Psychiatric and Psychological Dysfunction in Irritable Bowel Syndrome and the Role of Psychological Treatments

Olafur S. Palsson, PsyD*, Douglas A. Drossman, MD

Division of Gastroenterology and Hepatology, University of North Carolina at Chapel Hill, Campus Box 7080, Bioinformatics Building, Chapel Hill, NC 27599-7080, USA

The understanding of irritable bowel syndrome (IBS) has evolved over the last 30 years from a simple and reductionistic biomedical view to a primarily physiological or motility-focused paradigm to the current dominant conceptualization that casts IBS as a complex multiply determined syndrome [1,2]. The present consensus is that IBS involves altered gut reactivity, altered pain perception, and brain–gut dysregulation [3]. Adding to this complexity is the fact that several factors, including biochemical, neurological, psychological, and social variables, can influence each of the domains of malfunctioning that contribute to IBS and thereby modulate the status of the disease and the patient’s experience of illness. It is furthermore increasingly evident that no single factor is necessary to cause IBS and that multiple etiological variables may contribute to the disorder in a single patient.

Many psychological and social variables have been recognized over the years as significant factors in IBS predisposition, precipitation, and perpetuation. Although these factors are recognized as important by most gastroenterologists, they often are not evaluated effectively or addressed in IBS treatment. Many physicians continue to apply a narrower biomedical approach to IBS management, thereby only working with a part of the biopsychosocial equation that explains IBS. This is likely to contribute to the perception by many gastrointestinal (GI) doctors that as a group, patients with IBS are more frustrating and difficult to treat than other patients [4].
Recognizing and addressing the psychosocial factors that amplify and perpetuate the disorder are important for enhancing clinical outcomes and well-being of many patients with IBS. By doing so, the physician sometimes can turn psychosocial stumbling blocks into stepping stones, achieving progress where the biomedical approach has hit a stonewall. This article reviews the role of adverse emotional and social factors in IBS and the ways in which the gastroenterologist can address such problems efficiently and effectively.

The epidemiology of adverse psychosocial factors in irritable bowel syndrome

Psychiatric disorders

More than 20 studies have examined the presence of psychiatric disorders in patients with IBS. Almost all of these studies have been conducted on samples of patients seeking medical care, mostly in tertiary care settings. The findings demonstrate that the presence of one or more Axis I psychiatric diagnosis is so common in clinical IBS patients that it might be considered to be a typical characteristic. According to recent systematic reviews of this literature [5,6], estimates of the proportion of patients who meet criteria for any Axis I psychiatric diagnosis have ranged from 40% to 94%, with several studies crowding on the upper end of that range. Patients with IBS generally have been found to have significantly higher psychiatric comorbidity rates in these studies than comparison groups of general medical patients or patients with organic GI disorders such as inflammatory bowel disease (IBD). The most frequent psychiatric disorders in clinical IBS patients are the same as the ones most prevalent in the general population. Depression is invariably the most common condition in studies of IBS patient samples, followed by anxiety and somatization disorders [5].

It must be noted that the empirical literature in this domain has several limitations that warrant caution in making generalizations and may inflate the psychiatric picture of IBS unfairly. Most of the studies have been small and have been conducted on tertiary care patients who are likely to be more distressed than other patients. Some of the studies have used subjects who specifically are seeking participation in treatment studies. Many studies have lacked adequate comparisons to other medical patients or other GI patients needed to determine whether high psychiatric rates are unique to IBS in the setting. A large and comprehensive study by Whitehead et al [7] in a health maintenance organization (HMO) sample, however, recently used methodology that avoids most of these problems. The investigators matched 3153 IBS patients in the electronic records of a large HMO to 3153 individuals without GI diagnoses and 571 IBD patients in the same HMO and examined psychiatric diagnoses on record for all of these patients. The
findings largely confirmed the psychiatric picture seen in previous work. IBS patients were significantly more likely than both comparison groups to have one or more psychiatric diagnosis in their HMO record. They had higher rates of 13 out of the 20 psychiatric diagnoses sampled in the study. At least one psychiatric diagnosis was documented for 51.2% of IBS patients compared with 34.7% in IBD and 29.1% of the controls. The three most common psychiatric diagnoses in IBS were depression (31.4% in IBS versus 21.4% in IBD and 17.5% in controls), stress reaction (17.6% in IBS versus 9.5% in IBD and 7.8% in controls) and anxiety (15.8% in IBS, 7.8% in IBD, and 6.4% in controls).

In summary, half or more of IBS patients in both GI clinics and other health care settings commonly have psychiatric comorbidity, most typically depression, stress problems, or anxiety, and these rates are substantially higher than for other medical patients in the same clinics.

