# Psychological Therapy for Irritable Bowel Syndrome*

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**ABSTRACT**

Irritable bowel disorders (IBS) is a common functional gastrointestinal disorder that is characterised by abdominal pain with altered bowel habits. As there is no biochemical, radiological or endoscopic marker to confirm the diagnosis of IBS, recent guidelines recommend using symptom-based criteria as proposed by Rome II criteria in making positive diagnosis of IBS if there are no "red flags" or warning symptoms. Therapy for IBS symptoms is typically predicated on identifying the predominant symptom complex that the patient is experiencing. Patients are often given the advice to make dietary modifications, lifestyle changes, or are prescribed medications directed at gut function (e.g. loperamide for diarrhoea, fibre or laxatives for constipation, anti-cholinergic drugs for pain). Patients with moderate to severe symptoms are frequently refractory to such treatment. Psychological therapy and anti-depressants drugs have been used in these patients with chronic and refractory symptoms. The two main forms of psychological therapies are psychotherapy and hypnotherapy. Both of these psychological therapies have been shown to improve patients' symptoms and quality of life.

*Keywords*: cognitive behavioral therapy, hypnotherapy, irritable bowel syndrome, psychological therapy

## INTRODUCTION

Irritable bowel disorders (IBS) is a common functional gastrointestinal disorder that is characterised by abdominal pain with altered bowel habits. It affects up to one in four of the general population at some time in their lives and has been shown to account for between 40 and 70% of the gastroenterologists' workload.[1] The challenge for clinicians is to identify individuals with IBS despite the fact that no diagnostic biologic markers currently exists for this disorder, and to manage their symptoms despite the lack of effective treatment.

## DIAGNOSIS OF IBS

As there is no biological marker to confirm diagnosis of IBS, it is a diagnosis that has challenged clinicians for decades. In the past, the recommended approach to confirm the disorders was "diagnosis by exclusion". Such an approach permitted the diagnosis only after extensive investigations had been carried out. This approach caused patients a great deal of inconvenience, expense and even procedural complications.

In the past two decades, it has been recognised that patients with IBS experienced a constellation of gastrointestinal symptoms. A number of symptom-based criteria have been used in the past; however, the currently accepted criteria are those that have been developed by the Rome II committee. The Manning criteria was first described in1978, followed by the Rome I in 1989 and Rome II criteria in 1999.[2-4] In the Rome II criteria, IBS is defined as abdominal pain or discomfort not explained by biochemical or structural abnormalities that are present for at least 12 weeks (not necessarily consecutive) over the past 12 months and associated with at least 2 of the following features: 1) relief with defaecation; 2) a change in stool frequency; and/or 3) a change in stool consistency (e.g. watery/loose or hard/lumpy) (Table 1).

Recent guidelines recommend using symptom-based criteria in making positive diagnosis of IBS if there is no "red flags" or warning symptoms (Table 2).[5] Once

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Table 1. Rome diagnostic symptom criteria for IBS.[4]

| Rome II criteria |
|---|
| At least 12 weeks, which need not be consecutive, in the preceding 12 months of abdominal discomfort or pain that has 2 out of 3 features: |
| 1. Relieved with defaecation; and/or |
| 2. Onset associated with a change in frequency of stool; and/or |
| 3. Onset associated with a change in form (appearance) of stool. |

Table 2. Warning symptoms/signs suggestive of organic disease.[5]

| Alarm Symptoms and Signs for Organic Disease |
|---|
| History |
| 1. Unintentional weight loss |
| 2. Nocturnal symptoms |
| 3. Initial onset at age> 50 years |
| 4. Severe diarrhoea or constipation |
| 5. Rectal bleeding |
| 6. Arthritis/rashes |
| 7. Family history of inflammatory bowel disease/coeliac disease |
| Family history |
| 1. Colon cancer |
| 2. Inflammatory bowel disease |
| 3. Coeliac disease |
| Physical findings |
| 1. Fever |
| 2. Oral ulcers |
| 3. Palpable abdominal masses |
| Laboratory evaluation |
| 1. Increased white blood cell count |
| 2. Anaemia |
| 3. Abnormal chemistry (low serum albumin) |
| 4. Increased/decreased thyroid stimulating hormone |
| 5. Elevated Erythrocyte sedimentation rate (ESR) or C reactive protein (CRP) |
| 6. Stool occult blood positive |
| 7. Stool for ova and parasite |

a thorough medical history and physical examination are performed, a variety of laboratory tests — full blood count, thyroid function tests, serum albumin and calcium, erythrocyte sedimentation rate — may be considered to support the diagnosis.[5] However, the utility of such testing in the absence of alarm symptoms is questionable. The undertaking of these tests should be individualised and based upon patients' symptom pattern, geographic area, relevant family history and patients' expectation of the degree of testing required for their reassurance. A crucial aspect of making a positive diagnosis based on symptoms is adequate and timely follow-up.

