Progress report

Psychological treatments of the irritable bowel syndrome: a review

SUMMARY Psychological treatments are increasingly being used to help patients with the irritable bowel syndrome (IBS), but the efficacy of such treatments is still debated. This review indicates that there are three ways in which they might have been effective in published studies to date; relating bowel symptoms to stress, specific help with psychosocial problems/relationships and relaxation to decrease anxiety and tension. A close doctor-patient relationship is regarded as central to these therapeutic tasks but the time required to maximise the effectiveness of this therapeutic role means that intensive psychological treatment should be reserved for those IBS patients who do not respond to first line standard medical treatment. There are insufficient data to indicate at present which patients are best suited to each form of psychological treatment.

There is growing evidence that patients with the irritable bowel syndrome (IBS) may be helped by psychological treatment but the scientific status of the studies to date has been variable and the indications for such treatment have not been sufficiently clear to guide clinicians. In this review, the types of treatment are considered in turn, paying particular attention to the selection of subjects included in each study, the factors related to outcome and those ingredients which seem to be common to the different treatments. Our aim is to answer the questions 'if such psychological treatments work, what is their mode of action?' and 'for which patients should these treatment be recommended?'. An answer to the first question may enhance our understanding of the aetiology of IBS; the second question is crucial in view of the number of patients presenting to the gastroenterologist with IBS and the time and cost involved with intensive psychological treatments.

Because approximately 500 new IBS patients present to gastroenterologists in the UK each week,¹ it is unlikely that formal psychological treatment will ever become a first line of treatment because it is time consuming and therefore expensive. In addition, up to 83% of these new patients respond to conventional medical treatment – reassurance, an explanation of their symptoms together with an antispasmodic drug and a bulking agent.² But at longterm follow up 32% were still troubled by their symptoms,² and if the figures in this study are typical of the UK as a whole, 160 of the 500 patients presenting each week would require additional treatment. We believe that this is the group for whom intensive psychological treatment should be tested to see whether the subsequent demands made on medical services³ can be avoided. Unfortunately, most of the published studies have used psychological treatments as a first line of treatment where they are unlikely to be cost effective. Four types of psychological treatment have been used; antidepressant/anxiolytic drugs, psychotherapy, hypnotherapy, and behaviour therapy.

Tranquillisers and antidepressants

There is some evidence that antidepressants and antidepressant/anxiolytic combinations may improve symptoms of IBS though whether this effect is statistically greater than a placebo is disputed.^{4,5} Our review of these studies will be confined to those that shed light on the question: is there evidence that reduction of anxiety or depression by psychotropic drugs improves bowel symptoms? Unfortunately, the majority of studies have not made satisfactory measurement of mood state and most studies have used antidepressants (alone or in combination with an anxiolytic) in doses which are sub-therapeutic for treatment of depressive illness. At such doses they might have an effect on anxiety but not depression.

One study⁶ attempted to assess whether the beneficial effects of a tranquilliser/antidepressant (fluphenazine 1.5 mg and nortriptylene 30 mg) on symptoms of IBS were closely related to the reduction in psychiatric symptoms. Unfortunately, the patients who had probable psychiatric illness showed very little improvement in bowel symptoms so their original hypothesis could not be adequately tested. Those patients who did improve were those without psychiatric symptoms so the authors concluded that the effect of the drug was not through its psychotropic action.

Ritchie and Truelove⁷ also found a beneficial effect of a tranquilliser in combination with other drugs, but no relationship was observed between initial anxiety and depression scores and eventual outcome. They argued that the efficacy of psychotropic drugs on bowel symptoms in such low doses must indicate a mode of action other than alteration of mood state. This conclusion gained some support from one of the two studies which used an antidepressant in a therapeutic dose. Using 150 mg of desipramine Heefner *et al*⁸ reported improvement for abdominal pain and interference in daily living when there was no significant improvement in depression.

