

## Review Article

# Irritable bowel syndrome: classification, dietary approach, pharmacological and psychological treatments

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## ABSTRACT

Irritable bowel syndrome is a long-lasting disorder that affects a significant number of people worldwide. This comprehensive study explores the complexities of IBS, thoroughly investigating its classification, signs, and various treatment approaches. It emphasizes the nature of IBS symptoms, highlighting the importance of tailored treatment strategies that consider adjustments, medications, and psychological therapies. The study recognizes that each patient responds differently to treatments, underscoring the need for care. By shedding light on the nature of IBS and acknowledging experiences, this research aims to provide an updated and evidence-based understanding of managing IBS. The significance of an approach is emphasized, recognizing how health, psychological well-being, and lifestyle factors are interconnected in IBS. Alongside medication for symptom relief and therapies addressing aspects, dietary modifications play a vital role in improving patient outcomes and overall quality of life. This integrated strategy aims to address IBS's impact on health and overall well-being. In summary, this study provides information for healthcare professionals and researchers to provide an understanding of the complexities of IBS and advocate for a personalized and evidence-based approach to its treatment.

**Keywords:** Dietary management, Irritable bowel syndrome, Pharmacological treatment, Psychological therapy, Symptom classification

## INTRODUCTION

Irritable bowel syndrome (IBS) is a condition that affects the functionality of the system. It can cause discomfort, bloating and changes, in bowel movements such, as constipation, diarrhea or a combination of both.<sup>1</sup> IBS may not be life threatening. It certainly affects the quality of life for individuals who experience it.<sup>2</sup> The causes of IBS are complex. Can vary. These involve factors such as changes in the connection between the gut and brain, issues with how the digestive system moves food through, heightened sensitivity, psychological aspects, and dietary influences.<sup>3</sup> The prevalence of IBS worldwide varies across estimates. Generally, falls between 10% to 15%. This condition tends to affect women and often begins before the age of 50. The precise underlying mechanisms responsible for causing IBS to remain somewhat unclear.<sup>4,5</sup> Many experts believe that a mix of factors and environmental triggers play a role in its development. Irritable bowel syndrome often referred to as IBS can be classified into three types based on how it impacts bowel habits; IBS, with constipation (IBS-C) IBS with diarrhea (IBS-D) and a mixed type called IBS M. This classification is beneficial in developing treatment approaches that specifically address the symptom patterns.

Coping with IBS can be quite difficult, due to its nature and the varying symptoms experienced by individuals. Treatment typically involves an approach that combines adjustments, medications specific, to symptom relief and psychological interventions.<sup>6,7</sup> The primary goal is to alleviate symptoms, enhance one's quality of life and address any existing concerns. Research has emphasized the importance of adopting a FODMAP diet when managing IBS. The precise reasons behind the symptoms of IBS are still not completely comprehended. Unfortunately, there is currently no treatment for individuals suffering from IBS. Recent studies suggest that the symptoms experienced by those with irritable bowel syndrome often stem from a breakdown in communication, between the system and the brain.<sup>8</sup> This is supported by the fact that abdominal pain tends to increase during periods of stress. Stress can affect movement and permeability and disrupt the balance of gut bacteria.<sup>9</sup> In some cases, IBS can develop due to changes in gut bacteria caused by infections. However, some experts believe that psychological disorders play a role in causing IBS.

Approximately half of individuals diagnosed with irritable bowel syndrome reportedly encounter symptoms associated with depression, anxiety or health related concerns.<sup>10,11</sup> Moreover, over 60% of individuals seeking treatment for IBS have been diagnosed with conditions such as depression and anxiety. One treatment approach involves managing carbohydrates that may worsen symptoms. The role of the gut microbiome has also gained attention in IBS research, with studies exploring how probiotics and prebiotics could potentially alleviate

symptoms by modulating the environment.<sup>12</sup> Pharmacological treatments exist for IBS, such as antispasmodics, laxatives and medications that address aspects of the connection between the gut and the brain. Newer medications like serotonin receptor agonists offer tailored approaches to treatment. Psychological interventions such as behavioral therapy (CBT) and mindfulness-based therapies are components in managing IBS. Understanding the relationship between well-being and gastrointestinal symptoms, these interventions aim to reduce stressors and improve coping mechanisms. This collaborative approach between healthcare providers and patients is crucial in managing the nature of IBS and achieving treatment outcomes. Regularly monitoring and adjusting the treatment plan is crucial to accommodate the changing nature of symptoms and optimize outcomes. Patients should be well informed about strategies, self-management techniques to reduce stress and necessary lifestyle adjustments as part of their care for IBS. Effectively managing IBS involves considering psychological factors. The goal is to not alleviate symptoms. Additionally, this can improve quality of life by incorporating a mix of lifestyle adjustments, medications and psychological interventions. This comprehensive approach recognizes the complexities associated with living with IBS.<sup>13</sup> As research uncovers more nuanced aspects of IBS, it's vital for healthcare providers and patients to work together collaboratively in navigating this landscape and achieving long-term outcomes. This review provides an overview of irritable bowel syndrome, encompassing its classification of dietary approaches as pharmacological and psychological treatments.