In the presence of alarm symptoms, more invasive investigations such as barium enema or colonoscopy may be considered for exclusion of colonic cancer or inflammatory bowel disease. This is because the presence of alarm symptoms would suggest a higher pretest probability of an organic disorder. For patients with the predominant symptom of diarrhoea, other conditions that need to be considered are lactose intolerance and excessive ingestion of indigestible sugars such as sorbitol (sweeteners in diet drinks) and alcohol.

Patients with IBS also suffer from non-gastrointestinal symptoms such as lethargy, poor sleep, fibromyalgia, backache, urinary frequency, and dyspareunia.[6]

## PATHOGENESIS OF IBS

The pathophysiology of IBS has evolved over the past 50 years. It was previously considered to be a disorder of abnormal intestinal motility. This was followed by the theory of visceral hypersensitivity. This hypothesis was supported by experimental evidence of lowered colorectal perceptual thresholds and increased sensory rating from studies of rectal balloon distension in patients with IBS compared with healthy controls.[7]

Nowadays, the pathogenesis of this disorder is postulated to be disorders of brain-gut function with altered gastrointestinal motility, visceral hypersensitivity, and central dysregulation involving neuroendocrine, autonomic, attentional and pain-regulatory pathways.[5] The abnormalities responsible for symptoms are likely to be dysfunction at both the central nervous system and the gut levels. Errors in the central processing of afferent information from the gut may be of primary importance in many, if not the vast majority of cases. This hypothesis is supported by recent findings in functional neuro-imaging studies. Using distal colonic stimulation, several studies have demonstrated alterations in regional brain activation in patients with IBS compared with healthy control subjects.[8,9] These brain regions include the anterior and mid-cingulate cortices, insula, and dorsal pons; these are some of the most consistently activated brain areas in response to visceral as well as somatic nociceptive stimuli. One area that has been shown to be consistently activated to a greater degree in patients with IBS compared to control subjects is the anterior mid-cingulate cortex.

## MANAGEMENT OF IBS

Therapy for IBS symptoms is typically predicated on identifying the predominant symptom complex that the patient is experiencing.[5] Defining the best treatment in IBS has been difficult, at least in part because of the placebo response is so marked, averaging 47% in a

recent survey of 25 randomised controlled drug trials.[10] In general, patients with mild to moderate symptoms respond to dietary modifications, lifestyle changes, or medications directed at gut function (e.g. loperamide for diarrhoea, fibre or laxatives for constipation, anti-cholinergic drugs for pain).

Dietary change and use of bulking agents is considered as first line therapy by many clinicians for IBS patients with constipation.[4] In the most systematic review of 17 trials, fibre was more efficacious than placebo in terms of global IBS symptom relief.[11] Soluble fibre (ispaghula, psyllium) was found to be more beneficial than insoluble fibre (wheat bran). Bulking agents improve constipation but not abdominal pain. In fact, the symptom of abdominal bloating may be exacerbated by fibre.

The commonest drugs prescribed for abdominal pain are the so-called antispasmodics which relax smooth muscle. Meta-analysis of 26 double blind trials found a significant additional benefit for drug over placebo.[12] Anti-spamodics act by anticholinergic (dicylomine and hyoscine) or direct inhibitory effect on intestinal smooth muscle (mebeverine and alverine citrate). The most significant improvement in pain was found with the anticholinergic anti-spasmodics which also has the common anticholinergic side effects of dry mouth, visual disturbances and urinary retention.

Loperamide at 4 to 12mg daily in divided doses slows both large and small intestinal transit and reduces stool frequency and urgency in patients with IBS. It should be used on prophylactic basis when patients feel diarrhea is likely to occur rather on regular basis. Regular use of loperamide may induce paralytic ileus.

