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Research Article

MECHANISMS OF DEVELOPMENT OF VOICE DISORDERS IN DYSARTHRIA

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ABSTRACT

The article deals with the problem of the mechanisms of development of voice disorders in dysarthria. Inconsistencies and contradictions of speech therapy work on the research problem are identified. The main tasks, content and methods of speech therapy work on the development of the prosodic side of speech are substantiated.

KEYWORDS

Dysarthria, prosodic side of speech, voice, intonation, tempo, rhythm, range.

INTRODUCTION

The voice provides audibility of speech at a great distance. The concept of the human voice includes the idea of any sounds emanating from the human larynx, regardless of their complexity and social significance: from the reflex cry of a newborn to the modulated voice of a famous speaker or singer. The voice is one of the means of audibility, expressiveness, emotional and semantic meaning of speech.

THE MAIN RESULTS AND FINDINGS

Children with various speech disorders often have voice disorders, as indicated in the works of numerous researchers. The most common speech disorder in childhood is dysarthria, especially the spastic-paretic form. Dysarthria - (from the Greek words: dys - denial and arthroo - articulate) - a violation of the

pronunciation side of speech, due to insufficient innervation of the speech apparatus - is one of the causes of voice disorders. It occurs due to the fact that the tongue, lips, palate, vocal cords, diaphragm cannot move in full. The cause of immobility is paresis (Greek paresis - a decrease in the strength or amplitude of movements due to a violation of innervation) of the muscles of the articulatory apparatus. Thus, dysarthria is a symptom of an organic lesion of the central nervous system of the brain, those of its departments that make up the motor speech zone.

The works of E.S. Almazova, L.V. Lopatina, E.M. Mastjukova, I.I. Panchenko, K.A. Semyonova and other researchers indicate the presence of voice disorders in such children. I.I. Panchenko referred to the most characteristic signs of voice disorders as shallow breathing, discoordination of breathing and phonation, weakness of the voice, its exhaustion in strength, the absence of voice modulations, and the insignificance of changes in the pitch of sounds. According to the timbre, the voice of such children is characterized as deaf, sometimes hoarse, monotonous, weakly modulated; the rhythmic-melodic-intonation side of speech, its intelligibility and intelligibility are grossly violated. This is a severe disorder of all speech activity. First of all, speech motor skills, all components of the speech motor act, suffer. With dysarthria, not only sound pronunciation is disturbed (almost all groups of sounds), but the entire prosodic organization of the speech act, the so-called speech prosodic, including voice, intonation, tempo, rhythm, also the intonational-rhythmic side and emotional coloring of speech, suffers. L.V. Lopatina notes that the phonetic side of speech is a close interaction of its main components: sound pronunciation and prosodic. A variety of phonetic means of framing an utterance (tempo, rhythm, stress, intonation) closely interact, determining both the

semantic content and the speaker's attitude to the content. In children with dysarthria, prosodic disorders affect the intelligibility, intelligibility, and emotional pattern of speech. In the works of E.M. Mastjukova devoted to the study of the speech of children with dysarthria, there is a violation of their speech tempo, as well as the difficulty of using dynamic, rhythmic and melodic stress. Many researchers of the structure of the defect in erased dysarthria point to stable violations of the intonational expressiveness of speech, the processes of perception and reproduction of the intonation structures of the sentence. At the same time, the imitation of interrogative and narrative intonation is the most preserved. The perception and independent reproduction of the intonation structure, which in this case involves the auditory differentiation of narrative and interrogative intonation, cause significant difficulties for children. At the same time, the process of auditory differentiation of intonation structures is more disturbed than the process of their independent implementation. Common to children is a violation of the prosodic side of speech, which is a diagnostic criterion for differentiating erased dysarthria and dyslalia.

The intonation-expressive coloring of the speech of children with dysarthria is sharply reduced. The voice suffers: it is either quiet or excessively loud; modulation in pitch and voice strength fails (the child cannot, by imitation, pronounce sounds in a high and low voice, imitating the voice of animals). The timbre of speech is disturbed and sometimes a nasal shade appears. The pace of speech is often accelerated. In some children, against the background of the chest register, falsetto appears, inhalation with aspiration, with a rise in the shoulders; mainly noted upper thoracic (upper clavicular) breathing; weakened speech exhalation. In some children, speech exhalation is shortened, and they speak on inspiration - in this

case, speech becomes choked. Children's speech is inexpressive, diction is fuzzy. When telling, the poetic speech of the child is monotonous, gradually becomes less legible, the voice fades away. There are violations of the formation of the intonation structure of the sentence, while the process of auditory differentiation of intonation structures is more disturbed than the process of independent implementation.