The rates of psychiatric problems in IBS health care consulters are strikingly higher than the rates seen in general community samples of individuals with IBS, which do not always show elevated comorbidity. For example, Talley et al [8] compared a community sample of young adults in New Zealand with IBS to non-GI controls and found no significant differences in psychiatric history or current diagnosable psychiatric symptomatology. Other studies such as a large epidemiologic study by Lydiard et al [9], however, that found higher rates of panic disorder in people with bowel symptoms, suggest that increased psychiatric comorbidity may not be limited to those IBS patients who consult doctors.

**Stressful and traumatic life events**

In the last 15 years, several studies have documented an unusually high rate of sexual abuse history in patients with functional GI disorders. The first of these studies [10,11] assessed sexual and physical abuse history by means of a self-report questionnaire in 206 consecutive female patients visiting a gastroenterology practice in North Carolina. In the overall sample, 44% reported sexual or physical abuse either in childhood or adulthood. The sexual abuse rates were significantly higher for women presenting with functional GI disorders (53.3%) than for those with organic illness (37.3%). Rates of physical abuse were overall substantially lower than for sexual abuse, but showed an even sharper contrast between functional and organic GI patients (14.3% versus 1.6%). Later work by this group indicated that the difference in abuse frequency between the functional and organic diagnoses was explained primarily by higher frequencies of more severe abuse like rape and life-threatening physical abuse. Furthermore, the presence of abuse, independent of diagnosis, was found to be associated with significantly poorer health outcomes in terms of pain scores, days in bed, psychological distress, health care use including number of surgeries, and reduced quality of life [12]. Similar
observations of an association of functional GI disorders with high rates of abuse since have been made repeatedly in patients with GI problems in other clinic samples [13–16] and in a community sample [17]. One study [14] furthermore has found that sexual abuse history is more common among patients with lower GI rather than upper GI functional symptoms. Based on these data, recommendations have been made for clinicians to elicit a history of abuse, and if present, to determine if referral is needed [18].

Stressful life events other than abuse, such as break-up of an intimate relationship and other events viewed as threatening, more often precede the onset of IBS than organic GI illness [19,20], suggesting a predisposing or precipitating influence. Additionally, patients with the disorder typically report a higher density of recent stressful life events of high emotional impact on questionnaires compared with control subjects [21,22].

Maladaptive personal characteristics: neuroticism, dysfunctional coping and emotional distress

Several studies [21–26] have indicated that patients with IBS have elevated levels of neuroticism, which is a stable personality trait characterized by distress-proneness and negative bias in thinking. Catastrophizing is also a dysfunctional cognitive trait that repeatedly has been found to be elevated in patients with IBS and to be associated prospectively with poor health outcome [25,26]. These two aspects of cognitive bias are likely to mediate the heightened distress and psychiatric symptoms seen among IBS patients. High neuroticism causes individuals to identify more life experiences as personally threatening to them, and catastrophizing contributes to a morbid sense of pessimism and helplessness to affect a change.

Emotional distress is a subjective experience that may occur regardless of the presence of psychiatric illness or stressful life events. It can be measured by symptom questionnaires that quantify the frequency and intensity of negative emotions such as anxiety, worry, sadness, or anger experienced in a given time period, or alternatively by just asking subjects to rate their subjective feeling of stress. Both IBS patients and nonpatients who have IBS have elevated psychological distress levels compared with controls [27–30]. Interestingly, two studies [30,31] found that women with IBS reported a greater intensity of stress than controls even though the groups did not differ in the amount of stressful life events they experienced, suggesting that women with IBS amplify the negative intensity of life events.

Somatization and extraintestinal symptoms

Somatization is a concept that has been construed differently over the years. Studies on psychiatric comorbidity in IBS have found between
a quarter and a third of IBS patients to meet criteria for somatization disorder [5], which is much higher than in the normal population.

Traditionally, somatization has been viewed as a pathological psychiatric process that may have genetic determinants. In its most florid form, somatization presents itself as somatization disorder, a serious condition that involves multiple symptoms with little or no biological contribution, and which involve several organ systems over time. Several of other more limited somatoform disorders such as functional abdominal pain [32] and other painful conditions are also recognized, however, and in total, these are thought to be expressed because of a transduction of psychological distress into physical and behavioral expression. More recent studies using brain imaging suggest that the tendency to report visceral and somatic symptoms may relate to amplification of incoming non-noxious, or even regulatory afferent signals to emotional pain centers, and this amplification is enhanced by psychological stress [33–36].