## METHODS

Dated 21 November, 2023, this review delves into the literature found in Embase, PubMed, and Google Scholar. It combines terms and keywords like "bowel syndrome," "dietary treatment," "pharmacology," and "psychological intervention." The focus is on research articles written in English since 2008 that prioritize human-centered approaches. The review offers an examination of the classification of bowel syndrome and the diverse treatment options available considering both physical and psychological factors.

## DISCUSSION

This review emphasizes the importance of adopting an approach to managing IBS. Creating a treatment plan that considers the symptoms experienced by people with IBS is of importance. Making lifestyle changes, such as following a FODMAP diet, has been shown to alleviate symptoms. In addition, pharmacological treatments are tailored to address symptoms. This may include the use of laxative medications for diarrhea, antispasmodics, and antidepressants. Furthermore, therapies like therapy and gut-directed hypnotherapy play a significant role in addressing the mind-body aspects associated with IBS.

## CLINICAL MANIFESTATION

IBS presents a range of symptoms that vary widely among individuals and change in intensity and frequency over time. The chronic nature of IBS, which includes periods of worsening and improvement, significantly affects the quality of life for those affected. It often leads to distress and difficulties in managing activities.<sup>14</sup> The main symptoms of IBS are pain, bloating, and changes in bowel movements. In abdominal pain, the consistent symptoms vary in strength and duration. It is often described as cramping or a dull ache in the abdomen; interestingly, this pain is usually relieved after defecation. This relief after using the bathroom is a characteristic of IBS. Changes in stool frequency or form often accompany it. Bloating and abdominal distension are also common among people with IBS.<sup>15</sup> This bloating can cause feelings of fullness or pressure in the abdomen, leading to discomfort. For individuals, this symptom causes physical discomfort and affects their self-image and social interactions since the abdominal distension can be noticeable. Altered bowel habits in IBS primarily appear as diarrhea, constipation, or a combination of both, known as IBS (IBS M). In people with diarrhea IBS they often have episodes of loose or watery stools and a feeling of urgency. On the other hand, constipation constipation-dominant IBS is characterized by infrequent bowel movements, lumpy stools, and a sensation that the evacuation is not complete. IBS M presents a combination of symptoms, where individuals experience alternating episodes of diarrhea and constipation.<sup>16,17</sup> Some people with IBS report the presence of mucus in their stool. While a small amount of mucus is considered normal, an increase in quantity or changes in its appearance may indicate IBS or other gastrointestinal conditions. The feeling of evacuation is a symptom experienced by many individuals with IBS. It gives them the sense that their bowel movement wasn't entirely successful, which can be distressing and uncomfortable. This often leads to spending extended periods in the restroom attempting to achieve a feeling of completion. The chronic nature and unpredictability of IBS symptoms significantly impact the well-being of those affected by this disorder. Constant concern about when and where symptoms might surface can lead to anxiety in situations or unfamiliar environments. This anxiety can exacerbate IBS symptoms, creating a cycle. Additionally, IBS affects activities and work productivity. Frequent bathroom breaks, bowel habits, bloating, and abdominal pain can disrupt work commitments, social engagements, and other activities<sup>6</sup>. The disturbance frequently results in a decline in the quality of life, causing certain people to avoid gatherings or trips in order to better cope with their symptoms.

## TREATMENT

Treating bowel syndrome can be an individualized process that addresses specific symptoms and enhances overall well-being. This comprehensive approach

includes making adjustments using medications, exploring therapies, and considering innovative treatments, all of which play a vital role in effectively managing this complex condition.

### *Dietary modifications*

Adjusting eating habits is often a part of managing IBS. The primary goal is to pinpoint, and steer clear of foods that can exacerbate symptoms. One effective approach that has been proven to be beneficial is the FODMAP diet. This dietary plan specifically focuses on reducing the consumption of carbohydrate types known to be challenging for the intestines to absorb. These carbohydrates can lead to increased body production of fluids and gas. The diet involves a phase where trigger foods are eliminated, followed by a gradual reintroduction phase to pinpoint individual triggers. Research has indicated that a significant number of individuals who suffer from bowel syndrome have reported relief, from their symptoms by following a FODMAP diet.<sup>18,19</sup> It is crucial for patients to collaborate closely with a registered dietitian to ensure they receive nutrition. Incorporating fiber supplements can be beneficial for people dealing with constipation related IBS. Consuming fiber rich foods like oats, psyllium husk and certain fruits can aid in softening stools and facilitating bowel movements. However, it is important to increase fiber intake to avoid experiencing gas and bloating which're common side effects when abruptly consuming large amounts of fiber. Moreover, another strategy that numerous people have discovered to be beneficial in dealing with IBS is incorporating probiotics into their routine. Probiotics consist of bacteria and yeasts that can assist in maintaining a balance in the gut. Studies have indicated that specific types of probiotics could alleviate the symptoms commonly associated with bowel syndrome including bloating, gas and irregularity in bowel movements. Therefore, consulting with healthcare professionals who can suggest the strain and dosage for your specific needs is highly recommended.

