

A Review of Psychosocial Interventions for
Irritable Bowel Syndrome

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Abstract

This paper explores published articles on the psychosocial factors related to the development and treatment of irritable bowel syndrome (IBS), a functional bowel disorder. The purpose of this paper is to advocate for trauma-informed interventions for a syndrome impacting the quality of life of hundreds of millions of people across the globe (National Institutes of Health, 2009). Vu, Kushnir, Cassell, Gyawali, and Sayuk (2014) found that 77% of those meeting the symptomatic criteria for IBS reported psychological comorbidities such as anxiety or depression. Park et al., (2016) discovered a history of adverse childhood experiences doubled the odds of having IBS. Small-scale studies indicate positive results from complementary, alternative and integrative modalities that acknowledge the psychosocial components of IBS and help patients to regulate their stress response and develop adaptive coping strategies. Such modalities include psychoeducation, yogic breathing, abdominal massage, and cognitive behavioral therapy (CBT).

Keywords: Irritable Bowel Syndrome, IBS, Functional Bowel Disorders, Early Childhood Trauma, Adverse Childhood Experiences, CBT, Therapy, Mindfulness, Yoga, Breath, Holistic, Massage, Abdominal Massage, Psychoeducation

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Epidemiology

A report published by the National Institutes of Health in 2009 indicates 60 to 70 million people are impacted by digestive diseases each year in the United States (National Institutes of Health, 2009). Of these disorders, irritable bowel syndrome (IBS) is one of the most frequently diagnosed. Dr. Drossman (2016), Co-Director Emeritus of the UNC Center for Functional GI and Motility Disorders and a prolific contributor to the scientific literature on functional bowel disorders, estimates IBS affects 20% of adults, accounting for 29% of visits to gastroenterologists and at most 12% of visits to primary care providers in the United States. IBS tends to impact women at a rate 1.5 to 3 times higher than men (Drossman, 2016). IBS is estimated to affect around 11% of the global population (Drossman, 2016). Canavan, West, and Card (2014) report about 30% of people who experience symptoms related to IBS will consult physicians for care. This implies IBS may affect more people than accounted for under current estimates.

Diagnostics

IBS is categorized as a chronic functional disorder of the gastrointestinal system. Patients report inconsistent episodes of abdominal pain, distention and either primarily diarrhea (IBS-D) or constipation (IBS-C). Researchers and clinicians have experienced difficulty agreeing on a diagnosis for IBS. The Rome criteria are a symptom-based criteria designed by international experts to assist clinicians in agreeing on a diagnosis for functional bowel disorders (Drossman, 2016). The most recent Rome IV criteria (see Appendix A) defines IBS as recurrent abdominal pain occurring on average, once per week over the last three months, including two or more of

the following criteria: related to defecation, associated with a change in frequency of stool, or associated with a change in form or appearance of stool (Drossman, 2016).

IBS is categorized as a functional bowel disorder, as opposed to an organic bowel disorder (Drossman, 2016). Functional bowel disorders refer to conditions that cannot be explained by anatomical, biological or pathological abnormalities (Drossman, 2016). The causes, factors and healing processes of functional disorders are not well-understood in the biomedical community. Other functional bowel disorders include functional heartburn, functional dyspepsia, and functional constipation (Drossman, 2016).

Comorbidities

A handful of studies indicates psychological conditions are commonly comorbid with IBS. Vu, Kushnir, Cassell, Gyawali, and Sayuk (2014) tracked 606 gastroenterology patients meeting the Rome III criteria for IBS. 77% of subjects reported psychological comorbidities such as anxiety or depression (Vu, Kushnir, Cassell, Gyawali, & Sayuk, 2014). This study indicates those with IBS tend to have anxiety or depression. Drossman (Drossman et al., 2000) evaluated coping strategies in patients with IBS and discovered those less able to manage their anxiety tend to have more severe symptoms. Coping strategies refer to ways, either adaptive or maladaptive, people manage their arousal when events trigger their memories, either implicit or explicit, of early childhood trauma. 174 gastroenterology patients reported their scores on the Coping Strategies Questionnaire, daily (Drossman et al., 2000). Higher scores on questions related to Catastrophizing behavior and lower scores on the Self-Perceived Ability to Decrease Symptoms questions were found to be related to poor-health outcomes (Drossman et al., 2000).

A more recent study conducted at David Geffen School of Medicine, University of California, Los Angeles surveyed 148 patients with IBS for adverse childhood experiences (ACEs) (Park et al., 2016). The ACE questionnaire is a brief survey designed to identify physical, emotional, and sexual abuse, and general trauma occurring before the age of 18 (Park et al., 2016). In this controlled study, a history of ACEs doubled the odds of having IBS (Park et al., 2016). IBS was most related with experiencing emotional abuse, growing up with a family member with mental illness and having incarcerated family members (Park et al., 2016). This is one of the first studies to specifically investigate the incidence of ACEs in those with digestive disorders and its findings are in alignment with other scientific studies measuring the incidence of ACEs in those with chronic disease.

