

Review article

# Hypnotherapy for irritable bowel syndrome: The response of colonic and noncolonic symptoms

Peter J. Whorwell\*

*University of Manchester, Manchester, United Kingdom*

Received 5 September 2007; received in revised form 21 January 2008; accepted 19 February 2008

## Abstract

There is now good evidence that hypnotherapy benefits a substantial proportion of patients with irritable bowel syndrome and that improvement is maintained for many years. Most patients seen in secondary care with this condition also suffer from a wide range of noncolonic symptoms such as backache and lethargy, as well as a number of musculoskeletal, urological, and gynaecological problems. These features do not typically respond well to

*Keywords:* IBS; Symptoms; Hypnotherapy; Mechanisms

conventional medical treatment approaches, but fortunately, their intensity is often reduced by hypnosis. The mechanisms by which hypnosis mediates its benefit are not entirely clear, but there is evidence that, in addition to its psychological effects, it can modulate gastrointestinal physiology, alter the central processing of noxious stimuli, and even influence immune function.

© 2008 Elsevier Inc. All rights reserved.

The practice of hypnotherapy is not confined to any one particular group of individuals, although when undertaken by medically qualified personnel, it is most commonly utilised by those more interested in the psychological aspects of disease. However, relatively little attention has been given to the potential for hypnosis to directly improve symptoms without necessarily having to specifically address psychological issues. For a number of years, our group has been researching the possibility that hypnotherapy may be useful in aiding the management of functional bowel disorders, such as irritable bowel syndrome (IBS), and that this can be achieved by specifically targeting the gastrointestinal system. As a consequence, we have developed the technique of ‘gut-focused hypnosis,’ which is based on patients being given a simple tutorial about some of the pathophysiological concepts surrounding their IBS and how these might be normalised by the technique. It is our experience that it is not enough to just use hypnosis to relax the patient and that the extra dimension of

directing the technique at specific symptoms considerably enhances its therapeutic potential. We currently offer 12 sessions of treatment at weekly intervals, with the patient being very strongly encouraged to practice, preferably on a daily basis, with the aid of an audiotape or disc.

Our first study involved a randomised controlled trial comparing hypnotherapy with sessions of supportive therapy of a similar duration [1]. The hypnotherapy proved to be superior to the control treatment in terms of improving bowel habit and well-being as well as reducing pain and bloating. Subsequent studies confirmed this beneficial effect [2], and as a consequence, a unit devoted to research into, and the provision of, hypnotherapy for functional gastrointestinal disorders was established. An audit of the first 250 patients treated by the unit not only confirmed the efficacy of this approach but also gave some insights into the potential for hypnotherapy to relieve a whole range of other symptoms associated with IBS [3].

In 1986, we showed that, in secondary care, the majority of IBS patients complain of at least one of a variety of noncolonic symptoms such as nausea, backache, and constant lethargy, as well as a range of urinary and gynaecological symptoms [4], and this has been confirmed

\* Wythenshawe Hospital, M23 9LT Manchester, UK. Tel.: +44 161 291 5813; fax: +44 161 291 4974.

E-mail address: [peter.whorwell@manchester.ac.uk](mailto:peter.whorwell@manchester.ac.uk).

in subsequent studies. These features are so common in secondary care that they can be regarded as part of the syndrome, and their recognition is important for several reasons. Firstly, they significantly add to the burden of illness, with some patients ranking them as more intrusive than their gastrointestinal complaints [5]. Secondly, they have diagnostic utility in IBS as it has been shown that the more noncolonic symptoms from which a patient suffers, the more secure the diagnosis becomes [6]. Finally, they can result in a patient being referred to the wrong specialty, for example, gynaecology, resulting in inappropriate investigation and treatment [7–9]. Over the years, it has also become apparent that, in addition to suffering noncolonic symptoms, patients with IBS overlap symptomatically with individuals with other functional syndromes such as functional dyspepsia, noncardiac chest pain, and fibromyalgia. Consequently, IBS patients can present with a whole range of symptoms that are notoriously difficult to treat. It is therefore of considerable interest that in our 250-patient audit of the effects of hypnotherapy in IBS referred to earlier, every single one of the noncolonic symptoms recorded in this study showed significant improvement following treatment, despite the fact that these symptoms were not specifically targeted [3]. In addition, in subsequent studies, we have shown that the symptoms of functional dyspepsia and noncardiac chest pain can also be substantially improved by a hypnotherapeutic approach [10,11]. Thus, this form of treatment appears to have considerable utility in the management of functional syndromes by virtue of the fact that its favourable effects are not confined to just a few complaints, but appear to help most, if not all, of the symptoms associated with these disorders. Furthermore, the benefits have been shown to be sustained over many years and the patients do not seem to develop a new set of substitution symptoms [12]. It is interesting to note that we do have some preliminary data that suggest that IBS patients with high hypnotisability scores are more likely to complain of noncolonic symptoms than those with low scores, suggesting that hypnotisability may actually be a risk factor for the development of these features. This may be of relevance as there is evidence that somatic complaints are more common in those with high hypnotisability scores [13], and some conditions, such as posttraumatic stress disorder, appear to be more common in high hypnotic subjects [14] and do seem to respond well to hypnotherapy [15]. This raises the intriguing possibility that hypnotisability is a risk factor for the very syndromes that are more likely to respond to hypnotherapy.