Another way to conceptualize somatization is to view it as a psychological or behavioral trait, seen as the propensity to experience and report somatic symptoms, to misattribute them to disease, and to seek medical attention for them [37]. This trait can be assessed by using questionnaires that sample a wide range of commonplace body symptoms. Several such studies have reported excess somatization tendency in patients with IBS [38–40]. Non-GI symptoms such as musculoskeletal complaints, urinary symptoms, sexual symptoms, headaches, and constant fatigue typically are found at higher rates in IBS patients than in controls.

Illness behavior

Illness behavior refers to a person’s verbal and behavioral response to physical sensations and symptoms. This response is abnormal when it is maladaptive, and this can occur when there is a less than expected and excessive response. For example, ignoring severe pain during acute myocardial infarction represents a maladaptive illness behavior that can be deadly, the appropriate behavior being the seeking of help. At the other extreme, the repeated seeking of medical care for inconsequential symptoms, often already evaluated, can increase health risk because of iatrogenic effects of multiple unnecessary tests and treatments. Empirical evidence suggests that IBS patients tend to have a lower than normal threshold for experiencing illnesses as distressing and acting in response to them by health care seeking. For example, individuals with IBS were more likely than those with peptic ulcer disease and healthy controls to report in a community telephone survey [41] that they interpret cold and flu symptoms as serious and that they visit doctors for such common problems. Another indication of maladaptive illness behavior in IBS is the finding that female IBS patients who have infant children seek medical care for their ailments significantly more often than other mothers [42].
The impact of adverse psychosocial factors on morbidity, health care use and treatment response

Psychosocial variables have been implicated by research findings as modulators of all aspects of the course, status, and consequences of IBS. Maladjustment in the psychosocial domain can amplify IBS severity, undermine treatment efforts, and contribute to increased health care use. Additionally, several psychosocial variables appear to predispose individuals to develop IBS.

Increased health care use and costs

Drossman et al [43] found that patients with IBS make three times the number of non-GI health care visits compared with control subjects. Levy et al [44] similarly reported that the average IBS patient in an HMO makes twice as many visits as other HMO subscribers. Seventy-eight percent of this excess use is for non-GI reasons, and very little of it is for psychiatric conditions. Furthermore, health care users with IBS recall greater attention to their illnesses as children with more frequent physician visits than persons with IBS who have not seen a physician [45]. These findings suggest that certain psychosocial factors play a role in mediating the high use of general medical care by IBS patients. It is unclear, however, to what degree this reflects lower threshold for consulting medical professionals because of abnormal illness behavior, amplification of physical symptoms, or psychological distress, respectively, but most likely the excess health care use results from a combination of these factors. For example, a German study by Herschbach et al [46] found that symptoms of depression and somatization were among the strongest correlates of increased number of doctor visits, and Koloski et al [29] reported that anxiety and worry about abdominal pain predicted frequent health care visits among IBS patients in a community sample. Additionally, a community survey by Talley et al [17] and a clinical population study [12] showed that IBS sufferers with abuse history are more likely to consult physicians for their bowel symptoms.

The same psychosocial factors that cause high health care use by IBS patients (but perhaps especially somatization and abuse history, which have been associated with excess surgeries in non-GI research) are likely to explain why IBS patients have higher rates of many different types of non-GI surgical procedures compared with other medical patients [12,47,48].

It should be noted that the relationship between high health care use and psychosocial variables is not unique to IBS. Such associations are seen in medical patient populations in general [49,50], but they may be more significant in IBS because of the unusual preponderance of adverse psychosocial factors in the disorder.
Impact on symptom severity

Most of the adverse psychosocial factors have been found to be related to symptom severity in IBS. Detailed analyses of changes in symptoms and life experiences of IBS patients over time demonstrate that increases in stressful life events are associated with greater bowel symptoms [21,30]. Higher subjective scores of emotional distress in patients with IBS also are associated with more intense and more persistent IBS symptoms [29,51]. A history of sexual abuse increases the probability of IBS being severe quite dramatically. IBS patients with abuse history have 65% greater pain scores and three times more time spent in bed because of illness [52]. Catastrophizing has a measurable amplifying impact on abdominal pain in patients with IBS [53,54]. And to complete the picture, Drossman et al reported that compared with patients with moderate illness, a sample of patients with severe functional bowel disease had greater pain scores, depression, psychological distress, and poorer coping strategies [55]. Notably there was no difference between groups in visceral sensation thresholds, suggesting the strong central influence on symptom severity.

Impact on treatment response

In their large multi-center treatment trial for functional bowel disorders, Drossman et al found that in contrast with other patients in the study, those who were depressed did not improve from psychological treatment or antidepressant treatment. Other studies have found psychiatric comorbidity to be a negative prognostic indicator for psychological treatment of IBS [56,57].

