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The journal has had 5 points in Ministry of Science and Higher Education of Poland parametric evaluation. Part B item 1107. (17.12.2013).
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Conflict of interest: None declared. Received: 05.04.2014. Revised 15.06.2014. Accepted: 25.06.2014.

BOBATH THERAPY IN CORRECTION OF PSYCHOMOTOR DEVELOPMENT OF CHILDREN WITH ORGANIC INJURIES CNS

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Summary. The article represents therapy of Bobath such as one of the most effective author method which use in correction psychomotor development of children with disorders of musculoskeletal system. Bobath method is not new in the correction of movement disorders since last century and still supplementing and improving.

In this work highlight topic of the effective use Bobath therapy in correction of psychomotor development in children age 3 – 6 years with organic involvement CNS. the experiment was based on evaluation of psycho physical state of experimental before and after 10 days course neurodevelopment therapy in hospital. The positive dynamics of motor activity in main position (lying, sitting, standing), learning motor skills (turn to the side on belly, standing on one leg), are proved effectiveness of applying Bobath therapy in correctional psychomotor development children aged 3-6 years with organic lesions CNS. applying Bobath therapy in correctional injuries in children with organic lesions CNS and exploring such as it included many aspects and direction: treatment position (normalization of muscle tone and effect on pathological reflexes) use physical exercises with use special extras (Bobath chair, Bobath couch with adjustable inclined surface, ball for feet, triangle and rollers to ensure the adoption of the necessary provisions), Bobath logopedics (normalization oral praxis, regulation of oral control, normalization of articulation muscles tone, learn the self-service skills, personal hygiene, feeding, changing clother.

Key words: Bobath therapy, psychomotor development, children of preschool age.

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Relevance of research: In a modern setting of corrective actions aimed to recovery motor and psycho-emotional field of children with injuries of central nervv system have problem with choosing most effective method [5,7,9,11].

One of existing methods which used like therapy which provides motor and psycho-emotional correction of children with organic injuries CNS, would like highlight the Bobath method which widely used abroad in countries such as Czech, Slovenia, Switzerland, USA, Germany, and even included in pollace of compulsory social insurance using, some time ago are using in countries CIS (Armenia).

Conception of the method was reasonable in the 40's XX century, thanks to couple Berta and Karl Bobath, therapist and neurologist which based on clinical observations Bobath-conception also known as " Neurodevelopment therapy" (neurodevelopment treatment, NDT), has a significant impact on the overall development of the principles rehabilitation of children and adults with violation (ORA) [1].

The method based on understanding of the underlying causes of movement disorders which on the authors view consists of sensory disorders of varying degrees, spasticity, violation of postural reflexes mechanism, lack possibility the making the movements.

Based on fundamental principles of Bobath therapy:

1. Suppress or eliminate reflex technical activity that helps to reduce and normalize muscles tone;
2. Promotes higher to rising and balance reactions in sequence, which corresponds to the development, providing basic progression of activity

Neurodevelopment of Bobath are directional on sensory-motor components muscles tone (hyper tonus, hip tonus), reflexes, abnormal movement patterns (tremor, friendly, movements, hypokinesia) postural control, organs of senses, perception and memory – it components which could be violation if central nerv system has got injury.

Purpose of the exploring was determine the possibility of application Bobath therapy in correction psycho-motor development children with organic lesions CNS.

Method of the Bobath therapy. At the heart of Bobath therapy impact on "key points of control" (head, torso, shoulders hips, hands, feet) which marked accumulation of receptors affecting the key points , Bobath-therapist can be the most effective control and change positions and movements in the parts of the body where muscles tone are higher. Points could be distal and proximal.

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The main purpose of therapy is improvement control and selective motion in order to optimize motor function by facilitation key points (points control). The influence of the instructor carried on the suppress abnormal motor patterns and stimulation development of correctly moves on the way of inspiration and inhibition, facilitation and rotation and use the position that suppress reflexes during motor activity [4].

The main reception of Bobath therapy included:

1 – inhibition – blocking pathology movement (tremor, myotonia, friendly, and atetoidal movements without dissociation, position of body (flexion and extension) and reflection (availability newborn reflexes, delay the formation of reflexes) which prevent normalization development (appropriate age and health of children); facilitation the implementation of the right (normal) movements which is achieved by communication between the patient and the specialist that contributes to the physiological movements; stimulation with using tactile and kinesthetic stimulation, it manipulation necessary to get for a patient feel correct moves and body position in space, suppression of tonic activity which is done by searching inhibitory – reflex position for patient (embryo pose, side “oblique” sit) [8].

