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EARLY DETECTION OF FUNCTIONAL DISORDERS OF THE DIGESTIVE SYSTEM IN PEDIATRIC PATIENTS AND THE DEVELOPMENT OF COMPREHENSIVE REHABILITATION APPROACHES.

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Annotation.
This article examines the main factors contributing to functional disorders of the digestive system in pediatric patients, criteria for their early detection, modern diagnostic methods, as well as comprehensive treatment and rehabilitation approaches. In addition, the necessity of developing preventive mechanisms based on the physiological and psychological characteristics specific to children is substantiated.

Keywords: pediatric gastroenterology; functional digestive disorders; gastrointestinal system; early diagnosis; Rome IV criteria; microbiota; diet therapy; comprehensive rehabilitation; psycho-emotional factors; child health; prevention; dyspepsia; irritable bowel syndrome; functional abdominal pain; probiotics.

Introduction.

Functional disorders of the gastrointestinal system (FDGIS) in children and adolescents represent one of the most pressing issues in modern pediatrics. Epidemiological studies conducted worldwide indicate a steady increase in the prevalence of these conditions over recent years. In particular, factors such as urbanization, changes in dietary habits, and increased psycho-emotional stress contribute to the growing complexity of digestive processes in the pediatric population.

The development of functional gastrointestinal disorders is influenced by a combination of multiple factors. Improper nutrition—namely, dependence on fast food, irregular eating patterns, and deficiency of biologically essential nutrients—leads to disturbances in intestinal function. In addition, stress at school and within the family, psycho-emotional strain, excessive use of modern technologies, and disrupted sleep patterns are significant contributors to the development of FDGIS. Environmental factors, alterations in the gut microbiota, inappropriate use of antibiotics, and an increased incidence of infectious diseases also play a direct role in the formation of these functional disorders.

One of the most important characteristics of functional gastrointestinal disorders is that they occur without organic changes, yet significantly impair the child's quality of life. This condition may slow physical development, reduce academic performance, worsen psychological well-being, and negatively affect social adaptation. Symptoms such as abdominal pain, bloating, constipation, nausea, and appetite disturbances create daily discomfort for both the child and their family. Therefore, early detection of functional gastrointestinal disorders, assessment of symptom progression, identification of risk factors, and accurate diagnosis are of paramount importance. When diagnosed at an early stage, the application of comprehensive, individualized therapeutic approaches helps prevent the progression of these disorders and contributes to stabilizing the child's psycho-emotional state.

In the rehabilitation process, not only pharmacological treatment but also psychological support, diet therapy, normalization of physical activity, and improvement of the family environment play a crucial role. Thus, the study, diagnosis, treatment, and rehabilitation of functional gastrointestinal disorders in pediatric patients using a comprehensive approach remain one of the priority directions in modern medicine.

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Literature Review. Recent scientific studies indicate that functional gastrointestinal disorders are highly prevalent in the pediatric population. According to the Rome IV criteria, the most common functional conditions in children include: functional dyspepsia; functional abdominal pain syndrome; irritable bowel syndrome; functional constipation; and functional diarrhea.

Research indicates that, in many children, functional gastrointestinal disorders are associated with a disruption of the interaction between the central nervous system and the gut—the so-called "gut–brain axis" imbalance. Additionally, alterations in the composition of the gut microbiota, insufficient dietary fiber, allergic predisposition, and stress are key factors contributing to the development of these functional disorders.

Causes of Functional Digestive Problems in Pediatric Patients. The development of these conditions in children is strongly influenced by the following factors:

Nutritional disturbances: consumption of fast food, carbonated drinks, and irregular eating patterns.

Gut microbiota imbalance: uncontrolled use of antibiotics and recurrent infections.

Stress and psycho-emotional factors: academic pressure, family environment, and technological overload.

Hormonal changes: rapid fluctuations in growth hormones and metabolic processes during adolescence.

Physical inactivity: low levels of physical activity, predominantly sedentary lifestyles.

Early Diagnosis: Methods and Criteria

Clinical Assessment: Evaluation of the child's complaints, including abdominal pain, nausea, bloating, diarrhea, or constipation; duration and intensity of symptoms; dietary history; and psycho-emotional background.