### *Pharmacological treatments*

Pharmacological options for treating IBS cover a range of addressing symptoms associated with the condition. For individuals with IBS D, medications like loperamide, a diarrheal agent, can be helpful in slowing down intestinal transit, decreasing bowel movement frequency, and improving stool consistency. Another group of medications prescribed for individuals with bowel syndrome with diarrhea includes bile acid sequestrants; these drugs function by binding to bile acids in the system, thereby helping to alleviate diarrhea symptoms. On the other hand, when it comes to IBS-C, laxatives are often necessary to relieve constipation. These can include bulk-forming laxatives like psyllium or laxatives such as polyethylene glycol, which attract water into the intestines to soften stools and promote bowel movements. To alleviate pain and cramping in IBS patients,

antispasmodic medications, like hyoscine, are commonly prescribed. These medications help relax the muscles of the system, thereby reducing painful spasms. In instances where individuals encounter discomfort or emotional symptoms connected to IBS, physicians may also contemplate prescribing medications like selective serotonin reuptake inhibitors (SSRIs) or tricyclic antidepressants (TCAs). Although these drugs are primarily utilized for their mood-regulating benefits, they also possess qualities that can assist in handling IBS-related pain.<sup>20</sup>

### **Psychological interventions**

Psychological interventions play a recognized role in managing IBS for patients whose symptoms have a significant psychosomatic component. Cognitive Behavioral Therapy has been extensively studied among the treatments for IBS. CBT aims to assist patients in identifying and modifying thought patterns and behaviors that may worsen their symptoms. This therapy can enhance a patient's ability to cope with their condition, reduce stress levels and change how they perceive pain and discomfort. Another promising approach is gut directed hypnotherapy, which utilizes hypnosis to alleviate IBS symptoms by promoting relaxation in the system and altering how the brain processes gut related pain and discomfort. In addition, incorporating stress management techniques like practicing mindfulness engaging in relaxation exercises and utilizing biofeedback can be helpful in the treatment of irritable bowel syndrome. These practices assist patients in managing stress triggers that can provoke or intensify their symptoms.<sup>6</sup>

### **Emerging treatments**

FMT, also known as microbiota transplantation, is a treatment method currently being studied for its potential, in managing IBS. This innovative procedure entails transferring stool from a donor into the system of an individual, with IBS. The objective behind FMT is to alter the balance of gut bacteria, which is believed to contribute to the development of IBS. Although FMT is not widely used for treating IBS and is mainly studied in trials initial findings show promise, in rebalancing gut bacteria and reducing symptoms. Ongoing research aims to refine this method ensuring safety, effectiveness and establishing practices for use. Serotonin receptor modulators have emerged as promising targets for IBS.<sup>21,22</sup> Serotonin, a neurotransmitter that affects gut movement and sensitivity, plays a role in this condition. Researchers are investigating medications that can modulate receptors, such as 5 HT<sub>3</sub> and 5 HT<sub>4</sub> receptor agonists, to regulate bowel function and relieve symptoms. These medications aim to address the dysregulation of serotonin signaling observed in IBS patients, providing an approach to managing symptoms. Peppermint Oil, a remedy known for its muscle relaxant properties, has effectively alleviated IBS symptoms like

pain and spasms.<sup>23</sup> Although its exact mechanism of action is not fully understood, studies suggest that peppermint oil may influence calcium channels in the muscle. This botanical option offers a perspective to treatments and is generally well tolerated by many people. Acupuncture is a type of therapy where slender needles are inserted into locations on the body. It has gained attention as a therapy for IBS. While the precise mechanisms of acupuncture in IBS are still being explored, research suggests that it may affect the system, reduce inflammation, and improve gastrointestinal motility. The integration of acupuncture into IBS care reflects the increasing interest in alternative approaches to managing symptoms.

### **CONCLUSION**

The treatment landscape for irritable bowel syndrome is constantly evolving. While traditional approaches such as changes, medications, and psychological therapies remain important, new treatments offer more personalized and targeted care options. As research progresses, integrating therapies based on understanding IBS's underlying mechanisms holds great promise in improving outcomes and enhancing the quality of life for individuals dealing with this chronic gastrointestinal condition. The collaboration among patients, healthcare providers, and researchers remains crucial in shaping the future of IBS treatment.

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