The results of the more thorough study using a therapeutic dose^{9,10} showed that 150 mg of desipramine was significantly superior to placebo and atropine for pain, number of stools per week and bowel motility index but there was also a concurrent reduction in overall psychiatric symptoms including depression measured by the Hamilton rating scale. These authors suggested that both antidepressant and direct antimuscarinic effects were important in the therapeutic effect of desipramine. Unfortunately, the differential effects of these two modes of action on eventual outcome could not be discerned in this study.

Two other studies have found an improvement in emotional symptoms when psychotropic drugs were used. Myren *et al*¹¹ found this was not accompanied by any change in bowel symptoms when a low dose of trimipramine was used. Finally, a Scandinavian study using the tranquilliser, mepiprazole, appeared to indicate that central reduction of anxiety was the important ingredient of treatment.¹²

The picture is confused because these studies all have methodological shortcomings⁴ and different groups of patients have been included in different studies. For instance, the success of a tranquilliser alone¹² occurred in patients with a mean duration of disorder of seven years. Such a cohort would be quite different from those recruited to a trial which only required symptoms to have been present for six weeks or more;⁶ the more patients

with psychiatric symptoms that are included the greater the chance of success with an agent that reduces anxiety.

In summary, there is evidence that psychotropic drugs may improve bowel symptoms, especially diarrhoea, because of a direct effect on bowel motility, but they may also reduce pain because of their known analgesic properties in painful conditions independent of their anti-depressant action.¹³ Their effectiveness in improving bowel symptoms secondary to alteration of mood state will not be clarified unless future studies record simultaneous changes of both sets of symptoms using reliable measures.

Psychotherapy

Dotevall and Groll pointed out in their study of mepiprazole that the drug might relieve symptoms in the short term but could not abolish the financial, occupational and marital stresses which cause them.¹² Psychotherapy is a treatment which primarily seeks to relieve symptoms by helping the patient face underlying psychological conflicts and emotional disturbances. When such problems are tackled successfully the symptoms of anxiety and depression should be improved, together with the bowel symptoms, if these are caused by the underlying psychological disturbance.

The first two studies of Shoneke *et al*¹⁴ and Hislop¹⁵ are included because of the interesting points that they raise, but the outcome results should be treated with caution. Neither report gave adequate information about patient selection or used standardised measures of outcome.

Shonecke *et al*¹⁴ compared the effects of psychotherapy (three × 20 minute interviews focussing on life problems) and a new tranquilliser, using a complex statistical design. They found that both the drug and psychotherapy produced a significant improvement but a much greater effect on outcome could not be directly attributed to either of these and was therefore attributable to 'non-specific factors'.

This is a tantalising study because a larger and more satisfactory study which defined these 'non-specific' factors would have been especially welcome. Shonecke *et al* found that they had to spend some time talking to the patients receiving the drug in order to maintain compliance. The resulting doctor-patient relationship may have constituted one of the 'non-specific' factors and probably underlies the high placebo response seen in IBS. The therapeutic effect of a trusting relationship with a doctor is a well recognised phenomenon in psychotherapy research and its intensity appears to be more important than the actual type of psychotherapy used. But it is not simply a question of spending time with a patient, there must be a therapeutic task; Whorwell (an untrained psychotherapist) spent time with the patients in his 'psychotherapy' control group without any apparent beneficial effect.¹⁶

In the second study, which lacked a control group, Hislop described the psychotherapeutic task he tackled in one or more sessions with IBS patients.¹⁵ A detailed discussion of the patient's symptoms was used partly to establish a deeper rapport between the doctor and patient. In this setting a link was made between recent life events and the onset of bowel symptoms but Hislop's main aim was to explore the patient's emotional response. This exploration was often accompanied by overt distress during the interview

and apparent subsequent resolution of bowel symptoms. Those patients who could not express their feelings in this way did least well with Hislop's treatment.

It is notable that the vast majority of Hislop's patients accepted an emotional basis for their IBS symptoms at the outset and accepted this form of psychotherapy. In this respect the patients would not have been typical of those in most gastroenterology clinics.