For achieve the last following support and basic position:

- lying on the side with a raise chief end;
- lying on the side (both hands in front, palms summary, one leg bent at the hip and knee, the other keg straight, under the back is roller.
- lying on the belly with a roller in the projection of the chest;
- lying on the back with a raised chief end, legs bent at ankle and hip joint.
- sitting on a Bobath tables (hear with a slight till forward, back straight without tilting to one side, knees over the feet, legs slightly parted, feet flat on the floor or stand on the bench to legs.

Bobath method of therapy is based on theory of 5 blocks and the way of unlocking:

- cervical spine therapy directed for training activity neck and trunk muscles;
- shoulders, shoulders blades, arms and hands – therapy directed at ensuring free mobility in the shoulders, elbow and wrist joint;
- lumbar spine;
- pelvis, hip, knees and feet providing free mobility in the hips, knee and feet;
- torso – therapy aimed do active extension of the spine and prepare for activation of equilibrium [10]

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Should be noted that the concept of Bobath still developing but has a well formed principles.

1. Suppression or elimination of tonic reflex activities prospered to normalize muscles tone.
2. Promoting the inclusion of motor response in accordance with sequence of their development (spontaneous movements, control head, rectifying reactions, implementation turns and etc.)

Assessment of method such as Bobath therapy is based on the rating scale which implies the level of motor activity of children in some positions. Every skill is measured at the 6 point scale, where:

0 point – as sight if cant adoption posture as passively or actively as spasticity is too strong even for child to sit in a desirable position;

1 point – child can accept passively desirable provision but can not hold it.

2 point – child can hold in desirable provision without support after the adoption of passive posture.

3 point – child can independently move in the desired position but does it in abnormal method.

4 point – child can independently move in the desired provision but the movement is insignificant details that indicate move are imperfect.

5 point – child do normal activity move.

Exploration was based by OCRCI "Future'. At the beginning and at the end course of Bobath therapy were examinational 14 children in age 3- 6 years with organic injuries of central nervous system (CNS).Course of Bobath therapy consisted 10 procedures which were conducted every 2-3 days. Experimental group consisted children who received a first time course of Bobath therapy. Number of such courses is unrestricted and may be repeated every 2- 3 month.

In table 1. Presents estimates the dynamics of motor activity in certain positions during the first course of Bobath therapy in children surveyed categories.

From table 1 can be noted that in the course of application of Bobath therapy, motor skills in the position on back get better, primarily due to increase of distinctive options which increased from 45 % to 60 %. Some improvement was noted in the assessments of motor skills in position on the stomach by independently take and hold poses. From other side a children (9 % cases) which the realization of movements in the positions was impossible, course of Bobath therapy was ineffective.

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Table 1.

Distribution of mark dynamics of motor activity in children in age 3- 6 years of lesions of the Bobath therapy (%).

Estimaion	Lying on the back (supination)		Lying on the belly (pronation)		Turn from back to side		Turn from back to stomach		Sitting,hips flexed		On the knee		Squatting		Setting position		Walking		Standing on the one leg	
	At the beginning	At the end	At the beginning	At the end	At the beginning	At the end	At the beginning	At the end	At the beginning	At the end	At the beginning	At the end	At the beginning	At the end	At the beginning	At the end	At the beginning	At the end	At the beginning	At the end
0	10	9	9	9	0	0	0	0	0	9	14	0	0	17	27	45	42	64	64	10
1	0	0	0	0	9	0	0	0	9	9	21	30	56	17	18	18	8	9	9	0
2	0	0	0	0	0	9	0	0	18	18	21	20	0	17	9	0	8	0	0	10
3	27	10	36	18	0	0	10	0	18	9	21	20	22	8	18	9	17	18	18	20
4	18	20	27	36	27	9	27	10	55	9	14	20	22	33	18	27	25	0	9	60
5	45	60	27	36	64	82	64	90	0	45	7	10	0	9	9	11	0	9	0	0

Another effect was observed on the development of feasibility turning torso in toward (from 64% to 82 % free version) and on the back to stomach (from 64% to 90% free version) that allows to assert he effective impact of the proposed techniques on the muscles of the torso and sides coordinate with spine muscles and limbs when perform rotation. Deserves attention adopting positions in the sitting pose with flexed hips, characterized by a significant improvement in children with minor flaws and lack of skill effect or deterioration in children with minor violation of this skill. On the other hand skill standing on the knees has clear tendency to improve both individual assessment and for average. Thanks this skills mark the biggest increase in the average mark. Multi directional changes in the formation of habits squats improved in children with minor violations of skills but getting worse in children with significant disabilities in the performance of this test. Equally important is the fact that one course Bobath therapy had no significant effect on the formation of skills of walking because impossibility of do it higher from 45 % at the beginning of course to 64 % at the end of course while only 9 % of the children performed this test free. Significant effect course of Bobath therapy should be

