

ASPECTS REGARDING THE POSSIBILITIES OF PHYSICAL THERAPEUTICAL INTERVENTION IN CEREBRAL MOTOR INFIRMITY

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Key words: physical therapy, neurological recovery, cerebral palsy, cerebral motor infirmity.

Summary: Cerebral motor infirmity or cerebral palsy, as it is called, is a chronic disorder of posture and movement caused by a lesion of the central nervous system. The lesion or dysfunction can occur during pregnancy, during birth or in the first 2-3 years of life.

The study was conducted on 3 subjects, selected on the basis of clinical and laboratory manifestations, and was applied in two phases with the same objective, namely the correction of gait and the improvement of limb coordination. At the end of the study there was an increase in the level of neuromotor development in all three subjects which confirms the importance of physical therapy intervention in cerebral motor infirmity.

Introduction

In the medical dictionary cerebral motor infirmity is defined as "a pathological non-progressive state and with an intellectual deficiency often moderate, subsequent to cerebral injury of the central motors.

D. Vereanu defined the condition as "a persistent disorder, without being fixed, of motor function and posture, occurring at birth, early childhood or even before birth".

In the book "Physical Therapy in neuropediatrics" Pasztai Zoltan defined cerebral motor infirmity as "all neurological manifestations caused by congenital brain lesions (abnormal development during the first trimester of pregnancy) or acquired (produced by a difficult birth or accidental injury in first months of life).

In conclusion we can say that cerebral motor infirmity or cerebral palsy, as it is called, is a chronic disorder of posture and movement caused by a lesion of the central nervous system. Cerebral motor infirmity is part of the clinical picture of sequelary infantile

encephalopathy and consequence of damage or abnormal brain development. The lesion or dysfunction can occur during pregnancy, during birth or in the first 2-3 years of life.

Unlike other countries, the system of our country still lacks a well-defined strategy regarding people with disabilities. Although efforts are being made in this direction, supplies, specialized institutions in recovery and social integration of these people, but also the mentality of others are still deficient. Also, a large gap is the lack of specialized staff.

Neuromotor recovery is a long process that requires the collaboration of many specialists and satisfaction is as both professional but, above all, moral, the fact that you contributed, more or less, to form a normal life, and have played a smile on the face of the child and the whole family.

Material and methode

Research was conducted over a period of one year, between August 2011 and August 2012. The study included 3 subjects, selected on the basis of clinical and laboratory manifestations, and was applied in two phases with the same objective, namely the correction of gait and the improvement of limb coordination.

Table 1 *The subjects included in the study*

Subject	Age	Diagnostic
M.D	5 years	Left hemiplegia after cerebral trauma - fall from a height at the age of 11 months
M.T	7 years	Tetraparesis after craniocerebral trauma by car accident at the age of 1 year
E.U.	6 years	Paraplegia, sequelary infantile encephalopathy

During the research we used various techniques (kinetic, anakinetic and neuromuscular facilitation) and therapy methods (Bobath, Kabat, Frenkel, Temple Fay, Margaret Rood), including those who had the best results were Bobath method, Kabat method and passive mobilization techniques. We considered the first stage as one preparatory to the second and with the same objectives for all subjects (muscle relaxation and formation of correct engrams of movements), and we used

a generalized exercise program consisting of passive mobilization and muscle relaxation exercises by Bobath method.

Stage II is the stage at which we formulated new goals, depending on the patient's needs. We kept, however, both goals and techniques and methods used in the first part, but the focus was this time on the gradual introduction of individualized exercises. Grading and dosing effort was made according to the status of children at the time (fatigue, stress, emotional state). In general, each exercise contained 6-10 executions exercise being repeated every 5-8 times. Duration of the program did not exceed 90 minutes.

Results and discussions

During the research, the data obtained from the initial and final tests were registered, highlighting the dynamics of the record from the application of neuromotor development level test.

Table 2 *The neuromotor development level test*

The test	M.D.		M.T.		E.U.	
	Initial	Final	Initial	Final	Initial	Final
Preparing for jumping reflex	+	+	+	+	+	+
Cervical tonic reflexul	+	+	+	+	+	+
The doll posture	+	+	-	+	-	+
Forced grasping reflex	-	+	-	+	+	+
Alternating movements of lower and upper limbs	+	+	-	-	-	+
Rolling	+	+	-	+	+	+
Sitting without support	+	+	+	+	+	+
Quadruped position	+	+	-	+	-	+
Walking on four limbs	+	+	-	+	-	+
Sitting in "Servant knight" position	+	+	-	+	-	+
Standing	+	+	+	+	+	+

Walking	+	+	+	+	+	+
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(+ Present / can do;
- not present / cannot perform)

From the table above we can see an increase in the level of neuromotor development in all three subjects which confirms the importance of physical therapy intervention in cerebral motor infirmity.

Conclusions

Following the completion of the case study we reached the following conclusions on the efficiency of means and physical therapeutic methods in pre-schoolers with cerebral motor infirmity:

1. Phasing the recovery program led to the desired results without straining children.
2. Introducing the preparatory phase, containing only relaxation techniques and passive mobilization with the purpose of making the joints suppler, made easier the exercises in the second stage.
3. The most effective method proved to be Bobath method, children actively cooperating especially with the exercise ball.
4. Dosage and gradation of effort depending on the condition of children contributed to better cooperation from them.
5. Satisfactory results were obtained even without parallel application of other means of recovery.

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Titlu: Aspecte privind posibilitățile de intervenție kinetoterapeutică în infirmitatea motorie cerebrală

Cuvinte cheie: kinetoterapie, recuperare neurologica, paralizie cerebrală, infirmitate motorie cerebrală

Rezumat: Infirmitatea motorie cerebrală sau paralizia cerebrală, cum mai este denumită, este o tulburare cronică de postură și de mișcare provocată de o leziune a sistemului nervos central. Leziunea sau disfuncția poate surveni în timpul sarcinii, în timpul nașterii sau în primii 2-3 ani de viață.

Studiul a fost realizat pe un 3 subiecți, selectați pe baza manifestărilor clinice și paraclinice și s-a desfășurat în două etape cu aceleași obiective, și anume corectarea mersului și îmbunătățirea coordonării membrilor. La sfârșitul studiului s-a observat o creștere a gradului de dezvoltare neuromotorie la toți cei trei subiecți fapt ce confirmă importanța intervenției kinetoterapiei în infirmitatea motorie cerebrală.

Titre : Aspects concernant les possibilités d'intervention kinésithérapeutique en infirmité motrice cérébrale

Mots clés: kinésithérapie, la récupération neurologique, paralysie cérébrale, infirmité motrice cérébrale

Résumé : Infirmité motrice cérébrale ou infirmité motrice cérébrale, comme on l'appelle, est un trouble chronique de la posture et du mouvement causé par une lésion du système nerveux central. La lésion

ou un dysfonctionnement peut se produire pendant la grossesse, pendant l'accouchement ou dans les 2-3 premières années de la vie.

L'étude a été menée sur 3 sujets, sélectionnés sur la base de signes cliniques et de laboratoire, et a été appliquée en deux phases avec le même objectif, à savoir la correction de la démarche et l'amélioration de la coordination des membres. À la fin de l'étude, on a constaté une augmentation du niveau de développement neuromoteur dans les trois matières qui confirme l'importance de l'intervention de thérapie physique en infirmité motrice cérébrale.