The study by Svedlund *et al*¹⁷ is the most comprehensive assessment of psychological treatment of the irritable bowel syndrome to date. In this study, unlike that of Hislop, the psychotherapy was used as an adjunct to drug treatment; the design was a controlled trial comparing the effects of psychotherapy plus conventional medical treatment with the latter alone. The authors managed to recruit 'the majority' of patients presenting to the gastroenterologist but excluded those with a previous history of abdominal surgery or in receipt of a disability pension so some of the more severe cases of IBS would have been excluded.

Two experienced psychotherapists administered the therapy and rated each others' patients at the beginning and end of treatment. They attempted to remain blind to the treatment/control group of each patient but the lack of an independent assessment by a gastroenterologist was the major weakness of this study.

The psychotherapy group showed significantly greater improvement than the controls on measures of abdominal pain, bowel dysfunction and mental symptoms. On most measures this difference was apparent at three months and was maintained or increased at one year. The authors argued that this increasing difference between the groups during the follow up year indicated the specific success of psychotherapy rather than a non-specific effect of more doctor time; the latter only occurred during the initial three months treatment period.

The exact details of the psychotherapy used were not very clearly described but the development of an intense therapeutic relationship was again regarded as fundamental to the treatment. The therapist was flexible within this framework, working in an emotionally charged way with psychologically minded patients and in a practical way with others. In each case the doctor and patient set specific goals of psychotherapy which involved the patient reaching a more successful adaptive style to his or her particular life problems.

Unexpectedly the results suggested that achieving the goals of psychotherapy did not necessarily lead to improvement in bowel symptoms. The reason for the superiority of this treatment over the control group therefore remains obscure. Possible factors might have been a reduction of anxiety and depression, a fuller understanding of the relationship between bowel symptoms and stress or a resolution of personal conflicts as a result of the psychotherapeutic relationship. Each of these might have occurred even if the stated goals of psychotherapy had not been reached.

This study failed to find factors associated with prognosis and this is surprising compared with some other studies.^{2 18} It may be a reflection of the heterogenous nature of Svedlund's sample: the study included some patients with symptoms of IBS for only one month, whose psychological problems might be quite transitory compared to others in the study with more chronic symptoms.

Hypnotherapy

The controlled study by Whorwell *et al* is of great interest.¹⁶ Hypnotherapy was used on patients who had not been helped by previous treatments for IBS – so called ‘refractory’ patients; an equivalent amount of time was spent in ‘psychotherapy’ with patients in the control group. The hypnotherapy patients apparently did well with a course of treatment that included standard hypnosis, relaxation, the use of a daily autohypnosis tape, and a specific technique which encouraged the subject to believe they achieved control over intestinal motility. The results of this study are impressive more because of the improvement that the patients made with hypnotherapy compared with previous medical treatments rather than the superiority of hypnosis over the ‘psychotherapy’. The author is an experienced hypnotherapist but has not received any training in psychotherapy, so the control group in Whorwell’s study would not have received treatment that was comparable with that of Svedlund *et al*.¹⁷

The beneficial effects of hypnotherapy apparently remained one year later,¹⁹ but with further experience of hypnosis the authors suggested that patients over 50 years of age, those with atypical IBS or with pronounced psychological symptoms do less well with this treatment.

Hypnosis depends on suggestion and it is not clear to what extent this was an essential ingredient of treatment. The ‘refractory’ nature of the patients’ symptoms is clear but they were presumably a selected group in the sense that they were motivated to receive this particular treatment. Whorwell and colleagues stressed the importance of their ‘bowel directed hypnotherapy’: it is suggested to the patient under hypnosis that they can exert control over their bowel function. This particular aspect is unique to hypnotherapy whereas other aspects are used in other treatments; a close doctor-patient relationship is also developed in psychotherapy and the daily relaxation technique is used in behaviour therapy.

Behaviour therapy

Behaviour therapy differs from psychotherapy because there is less emphasis on the doctor-patient relationship. Patients are taught exercises and strategies to control either psychological or physical symptoms. Symptoms of anxiety and depression are known to respond to either behaviour therapy or psychotherapy and the same appears to be true of IBS symptoms.

