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MULTIFACTORIAL DISEASES IN PEDIATRIC MEDICINE: ETIOLOGY AND CLINICAL FEATURES

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Annotation: This article analyzes the etiology, development mechanisms and clinical features of multifactorial diseases in pediatric medicine from a scientific point of view. It is shown that the interaction of genetic predisposition, environmental factors, dietary habits, psychosocial environment, infections and epigenetic processes is of particular importance in the formation of diseases. The article describes in detail the manifestations of multifactorial diseases in children, such as bronchial asthma, autism spectrum disorders, obesity, atopic dermatitis, diabetes mellitus, cardiovascular system defects, their clinical symptoms and diagnostic methods. The importance of early detection, rehabilitation programs based on an individual approach, and the role of preventive measures in health care are also analyzed. The results of the study serve to improve strategies for the prevention of multifactorial diseases, identification of risk groups and treatment.

Keywords: Pediatrics, multifactorial diseases, etiology, clinical features, genetic predisposition, environmental factors, epigenetics, bronchial asthma, autism spectrum disorders, obesity, atopic dermatitis, pediatric diagnostics, prevention, rehabilitation.

Multifactorial diseases in pediatrics are one of the most complex and relevant areas of modern pediatrics. The interaction of hereditary factors, environmental influences, nutritional characteristics, psychosocial environment, infections, prenatal conditions and other external factors plays an important role in the development of these diseases. The complex combination of genetic predisposition and environmental factors makes it difficult to detect diseases in children at an early stage, and the specificity of the clinical course creates additional diagnostic and therapeutic problems for pediatricians. Multifactorial diseases include bronchial asthma, autism spectrum disorders, obesity, atopic dermatitis, types 1 and 2 of diabetes mellitus, cardiovascular defects and psycho-emotional disorders in adolescence. These pathologies significantly affect the physical development of children, the functioning of the immune system, cognitive abilities and the quality of life in general. A thorough study of their etiology is important not only for making a correct diagnosis, but also for developing effective prevention strategies, identifying risk groups, and creating individual treatment approaches.

Modern scientific research shows that advances in the field of gene ethics, the study of epigenetic mechanisms, biomarker diagnostics, high-resolution visualization methods, and the development of pediatric epidemiology allow us to more clearly understand the nature of multifactorial diseases. As a result, early signs of the disease in children are being

identified, individual rehabilitation programs and personalized treatment methods are being developed.

This article provides a scientifically based analysis of the etiological factors, development mechanisms, clinical features, and modern diagnostic and treatment approaches of multifactorial diseases in pediatric medicine. It also covers preventive measures aimed at preventing and reducing the risk of these diseases in children.

Multifactorial diseases in pediatric medicine are distinguished by their complex etiology, the influence of interconnected genetic and environmental factors, and the diversity of clinical symptoms. Studies show that, although hereditary factors are important in the development of multifactorial diseases, a complete picture of the disease occurs only when they interact with environmental conditions, nutritional culture, psychological environment and infectious factors. Therefore, a comprehensive approach to these diseases is necessary, and a multidisciplinary analysis is needed in the diagnostic process.

If multifactorial diseases are detected early, their complications are significantly reduced and the possibility of ensuring normal development in children increases. Therefore, modern pediatrics is improving early diagnosis using genetic screening, epigenetic tests, functional diagnostic methods and biomarkers. In the treatment process, a personalized approach, complex rehabilitation, nutritional therapy, psychological support and the formation of a healthy lifestyle play an important role.

In conclusion, in-depth study of multifactorial diseases in pediatric medicine is not only important in clinical practice, but also of great importance in improving preventive strategies of the healthcare system. Timely identification of etiological factors, the use of modern diagnostic methods, and the introduction of effective treatment and support measures contribute to the healthy formation of the future generation.

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