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LOGORHYTHMIC EXERCISES AS A COMPONENT OF REHABILITATION MEASURES FOR STUTTERING PRESCHOOLERS

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ABSTRACT

The article consider with the features of correctional methods at logo rhythmic exercises in the set of rehabilitation measures with stammering preschool, taking into account the tasks and stages of logapedics, as well as the child's level of rhythmic ability formation.

KEYWORDS: *Stuttering preschoolers, rehabilitation, logo rhythmic exercises, iterative rhythm, cortical right-brain rhythm, cortical rhythm of prosaic speech.*

Speech therapy work, covering all components of the speech system, can be carried out most effectively in preschool age, because "during this period it is easier to overcome the defects of development" [5, P. 4]. Comprehensive rehabilitation of preschool age patients with stutter, carried out taking into account factors affecting the occurrence of speech dis orders, could reduce the number of return calls for help in the future.

Stuttering is characterized by a complicated complex of symptoms. G. A. Volkova notes in her researches that various motor disorders are manifested in a significant number of stuttering children [3, P. 154]. Among preschool age patients with stammering of the Center for Speech Pathology and Neurorehabilitation, there is also a significant number of children with disorders of gross and fine motor skills, mimic and oral praxis. They are revealed with the general motor strain, difficulty of set-shifting, disinhibition or retardation, constrained and chaotic movements.

Since there is interdependence between gross and speech motor skills, the development of the motor sphere of children should be included in the set of rehabilitation measures on stutter overcoming. E. M. Mastukova emphasized the principle of motor-kinesthetic stimulation as a major in speech therapy work with children, in particular, suffering from stuttering, as it developmentally, anatomically and functionally connected with motor functional system [6, P. 21]. In the set of measures on stutter overcoming, the development of the motor sphere is carried out at logorhythmic exercises. At logorhythmics exercises remedial work includes the areas that contribute to the recovery of the tempo and rhythm of common and speech movements, their coordination, spatial orientation, and regulation of muscle tone [1, P. 10; 3, P. 30]. V. M. Bekhterev determined the achievement of equilibrium in the nervous system of the child as one of the goals of rhythmic education: "to calm down hyper excitable children and disinhibit inhibited children, regulate wrong and unnecessary movements" [3, P. 27].

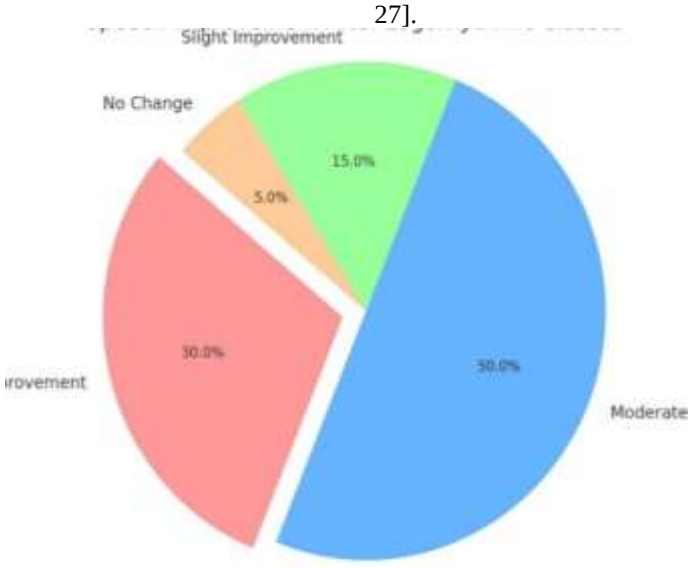


Figure 1. Speech Improvement After Logorhythmic Exercises

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N. A. Bernstein's researches on dynamic physiology and physiology of activity showed a hierarchical level system of motor functions regulation, including speech [3, P. 30]. T. G. Vizel notes that hierarchically organized speech operations make up the rhythmic function of speech as a whole, affect the ability to master flowing speech and its use. Rhythmic and logorhythmic examination al lows to identify the level of iterative hemispheric cortical right-brain rhythms completeness and cortical rhythm of prosaic speech (T. G. Vizel, T. A. Solovyeva, I. V. Gunther). Considering the above, the Center for Speech Pathology and Neu rorehabilitationa has developed the variant of the rhythmic and logorhythmic diagnosis of examination of preschool age patients with stammer, in the following areas:

– Examination of the subcortical state of iterative rhythm (N. A. Bernstein), basic for the syllabic rhythm formation;
– Examination of the periodic rhythm state (cortical right-brain rhythm (temporal lobe)), responsible for the formation of the musical rhythm and poetic speech rhythm;– examination of the level of reciprocal coordination formation;
– Examination of the motor skills state (gross and fine);
– Examination of facial expressions state;
– Examination of the ability to rhythmic-semantic coordination, coordination of speech and movement (cortical rhythm of prosaic speech, formed with the help of the frontal lobe of the left-brain and affecting the ability to subordinate the periodic rhythm of semantic speech program) [2, P. 20]).

