

The role of psychosocial factors in gastrointestinal disorders

I Wilhelmsen

Psychosocial factors play a part in how symptoms are experienced and interpreted, they modify illness behaviour, and can influence treatment. However, they do not have any diagnostic value in functional gastrointestinal disorders; if you have anxiety you can still have an organic disease.

Psychological disturbances modify the experience of illness and illness behaviours such as health care seeking

It has been shown that there are no greater psychological disturbances in subjects with irritable bowel syndrome (IBS) than in the general population. Even in the 1980s, Sandler *et al* found that focusing on symptoms was one of the major factors causing patients with bowel dysfunction to seek medical advice.¹ Further studies confirmed the finding that psychological factors are associated with patient status more than the bowel disorder itself.² These findings were not confirmed in an Australian population based study³ which was, however, a postal survey using self-administered questionnaires. In a British study, abdominal pain and diarrhoea differentiated consulters from non-consulters with symptoms of IBS.⁴

Psychosocial stress exacerbates gastrointestinal symptoms

Psychological stress or emotional responses to stress can affect gastrointestinal function, and the effects of different emotions on the gastrointestinal tract are well established⁵ (table 1).

What about functional gastrointestinal disorders—do psychological factors contribute substantially? IBS is the most prevalent of these gastrointestinal disorders. There are many studies from the 1980s and 1990s indicating that patients with functional dyspepsia (FD) or IBS have more anxiety, depression, and “psychosomatic triad” (hysteria, hypochondriasis, and depression) than normal controls. Our own data support these findings in patients with FD; for example, we found a high score for neuroticism and somatisation.⁶⁻⁸ However, no study has found a unique psychological profile or mechanism for symptom development.

Life events and stress

Life events studies have found that patients with IBS report more negative life events than

normal controls, but only life events which provoke an anxiety state or psychiatric episode are associated with symptom onset.⁹ Along the same lines, patients with IBS report more sexual abuse than controls, but the problem of over reporting is not overcome. Drossman *et al* found that abused patients have greater pain scores, spending more time in bed, having more psychological distress, poorer daily function, and 30% more physician visits than controls.¹⁰

The reasons why the former data have not been generally accepted are many. The diagnostic entities studied have been heterogeneous with different inclusion criteria, and patients with a psychiatric diagnosis (anxiety disorders, depressions, etc.) have been included. Also, the findings that psychological factors were themselves selective in pushing the patient into health care seeking status make interpretation of data more difficult.

The use of a semi-structured interview (life events and difficulties schedule (LEDS)) and a prospective design has recently been used in an interesting study from Australia.¹¹ One hundred and eighty eight patients with different types of functional gastrointestinal disorders¹² were diagnosed according to the Rome criteria, and the relation of social stressors to gastrointestinal, extraintestinal, and emotional symptomatology was assessed. Patients with functional gastrointestinal disorders were exposed to one or more stressors much more often than normal controls (98 *v* 36%) and anxiety state and/or depression were elevated within the sample. High levels of non-gut disturbances were distinctive of FD and IBS alone. Chronic stressors provoked psychological and extraintestinal disturbances most specifically in patients with FD or IBS. In the second part of the study,¹² the semi-structured interview was performed three times—at entry, and after six and 16 months. In addition, self-reported psychological and symptom questionnaires were completed. Life stress (LEDS) and symptom intensity were assessed separately by two independent interviewers. Life stress was assessed two weeks prior to symptom intensity. Chronic stressors (divorce, relationship difficulty, serious illness, lawsuits, business difficulty, housing difficulty) had to be present for at least six months. Repeated measures analyses of variance, linear regression analysis, and logistic regression analysis were used. There was a high degree of covariance of life stress and symptom intensity scores. Chronic threat alone ac-

Department of
Internal Medicine,
Deaconess Home
Hospital, 5009, Bergen,
Norway
I Wilhelmsen

Correspondence to:
Associate Professor
I Wilhelmsen.
Ingvard.wilhelmsen@
meda.uib.no

Table 1 Effects of different emotions on the gastrointestinal tract

Fright and depression	Anger and resentment
● Pallor of mucosa	● Hyperaemia of mucosa
● Reduced acid secretion	● Accelerated acid secretion
● Reduced gastric motor activity	● Increased motor activity

Abbreviations used in this paper: IBS, irritable bowel syndrome; FD, functional dyspepsia; LEDS, life events and difficulties schedule.

counted for 97% of the variance in symptom index. Life stress during the first six months of the follow up period was highly predictive of symptom intensity at 16 months. No patient exposed to one or more stressors during the final 10 months of the follow up period (35% of sample) improved by 50% or more in symptom intensity. These findings were not influenced by personality or mood state. The limitation of these findings is that patients were referred for endoscopic evaluation. The reduction in chronic stressors was a prerequisite for improvement, and indicates that stress reduction management should be beneficial in patients with IBS.

