobic capacity and promoting improvements in quality of life. Thus, the Adapted Physical Education, offering physical activities, is an efficient way to improve the health and functionality with CP.

KEYWORDS: cerebral palsy, stimuli and physical activity.

L'ACTIVITÉ PHYSIQUE COMME UN REMÈDE POUR MEILLEURE SANTÉ ET FONCTION DES PATIENTS ATTEINTS DE PARALYSIE CÉRÉBRALE

SOMMAIRE

La paralysie cérébrale (PC) est un trouble moteur qui survient dans le pré, péri ou post-nataux. Peut être associé à d'autres problèmes intellectuels, de la parole et du langage, la vision et l'audition, troubles de la perception et / ou de sensibilité. Il est une maladie irréversible qui se concentre sur sept mille naissances vivantes dans les pays en développement. Le CP a également défini comme chronique non évolutive encéphalopathie de l'enfance présente comme une ataxie, dyskinésie, diplégie et de l'hémiplégie. Depuis un total d'environ 75% des patients malades avec CP ont tendance spastique. L'objectif de cette étude consiste en une revue de la littérature d'exploration est de comprendre les PC, les causes, les effets et les manifestations, et comment l'activité physique peut se rapporter à cette carence. Le Système Nerveux Central (SNC) ainsi que

les muscles ont une plasticité, la capacité de changer certaines activités morphologiques et fonctionnelles en réponse aux changements environnementaux. Et l'activité physique peut favoriser le processus d'adaptation, en influençant la capacité de force, de souplesse et d'aérobie et de promouvoir des améliorations dans la qualité de vie. Ainsi, l'éducation physique adaptée, offrant des activités physiques, est un moyen efficace pour améliorer la santé et la fonctionnalité avec le CP.

MOTS-CLÉS: paralysie cérébrale, les stimuli et l'activité physique.

ACTIVIDAD FÍSICA COMO UN RECURSO PARA MEJORAR LA SALUD Y LA FUNCIÓN DE LOS PACIENTES CON PARÁLISIS CEREBRAL

RESUMEN

Parálisis cerebral (PC) es un trastorno motor que se produce en el pre peri o postnatal. Puede estar asociada con otros problemas intelectuales, habla y lenguaje, la visión y la audición, trastornos de la percepción y / o sensibilidad. Se trata de una condición irreversible que se centra en 7 1000 nacidos vivos en los países en desarrollo. El PC también se define como crónica no progresiva encefalopatía de la infancia se presenta como ataxia, discinesia, diplejía y hemiplejía. Desde que en total cerca de 75% de las pacientes que los pacientes con parálisis cerebral tienen espasticidad. El objetivo de este estudio consiste en un revisión de la literatura de exploración es de entender el PC, causas, efectos y manifestaciones, y cómo la actividad física puede relacionarse con esta deficiencia. El Sistema Nervioso Central (SNC), así como los músculos tienen la plasticidad, la capacidad de cambiar algunas de las actividades morfológicas y funcionales en respuesta a los cambios ambientales. Y la actividad física puede promover el proceso de adaptación, que influyen en la capacidad de la fuerza, la flexibilidad y la aeróbica y la promoción de mejoras en la calidad de vida. Por lo tanto, la Educación Física Adaptada, que ofrece la actividad física, es una forma eficaz de mejorar la salud y la funcionalidad con la CP.

PALABRAS CLAVE: parálisis cerebral, los estímulos y la actividad física.

ATIVIDADE FÍSICA COMO RECURSO PARA MELHORAR A SAÚDE E FUNCIONALIDADE DE PORTADORES DE PARALISIA CEREBRAL

RESUMO

A Paralisia Cerebral (PC) é um distúrbio motor que ocorre no pré, peri ou pós-natal. Pode estar associado a outros problemas intelectuais, da fala e linguagem, visão e audição, com distúrbios da percepção e/ou sensibilidade. É uma condição irreversível que incide em 7 de 1000 crianças nascidas vivas nos países subdesenvolvidos. A PC, também definida como Encefalopatia Crônica Não Progressiva da Infância apresenta-se como Ataxia, Discinesia, Diplegia e Hemiplegia. Sendo que, no total, cerca de 75% dos pacientes doentes com PC apresentam padrão espástico. O objetivo deste estudo que consta de uma revisão bibliográfica exploratória é entender a PC, causas, incidências e manifestações e como a atividade física pode relacionar-se com esta deficiência. O Sistema Nervoso Central (SNC), assim como os músculos possuem a plasticidade, capacidade de modificação de algumas atividades morfológicas e funcionais como resposta a alterações do ambiente. E a atividade física pode promover esta adaptação, influenciando na força, flexibilidade e capacidade aeróbia e promovendo melhoras na qualidade de vida. Assim, a Educação Física Adaptada, oferecendo atividades físicas, constitui uma via eficiente no sentido de melhorar a saúde e funcionalidade de portadores de PC.

PALAVRAS-CHAVE: paralisia cerebral, estímulos e atividade física.