These studies indicate a relationship between early childhood trauma and IBS. Allopathic biomedical treatment of IBS remains unsatisfactory, shown by the dearth of research proving the efficacy of available treatments over control groups. The allopathic biomedical model concerns itself with diseases with clear physical or pathogenic causes. As a functional disorder, there is no clear biological mechanism of illness. A holistic trauma-informed medical lens, that acknowledges the psychosocial determinants of health is called for in such a diagnosis. Interventions are needed that effectively help patients regulate their stress response, develop adaptive coping strategies and ultimately heal from their traumatic experiences.

Literature Review

Psychoeducation

An NIH-funded randomized control trial (RCT) conducted by Labus et al., (2013) showed the efficacy of psychoeducational intervention to alleviate IBS symptoms. Experiment

participants joined a five-week two-hour psychoeducation course co-led by a gastroenterologist and therapist (Labus et al., 2013). The course covered the connections between emotions, stress and IBS symptoms, how the nervous system responds to stress, ways to develop adaptive coping strategies, relaxation techniques and more (Labus et al., 2013). Thirty-four experiment participants (enrolled in the psychoeducation course) and thirty-five control participants (placed on a waitlist) were assessed at the beginning of the study, at the conclusion of the five-week course and three-months after the study with several instruments: Irritable Bowel Syndrome Quality of Life (IBS-QoL), Global GI symptom severity, Hospital Anxiety and Depression Scale, Visceral Sensitivity Index (VSI) and the Coping Strategy Questionnaire (CSQ) (Labus et al., 2013). The experiment group showed statistically significant improvements in IBS symptoms, visceral sensitivity, depression and quality of life that were largely maintained at the three-month post-intervention assessment (Labus et al., 2013). This study is a key piece of research highlighting the importance and efficacy of addressing the psychosocial elements of IBS. A larger-scale RCT demonstrating successful replication of these results would support activation of more complementary, alternative and integrative interventions for IBS.

Mindfulness

Gaylord et. al., (2009) set out to demonstrate the efficacy of a mindfulness-based intervention for IBS. Participants were randomized into an 8 week Mindfulness-Based Stress Reduction (MBSR) program tailored to IBS (treatment group) or a therapeutic support group (control group) (Gaylord et. al., 2009). Both interventions covered the same educational and discussion topics such as IBS symptomatology, triggers, and coping strategies, with the active mindfulness practices taught only in the treatment group (Gaylord et. al., 2009). Participants

completed validated instruments to record their symptoms before, during and after the study (Gaylord et. al., 2009). The MBSR treatment group reported greater reductions in IBS symptoms immediately after the study (26.4% vs 6.2%) and maintained those reductions at the 3-month follow-up (38.2% vs. 11.8%) (Gaylord et. al., 2009). This RCT indicates mindfulness training can significantly improve IBS symptoms and quality of life. Due to recruitment challenges, only seventy-five subjects completed the study (Gaylord et al., 2009). Further trials should aim to replicate these findings in larger-scale studies.

Yoga

22 male participants with IBS confirmed by the Rome II criteria were randomly assigned a conventional pharmaceutical intervention or a yoga routine for 2 months (Taneja et al., 2004). Researchers chose yogic asanas (poses) and breathing exercises that had indicated efficacy for IBS in previous studies (Taneja et. al., 2004). The yogic intervention group showed significant improvements in bowel symptoms, anxiety scores and parasympathetic activity by 1 month into the study (Taneja et. al., 2004).

IBS may be related to nervous system dysregulation, which controls the digestive system through the enteric nervous system (Taneja et. al., 2004). The physical movement of asanas may assist in massaging the smooth muscles of the gut, helping to regulate digestive function and motility (Taneja et. al., 2004). Yogic breathing and asanas may help increase parasympathetic nervous system activity, which in turn, modulates the stress response, regulates emotional states, reduces anxiety and improves IBS symptoms (Taneja et al., 2004).

Cognitive-behavioral therapy

The Psychology Research and Behavior Management Journal published a review of studies on cognitive-behavioral therapy (CBT) for IBS this year (Kinsinger, 2017). The literature review found 20 RCTs evaluating the effect of CBT therapies on IBS (Kinsinger, 2017). These studies have shown CBT to be effective in producing lasting reductions in IBS symptoms (Kinsinger, 2017). Successful CBT interventions typically include five areas of treatment: psychoeducation, relaxation strategies, cognitive restructuring, problem-solving skills and exposure techniques (Kinsinger, 2017).