Impact on vulnerability to irritable bowel syndrome

The observation that several negative psychosocial factors that individuals generally carry with them from childhood are seen commonly in IBS strongly suggests that these factors make people vulnerable to develop the disorder or to perceive the symptoms as severe enough to seek health care, even though it is difficult to demonstrate a linear causation. The case for this assumption is strongest for neuroticism and childhood sexual abuse, respectively. Neuroticism is a partly genetically determined major personality trait that is fairly stable in individuals from early childhood (it is about the most stable of the so-called big five human personality dimensions). High neuroticism seen in patients with IBS is therefore likely to have been a part of their basic personality long before their first symptoms of the disorder. Neuroticism is also a predisposing factor in depression and anxiety [58], and constitutional neuroticism may help to explain the high rates of affective disorders in patients with IBS. It is unclear how or why neuroticism translates into vulnerability to develop chronic GI symptoms, but the work of Gwee et al [59,60] showing that individuals high on neuroticism (and
those high on anxiety, which may be related) are more likely to develop chronic IBS-type symptoms after an acute GI infection supports its role as a predisposing factor in postinfectious IBS.

The well-documented excess prevalence of abuse history in IBS, and especially childhood sexual abuse, indicates that some consequences of abuse increase the vulnerability to experiencing a greater severity of symptoms or increased illness behaviors with IBS. It now seems clear that visceral sensitivity does not play a role in the link between IBS and abuse history [61,62], and it may relate to increased central amplification of the visceral signals [34,63]. The heightened somatization and depression that characterize both abuse survivors and IBS patients, however, may provide a causal bridge between the two. Previous studies have shown that the effect of abuse on outcome appears to be mediated by increased somatic symptoms and psychosocial distress [64]. Further work is needed, however, to elucidate the nature of this connection.

A third psychosocial variable associated with IBS that the evidence suggests often antecedes IBS is reinforcement of illness behaviors in childhood. Studies have indicated that a history of modeling and reinforcement of the sick role and increased attention to illness in childhood [45,65,66] are unusually common among IBS patients, fostering greater attention to illness and health care-seeking behavior that persists later in life.

**The integration of psychosocial factors in the biopsychosocial model of irritable bowel syndrome**

An array of psychosocial variables has been identified that can have a deleterious impact on the clinical expression of IBS. Many individuals also possess adaptive psychosocial traits such as good coping resources or social support that can counter or neutralize the potential negative influences of disturbed bowel physiology such as increased motility or visceral hypersensitivity. Furthermore, individual physiological and genetic differences may make some people less vulnerable to the disturbance of GI functioning by psychosocial influences. The outcome for each patient, whether health care visits, quality of life impairment, or pain intensity, is a result of the interacting effects of intestinal physiology; the enteric and central nervous systems; and perceptual, cognitive, emotional, and behavioral aspects of the patient. This complex relationship is summarized in Fig. 1.

It also should be noted that there is a reciprocity of influence between symptoms and clinical outcome, such that an adverse clinical outcome (eg, disability or narcotic use for pain) can feed back on the brain–gut system, leading to adverse bowel physiological and central effects, thus creating a vicious cycle.

It is important to recognize that not all patients with have prominent psychosocial difficulties. The relationship between bowel physiology and the
psychosocial milieu exists on a continuum. Most people with IBS have milder illness with adaptive psychosocial features, and only a small percent have maladaptive psychosocial difficulties that amplify the illness experience and behavior. Evidence is accumulating to support the heterogeneity hypothesis of IBS [5], which is fully consistent with a biopsychosocial understanding of the disorder [67]. In this view, psychosocial factors may weigh heavily for some patients, whereas other patients with the same disorder and largely the same symptoms may have predominant physiological influences with less evidence of deleterious psychosocial factors. For example, a recent cluster analysis by Guthrie et al [68] on a sample of 107 patients, examining how a variety of characteristics grouped together in the patients, found indications of three distinct patient groups. One group (the psychosocial group) was characterized by high rates of psychiatric morbidity; low pain thresholds; and high rates of doctor visits, interpersonal problems, and sexual abuse. A second group had low pain thresholds but low sexual abuse rates and only moderate psychiatric morbidity. The third had high pain thresholds, constipation or alternating bowel habits, few doctor visits, and little sexual abuse. Similarly, Dunlop et al [69] found that a history of psychiatric diagnoses was only half as frequent in IBS of postinfectious etiology compared with nonpostinfectious IBS cases. The findings from both of these studies need to be replicated in larger samples, but they underscore that it is a subset of IBS patients who have prominent psychosocial features in their broad illness picture. Those are the patients who are likely to respond poorly to standard medical treatment and to have the most severe and disabling symptoms unless the psychosocial factors can be addressed effectively.
Successfully addressing adverse psychosocial factors in irritable bowel syndrome

Gastroenterologists have three principal ways to neutralize the deleterious effect of adverse psychosocial factors on morbidity and chronicity in IBS. These are the therapeutic doctor–patient relationship, psychotropic medications, and referrals for psychological treatment. Of these, the power of the first is the one most underestimated. This is unfortunate, for not only is it as potent as the other intervention methods, but it is also crucial for enabling the effective application of the other two interventions. Patients are far more likely to comply with treatment with psychotropic medications and to accept referrals for psychotherapy if this is done within the context of a good doctor–patient relationship. In the absence of biomedical tools that can address the symptom complex of IBS for most patients reliably, the therapeutic relationship is overall the single most important therapeutic tool for treating patients with IBS [70].

