

PHYSICAL REHABILITATION USING HIPPO THERAPY

Anastasya Myakishava

VSU named after P.M. Masherov, Vitebsk, Belarus

The medical and social consequences of injuries and other pathologies of the musculoskeletal system in children prompts the search for new, alternative methods of physical rehabilitation.

According to the Ministry of Health of the Republic of Belarus, more than 750 thousand residents are injured every year, of which about 150 thousand or 20% are children and adolescents under the age of 18. Over the past 5 years, the number of injuries to the lumbar spine and pelvis has increased by 34%, fractures of the thoracic spine in children account for 0.8-1.0% of all injuries. Another common pathology of the musculoskeletal system in children is Scheuermann May's disease (adolescent kyphosis), scoliosis, and cerebral palsy. The purpose of this work is to substantiate the possibility of using hippotherapy in the system of physical rehabilitation of children with pathology of the musculoskeletal system.

Material and methods. the material for the study was the data of the Republican Scientific and Practical Center of Traumatology and Orthopedics and the Public Association "Republican Association of Wheelchair Disabled Persons" from 2000 to 2020. Were studied, reports of PA "RAIK", clinical protocols, individual maps of rehabilitation and routes of mobility of children with pathology of the musculoskeletal system. The sample included the medical documentation of 105 children with the following nosology: fracture of the lumbar spine - 7 people, fracture of the thoracic spine - 11 people, Scheuermann's disease - May - 49 people, scoliosis - 22 people, and cerebral palsy - 16 people. The distribution by age and sex is shown in Table 1.

Table 1

Distribution of children by age and sex (n = 105)

Nosology	Girls			Boys		
	7-10 years old	11-14 years old	15-16 years old	7-10 years old	11-14 years old	15-16 years old
Fracture of the lumbar spine	-	-	2	-	-	5
Fracture of the thoracic spine	-	-	4	-	2	5
Scheuermann's disease May	-	12	7	-	16	14
Scoliosis	3	2	2	8	2	5
Cerebral palsy	2	-	2	2	4	6

Findings and their discussion. The presented nosological categories are characterized by participation in the pathogenesis of the disease of the muscles

of the chest, upper limb girdle, paravertebral muscles. Physical rehabilitation of this category of patients should be aimed at creating a powerful muscular skeleton that supports the spine in the correct vertical position, developing and strengthening the muscles of the shoulder girdle, maintaining the tone of the muscles deprived of innervation.

When examining medical records, it was found that for the majority of patients, hippotherapy was used for rehabilitation (Table 2).

Table 2

Frequency of use of hippotherapy in the rehabilitation of children with pathology of the musculoskeletal system

Nosology	Total cases, n	The number of cases with the use of hippotherapy in rehabilitation, n (%)
	7	1 (14,3%)
Fracture of the lumbar spine	11	2 (18,2%)
Fracture of the thoracic spine	49	29 (59,2%)
Scheuermann's disease May	22	20 (90,9%)
Scoliosis	16	11 (68,8%)
In total	105	65 (61,9%)

Most often, hippotherapy was used in rehabilitation programs for patients with scoliosis, infantile cerebral palsy, adolescent kyphosis, and to a lesser extent, in children with spinal injuries. In total, hippotheraia was used in the rehabilitation of 61.9% of children with pathology of the musculoskeletal system.

A number of studies have shown the effective use of hippotherapy in the rehabilitation of patients with severe illness or damage to the musculoskeletal system [2, p. 315; 3, p. 175-176; 4, p. 39-40]. This is due to the fact that, instinctively striving to maintain balance, the rehabilitator encourages active work both healthy and de-innervated muscles. By stimulating reactions to maintaining balance, horse riding simultaneously solves the problems of normalizing muscle tone, improving coordination of movements, forming motor symmetry, and strengthening muscles. The movement of a horse (the back of a horse in three planes) corresponds to the movement of a person when walking. As a result, the formation of a normal sensorimotor stereotype occurs with the appearance of a sensation of normal natural upright walking in the rider. The biomechanical effect is reinforced by the increased body temperature of the horse (by 1.5o higher than in humans), the rider warms up the muscles of the pelvic floor, legs, buttocks, improves blood flow in them and in the internal organs. Muscle load, due to motor-visceral reflexes, improves the functioning of internal organs, which is the prevention of diseases.

A huge advantage of hippotherapy is the emotional factor. In contact with a horse, children with pathology of the musculoskeletal system develop a very strong motivation, a desire to feel confident, strong, fearless, full-fledged

personality. In the course of therapy, children overcome fear, acquire skills of concentration, coordination of movements.

Conclusion. The severity of the medical and social consequences of injuries and other pathologies of the musculoskeletal system in children prompts the search for new, alternative methods of physical rehabilitation. One of the new, but already recommended methods of physical rehabilitation is hippotherapy. In pediatric rehabilitation practice, it is used to a greater extent in rehabilitants with May Scheuermann's disease, scoliosis, infantile cerebral palsy, and to a lesser extent - with injuries of the lumbar and thoracic spine.

Methods such as horse movement therapy and psycho- and therapeutic-pedagogical contact with a horse can be indicated for children with fractures of the thoracic and lumbar spine, with infantile cerebral palsy. For children with adolescent kyphosis and scoliosis, therapeutic horse riding and therapeutic voltages can be added to the arsenal of hippotherapy tools.

1. Tutarishev, AK Use of hippotherapy in the process of rehabilitation of children with disabilities / A.K. Tutarishev // New technologies. - 2011. - No. 2. URL: <https://cyberleninka.ru/article/n/ispolzovanie-ippoterapii-v-protsesse-reabilitatsi-detey-s-ogranichennymi-vozmozhnostyami> (date accessed: 10/08/2020).
2. Handbook on Animal-Assisted Therapy. 4th Edition. Foundations and Guidelines for Animal-Assisted Interventions / Editor: Aubrey Fine // Academic Press / - 2015. -- 457p.
3. Safronova, O.A. Rehabilitation capabilities of the body in case of diseases of the musculoskeletal system with the use of equestrian sports / O.A. Safronova, R.R. Bukirov, Yu.V. Alexandrova // International scientific journal "Symbol of Science". - 2017. - No. 06. - S. 175-179.
4. Kuvina, V.N. Innovative technology of hippotherapy in the complex treatment of the manifestation of dysplastic-dystrophic syndrome in children / V.N. Kuvina, E.A. Vasilyeva // Bulletin of the All-Russian Scientific Center of the SB RAMS. - 2013. - No. 5 (93). - S. 39-41.

USE OF PEDAGOGICAL APPROACHES IN ORGANIZATION OF OPTIONAL PHYSICAL EDUCATION CLASSES

Dina Venskovich

Belarusian State University of Physical Education, Minsk, Belarus

It is generally recognized that physical education plays an important role in active, purposeful formation, correction, change in the right direction of physical, mental, socio-cultural qualities and abilities, as well as the behavior of modern youth.

The academic discipline «Physical culture» in the institution of higher education should reflect the activities in the field of quality policy of general physical education, namely: update the content of the discipline, increase the effectiveness of teaching physical culture in the context of the implementation of the health preservation program of students, use individual approaches in training and the formation of professionally significant competencies of the graduate.