However, patients with moderate to severe symptoms are frequently refractory to such treatment.[13] These treatments may improve a specific gastrointestinal symptoms but do not cause global improvement in patients' well-being, especially improvement in the non gastrointestinal symptoms. Severe IBS is associated with impaired health-related quality of life and leads to a 3-fold increase in work absenteeism and increased health care cost due to multiple consultations and numerous investigations.[14]

## PSYCHOLOGICAL THERAPIES

Psychological disorders, especially anxiety and depression, are common in patients who suffer from IBS. Many patients report a history of physical, emotional and sexual abuse. Relapse of symptoms often parallel with intensification of life stress or other psychological factors.[15] However, the prevalence of psychological distress varies depending upon the treatment setting. The prevalence of psychological distress/morbidity is much lower in the family physicians settings (10 to 20%) than in the specialists outpatients (of about 40%). There is, therefore, a strong theoretical reason for using psychological therapy for patients with chronic and refractory symptoms who are attending specialist outpatient clinics.

Psychological therapy and anti-depressants drugs have been used in these patients. Anti-depressants can modify gut motility and alter visceral nerve responses. Antidepressants therapies have been shown to relieve pain. Low dose tricyclic antidepressants (amitriptyline 25 to 50mg) has been shown to be efficacious, with nocturnal dosing producing the best results.[16]

The two main forms of psychological therapies are psychotherapy and hypnotherapy. All these psychological therapies emphasise the importance of patients' active collaboration and engagement in treatment. There are three different psychotherapeutic approaches which have been used in patients with IBS: cognitive therapy, behavioural therapy, and interpersonal forms of psychotherapy.

### *Psychotherapeutic Therapies*

The principal aim of cognitive therapy is to modify patients' maladaptive beliefs about their pain, and substitute more appropriate and rational ones.[17] Patients are asked to monitor for their thoughts and behavior which could be associated with their pain. They are then subsequently trained to modify their cognitions in relation to the pain. Behavioural therapy focuses on changing the patient's behaviour in relation to the pain. It does not deal with the patients' motives or fears in relation to the behaviour. It is, however, often used in combination with cognitive approaches as it is difficult to separate behaviour from the thought that drives it. Drossman *et al* demonstrated in a large, multicentre trial that 12-weekly cognitive behavioural therapy was superior to the control arm that provided education about IBS.[18]

The psychological distress of patients with IBS, such as previous history of abuse or marital distress, often becomes intertwined with their bowel symptoms. In interpersonal therapies, the aim is to help patients make improvement in their emotional status and relationships. Svedlund *et al* showed that psychodynamic therapy plus treatment as usual was superior to treatment as usual in a trial of 100 patients.[19]

Guthrie *et al* used a different, but related, form of psychodynamic therapy and demonstrated that it was superior to psychological placebo for patients with treatment resistant IBS.[20]

### *Hypnotherapy*

Hypnotherapy is perhaps the most researched treatment for IBS. In 1984, Whorwell *et al* in Manchester, England, published a small but well-designed placebo-controlled trial on the use of hypnosis as a treatment for IBS.[21] They randomised 30 patients with severe, refractory IBS to either 7 sessions of hypnotherapy or the same amount of psychotherapy plus placebo pills. The results indicated that patients treated with hypnosis obtained greater benefits than the control group. This early report has since been followed by other reports from the same group and from other investigators.[22-26] These studies confirmed that hypnotherapy was beneficial for patients with IBS, with up to 80% of patients showing an improvement in their symptoms.

In the technique pioneered and described by the Manchester group, hypnotherapy sessions can be carried out by either clinicians or psychologists. The therapy involves 12 half-hour sessions in which the emphasis of therapy is directed towards the control of gut function rather than just relaxation. Before hypnosis, patients are given a simple account of intestinal smooth muscle physiology. Hypnosis is induced by eye fixation or arm levitation techniques and this is followed by standard deepening procedures. After general comments about improvement of health and well-being, attention is directed to the control of intestinal smooth muscle. The patient is then asked to place his or her hand on the abdomen, feel a sense of warmth and relate this to asserting control over gut function. Reinforcement by visualisation is used if the patient has the ability. All sessions are concluded with ego strengthening suggestions. Patients are given tapes for daily autohypnosis and are encouraged to practice daily at home in between sessions with the therapists. Once patients are judged to have improved with therapy, they are encouraged to continue with regular autohypnosis. Further sessions with therapists once every 3 months are sometimes carried out if deemed necessary by the therapists.

The Manchester group had demonstrated that their method of "gut focused" hypnotherapy could be effectively integrated into clinical gastroenterology. They have established a unit dedicated to medical hypnotherapy, with therapists working hand-in-hand with gastroenterologists to treat a large number of patients with functional bowel disorders.