There is a satisfactory controlled study by Bennett and Wilkinson²⁰ who treated first time attenders at a gastrointestinal clinic with either an eight week package of relaxation training or the medical regime of Ritchie and Truelove (Motival, Mebevrine, and Fybogel). They found the psychological treatment was superior to the medical treatment in reducing anxiety, but there was no difference between the two treatments regarding IBS symptom reduction.

The authors stated that in order to utilise such treatment they used an initial ‘educational phase to change any misconceptions concerning bowel function and provide a rationale for psychological intervention’. They concluded psychological treatment was the treatment of choice for those

patients who have high anxiety and to whom psychological treatment can be made attractive.

We feel this is probably rather a bold statement, particularly as it is based on a study of only 24 patients who were all first time attenders, many of whom would have responded to any first line of treatment.

There is one further behavioural study of interest; Blanchard *et al*²¹ found progressive muscle relaxation, thermal biofeedback and training in cognitive stress coping led to an improvement in 73% of IBS patients measured in terms of a composite score involving change in abdominal pain, diarrhoea and/or constipation. They were able to identify only one factor, trait anxiety, that was significantly related to outcome and this predicted a poor response.

This result is reminiscent of the finding of Lancaster-Smith *et al*⁶ and Whorwell *et al*,¹⁹ where the presence of psychiatric symptoms predicted a poor outcome after drug or hypnotic treatments. Perhaps in each study the psychological treatment was only effective for those patients with mild anxiety. In these patients, at least, concurrent reductions in both bowel and anxiety symptoms were observed by Blanchard and colleagues suggesting that the effects of behavioural intervention are mediated through a reduction in anxiety. Other patients with more severe anxiety seem resistant to such treatments and are likely to be those who are most at risk of becoming chronic clinic attenders.³

There have been many further case reports describing various behavioural treatments with small numbers of IBS patients, but no further, large scale controlled trials of psychological treatment. Wise *et al* reported a small study of patients with IBS undergoing group therapy.²² Despite an intensive amount of educational work, discussion of life problems and individual relaxation most patients showed little improvement in bowel symptoms. But this study included patients with severe IBS symptoms who would not readily respond to any treatment. Interestingly, those patients with high anxiety felt they could not control their illness and greatly feared accidents resulting from incontinence. They also used enemas more frequently, were less satisfied with their sex lives and had experienced more hospitalisations than those with lower levels of anxiety. These factors might explain why patients with high anxiety levels in other studies did poorly with psychological treatments. By contrast, those patients who reported low levels of anxiety were able to identify stressors which correlated with their IBS symptoms and could modify their response to such stressors using relaxation techniques.

Conclusion

Tables 1 and 2 show the heterogeneity of studies done to assess the efficacy of psychological treatments. No two studies are comparable in terms of patient selection and no single study can stand up to critical scientific scrutiny.⁴ There does, however, appear to be sufficient evidence^{16 17 20 21} for us to speculate on the possible modes of action of psychological treatments so that discrete hypotheses can be tested in future research. As there is no clear evidence that psychotropic drugs improve IBS symptoms solely on the basis of their psychotropic action we must look to the remaining studies. There are several ways in which psychological treatment may help.

Table 1 Selection of subjects in treatment studies

	Mean age	M:F ratio	Mean duration	Selection factors
Drug treatments				
Ritchie ⁷	39	1:3	?	
L-Smith ⁸	36	1:2.8	>6 wks	
Greenbaum ¹⁰	+45	1:1.6	>3 mths	
Heefner ⁸	47	1:0.1	>1 yr	
Myren ¹¹	39	1:1.2	>few mths	
Dotevall ¹²	40	1:1	7 yrs	
Psychological treatments				
Hislop ¹⁵	39	1:1.5	6 yrs	Private clinic
Whorwell ¹⁶	?	1:7.3	?	'Refractory'
Svedlund ¹⁷	34	1:2.3	13 yrs	'Majority' of clinic pts
Wise ²²	55	1:2.3	20 yrs	
Bennett ²⁰	37	1:2.3	1.2 yrs	Unresponsive to reassurance simple symptomatic treatment
Blanchard ²¹	41	1:3	9 yrs	

