

Gastrointestinal Disorders

Gastrointestinal (GI) disorders, including functional bowel diseases such as irritable bowel syndrome (IBS), and inflammatory bowel diseases such as Crohn's disease (CD) and colitis, afflict more than one in five Americans, particularly women. While some GI disorders may be controlled by diet and pharmaceutical medications, others are poorly moderated by conventional treatments. Symptoms of GI disorders often include cramping, abdominal pain, inflammation of the lining of the large and/or small intestine, chronic diarrhea, rectal bleeding, and weight loss.

Patients with GI-specific disorders frequently report using cannabis therapeutically to address a variety of symptoms, including abdominal pain, abdominal cramping, and diarrhea.¹⁻⁹ According to survey data published in 2011 in the *European Journal of Gastroenterology & Hepatology*, "Cannabis use is common amongst patients with IBD for symptom relief, particularly amongst those with a history of abdominal surgery, chronic abdominal pain and/or a low quality of life index."¹⁰ A more recent survey of data from IBD patients affirms: "[A] significant number of patients with IBD currently use marijuana. Most patients find it very helpful for symptom control."¹¹

Preclinical studies demonstrate that activation of the CB1 and CB2 cannabinoid receptors has a biological effect on the gastrointestinal tract.¹² Effects of their activation in animals include suppression of gastrointestinal motility,¹³ inhibition of intestinal secretion,¹⁴ reduced acid reflux,¹⁵ and protection from inflammation,¹⁶ as well as the promotion of epithelial wound healing in human tissue.¹⁷ Experts suggest that the endogenous cannabinoid system plays "a key role in the pathogenesis of IBD,"¹⁸ and that "cannabinoids may, therefore, be beneficial in inflammatory disorders" such as colitis and other digestive diseases.¹⁹

Multiple human studies indicate that the use of either cannabinoids or whole-plant cannabis can successfully address a variety of GI-related symptoms. For example, a 2021 study of patients with multiple sclerosis reported, "Cannabis consumption in the past 3 months was associated with a two-fold increased odds of reporting improvement in urinary frequency, urinary urgency, bladder leakage and wetness, pad use and bladder emptying."²⁰ Data from Italy documented the successful use of nabilone in the reduction of diarrheal symptoms in subjects with severe GI disorders.²¹ Data from New Zealand, published in the *Journal of Women's Health*, similarly documented that the use of cannabis is associated with reduced gastrointestinal symptoms in women with endometriosis. Subjects in the study frequently reported reducing their intake of prescription medications following their initiation of cannabis therapy.^[22]

An observational study published in 2019 documented the impact of herbal cannabis in patients with treatment-resistant gastroparesis. Authors of the study concluded: "[C]annabinoids dramatically improve refractory gastroparesis symptoms, including abdominal pain. Marijuana may be superior to dronabinol in improving these symptoms, though both cannabinoids seem to be promising as novel therapeutic options in gastroparesis. ... This role in pain management represents a breakthrough for gastroparesis-associated abdominal pain treatment, for which there are currently no validated therapies."²³ Another observational study, also published in 2019, reported that cannabis use was associated with improved outcomes in patients hospitalized with ulcerative colitis.²⁴ A 2020 case report documented the successful administration of oral THC (dronabinol) in an adolescent patient with CIPO (chronic intestinal pseudo-obstruction). Dronabinol administration led to "significant relief of GI complaints," the authors reported.²⁵

In patients suffering from IBS (irritable bowel syndrome), a history of cannabis use is associated with a lower likelihood of undergoing endoscopic procedures, shorter hospital stays, and lower hospitalization costs.²⁶

Several human studies also demonstrate the safety and efficacy of cannabis in patients with Crohn's disease. Longitudinal data shows that the long-term use of whole-plant cannabis is associated with both symptom improvement and the reduced use of prescription medications in patients with Crohn's.²⁷ Another study found that cannabis therapy is associated with a reduction in Crohn's disease activity and disease-related hospitalizations. Investigators at the Meir Medical Center, Institute of Gastroenterology and Hepatology assessed "disease activity, use of medication, need for surgery, and hospitalization" before and after cannabis use in 30 patients with CD. The authors reported, "All patients stated that consuming cannabis had a positive effect on their disease activity" and documented "significant improvement" in 21 subjects.²⁸ Yet another study recently reported similar results – finding that CD patients seeking hospitalization, who had used marijuana experienced fewer disease-related complications than matched controls.²⁹

In a randomized placebo-controlled trial, inhaled cannabis has been shown to decrease Crohn's disease symptoms in subjects with a treatment-resistant form of the disease. Nearly half of the patients participating in the trial achieved disease remission following their use of herbal cannabis.³⁰ By contrast, the administration of oral CBD has not been found to provide similarly beneficial effects in Crohn's disease patients in a controlled trial setting.³¹

Based on the available evidence to date, some experts now opine that modulation of the endocannabinoid system (ECS) represents a novel therapeutic approach to the treatment of numerous GI disorders – including inflammatory bowel disease, functional bowel diseases, gastroesophageal reflux conditions, secretory diarrhea, gastric ulcers, and colon cancer.³²⁻³⁴

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