The mechanism of hypnotherapy on functional gastrointestinal disorders remains obscure and elusive. Unlike pharmacological agents for IBS, which have a clearly delineated mechanism of action, it is largely not known how hypnotherapy works its effects on the gastrointestinal symptoms. The effect of hypnotherapy may be psychological or it may have a direct effect on gut function. Undoubtedly, there must be a strong positive response to just attending sessions with a therapist on a regular basis, especially if the therapist is caring and sympathetic, and willing to spend time with the individual.

The Manchester group believed that gut directed hypnosis was important as hypnosis emphasising general relaxation, though improving general well being, was not found to improve IBS symptoms.[21] There is, however, data suggesting that hypnotherapy could alter physiology of gut function. Specific hypnotic suggestion can increase oro-caecal transit time and affect gastric acid secretion.[27,28] It remains unclear whether improvement in symptoms is associated with physiological changes such as pain thresholds, muscle tone, or autonomic functioning. One recent study showed increased pain threshold for the most pain-sensitive sub-group of patients.[29] Interestingly, these patients appeared to shift their rectal sensitivity towards the normal range such that hypersensitive individuals could reduce this sensation while hyposensitive individuals increase it as determined by both rectal balloon and barostat studies.[29,30]

Severe IBS is a chronic disorder and it is necessary for that efficacy of the treatment to be proved over the long term. The Manchester group reported a large systematic assessment of the therapeutic impact of hypnotherapy on 250 consecutive patients.[22] Patients treated with hypnotherapy had more than 50% average reduction in IBS severity, substantial reduction in anxiety and depression, significantly reduced health care costs and improved quality of life. More importantly, this symptom improvement was maintained beyond 2 years after treatment.[1] It was shown to be effective in improving gastrointestinal symptoms that define IBS, but also as a potent way to counter the quality of life impairment, disability, and excessive health care costs associated with the disorder.[1] With improvement in symptoms and quality of life, patients treated with hypnotherapy had less time off work as well.[1] It might be argued that hypnotherapy is more effective than any other single treatment modality for severe IBS.

The main limitation to widespread acceptance of hypnotherapy is public perception. Due to the

influence of popular media and stage shows, the public holds an erroneous view that hypnosis has a mysterious and coercive influence over people. This perception makes patients and even some physicians less receptive to considering this treatment option.

There is limited availability of suitably trained therapists. Only a small proportion of physicians and nursing staff have the training or experience to administer hypnotherapy. Such time consuming work is also likely to be an unattainable luxury. Furthermore, for the majority of patients, their afflictions with IBS are usually mild and self limiting and respond well to symptomatic therapy. Therefore, hypnotherapy is suitable for patients with severe and refractory IBS symptoms.

It is likely that the ability to achieve hypnosis is an innate capacity in all of us, but like any other skill, some individuals are better than others at achieving depth. However, the ability to achieve deep hypnotic state is not essential for a favourable outcome therapeutically. Thus, most individuals can be potentially helped by this modality of therapy.

Although the unit cost of most medications for IBS is relatively low, they are often prescribed over long periods of time. Thus, medical therapy for this condition is not as cheap as it might first appear. Patients often consult their general practitioners and in severe cases often show a tendency for multiple hospital consultations and investigations. Hypnotherapy has been shown to reduce the need for medications and consultation in these patients.[1,21,23] As patients take less time off work, the cost to the community in term of sickness benefits and employment can be decreased. Thus, the initial high cost of providing hypnotherapy can be recouped in the long term.

Compared to other forms of psychological treatments, it is uncertain whether hypnotherapy is superior to these psychological treatments because no side-to-side comparative studies have been conducted. However, hypnotherapy is less costly because it is largely one-way therapy with very limited interactivity. For this reason, it can be performed without a therapist being present, and this is most commonly done in the form of audiotaped home practice. This makes hypnotherapy much more available and affordable than other psychological therapy, which demands much more face-to-face sessions. In fact, the treatment might be equally beneficial if carried out in a large group with patients administering further sessions in private in a home treatment audio format.

## CONCLUSION

The cumulative and consistent evidence for efficacy of hypnotherapy seems to warrant the introduction of hypnotherapy as an adjunctive therapy in the management of IBS. The evidence argues that hypnotherapy would make management of this disorder more effective and would add broad benefits in improved emotional well-being and functional status of these patient groups. It might also enable large savings in health care system because of the reduction in medication use and health care visits, and large savings to the community in terms of lower consumption of sickness benefits and more fulfilling employment.

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