Psychotherapy

The five most prominent studies of psychotherapy in IBS show good effects.¹³⁻¹⁷ Because of the high placebo response, a control group is required. More traditional psychodynamic therapy, as well as hypnotherapy and cognitive behaviour therapy, have proved better than conventional medical management. Prognosis is found to be dependent on combined psychological and medical treatment,¹⁴ younger age, type of pain,¹⁵ and higher initial anxiety.¹⁷ In the Guthrie study, 103 patients received either psychotherapy, relaxation, or standard medical treatment. At three months the treatment group showed greater improvement than controls on the gastroenterologist's and patient's ratings of diarrhoea and abdominal pain. Overt psychiatric symptoms were a good prognostic sign. In the Green and Blanchard study, only 20 patients received treatment, but 80% of those receiving cognitive therapy initially reached the criterion for clinically significant improvement compared with 10% of the symptom monitoring controls. In a critical review, Talley *et al* concluded that "the efficacy of psychological treatments for irritable bowel syndrome has not been established because of methodological inadequacies".¹⁸ Even though the data are not indisputable there is, in my opinion, evidence to support an optimistic view that psychotherapy can help patients with IBS or FD.

The following promising results from the Netherlands were not evaluated by Talley *et al*. In the first study,¹⁹ a standard approach of reassurance and education about symptoms was done by the gastroenterologist at the outpatient clinic. In 110 patients with IBS, doctors could influence complaint related cognitions and these changes were related to improvement in irritable bowel symptoms at follow up. Patient anxiety, fear of cancer, and other catastrophising cognitions appeared to diminish. Forty seven patients who did not respond to this standard approach were diagnosed as having refractory IBS, and entered a study of cognitive-behavioural group therapy, presented to them as "a course in coping with abdominal complaints".²⁰ Twenty five patients received eight, two hour sessions and were compared with a waiting list control. In the follow up study, all 45 patients were treated and followed up for an average of 2.25 years. There was a significant improvement in

abdominal symptoms in the treatment group, the number of successful coping strategies was found to increase, and avoidance behaviour decreased. The positive change persisted during follow up (data from 32 patients were available).

The only study of psychotherapy in FD was performed at our centre in Bergen. At the one year follow up, there were 43 patients in the therapy group who received 10 hours of individual cognitive behaviour psychotherapy, and 45 patients in the control group.²¹ Both groups showed improvement in dyspeptic and psychological measures, but the improvement in the therapy group was greater for dyspeptic symptoms and target complaints.

Biofeedback is still an experimental treatment of primarily lower functional gastrointestinal disorders.²²

Future research

I find the advice of Denis McCarthy to exclude patients who meet DSM criteria for any psychiatric diagnosis from future studies of functional gastrointestinal disorders to be very wise.²³ These patients probably have a non-gastrointestinal reason for requiring some form of treatment, drugs, and/or psychotherapy. Today, the efficacy of cognitive-behaviour therapy is documented in most anxiety diagnoses.²⁴⁻²⁵ Patients with somatisation disorders surely have gastrointestinal symptoms which may meet the Rome criteria but there are so many other problems that interpretation of the data becomes difficult. Similarly, patients with frank anxiety disorders or clinical depression will most probably confound the data. This means that a careful psychiatric assessment must be performed. Psychologists and psychiatrists can also contribute to further exploration of the stress management intervention studies that will still have to be performed, especially in patients with FD or IBS.