Psychoeducation helps patients understand the role of emotion and stress in IBS, so they're more likely to commit to the behavioral interventions of the program (Kinsinger, 2017). Relaxation techniques like diaphragmatic breathing up-regulate the parasympathetic nervous system to reduce stress and improve digestive functioning (Kinsinger, 2017). Cognitive restructuring supports patients in identifying and restructuring thought patterns, which can contribute to stress, anxiety and digestive symptoms (Kinsinger, 2017). Problem-solving techniques help patients build coping skills to handle the stressors of living with IBS (Kinsinger, 2017). Exposure techniques increase personal freedom by challenging patients to slowly try things they've been avoiding because of their condition (e.g., taking a long road trip) (Kinsinger, 2017).

Lackner et. al., (2007) tested a patient-led and therapist-led CBT protocol involving the five components discussed above. Both groups reported significant reductions in symptoms following the study (Lackner et al., 2007). Interestingly, 72% of patients in the self-led group reported adequate relief from their IBS symptoms, compared to 60% in the therapist-led group

(Lackner et al., 2007). It is encouraging to see a scalable patient-led intervention with positive results. Patient-led protocols can increase access to otherwise time-intensive one-to-one CBT interventions.

Abdominal massage

Visceral osteopathic manipulation is a form of abdominal massage, which releases constrictions in the fascia system and helps the internal organs find their optimal positioning. In a 2013 randomized controlled study conducted through the Chinese Medical Association, 31 IBS patients were enrolled to evaluate the efficacy of visceral osteopathic manipulation (Attali, Bouchoucha, & Benamouzig, 2013). The control group was given a placebo manipulation (Attali, Bouchoucha, & Benamouzig, 2013). One year after the study, IBS symptoms of diarrhea, bloating and pain in the experiment group remained significantly lower ($P < 0.05$) than at the beginning of the study (Attali, Bouchoucha, & Benamouzig, 2013). This study shows promising results that abdominal massage may provide relief from IBS symptoms, without the side effects of pharmaceutical intervention.

A licensed massage therapist published a literature review which explores the use of abdominal massage to treat chronic constipation (Sinclair LMT, 2011). Though, not specific to IBS, the arguments the author makes indicate abdominal massage can be a simple, effective and cost-efficient way to treat a host of digestive disorders. As Sinclair says, “Many laypeople could be taught to perform this technique on a regular basis, much as they brush their teeth regularly” (Sinclair LMT, 2011, p.8). Providing patients a simple self-massage technique to practice at home could be an empowering and effective way to treat IBS and other digestive disorders. The literature is not yet clear whether abdominal massage is more or less effective when constipation

results from a functional disorder like IBS, an underactive thyroid or another cause (Sinclair LMT, 2011). More research could help identify which types of conditions would be best treated with abdominal massage (Sinclair LMT, 2011).

Gilles Marin (2016) has practiced and taught the Taoist healing art of Chi Nei Tsang in the Western world for decades. In his book “Healing from Within with Chi Nei Tsang,” Marin describes Chi Nei Tsang as “a holistic approach to massage therapy within a Traditional Chinese Medicine paradigm, it integrates a person’s physical, mental, emotional and spiritual energy” (Marin, 2016, p. 3). Major components of treatment include a focus on innate patient-led healing, rather than fixing, a therapeutic patient-practitioner relationship, breathing exercises, Qi Gong practices and energetic abdominal massage (Marin, 2016). Chi Nei Tsang is uniquely positioned to provide an effective treatment for IBS, because it addresses the person as a whole being and works directly with the digestive organs. Unfortunately, there have been no scientific studies published on its efficacy in the English language as of this writing.

Conclusion

IBS is currently estimated to affect at least 20% of all adults in the United States (Drossman, 2016). Biomedical treatments often leave patients with less than desirable results and fail to address the emotional factors related to developing and living with the condition. Park et al., (2016) found a history of ACEs doubled the odds of having IBS. Colloquial expressions such as “I have butterflies in my stomach” or “I’m so nervous, I feel I may throw up” hint at the connections between the gut, brain and emotions scientists have recently discovered. The enteric nervous system innervates the digestive system and both receives signals from and sends signals to the brain. Our stress, anxiety and emotions affect our digestive system and vice versa.

Interventions are needed that effectively help patients regulate their stress response, develop adaptive coping strategies and ultimately heal from their traumatic experiences. Psychoeducation, mindfulness, yoga, cognitive-behavioral therapy and abdominal massage have shown promising results in reducing symptoms for functional conditions like IBS. Larger-scale randomized controlled trials would do much to show the efficacy of these treatments on larger, more diverse populations and build awareness of them to serve more patients.

Appendix A
Rome Criteria for IBS based from Drossman (2016)

Rome III Criteria for Diagnosing IBS:

Recurrent abdominal pain or discomfort at least 3 days/month in the last 3 months associated with two or more of the following:

- Improvement with defecation
- Onset associated with a change in frequency of stool
- Onset associated with a change in form (appearance) of stool

Rome IV Criteria for Diagnosing IBS:

Recurrent abdominal pain, on average, at least 1 day/week in the last 3 months, associated with two or more of the following criteria:

- Related to defecation
- Associated with a change in frequency of stool
- Associated with a change in form (appearance) of stool.

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