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OVERCOMING ARTICULATION DYSPRAXY IN CHILDREN WITH CEREBRAL DISORDERS

ПОДОЛАННЯ АРТИКУЛЯЦІЙНОЇ ДИСПРАКСІЇ У ДІТЕЙ З ЦЕРЕБРАЛЬНИМИ ПОРУШЕННЯМИ

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Annotation. *The article reveals the issues of providing speech therapy in modern conditions to persons with cerebral disorders. Among these questions, the authors single out the problem of overcoming disorders of the sound side of speech in children with cerebral disorders. Because the number of these defects is gradually increasing, and therefore requires the invention of new techniques and means of correction. The study reveals the main ways to correct speech in children with cerebral disorders. The necessity of including myohymastic technologies in the process of overcoming articulatory dyspraxia in children with cerebral disorders is proved. The content, principles and rules of using myogymnastic exercises in the process of correction are covered. The authors point to the positive influence of myogymastic on children's speech and the need for their further development.*

Key words: *articulation of dyspraxia, children with impaired motility, articulation of motor skills, myogimnatics, cerebral impairment.*

Introduction.

Nowadays, much attention is paid to the problems of studying and correcting disorders in children with cerebral palsy. According to official data, as of 2008, 18,130 children with cerebral palsy were registered. Currently, there are more than 30,000 cerebral palsy patients in Ukraine. Along with motor defects in children with cerebral palsy, there are speech disorders caused by violations of speech-motor analyzers. Pronunciation disorders were noted in 2/3 of patients with cerebral palsy. At the moment, modern speech therapy is provided with a sufficient amount of literature on the correction of pronunciation, the constituent structure of the word, prosody, etc. However, a significant number of issues need a modern approach to correction, in particular, the problem of overcoming speech disorders in children with cerebral palsy, which are caused by anatomical defects or myotonic dysfunctions of the articulatory organs, which causes complications of articulatory motility and speech breathing. The main speech disorder in children with cerebral palsy is articulatory dyspraxia. Articulatory dyspraxia is an underdevelopment of speech that occurs as a result of a violation of the tone of articulatory muscles, which leads to problems with the assimilation and reproduction of sounds [1]. Children with such disorders are characterized by: violation of the tone of the articulatory muscles (in the muscles of the face, tongue, lips, soft palate); insufficient mobility of the articulatory muscles of the tongue and lips, which causes sound disorders; respiratory disorders; violation of coordination of arbitrary articulatory movements; violation of the act of

eating and hypersalivation [2]. The main manifestations of dyspraxia are the replacement of complex phonemes with simple ones; omissions of individual sounds in words; mixing phonemes in a word; problems in composing phrases and violations in vocabulary of varying severity, etc.

Main text.

The system of speech correction of children with cerebral disorders is quite extensive and is still in constant development, changing due to the increase in the number of children and the constant development of scientific and technological progress. Despite the significant amount of attention and effort on the part of correctional educators, doctors, and psychologists, a significant number of children need help. One of the newest methods of speech correction, namely overcoming articulatory dyspraxia, is myogymnastics. It is advisable to use it from the first stage of work and continue throughout the rehabilitation period. As the development of proper nasal breathing, facial and articulatory muscles, and mobility of the tongue and cheeks muscles facilitate the work during the correction of the sound side of speech.

We find confirmation of this idea in the works of researchers: B. Grinshpun, S. Konoplyasta, O. Pravdina, F. Rau, M. Sovak, V. Tarasun, T. Fidicheva, N. Chevelyova, G. Chirkina, M. Khvattsev, M. Sheremet, and others. The works by E. Arkhipova, E. Mastyukova, L. Danilova, M. Ipolitova, L. Lopatin, K. Semenova, and others are devoted to the study of speech disorders in children with cerebral palsy. The methods developed by G. Volkova, O. Dmitrova, N. Trubnikova, T. Akhutina, O. Luria, Z. Repina, T. Fotekova, and others are used to determine the state of sound speech formation, articulatory motility, and motor functions.

I. Panchenko, M. Martynova, F. Petrov, L. Bilyakova, A. Sinitsa, and others considered the issues of anarthria and the complexity of overcoming it in their works. In their publications, L. Bilyakov and M. Voloskov singled out the most severe degree of dysarthria and gave it the name anarthria. According to S. Maevska, anarthria is a speech disorder caused by a violation of articulation that occurs due to damage to the muscles or nerves responsible for pronunciation. O. Kornev described this violation ‘as selective, not gross, persistent violations of pronunciation, which are accompanied by peculiar manifestations of insufficiency in the innervation of the articulatory organs.’ He noted that this category of speech disorders occupied a leading position between dyslalia and dysarthria and proposed the category ‘verbal dyspraxia.’