Physical Examination: Palpation of the abdominal cavity; assessment of physical development indicators (BMI, height–weight ratio); evaluation of skin and mucous membrane condition.

Laboratory Diagnostics: Complete blood count and urinalysis; coprology; tests for dysbiosis; and assessments for food allergies.

Instrumental Examinations: Ultrasound (USG) of the abdominal organs; endoscopy in suspicious cases; pH-metry and motility tests.

Rome IV Functional Diagnostic Criteria: These criteria provide the most reliable standard for identifying functional gastrointestinal disorders in children in the absence of organic disease.

Comprehensive Treatment and Rehabilitation Approaches

Diet Therapy: Consume meals fractionally (4–5 times a day); limit fatty, fried foods and carbonated drinks; increase intake of fiber-rich products such as vegetables, fruits, buckwheat, and oatmeal; use probiotics and prebiotics.

Pharmacological Treatment: Antispasmodics (depending on the syndrome); probiotics or synbiotics; enzyme preparations; sedatives (if necessary); laxatives or antidiarrheal medications as prescribed by a physician.

Psychological Rehabilitation: Stress management techniques; individual sessions with a child psychologist; relaxation exercises; elements of cognitive-behavioral therapy (CBT).

Physiotherapy and Physical Rehabilitation: Therapeutic physical exercises; light aerobic activity; physiotherapy procedures such as massage, electrophoresis, and magnetotherapy; breathing exercises.

Family Involvement: Advising parents on proper nutrition; reducing family-related stress factors; normalizing daily routines.

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Preventive Measures: Establishing a regular eating schedule; promoting hygiene culture at school and home; using antibiotics only under medical supervision; ensuring at least 60 minutes of daily physical activity; supporting psycho-emotional balance; seeking early medical attention if post-meal complaints arise in children.

Conclusion. Functional disorders of the digestive system in pediatric patients are multifactorial, and early diagnosis allows their consequences to be fully prevented. A comprehensive diagnostic approach, correction of diet and lifestyle, rational use of medications, and implementation of psychological and physiotherapeutic rehabilitation measures significantly reduce the risk of disease recurrence. Furthermore, strengthening preventive measures while considering family and social factors contributes to the healthy development of children.

References

1. Akhmedova, S. R., & To‘xtayev, B. M. Functional disorders in pediatric gastroenterology: principles of diagnosis and treatment. *Tibbiyot va Amaliyot Journal*, 2021, №4, 45–52.
2. Hyams, J. S., Di Lorenzo, C., Saps, M., Shulman, R. J., Staiano, A., & Van Tilburg, M. Childhood Functional Gastrointestinal Disorders: Child/Adolescent. Rome IV Criteria. *Gastroenterology*, 2016, 150(6), 1456–1468.
3. Hill, C., Guarner, F., Reid, G., et al. Probiotics and Prebiotics in Pediatrics: Evidence-Based Guidelines. *Journal of Pediatric Gastroenterology and Nutrition*, 2018, 67(4), 586–594.
4. Szajewska, H., & Kolodziej, M. Management of Functional Abdominal Pain Disorders in Children: A Review. *World Journal of Gastroenterology*, 2020, 26(10), 1105–1120.
5. Koshimbetova, G. K., & Shamansurova, E. A. Functional disorders of the gastrointestinal tract in children. *Pediatriya*, Scientific-Practical Journal, №1, 2022, 415–421.
6. Koshimbetova, G. K. Clinical manifestations of irritable bowel syndrome in children. *7th International Conference on Scientific Development in Eurasia*, 2015, 61–64.
7. Koshimbetova, G. K., & Shomansurova, E. A. Aspects of functional gastrointestinal diseases in children. *Scientific Research in the Modern World*, 2017, 84–85.
8. Koshimbetova, G. K. *Syndromes in Pediatric Gastrointestinal Diseases: Diagnosis, Differential Diagnosis, Treatment, and Prevention*. Textbook, 220 pages. Publisher: EFFECT-D, Tashkent.