

THE ROLE OF MEDICAL - BIOLOGICAL FACTORS IN THE DEVELOPMENT OF SPEECH IN PRESCHOOL CHILDREN

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ABSTRACT

Relevance of the topic: This article examines the main medical - biological factors influencing the formation and development of speech in children. The role of hereditary factors, intrauterine development conditions, maternal health, and early childhood somatic and neurological diseases is analysed. It is emphasized that the physiological maturity of the central nervous system, hearing organs and articulation apparatus plays a crucial role in full fledged speech acquisition. Attention is also paid to the prevention of speech development disorders.

Research purpose.

The purpose of this study is to identify physiological factors that influence the development of speech disorders (dyslalia, alalia) in preschool children.

Research methodology.

To empirically verify theoretical statements about the significance of medical-biological factors in the formation of speech disorders in children, a survey was conducted among mothers of preschool children with diagnosed speech impairment.

The aim of the study was to determine the frequency and significance of intrauterine, perinatal and hereditary - genetic factors that may lead to atypical speech development in a child. 58 mothers of children aged 3 to 6 years, who were registered by a speech therapist, pediatric neurologist or psychoneurologist, participated in the study. A structured questionnaire with closed and semi structured questions grouped according to the following thematic blocks served as a research tool:

- pregnancy anamnesis (infectious, somatic and psycho - emotional factors);
- specifics of labour and the perinatal period;
- information about the child's early development;
- family anamnesis (presence of speech or neurological disorders among close relatives).

Analysis and results.

In 63% of mothers, risk factors associated with complications during pregnancy were identified, including:

1. viral infections (including TORCH complex) - 21%;
2. toxicosis associated with nutritional disorders - 16%;
3. long-term chronic stress - 14%;
4. medication exposure (self-treatment or drug use without medical approval) - 12%.

Perinatal complications (hypoxia, asphyxia, operative delivery) were recorded in 38% of respondents.

In 28% of cases, a heavy family anamnesis was observed, which included delayed speech development, dyslexia, dysarthria or other forms of speech impairment among close relatives.

Approximately 17% of surveys reflected the presence of both intrauterine pathologies and hereditary factors, indicating the multi - factorial etiology of speech disorders in children.

Discussion.

Survey data made it possible to identify the most significant biological and hereditary risk factors. The obtained results confirm the importance of early medicalpsychological pedagogical support for children in risk groups, as well as the need to provide counselling to pregnant women and their families to minimize potential speech development disorders in the offspring.

Conclusion.

A child's speech development is determined by a combination of medical biological factors ranging from genetic characteristics to somatic and neurological health in the first years of life. A comprehensive approach, including prevention, early diagnosis and timely specialist intervention, reduces the risk of speech disorders and supports the harmonious development of communication skills.

References:

- 1.Ахутина, Т. В. Преодоление речевых нарушений у детей: комплексный подход. М.: Академия, 2018. 200 с.
- 2.Башина, В. М. Ранний детский аутизм: становление диагноза и особенности терапии. DOI: 10.17759/aut.2017130204 // Аутизм и нарушения развития. 2017. Т. 15, № 2. С. 25–34.
- 3.Белоусова, Е. Д., Никанорова, М. Ю. Перинатальные поражения центральной нервной системы: клиническая картина, диагностика, лечение. // Журнал неврологии и психиатрии им. С.С. Корсакова. 2019. Т. 119, № 2. С. 101–108. DOI: 10.17116/jnp.2019.2.101
- 4.Винарская, Е. Н. Раннее речевое развитие ребенка и проблемы дефектологии. М.: Просвещение, 2017. 176 с.
- 5.Громова, О. Н. Методика формирования начального детского лексикона. М.: ТЦ Сфера, 2015. 128 с.