



FEATURES OF KINESITHERAPY AND ERGOTHERAPY FOR CHILDREN WITH CEREBRAL DAMAGE

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ABSTRACT

Cerebral damages forefront neuropathology in childhood and often lead to severe disability. They are characterized by a complex set of organic and functional disorders of the central nervous system, musculoskeletal system, accompanied by retardation of psycho-motor development.

Kinesitherapy and ergotherapy for children with cerebral damage / cerebral palsy / aim to achieve the fullest possible recovery of the anatomical and functional disabilities through an impact with complex resources, using existing rehabilitation trends and the fast physiological growth of the organism in childhood. [1]

Key words: cerebral damage, cerebral palsy, kinesitherapy, ergotherapy, complex resources

INTRODUCTION

Incidence of cerebral palsy in Europe is 2.0 to 2.5 / 1000 newborns. It is much more common in infants of the following groups: prematurity, immaturity, asphyxia, cerebral hemorrhage, periventrikulna levkomalatsiya and multiple pregnancy. [2]

Heterogeneity of residual damage after brain injury, identifies the need of a complex application of medical, educational and social resources for physical and psychological recovery of the sick child [3].

Therefore, there is a need for a complex and multiphase medical and pedagogical rehabilitation for children with cerebral damage, including an adequate and a proper dosage of kinesitherapy and occupational therapy (resp. game therapy), working individually or in groups, depending on the desired effect. [2]

Parents are being consulted individually or in association with the child, as they are given guidance on behavior and actions. [4]

Rehabilitation in childhood has its own specific features and solves specific tasks,

distinguishing it from the tasks in adults. [1] As childhood is a period of explosive growth, development and forming of the child as an individual, the main purpose of a complex rehabilitation is to prevent any delays as a result of existing disease, ensuring maximum physical and mental development of the child, its education and professional orientation. [5]

According to modern concepts for treatment of children with cerebral damage, kinesitherapy takes essential place at the forefront of the complex treatment. Its principles are determined by the degree of physical and mental development of children and the clinical form of the cerebral palsy.

The purpose of Kinesitherapy in early childhood is to ensure a proper and timely development of movements and to correct the pathological motor stereotypes, occurring as a result of brain damage.

In order to achieve this, it is necessary to construct the relevant motor skills, as the corresponding to the age and development child motorics is being monitored and observed: a normal lying on his back, holding his head upright for short, holding the hands of an adult, hands support for the position on his stomach with active control of the head, by turning his back on his stomach and back, sitting, standing on the knees,

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crawling, standing with hands support and without support. Standing in upright position and walking.

The greatest effect was observed at its start in the breastfeeding age. Then it is recommended to stimulate the coordination of movements of the infant by the method of Voight and / or Bobat, focusing primarily on Voight.

The knowledge of these methods and individual techniques allows every differentiated approach to the needs of each patient. The entire range of physical exercises is being used, but the reflexes, passive, active exercises with equipment and appliances, simple and complex, locomotor applied, etc., find the widest application, depending on the objectives and tasks to be solved.

Ergotherapy is an effective and proven means of rehabilitation of children with cerebral palsy. It is held in the form of the game as the main activity contributing to their full development. The knowledge of the environment is building through it, An adequate motor reaction is showing and different skills and habits are adopting. The game provides ample opportunities for the development of movements and the general physical strengthening of the child [6].

The specific ergotherapy - service focuses on: learning in everyday activities and independence, development of receptor-motor skills, development of playing skills, using specially designed equipment to facilitate the activities and crafts / art.

For proper implementation of ergotherapy is necessary to apply an individual assessment of current psychological and emotional development of the sick child and education of parents as co-therapists. For this purpose, the communication (verbal and nonverbal) between family members and the child is explored. The expectations and applied problems of patients are also considered [4].

Goal

To track the effects of application of special means of kinesitherapy and ergotherapy in the complex rehabilitation in children with cerebral damage to stimulate the reactions of standing, walking and training in the establishment of motor skills.

MATERIALS AND METHODS

Study object are 3 children with cerebral damage, aged 5 to 14 years.