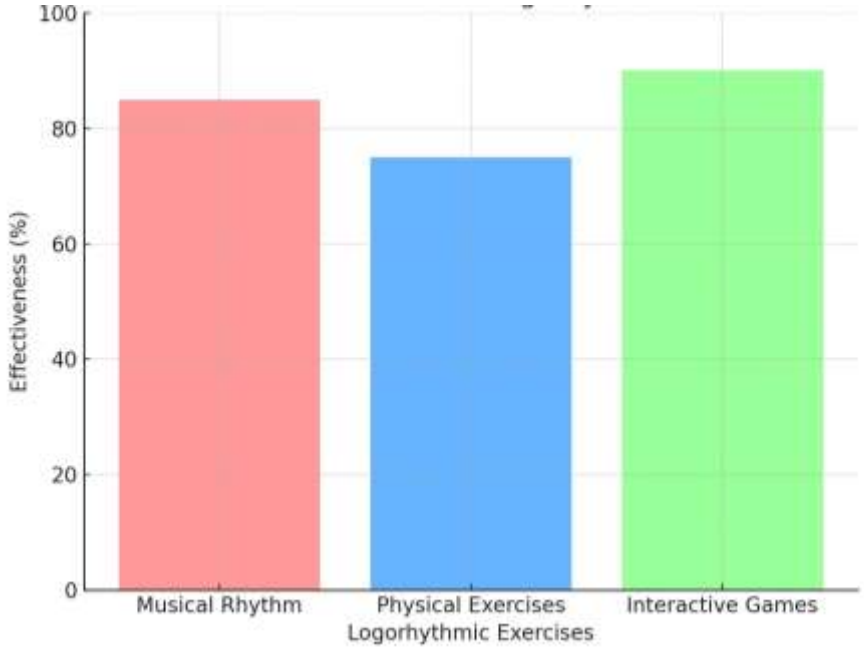


Figure 2. Effectiveness of different logortythmic exercises

Determining the directions and organization of the sequence of stages of corrective action, taking into account the specific form of speech flow disorders, as well as for the choice of differentiated methods of influence, it is important to take into account the results of the survey of the level of rhythmic ability formation in stuttering child. At logorhythmic exercises, it is important to monitor the dynamics of the skills' formation in the process of remedial work.

In the set of rehabilitation measures on stutter overcoming the areas of work in the exercises for logo pedic rhythmics are implemented in accordance with the objectives of speech therapy [4, P. 26].

At the logorhythmic exercises of the initial stage of remedial work, exercises and games aimed at the development of facial expressions, oral praxis, auditory and visual attention, orientation in space, imitation, as well as the development of subcortical rhythm without speech are more often included. As pointed out N. A. Bernstein, basic non-verbal rhythm is basic for the syllabic rhythm formation. Patients with an insufficient level of iterative rhythm formation have difficulties in marching, tapping a simple duple time. Since the disorders of the sense of elementary rhythm, as well as syllabic rhythm are quite often manifested in stuttering children of preschool age, material for its development shall be included for exercises. It is used the metronome and mechanical toys, musical exercises with verbal reinforcements of accented beats using musical instruments (tambourine, maraca, drum sticks) are included. Reciprocal coordination of movements is practiced at exercises (walking, marching, jumps on the right and left legs alternately, light running, imitation of swimming, "bike") [2, P. 10].

At the stage of work with conjugated and reflected speech at logorhythmic exercises are introduced games with singing, circle dances, dramatizations of songs, training of mobile games without objects, games for the development of motor skills of hands, wrist, fingers [3, P. 177]. At exercises speech therapist communicates with patients using conjugated or reflected speech. The exercises on the division of words into syllables and then phrases using motor, tactile, auditory, visual support (walking, clapping, and beating out the time) are included. It is important to keep quite "soft" time with a smooth transition from one syllable to another.