The therapeutic relationship

An effective therapeutic relationship is one that actively contributes to symptom reduction and the enhanced life functioning and well-being of the patient. Physicians can create an effective therapeutic relationship with a fair amount of reliability by attending to five key aspects of their interactions with patients.

Active listening

Adopting this interviewing style enables the physician to identify and address psychosocial contributing factors far more effectively than with typical medical interviewing. It can be accommodated in standard history-taking. Active listening is a facilitative, open-ended style that invites the patient to contribute at each turn not only basic objective facts but also his or her understanding, viewpoint, and the relevant psychosocial correlates of the medical topic at hand. This is done through open-ended questions such as “can you tell me more about your symptoms?” and “what else?” as well as facilitative comments, facial expressions, and pauses when relevant material is brought up. Important references to psychosocial problems often are presented by patients in the form of hints and incomplete tidbits, and picking up on these is a key skill. Often simple and nondirective questions like “can you tell me more about that?” at the right junctures quickly provide important details. Showing appropriate empathy (“That must have been hard for you”), interest in the patient’s own perspective (What do you think could be making your symptoms worse now?), and expressing interest and curiosity in the perceived social and emotional effects of the bowel problem as perceived by the patient facilitate this type of interviewing and quickly foster good rapport.
Although this approach to interviewing might be perceived as likely to lead to unneeded information, this does not occur if the physician actively listens and maintains the narrative thread of the interview. In fact, the time spent in this manner yields higher quality information that can help in making management decisions. Active listening provides three important kinds of information about the patient that may not be gathered effectively through a more directive approach. It provides a comprehensive sense of the role of psychological and social factors in the patient’s IBS condition and discovers unmet educational needs and patient concerns and fears about the disease. Chang and Drossman provide a detailed description of this interviewing technique and related skills of psychosocial interviewing specifically for IBS [70].

**Education**

Providing a thorough explanation of the disorder is perhaps even more important for IBS patients than for other GI patients because of the complexity and ambiguity of the disorder. IBS patients have unmet education needs more frequently than patients with other GI conditions. O’Sullivan et al [71] found that 77% of patients with IBS coming to a GI outpatient clinic needed more information about their condition. They also reported that the top two education needs related to cancer risk from IBS and diet.

**Reassurance**

Reassurance consists of bringing out into the open and responding to the patient’s concerns and fears about the disease. The patient may have fears and worries that the physician does not anticipate. It is therefore important to elicit them through open-ended questions like “are there particular things that worry you about your IBS?” Even though some patient worries may seem unusual, they are important to them, and being able to voice them permits the physician to respond to them. Confident reassurance in regard to key disease-related concerns can go a long way to treat the disease-focused anxiety of the patient.

**Setting appropriate expectations and goals**

This applies to all central aspects of the patient's experience related to the disorder, including expectations regarding the normal course or variability in symptoms, adverse effects of medications, the appropriate and available working relationship between the doctor and the patient (eg, frequency of visits or phone calls), and events that do and do not need attention from the health care staff.

IBS is a chronic condition, and most patients will continue with symptoms for many years. Setting goals and expectations for the future that are unachievable will undermine the continued doctor–patient relationship and can lead to unnecessary return visits. Giving patients an accurate
estimate of the prognosis while instilling a sense of hope and physician availability can help improve the patient’s perspective, and this has been associated with greater satisfaction in care and clinical outcome [72]. It helps to set reasonable targets so the patient can learn to better cope with symptoms, finding ways to keep the symptoms from interfering with life (for example, preventing bowel accidents or keeping abdominal pain from being incapacitating) and increasing well-being and quality of life.

Giving the patient a clear sense of dependable access to help if needed, but with clear guidelines for the types of situations and events that are cause for medical attention, can put him or her at ease and reduce the patient’s need for visiting or contacting the health care provider.