A specially conducted study of various prosodic components shows that, first of all, perception and auditory differentiations are disturbed. In intonation structures. Many children with dysarthria have difficulty perceiving the rhythm of isolated beats, accented beats. Playing rhythms is also difficult. Tasks for the perception and reproduction of intonations are not available to most children with dysarthria; active help from an adult is required. Children who make mistakes, when perceiving and reproducing intonations, do not notice their mistakes. Tasks for changing intonations (joy, sadness) on the material of the same phrase are not successful. In some cases, tasks are not available when examining logical stress. Children with dysarthria cannot accentuate a particular word in a sentence. When listening to a phrase with an exaggerated logical stress, children often do not highlight the accented word. When examining voice modulations in height and strength, some difficulties are also noted. It is not possible to intone melodies (based on vowels) from bottom to top and from top to bottom. In some cases, it is not possible to change the strength of the voice. In general, the voice range in children with dysarthria is narrowed (within 3-4 tones). The cause of voice disturbance in dysarthria lies in the pathology of the efferent and afferent parts of intonation control. Due to paresis, some limitation of voluntary movements of the vocal folds of the muscles of the diaphragm, disturbances arise that relate to the efferent link. Afferent pathology is manifested in the

insufficiency of kinesthetic analysis, in violation of proprioceptive impulses from the organs of voice formation and respiration.

In many studies, the prosodic side of the speech of children with dysarthria is assessed as emotionally inexpressive monotonous. Speech intelligibility decreases markedly with an increase in speech load. The voice of children is evaluated by the following characteristics: weak, non-melodious, deaf, hoarse, monotonous, choked, dull, tense, intermittent, nasalized, weakly modulated. These symptoms can be presented with dysarthria in different combinations and varying degrees of severity. A rather rare symptom with dysarthria is nasalization (in its pure form), that is, not associated with adenoids

E.E. Artemova singled out 4 degrees of the formed prosodic side of speech in preschoolers (with dysarthria).

Grade 1 (low) - gross violations of prosodic components. The shortcomings in timbre, strength and pitch of the voice are pronounced, noticeable to the child himself and to those around him. The communication process is broken. Children are not allowed tasks that involve an arbitrary change in rhythmic and pitch characteristics. Violations of the intonational design of statements are stable in all types of speech activity.

Grade 2 (insufficient) - voice changes are insignificant. Changes to prosody relate to some or all of its components. Difficulties are observed in the performance of special tasks for the reproduction of various rhythmic and intonational structures. However, spontaneous speech, especially in an emotionally significant situation, can be quite expressive.



Grade 3 (medium) - non-permanent or unstable deviation from the norm in one or more prosodic characteristics. Spontaneous speech is sufficiently intoned, but when performing special tasks, inaccuracies or individual errors are possible in the transmission of rhythmic and melodic patterns.

4 degree (high) - the formation of prosodic characteristics. Children have a normal timbre, the range of their voice in strength and height corresponds to age norms. The tempo-rhythmic side of speech has been formed. Preschoolers are fully proficient in all ways of conveying various types of intonation. In spontaneous speech, they use all the means of intonational expressiveness and do not experience difficulties when performing special tasks.

CONCLUSION

Studies confirm the heterogeneity and variability of prosodic disorders in preschool children with dysarthria. At the same time, a correlation was found between the prosodic side of speech and the severity of the speech defect. Features of prosodic disorders in various forms of dysarthria. With cortical dysarthria, speech is tense, slow. With pseudobulbar dysarthria, speech is slow, aphonic, fading, poorly modulated, a nasal tone of voice is noted. With extrapyramidal dysarthria, speech is blurry, slurred, voice with a nasal tinge, the prosodic side of speech, its intonation-melodic structure, tempo are sharply disturbed. Emotional nuances in speech are not expressed, speech is monotonous, monotonous, unmodulated. There is an attenuation of the voice, turning into an indistinct muttering. With cerebellar dysarthria, speech is slow, jerky, chanted, with impaired modulation of stress, attenuation of the voice towards the end of the phrase. Nasalization of most sounds is pronounced.

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