

CAUSES, TREATMENT AND PREVENTION OF IRRITABLE BOWEL SYNDROME IN PUBERTY SCHOOL CHILDREN

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Abstract: Irritable bowel syndrome in school-age children is often associated with stress, poor nutrition and limited physical activity. This syndrome leads to bowel diseases and disruption of its processing, which reduces the quality of life of children. The article analyzes the main causes, symptoms, methods of treatment and prevention of irritable bowel syndrome in students. Diets, drug therapy and psychological support play an important role in treatment. Prevention includes the introduction of experienced preventive measures among the population.

Keywords: Adolescence, schoolchildren, irritable bowel syndrome (IBS), stress, diet, drug therapy, prevention, bowel diseases.

Irritable Bowel Syndrome (IBS)— is a functional disorder that occurs without pronounced organic intestinal diseases or structural changes.

Irritable bowel syndrome (IBS) is a common condition diagnosed by doctors in school-age children. This syndrome is characterized by symptoms of intestinal problems, suffocation, and pain. There are many factors that contribute to this condition, including family stress, dietary culture, and lifestyle[1].

Recent studies have shown that irritable bowel syndrome (IBS) can develop in children and adolescents due to factors such as stress, diet, and infections. Factors such as abnormal gut flora, inflammation, and increased permeability of the gastrointestinal wall can trigger the development of IBS due to infection. However, the exact mechanisms of this condition are still being investigated [2].

In addition, stress and poor nutrition play a major role in preventing IBS in adolescents. Eating a high-fiber, low-fermentable-carbohydrate diet and avoiding junk food can help reduce IBS symptoms[3].

The main etiologies of IBS include genetic factors, psychological and dietary factors, changes in gut microbiota, inflammatory processes, dysfunction of the gut-brain axis, hormonal changes, and environmental factors[4]. Let's look at each factor:

- Genetic factors. A family history of IBS increases risk factors. Genetic predisposition increases gut sensitivity.
- Psychological factors: Psychological problems such as stress, anxiety, and depression affect bowel movements through the gut-brain axis. Psychological disorders are an important factor in adolescent students, and academic stress and social pressure can trigger IBS.

- Dietary factors: Eating low-fiber foods, fast foods, carbonated drinks, and fatty foods negatively impacts normal bowel function; Unfavorable eating habits and poor nutrition lead to an imbalance in the intestinal microflora.
- Changes in the intestinal microbiota: An imbalance in the composition of the microflora (dysbacteriosis) disrupts the sensitivity and activity of the intestine. Excessive use of drugs, such as antibiotics, stimulates the development of IBS due to changes in the microflora.
- Inflammatory processes: Low-grade chronic inflammation affects the nerve fibers and muscles of the intestine. Cases after infectious gastroenteritis in adulthood can cause the development of IBS.
- Gut-brain axis dysfunction: Disruption of signaling processes from the brain to the gut or vice versa, from the gut to the brain. This dysfunction increases sensitivity of the gut and interferes with its movement.
- Hormonal changes. Hormonal changes during puberty can affect bowel function. IBS symptoms are worse during menstruation in college girls.
- Environmental factors: Poor water and food hygiene. Low physical activity and unhealthy lifestyle[5].

Irritable bowel syndrome usually presents as a complex of different symptoms.

1. *Gastrointestinal symptoms*

According to the Rome IV criteria, IBS is characterized by the following main characteristics:

- **Pain or discomfort in the abdomen:** Occurs at least once a month for the past 3 months. Pain associated with defecation: relieved by defecation or changes in the nature (speed or form) of defecation[6].
- **Bowel movements disorders:**
 - ✓ **Diarrhea** Loose, watery stools several times a day. Sometimes after defecation there is no feeling of complete emptying.
 - ✓ **Constipation (constipation)** Hard, small stools or no bowel movements for several days. Sometimes the stomach goes away with rest.
 - ✓ **Mixed form** alternating diarrhea and constipation.
- **Flatulence and Meteorism:** Heaviness in the stomach area, accumulation of gases.

2. *Extraintestinal symptoms*

- **Psychological symptoms:** States of stress, anxiety and depression. Sleep disorders.
- **Vegetative symptoms:** Increased sweating, increased heart rate (tachycardia). Headache or general fatigue.

3. *Clinical forms*

According to Rome IV criteria, IBS is divided into the following clinical forms:

1) **Diarrheal form:**

- a. Frequent bowel movements, loose stools.
- b. Increases after eating more food.

2) **Locking form:**

- a. Difficult and painful bowel movements.
- b. Flatulence and meteorism.

3) **Mixed form:**

- a. Alternating occurrence of diarrhea and constipation.

4) **Unspecified form:**

- a. Cases that do not fully meet the above criteria but symptoms are present.

4. Features of IBS in children

- **Symptoms often appear after stressful situations (exams, social pressure).**
- **Stomach pain may be seen as an excuse to avoid school or daily activities.**
- **Upset stomach is usually associated with poor nutrition (fast food, carbonated drinks).**

5. Important signs for diagnosis

- **The pain is associated with defecation and decreases after it.**
- **Symptoms occur regularly for at least three months.**
- **Objective studies do not reveal any organic pathologies.**

Correct clinical assessment and early detection of IBS increase the effectiveness of treatment and improve the quality of life of children[7].

Non-drug treatment. 1. Diet regulation, that is, reducing the amount of fermentable oligosaccharides, disaccharides, monosaccharides and polyols. Eating foods rich in fiber. 2. K. in psychotherapy, cognitive behavioral therapy (CBT) can help manage stress and relieve symptoms. 3. Physical activity daily light physical exercise improves bowel function[8].

Lifestyle changes: 1. *Learn stress management and relaxation techniques (e.g. yoga, meditation)* 2. *Improve your sleep patterns*

Drug treatment: Antispasmodics — *Reduces abdominal pain and relieves spasms of the intestinal walls (for example, mebeverine, hyoscine).* **Prokinetics** - *Improves intestinal peristalsis and reduces constipation.* **Antidiarrheal agents** – *Relieves symptoms of diarrhea (eg loperamide).* **Laxatives** – *Used to relieve constipation (eg lactulose, macrogol).* **Psychotropic drugs** – *Antidepressants (eg, selective serotonin reuptake inhibitors) are used to reduce anxiety and depression.*

Features of treatment in children: -*Treatment methods for children are determined depending on their age;* -*More attention is paid to changing eating habits;* -*Psychological support and work with the family are important.*

In the treatment of IBS, an individual approach and complex treatment tactics are important. Regular monitoring and, if necessary, revision of treatment methods are necessary.

There are many ways to treat IBS. First of all, it is important to normalize nutrition, i.e. the child should follow a strict diet. If symptoms persist, drug therapy is used, i.e. antispasmodics and antipsychotic drugs. Psychological support and stress reduction methods (e.g. yoga and meditation) can also be effective.

Prevention of IBS requires a comprehensive approach. Family, school and public organizations play an important role in monitoring children's eating habits and providing timely psychological support. Important preventive measures also include engaging children in an active lifestyle and preparing them for stress.

Conclusion: Irritable bowel syndrome in school-age children is a major problem that requires a multifactorial approach for peace and better life. Effective treatment and prevention measures help to maintain children's health and improve their health.

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