*Actively involving the patient*

Patients with IBS can benefit in numerous ways if they can be allowed and be interested in taking on the role of a well-informed coinvestigator in their condition with the physician as a mentor, examining contributing factors and arriving collaboratively at the best treatment choices. When successful, this can enhance the patient’s motivation to comply with treatment, foster a more positive doctor–patient relationship, and mobilize the coping resources of even the most chronically passive patients. It also can lead to new insights as the patient accepts the responsibility to bring observations to the table that otherwise would go unexamined. By turning a “heal me” stance into “help me to find ways to improve,” IBS patients who have surrendered their sense of control to the unpredictable nature of their bowel disorder can regain motivation and sense of self-efficacy that over time can translate into less need for consulting health care providers.

With certain patients who are open to exploring the role of psychosocial influences to their condition, the gastroenterologist can try to implement key aspects of cognitive therapy. He or she can help the patient to reconceptualize the problem more realistically and in a healthy context, facilitate reducing catastrophizing and black-and-white thinking, and stimulate identification of new coping strategies and recognition of the relationship between life stress and symptom exacerbation. Such interventions can come informally in patient encounters and yet yield real therapeutic results.

*Clinical impact of an effective therapeutic relationship*

Studies indicate that when the central pillars of a good therapeutic relationship are in place, they are associated with enhanced patient satisfaction, better clinical outcome, and reduced health care visits. For example, in a study of the medical records from IBS patient visits, Owens et al found that eliciting on the first visit the patient’s concerns, providing appropriate reassurance, doing an appropriate evaluation, providing continuity of care and other factors that enhanced physician–patient communication [73] were associated statistically with fewer subsequent
health care visits [74]. O’Sullivan et al [71] found that good patient education (as perceived by the patients) resulted in less health care use.

Not unimportantly, the physician’s own satisfaction is also likely to increase when the essentials of the therapeutic relationship are implemented effectively [4]. Jackson et al [75] have demonstrated in a controlled study that incorporating such psychosocial interviewing tasks as eliciting the patient’s worries and expectations actually reduces the physician’s perceived difficulty of the encounter while at the same time enhancing the patient’s satisfaction with care. They further found that taking the time to do this did not add to the cost of care or affect health care use. Routinely attending to the fundamentals of a solid therapeutic relationship is thus a win-win situation for the doctor and patient.

Psychotropic medications

Antidepressants have proven effective for abdominal pain and are recommended for moderate and severe IBS symptoms [76]. They typically are used in IBS management at low doses for their neuromodulatory effects. The high prevalence of psychiatric illness in IBS, which afflicts half or more of the patients visiting the gastroenterologists office, makes management of psychiatric symptoms with psychotropic drugs appropriate at times, however. Treating comorbid psychiatric disorders such as major depression or anxiety disorders with antidepressants or anxiolytics can reduce the impairment associated with the bowel disorder greatly in some patients and enable them to use of their coping resources to adjust better to their health problem. It is believed that psychotropic medications like antidepressants have central and peripheral neuromodulatory effects [2,77].

Referrals for psychological treatment

The current American Gastroenterological Association medical position on IBS [76] states that psychological treatments should be initiated for patients with IBS under two conditions: when symptoms are severe enough to create significant impairment in health-related quality of life and when there are comorbid psychiatric conditions that interfere with adjustment to the illness. These two conditions require a different approach to referral, as the goals are different. In the first case, the goal is to improve the clinical picture of IBS, and in the second, to improve the mental health and life functioning of the patient regardless of detectable direct role of psychiatric illness in the IBS condition.

Most mental health professionals are trained to treat psychiatric illness and psychological and social maladjustment, and referral for treatment of psychiatric comorbidity therefore does not require much special consideration by the gastroenterologist. When the aim is to improve severe IBS through psychological treatment (rather than treating comorbid psychiatric...
illness), however, some care must be taken in choosing the psychological treatment for which referral is made. Only a few specific approaches have adequate empirical support as being effective in improving the overall clinical picture of IBS. General mental health treatment is not necessarily likely to make any impact on IBS, especially if the patient does not have significant psychiatric symptoms.

**Psychological treatments that are effective for irritable bowel syndrome**

Several different psychological treatment approaches have been tested for IBS. Most of these have shown some initial promise in improving IBS in published studies. It must be kept in mind, however, that placebo response rates tend to be high among patients with IBS receiving any treatment. Additionally, because of the added cost, psychological treatment should be more effective than could be expected from a generic plausible treatment. There are four specific psychological therapies that have been tested adequately in controlled studies to indicate that they can be recommended for treatment of IBS.