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The exercises at the stage of more difficult question-answer form of the speech at logorhytmic exercises with stuttering children of preschool age are conducted in the exercises, songs, dramatizations with music [3, P. 178]. Also, continues the work on improving the iterative rhythm in non-verbal movements, syllabic pronouncement of words and phrases, as well as the exercises for periodic rhythm development, specific to poetic speech are included. The material is used to stimulate perception, memorization and reproduction of the elementary and then complex, like dance, rhythmic groups. It is included the work on poetic speech, the content and structure of which gradually becomes more difficult.

At the final stage of rehabilitation activities in speech therapy exercises are included exercises aimed at using the improved speech skill with the prepared material of retelling and storytelling. During this period at the logorhythmic exercises are many speech tasks, games without musical accompaniment, as well as exercises on musical and rhythmic education (dance compositions, motor improvisation to music) [3, P. 178]. Also, it is carried out the work on pronunciation of the phrase with the voice of its main and secondary fragments, firstly using an external support (walking, trampling, clapping with different strength and frequency, drumsticks), and then without it. The accomplishment of those tasks first conjugated, then reflected and further independently, promotes the coordination of breathing, voice and articulation [2, P. 21].

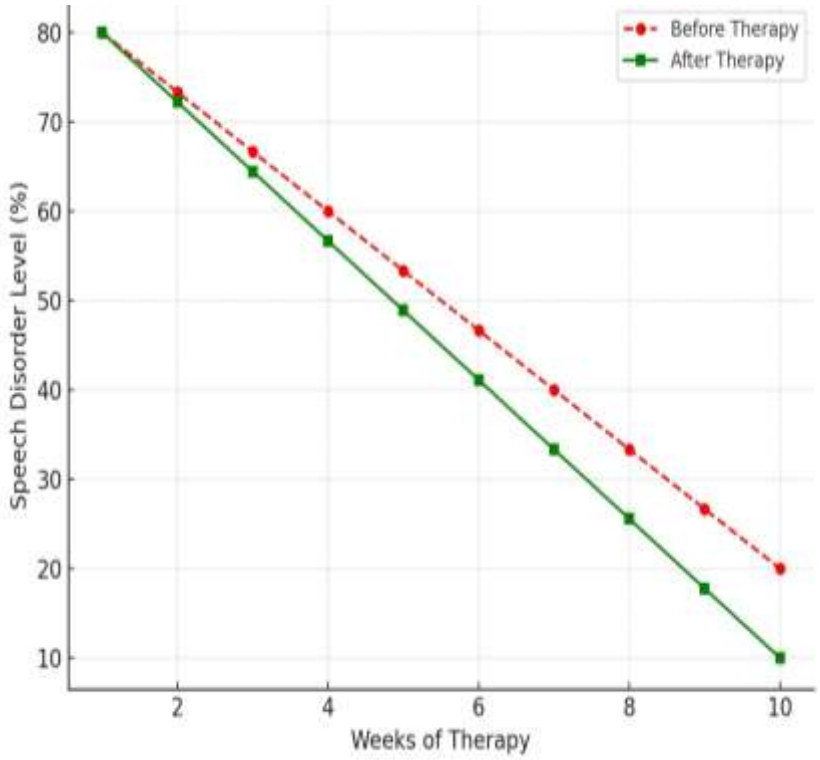


Figure 3. Speech disorder reduction over therapy weeks

During functional training, speech therapy and logarithmical exercises are aimed at the skill consolidation of the improved speech performing before parents, communicating with experts and patients in the ward. Such exercises contribute to the application of improved speech skills in everyday life.

Consolidation of the flowing speech skill is easier if the child felt and learned to reproduce the rhythms of different levels: "syllabic, verbal, its combination with the logical center of the syntagmas, as well the subordination of syntagmas that make up the phrase to its main logical center," notes T. G. Wizel [2, P. 21]. These skills are practiced and improved in stuttering children of preschool age, including logopedic rhythmics exercises. In addition, logorhythmic specialists actively work with patients' parents. Center for Speech Pathology and Neuroses habilitation has developed a checklist, covering the main objectives and tasks of speech therapist work at logorhythmic exercises, and recommendations for consolidation of the formed skills.

Logorhythmic exercises contribute to the development of subcortical and cortical (right-brain and prosaic speech) rhythms, gross motor skills, coordination of movements, orientation in space, regulation of muscle tone, the development of a sense of musical tempo and rhythm, singing abilities. As a result of the course of logorhythmic exercises, the positive dynamics is observed, which manifests itself in improving of the state of the neurodynamic com ponent of mental activity. Patients have improved control over voluntary activity, the ability to switch from one its type to another. The inclusion of logo rhythmics in the set of rehabilitation measures on overcoming stutter in preschool children contributes to the correction of psychomotor system that positively affects the quality of speech.

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