Table 2 Summary of psychological treatment studies

Treatment	Patients (n)	Duration of Rx		Aim of treatment
		(wk)	(h)	
Bennett ²⁰ Relaxation	33	8	8	Anxiety reduction
Hislop ¹⁵ Psychoth	52		2.2	Expression of repressed emotions
Wise ²² Group th	20	—	9	Unite physical/emotional aspects of illness, reduce anxiety
Whorwell ¹⁶ Hypnosis	50	12	4-5	Control over bowel function to reduce spasm
Svedlund ¹⁷ Psychoth	102	12	10	Improve coping of life stress
Blanchard ²¹ Behav th	45	8	?12	Muscle relaxation, biofeedback and cognitive stress coping

1 MOTIVATION FOR TREATMENT

Practically all studies included the promise of success by using a new treatment and this may well account for the high placebo response and 'non-specific' effects observed in several studies. This should be minimised in a controlled trial but there is no equivalent of a placebo tablet for the psychological therapies. Inclusion of patients who have not responded to previous treatments minimises the likelihood of a pronounced placebo response, but the only study to do this was that of Whorwell *et al*¹⁶ in which self-selection for hypnotherapy was probably a very important factor. Svedlund *et al*¹⁷ managed to recruit the largest series of consecutive patients and the maintenance of the improvement over the year rules out any short lived improvement due to increased expectations of a new form of treatment.

2 EDUCATION/REORIENTATION

All doctors use some form of education for their patients with IBS; they allay fears of serious bowel disease by providing an alternative explanation for the bowel dysfunction. A preliminary explanation of gut physiology was mentioned by several authors^{18 20 22} who often reinforced their theoretical explanation with a prospective demonstration that bowel symptoms could be exacerbated by stress. Commencement of a more intensive psychological therapy requires that the patient accepts to some extent that

psychological factors are related to bowel symptomatology and this reorientation to a psychological view of the symptoms is an important ingredient of all studies.

3 RELAXATION

Daily relaxation was used in several studies^{16, 20-22} and is a potent anxiolytic, but both Svedlund and Hislop could apparently achieve good results without using this technique.

4 CLOSE DOCTOR/PATIENT RELATIONSHIP

(a) *The doctor as an 'expert'*

To some extent all doctors enhance the doctor-patient relationship by taking such an intense interest in their patients' symptoms and showing concern towards their suffering. This increases the doctor's ability to reassure the patient that no serious physical illness is present and to convince her that effective treatment can be provided.

(b) *The doctor as therapist*

In the more intensive psychological therapies the doctor-patient relationship is greatly enhanced by the devotion of more time and specific therapeutic tasks. In the case of hypnotherapy the role of doctor as expert is initially enhanced, but control later given to the patient in the form of autohypnosis. In the dynamic therapy of Svedlund the relationship is more equal and doctor and patient work together to solve the patient's personal fears and conflicts. Because so many IBS patients have marital or family conflicts²³ the opportunity to share these concerns and discuss ways of coping with them can make the person feel better in themselves and might reduce bowel dysfunction.

Concerning the question of which patients should be selected for psychological treatment, there is no sufficiently comprehensive study to answer this empirically. In view of the cost of psychological treatment – both Svedlund and Whorwell required six to 12 hours of therapist's time – it seems appropriate to suggest that such treatment should only be considered for those patients who do not respond to first line medication/explanation. There are some data to suggest that diarrhoea and abdominal pain respond better than constipation to psychological interventions but the same appears to be true of some drug studies also.

It is to be hoped that future research will eventually teach us (a) what aspects of psychological treatment should be used by all gastroenterologists in their clinic, (b) which patients are best suited to which psychological treatments, and eventually (c) which treatment is the most cost effective for each of the symptom complexes. As 50% of gastroenterologists in academic settings are apparently using personal psychosocial support for the majority of their patients²⁴ these questions are of immediate practical relevance if gastroenterologists are to use their limited time most productively.

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FRANCIS CREED AND ELSPETH GUTHRIE

University Department of Psychiatry,
Rawnsley Building,
Manchester Royal Infirmary,
Oxford Rd,
Manchester M13 9WL.

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