**Cognitive therapy**

Cognitive (or cognitive–behavior) therapy is a semistructured form of psychotherapy where the therapist helps patients to correct biased and negative thought patterns that amplify physical symptoms and undermine effective life functioning and psychological well-being. This is done by increasing awareness of the association between stressors, thoughts, and symptoms; by examining and correcting irrational beliefs; by countering automatic negative thoughts; and by identifying and implementing more adaptive coping strategies to handle challenging life situations and deal with bowel symptoms. These cognitive interventions often are combined with behavioral interventions like encouraging patients to engage in activities that counter the disability associated with the bowel disorder. In IBS treatment, cognitive therapy is usually a course of 8 to 12 sessions [78].

Six controlled studies have been reported on cognitive or cognitive–behavior therapy for IBS. The largest and most methodologically sophisticated of these studies was conducted by Drossman et al [79,80]. They randomized 431 women with functional bowel disorders (most met Rome criteria for IBS) to a 12-week course of cognitive–behavior therapy or the same amount of education intervention (and simultaneously compared the effects of these interventions to the tricyclic antidepressant desipramine versus placebo capsules). Cognitive–behavior therapy resulted in treatment response rate that was almost twice as high (70% versus 37%) as seen in the education control group on a broad composite outcome index that included bowel symptoms, quality of life, and patient satisfaction with treatment.
treatment response was not significantly different between desipramine and cognitive–behavior treatment.

Two cognitive therapy studies by Blanchard et al. [81,82] also yielded very positive results for cognitive therapy. One of these [81] randomized 34 patients to 8 weeks of cognitive therapy, a self-help support group, or a waiting-list control group. Cognitive therapy patients had 66% reduction in the composite bowel symptom score after treatment, twice the reduction among control patients, and this improvement was maintained at 3-month follow-up. The second study by this group studied 20 patients and found that patients who received cognitive therapy had greater improvement in psychological and GI symptoms compared with a waiting-control group [81,82].

Three additional controlled trials of cognitive–behavior therapy for IBS have produced less impressive results. Two showed no differences between patients treated with cognitive–behavior therapy and standard medical care controls [83,84], and one found psychological improvement over control groups but no significant IBS symptom improvement [78].

In addition to these six controlled trials, cognitive therapy has been tested in additional controlled trials as a part of multi-modal packages where it has been combined with other treatments such as relaxation training and biofeedback. It also has been tested in uncontrolled studies. Many of these trials have shown positive treatment results.

Gut-directed hypnosis

Hypnosis treatment uses an altered mental state of heightened receptivity, problem-specific therapeutic imagery, and targeted verbal suggestions to achieve mental and physiological changes. In IBS therapy, this treatment is typically a course of 7 to 12 weekly or biweekly sessions. Each session consists of a hypnotic induction followed by trance-deepening instructions and imagery and hypnotic suggestions designed to produce overall physical relaxation, gut-specific relaxation, reduction in the perception of life threat, lessened attention to gut discomfort, and enhanced sense of control over symptoms.

Hypnosis for IBS has been tested in three small controlled trials and 12 uncontrolled studies. Whorwell et al. [85] randomized 30 severe and refractory IBS patients to either seven individual sessions of hypnotherapy or seven sessions of individual psychotherapy combined with placebo pills. The control group showed a small but significant improvement in abdominal pain, distension and general well-being, but showed no change in constipation or diarrhea. In contrast, the hypnotherapy patients showed significantly greater improvement in all central IBS symptoms, including bowel activity symptoms. The other two randomized controlled studies [86,87] used symptom-monitoring waiting list members as controls, and both found hypnotherapy patients to improve substantially more in GI and
psychological symptoms compared with the waiting groups. Improvement was well-maintained at follow-up in both studies.

In addition to these controlled trials, recent published reports [88,89] on the long-term outcomes for more than 200 consecutive IBS patients treated with hypnosis in England have added substantially to the knowledge of the potential benefit from hypnosis for IBS. Seventy-one percent of patients responded to treatment. Among those responders, 81% fully maintained improvement at follow-up 1 to 5 years later, and many of the remaining 19% had experienced only modest relapse in symptoms. Treatment responders also used significantly less medication and had fewer health care visits long-term.

**Psychodynamic therapy**

This is a form of psychotherapy derived from psychoanalysis. It is a highly individualized conversational therapy that aims to help patients to gain insight into their own condition and resolve emotional and interpersonal conflicts that are thought to contribute to their symptoms.

Two early controlled trials showed this treatment to be effective for IBS. Svedlun et al [90] randomized 101 patients to psychodynamic therapy versus medical management alone. The psychodynamic group had significantly more reduction in physical symptoms, and the contrast was even more pronounced at 1-year follow-up. Guthrie et al [91] randomized 102 patients with refractory IBS symptoms to either eight sessions of psychodynamic interpersonal therapy or five sessions of supportive listening. The psychodynamic patients improved significantly more than the other group and remained improved at 1-year follow-up.