Selection criteria: one of the survey children is walking alone, but has impaired gait, impaired balance, coordination and fine motorics, and the other two children have kvadriparetichen syndrome, increased muscle tone, impaired coordination of movements, motor stereotype disease and are entirely dependent on foreign aid.

Classes are held at " Day home for the mentally and physically disabled" - Stara Zagora, lasting four weeks, once a day lasting 40-60 minutes during pre-diploma training students from third grade, specialty Rehabilitation.

For projection of the results of the kinesitherapy and ergotherapy children were tested twice (at the beginning and end of experimental period) using the following tests: Test for evaluation of motor features in children over three years through a special rehabilitation card - valid for the home, using the following assessments.

- 0 - not able to perform the movement, even with assistance
- 1 -performs the movement with aid
- 2 -self performs the movement, but inaccurate
- 3 -self performs the movement- exact.

Rehabilitation programs are prepared, including kinesitherapy and ergotherapy, depending on age and motor abilities of children, focusing on specific means, using game method in the classes.

Rehabilitation program for the first child:

1.Kinesitherapy - positional therapy that aims to stimulate the sensory integration and to improve the body orientation in space, stimulating healing massage of the distal parts, active exercises for the limbs and trunk, breathing exercises - static and dynamic stretching to prevent and delay the appearance of deformity, exercise for resistance against the shoulder girdle and lower limbs, active exercises with appliances of wall bars and equipment for distal parts, exercises for balance and coordination with ball PHYSIO ROLL ball, training in proper walking through obstacles and the bars. Driving stepper is applied to strengthen the muscles of the lower limbs.

2. Ergotherapy - Game therapy in the dry pool, mobile games, modeling with plasticine, painting with various tools, folding paper and more.

Rehabilitation program for both children with kvadriparetichen syndrome:

1. Kinesitherapy - positional treatment for activating and strengthening the control of head by vertikalizator and stabilization chair, relaxing massage of the four limbs, passive exercises for upper and lower limbs, breathing exercises - static / lisp flask / and dynamic, continuous stretching to prevent contractures and deformity, relaxing exercises, by turning back on his stomach, stimulating crawling by Vojta, training in lifting the head, exercises for balance and coordination with PHYSIO ROLL ball,

2. Ergotherapy - Game therapy in the dry pool and sensory games.

RESULTS AND ANALYSIS

For children with cerebral palsy, the game is a powerful healing factor under the guidance and supervision of trained professionals (teachers, educators, speech therapists, rehabilitation therapists, occupational therapists, etc.).

The joint effect of ergotherapy in kinesitherapy and the recovery of children with cerebral damage are effectively proven, aiming relaxing of spastic muscles and strengthening of voluntary movements in volume, strength and coordination. There are widely used orthostatic means: splints and apparatus for correction of distortions and retention results. [1]

After the conducted rehabilitation program all surveyed children have improved mobility abilities:

- For the first child improvement in muscle tone of lower limbs is reported. There are improved active right arm movements - supinatsiya, abduction of thumb. The treatment of left hand is improved. The gait is improved; it steps on the whole foot with better equilibrium stability. The psychological and emotional child's mood is improved and an willingness to different types of walking is reported.

- For the other two children there is an improvement in muscle tone of lower limb reported. Because of the already occurring

contractures of upper and lower limbs, due to the large muscle imbalance, satisfactory results from the targets and the methodology applied are not fully achieved. Turning from his back on his stomach according to Vojta methodology is difficult made even with assistance, but later by themselves, except the movements of the head and arm.

Passive movements are difficult to apply, because of the great spasm and trochaic hyperkinesia.

CONCLUSION

The application of the complex rehabilitation in children with cerebral palsy improves motor abilities, stimulates locomotion and psycho-emotional tone.

Ergotherapy for children with cerebral palsy as any other type of treatment must be dosed properly to be effective and efficient.

It is recommended to use the individual programs of work at home, according to momentary needs and opportunities of the child. They are designed to involve parents in the learning process and automation of mastered skills.

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