- 1 Sandler RS, Drossman DA, Nathan FTP, *et al*. Symptom complaints and health care seeking behavior in subjects with bowel dysfunction. *Gastroenterology* 1984;87:314-8.
- 2 Drossman DA, McKee DC, Sandler RS, *et al*. Psychosocial factors in the irritable bowel syndrome. A multivariate study of patients and nonpatients with irritable bowel syndrome. *Gastroenterology* 1988;95:701-8.
- 3 Talley NJ, Boyce PM, Jones M. Predictors of health care seeking for irritable bowel syndrome: a population based study. *Gut* 1997;41:394-8.
- 4 Heaton KW, O'Donnell U, Braddon FE, *et al*. Symptoms of irritable bowel syndrome in a British urban community: consultants and non consultants. *Gastroenterology* 1992;102:1962-7.
- 5 Wolf S. The psyche and the stomach. A historical vignette. *Gastroenterology* 1981;80:605-14.
- 6 Haug TT, Wilhelmsen I, Berstad A, *et al*. Psychological factors and somatic symptoms in functional dyspepsia. A comparison with duodenal ulcer and healthy controls. *J Psychosomatic Res* 1994;38:281-91.
- 7 Haug TT, Wilhelmsen I, Ursin H, *et al*. What are the real problems for patients with functional dyspepsia. *Scand J Gastroenterol* 1995;30:97-100.
- 8 Wilhelmsen I, Haug TT, Ursin H, *et al*. Discriminant analysis of factors distinguishing patients with functional dyspepsia from patients with duodenal ulcer. Significance of somatization. *Dig Dis Sci* 1995;40:1105-11.
- 9 Ford MJ, Miller PMC, Eastwood J, *et al*. Life events, psychiatric illness and the irritable bowel syndrome. *Gut* 1987;28:160-5.
- 10 Drossman DA, Li Z, Leserman J, *et al*. Health status by gastrointestinal diagnosis and abuse history. *Gastroenterology* 1996;110:999-1007.
- 11 Bennett EJ, Pisse C, Palmer K, *et al*. Functional gastrointestinal disorders: psychological, social, and somatic features. *Gut* 1998;42:414-20.
- 12 Bennett EJ, Tennant CC, Pisse C, *et al*. Level of chronic life stress predicts clinical outcome in irritable bowel syndrome. *Gut* 1998;43:256-61.

- 13 Guthrie E, Creed F, Dawson DD, *et al.* A controlled trial of psychological treatment for the irritable bowel syndrome. *Gastroenterology* 1991;**100**:450-7.
- 14 Svedlund J, Sjodin I, Ottoson JO, *et al.* Controlled trial of psychotherapy in irritable bowel syndrome. *Lancet* 1985;**iii**: 589-92.
- 15 Whorwell PJ, Prior A, Colgan SM. Hypnotherapy in severe irritable bowel syndrome: further experience. *Gut* 1987;**28**: 423-5.
- 16 Lynch PM, Zamble EA. Controlled behavior treatment study of irritable bowel syndrome. *Behav Ther* 1989;**20**: 509-23.
- 17 Green B, Blanchard EB. Cognitive therapy for irritable bowel syndrome. *J Consult Clin Psychol* 1994;**62**:576-82.
- 18 Talley NJ, Owen BK, Boyce P, *et al.* Psychological treatment for irritable bowel syndrome: a critique of controlled treatment trials. *Am J Gastroenterol* 1996;**91**:27-86.
- 19 Dulmen van AM, Fennis YFM, Mookink HGA, *et al.* Doctor-dependent changes in complaint-related cognitions and anxieties during medical consultations in functional abdominal complaints. *Psychol Med* 1995;**25**:1011-18.
- 20 Dulmen van AM, Fennis JFM, Bleijenberg G. Cognitive-behavioral group therapy for irritable bowel syndrome: effects and long-term follow-up. *Psychosom Med* 1996;**58**: 508-14.
- 21 Haug TT, Wilhelmsen I, Ursin H, *et al.* Psychotherapy in functional dyspepsia. *J Psychosom Res* 1994;**38**:735-44.
- 22 Bassotti G, Whitehead WE. Biofeedback, relaxation training, and cognitive behavior modification as treatment for lower functional gastrointestinal disorders. *QJM* 1997;**90**: 545-50.
- 23 McCarthy D. Future aspects of functional gastrointestinal disease: how should treatments be evaluated. *Eur J Surg* 1998;**583**(suppl):98-103.
- 24 Balkom AJ van, Bakker A, Spinhoven A, *et al.* Allmenn metaanalysis of the treatment of panic disorder with or without agoraphobia: a comparison of psychopharmacological, cognitive-behavioral, and combination treatments. *J Nerv Ment Dis* 1997;**185**:510-6.
- 25 Clark DM, Salkovskis PM, Hackmann A, *et al.* Two psychological treatments for hypochondriasis. A randomised controlled trial. *Br J Psychiatry* 1998;**173**:218-25.