A more recent trial, the largest for this kind of therapy for IBS [92], randomized 257 patients to either eight-session psychodynamic interpersonal therapy, selective serotonin reuptake inhibitor antidepressant (paroxetine), or standard medical care. There was no significant therapeutic effect on symptoms for either psychotherapy or medication compared with standard care at the end of treatment or at follow-up. Both treatment groups, however, improved significantly in some aspects of quality of life, and the psychotherapy group had lessened health care costs compared with the other groups at follow-up.

**Relaxation training**

Relaxation training aims to help patients reduce their own physical tension and emotional distress through techniques such as progressive muscle relaxation, autogenic training, meditation, or biofeedback. It is a particularly suitable option for IBS patients who have a clear association of their symptoms with stress or anxiety. Relaxation training often is used as a component in other treatments, but it has been studied as the main or sole
therapeutic ingredient in three controlled studies. Two of these [93,94] demonstrated that IBS symptoms improved more compared with standard medical management groups, but the third [95] found no group difference. In the two positive trials, improvement was well-maintained at follow-up.

In short, most studies on each of four psychological treatment types have shown them to improve IBS. Perhaps most impressive about this body of research is the fact that many of the studies only have included subjects who already failed to improve in standard medical treatment, indicating that psychological treatments are often a way forward for treatment-refractory IBS patients. The research has demonstrated further that these therapies improve psychological well-being and quality of life of the patients in addition to reducing bowel symptoms, and that the therapeutic benefit, when achieved, generally can be expected to last for years.

Making a successful referral for psychological treatment

It has been estimated that half of patients referred for psychological or psychiatric treatment by primary care physicians never follow through and receive such treatment. Even though no comparable data are available for gastroenterology, it is likely that the picture is similar. Proper preparation of the patient is crucial for successful psychological referral. The patient must understand that the referral makes sense in the context of the IBS problem, that he or she is not being dumped, and that he or she will have continued access to care for the bowel symptoms. It is also important that the patient does not perceive the referral as an indication that the gastroenterologist thinks that the problem is all in the patient’s head. If the referral is made for treatment of comorbid psychiatric illness, it should be explained to the patient that the purpose is to help to reduce the emotional burden associated with the disorder as a part of aiding the patient in feeling and functioning better. Discussing the referral in the context of discussing the patient’s life stress, the emotional toll of the illness or coping difficulties, makes bringing a mental health provider into the treatment picture seem more relevant.

If the goal of the referral is to achieve improvement in IBS symptoms, explanation of the brain–gut relationship in IBS is in order. Discussion of the evidence that psychological treatments reduce abdominal pain, for example, can help the patient see the treatment as mind–body IBS treatment rather than a mental health treatment.

Additional considerations in deciding which patients to refer for psychological treatment should include the following:

- Psychological mindedness. Only patients who are willing to entertain the idea of a role for stress or psychosocial factors in their condition are likely to be accepting of referral.
• Motivation to actively participate in treatment. Psychological treatments require substantial work by patients and a commitment to a course of several visits.

• Local availability of effective treatments. Cognitive therapy is one of the most commonly used treatment methods in professional psychology, and relaxation training is also in wide use, so finding therapists to provide these services is generally not difficult. In regard to cognitive therapy, it is very helpful if the therapist is experienced in treating functional GI disorders, for the approach is specialized partly to the nature of the condition. Hypnosis treatment is not as widely available, but clinicians using that method can be found in almost every urban area. Extra caution needs to be exercised with hypnosis referrals, because the practice of hypnosis outside regulated health care professions is not restricted by law in many parts of the United States, so lay hypnotists also offer their services. Only licensed mental health professionals (eg, psychologists, clinical social workers, psychiatrists, and mental health nurses) should provide this service for IBS. As with cognitive therapy, it is desirable that the hypnotherapist is experienced in GI-specific treatment. Psychodynamic interpersonal therapy of the specific kind tested for IBS generally is not available in the United States.

• Insurance coverage or financial resources. Psychological treatment is generally reimbursable under the mental health portion of insurance plans. Some patients who do not have the required insurance coverage may want to pay out of pocket for the therapist fees. As the therapy course for IBS treatment is generally brief, the cost is within the means of many patients.

Summary

Psychosocial variables play a substantial role in the IBS condition of many patients. Evaluating and addressing adverse psychosocial factors is important to achieve satisfactory clinical outcomes with those patients. This can be achieved efficiently through psychosocial interviewing, establishing a solid therapeutic relationship, and judicious and tactful application of psychotropic medications and psychological treatments. Success in addressing psychosocial factors in clinical encounters benefits not only patients, but also the gastroenterologist through increased work satisfaction because of reduced difficulty and frustration in working with IBS patients.

References