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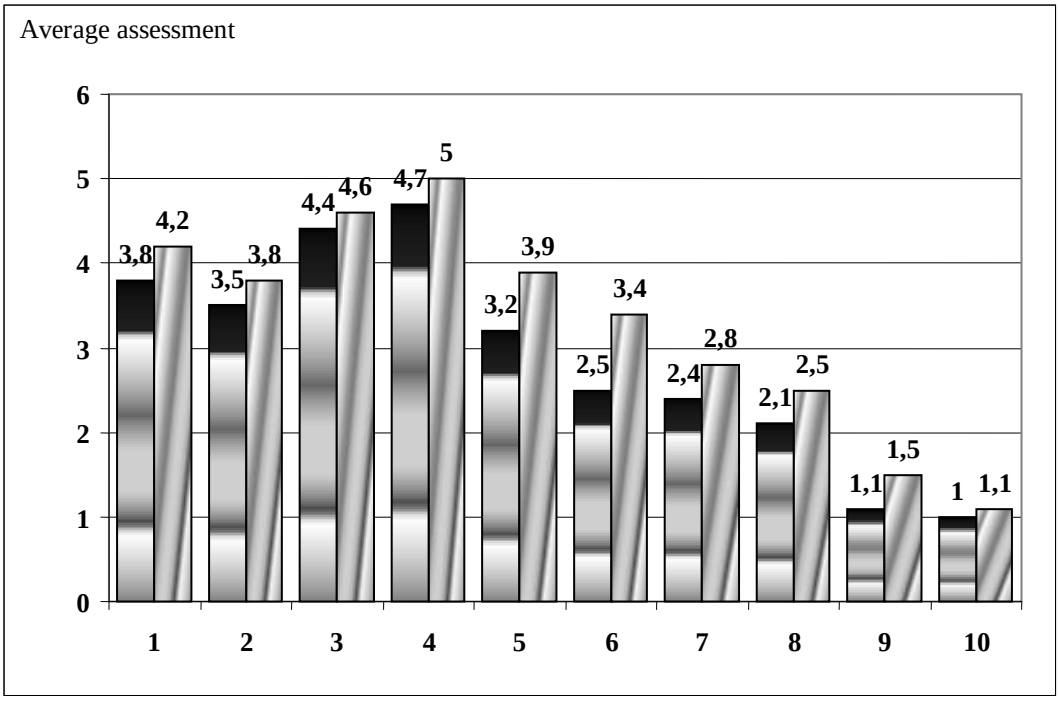
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considered as a significant improvement opportunities of children with central nervous system to perform standing on the one leg, indicating a significant influence on development of coordination skills by improving the function of the vestibular apparatus and apparatus proprioceptive sensitivity.



Picture. Average assessment of motor skills of children with CNS at the beginning (left column) at the end (right column) course of Bobath therapy. Where: 1 - Lying on the back (supination); 2 - Lying on the belly (pronation); 3 - Turn from back to side; 4 -Turn from back to stomach; 5 - Sitting,hips flexed; 6 - On the knee; 7 – Squatting; 8 - Setting position; 9 –Walking; 10 - Standing on the one leg.

Table 2.

Growth assessments of motor skills of children in age 3-6 years with CNS during the course of Bobath therapy (average points difference).

Lying on the back (supination)	Lying on the belly (pronation)	Turn from back to side	Turn from back to stomach	Sitting,hips flexed	On the knee	Squatting	Setting position	Walking	Standing on the one leg
0,4	0,3	0,2	0,3	0,7	0,9	0,4	0,3	0,4	0,1

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Other are confirmed which given in Table 2 which presents the growth estimates average marks every motor skill.

Considering the letter can be argued that after first course of Bobath therapy there was a significant improvement the skills of stand on knee and seat with flexed hips, adjustment occurred in the neuromuscular apparatus of the trunk and lower extremities, vestibular apparatus. That is the data obtained in our exploration showed that the first course of Bobath therapy helps to optimize muscles tone in varying degrees of severity. When doing some motor tests in directional improvements – lying on back, lying on stomach, while turning torso. Influence in violation skills of sitting and standing a multi directional effect which is positive in children with minor injuries and negative for children with significant impairments of skills, Fromm another side on the most important effects of the first course should be attributed to improve the vestibulation apparatus and their proprioceptive displayed when making test on one leg. Confirmation of this hypotenuses may be serve to further analysis of the result of Bobath therapy during the second and subsequent courses of rehabilitation.

Conclusion. The resalts of out exploration that the Bobath therapy has it own place in system of the correction of psychomotor development of children with diseases of the CNS. Last base which showssufficient effect which are characterized by positive dynamics of motor skills after one course of Bobath therapy.

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