Researchers such as I. Panchenko, M. Martynova, F. Petrov, L. Bilyakova, and others studied dyspraxia as a leading disorder in children with cerebral palsy. The use of innovative methods of correctional work with cerebral disorders we find in the works of Ukrainian scientists, namely: V. Kovaleva, T. Liva, K. Semenov, V. Bersnev, and others. However, the disclosure of the features myogymnastics techniques use in the correction of articulatory dyspraxia in children with cerebral disorders has not been studied enough, which requires further study and development.

Thus, the aim of our paper is to overcome articulatory dyspraxia by means of myogymnastics.

The use of the traditional complex of articulation gymnastics is not effective

enough for the purposeful formation or restoration of function of individual muscles suffering from occlusal pathology or shortening of the ligament of the tongue and lips. An integrated approach will promote faster development of articulation skills in children with articulatory dyspraxia.

In the work of orthodontists, therapeutic gymnastics is used as a powerful biological stimulator of bone growth of the dental-maxillary system. The therapeutic effect is achieved due to the muscular load organized in the form of physical exercises and is applied purposefully to each muscle group according to the therapeutic task. Even though the basic provisions of therapeutic gymnastics were developed in the early twentieth century by K. Rogers, most of them were used mainly by orthodontists; this technique has recently become a part of a speech therapist's means. The purpose of therapeutic gymnastics in children in the work of an orthodontist is a general therapeutic effect on the functions of the muscles of the dental system by using the mechanisms of therapeutic action of motor exercises.

According to O. Kaminsky, myogymnastics is a gymnastics used to form and normalize the functions of the muscles of the maxillofacial area and the oral cavity. It includes a set of exercises aimed at correcting occlusal disorders, the development of masticatory muscles, training the correct position of the tongue, the restoration of nasal breathing and speech [3]. This type of therapy aims to rebuild distorted muscle standards and establish new ones, which also eliminate bad habits if any. The main disorders in which myogymnastics are used are: disorders of the dental-maxillary system; occlusion problems; defects in the functioning of the mandibular joint; the presence of atypical swallowing, sucking, and chewing; shortcomings of nasal breathing; sleep problems; posture disorders, etc. [4].

According to V. Distel, V. Suntsova, V. Wagler, myogymnastics should comply with the basic pedagogical principles: systematicity, consistency, consciousness and activity, accessibility and individualization, consistency and clarity.

The basic rules of myogymnastics were identified by L. Zubkova. They are the following: muscle contraction occurs with maximum amplitude; the intensity of muscle contractions should correspond to the patient’s capabilities; the speed and duration of exercises increase gradually; successive reductions require breaks corresponding in time to the duration of the reductions; sets of exercises are repeated several times until you feel tired; favorable age for myogymnastics is the 4-7-year-olds. In speech therapy work on the correction of pronunciation in children with articulatory dyspraxia, it is advisable to use elements of myogymnastics, developed in orthodontics by L. Zubkova, to myogymnastic exercises for dental anomalies. The scholar developed the following exercises: including exhalation of air through pursed lips; biting of the upper lip with distal occlusion and lower one with mesial; pulling the lower lip and capturing the upper one, and vice versa; holding a strip of paper between the lips for 3-5 minutes; gathering water in the mouth and holding it; pressing your fingers to the corners of your mouth and trying to stretch, overcoming stress resistance. Several exercises are recommended to be carried out at the preparatory stage of whistling and hissing sounds correction [5].

According to N. Grigorenko, in prognostic occlusion, the following exercises should be used: a slow extension of the lower jaw until the cutting edges of the lower

incisors are set in front of the upper ones, in this position the jaw is held for 10 seconds, and then a slow return to starting position. The same exercise is performed with the head turned to the side. In case of an open bite, tooth-alveolar shortening in the field of lateral teeth is caused. For this purpose, it is necessary to bite a wooden stick 5-6 times a day with effort with masticatory teeth [6].

The use of myogymnastics in overcoming articulatory dyspraxia in children with cerebral disorders contributes to normalization and development of facial expressions, the development of masticatory function and articulation, the formation of proper breathing; cheek muscle activation; formation of the correct process of swallowing and sucking; formation of the correct position of the tongue in the mouth and increase the effectiveness of correction of speech disorders [7]. Myogymnastics includes exercises aimed at developing the kinetic organization of articulatory motility, in particular, general exercises aimed at forming static coordination of articulatory movements, dynamic coordination of articulatory movements; specific exercises aimed at forming individual elements of articulatory patterns of different speech sounds, and exercises aimed at improving the kinesthetic organization of articulatory motility.

For the effectiveness of speech therapy in overcoming dyspraxia in children with cerebral palsy, the following myogymnastic exercises should be used:

- to coordinate movements: opening the mouth with simultaneous hand movements, performing exercises for the lower extremities and spine, breathing exercises; movements of the lower jaw back and forth with simultaneous movement of the head; movements of the lower jaw to the right and left with simultaneous rotation of the head in the same direction; movements of the chin to the right and left shoulder and chest; spreading the arms to the sides with the head tilted back, opening his mouth, then crossing his arms in front of his chest, lowering his head, closing his mouth [8].

- for masticatory muscles: opening and closing of a mouth from the initial position of the closed jaws, from the position of incisor closing of teeth; extension of the lower jaw forward; lateral movements of the jaws; opening the mouth while pushing the lower jaw forward; extension of the lower jaw forward with simultaneous movement to the sides; circular movements of the lower jaw with the inclusion of facial muscles;

- for facial muscles: closing the lips into a tube; pulling the upper lip down; lifting the lower lip (get the upper lip); the maximum displacement of the oral cavity alternately to the right, then to the left; circular movement of the lips; frowning and raising the eyebrows with their subsequent lowering [9];

- for the muscles of the upper lip: pulling the corners of the mouth up and to the sides; protrusion of the lip (try to reach the nasal septum during vigorous nasal breathing); inflating the cheeks and, pressing them with your fingers, slowly release air through tightly compressed lips; squeeze the tip of the tongue with your lips and draw letters or various shapes (circles, squares) in the air;

- for the muscles of the tongue: bending the tongue and licking the lips (mouth half-open, open); raising the tip of the tongue to the upper incisors and holding them on the hard and partially soft palate; extension of the tongue, giving it the shape of a

tube, shoulder blade, turn it to the right, left, up and down; clicking the tongue; pronunciation of sounds [t-k], [rt-tr], [d-d-d] etc.

Conclusion and conclusions. Thus, having studied myogymnastics as one of the innovative methods of correction of articulatory dyspraxia in children with cerebral disorders, we can conclude that its impact is positive on both the child's personality and speech. Namely, thanks to myogymnastics, the motility of the muscles of the articulatory apparatus improves, the circular muscles of the mouth develop and the lips closing is normalized; the correct articulatory posture of the tongue is gradually modeled; the process of breathing, swallowing, and chewing is normalized. Unfortunately, myogymnastics in the process of overcoming articulatory dyspraxia in children with cerebral disorders remains out of the researchers' attention and needs further study to improve the correctional process.

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Abstract. *В статті розкриваються питання надання в сучасних умовах логопедичної допомоги особам з церебральними порушеннями. Серед цих питань автори виокремлюють, проблему подолання порушень звукової сторони мовлення у дітей з церебральними порушеннями, оскільки їх кількість поступово збільшується, а отже потребує винайдення новітніх прийомів та засобів корекції.*

В ході дослідження розкриваються основні шляхи корекції мовлення дітей з церебральними порушеннями, особливості їх психо-емоціного розвитку. Детально розглядається диспраксія, як провідна складова загального симптомокомплексу церебральних порушень. Як один з новітніх та ефективних методів корекції автори виокремлюють міогімнастику. Обґрунтовується необхідність включення міогімнастичних вправ в межах забезпечення комплексного підходу корекції артикуляційної диспраксії у дітей

з церебральними порушеннями. Виокремлено основні принципи на які мають спиратись фахівці в процесі використання міогімнастичних технологій, висвітлено правила проведення міогімнастики. Розкриваються основні напрямки впливу вправа на органи артикуляції дітей з церебральними порушеннями. Дослідивши міогімнастику як один з інноваційних методів корекції артикуляційної диспраксії у дітей з церебральними порушеннями автори резюмують позитивний вплив як на особистість дитини, так й на її мовлення, вказують на необхідність подальшої розробки та включення ряду міогімнастичих вправ в процес корекції.

Ключові слова: *артикуляційна диспраксія, діти з порушенням мовлення, артикуляційна моторика, міогімнатика, церебральні порушення.*

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