When considering how hypnosis might help to improve IBS and its associated symptoms, it is necessary to consider the multifactorial nature of the condition. There is now good evidence that in addition to psychological influences, other factors such as motility, visceral sensation, the central processing of noxious stimuli, and even inflammation may also contribute to the symptom profile of the disorder [16]. Hypnosis undoubtedly has positive psychological effects,

and we have shown that it consistently reduces levels of anxiety and depression in IBS sufferers [3]. In addition, it has been shown that IBS patients have abnormal cognitions about their disorder and these can be significantly improved by a course of hypnotherapy [17]. The mechanism by which cognitive change is brought about is uncertain but appears to be spontaneous, as the gut-focused hypnotherapeutic approach does not specifically seek to bring about cognitive restructuring. However, there are also data that suggest that hypnosis can influence gastrointestinal physiological function, which could represent another mechanism by which symptom improvement could be brought about. For instance, it can reduce the strength of contractions in the distal colon [18], normalise rectal sensitivity [19], influence gastric emptying [20], affect gastric acid secretion [21,22], alter the gastrocolonic response to food [23] and slow oral–caecal transit time [24]. Thus, the modulation of such physiological events might help explain how hypnosis reduces abdominal pain and digestive symptoms, as well as help the patients improve their bowel habit.

In recent years, there has been considerable interest in how various noxious events are processed by the brain in patients with IBS, and the investigation of this has been greatly facilitated by techniques such as positron emission tomography and functional magnetic resonance imaging. Although the results of such studies are somewhat variable, a reasonably consistent finding in patients with IBS is that the processing of painful stimuli by the anterior cingulate cortex seems to be exaggerated [25]. The anterior cingulate cortex is an area of the brain where the emotional content of pain is processed, and it has been shown that the activity in this area can be influenced by hypnosis. For instance, activation of the anterior cingulate cortex resulting from a hand being placed in hot water can be reduced by suggesting to an individual under hypnosis that this action will no longer be painful [26]. Therefore, hypnosis apparently facilitates change in the very area of the brain that has been shown to ‘overreact’ in patients with IBS and may be another important component of its therapeutic effect. The observation that IBS not infrequently appears to follow an episode of gastroenteritis has resulted in considerable interest in the possibility that there may be a low-grade inflammatory component to the condition, which may reflect some abnormality of immune function [27]. Although there have been no studies directly assessing the effect of hypnosis on immune function in IBS, there is accumulating evidence from other studies that it might have the capacity to modulate immunological responsiveness and inflammation [28–32]. Thus, there appears to be good evidence that hypnosis can influence a wide range of factors, including psychological status, gastrointestinal physiology, immune function, and inflammation, as well as its well-known effects on pain. This might help explain why it is particularly suited to aiding the management of functional gastrointestinal disorders, which are not only multifactorial in causation but also polysymptomatic in nature. However,

hypnotherapy should be viewed as an adjunctive treatment rather than as a replacement for conventional approaches, such as the appropriate use of antispasmodics, laxatives, antidiarrhoeals, or dietary manipulation. For instance, the consumption of large amounts of insoluble fibre such as bran can significantly exacerbate the symptoms of IBS [33], and consequently, it would be inappropriate to use hypnotherapy before trying an exclusion of insoluble fibre.

In conclusion, we feel that hypnotherapy is best provided as part of an integrated approach to treating IBS [34] rather than being regarded as a ‘stand-alone’ treatment. It also has to be remembered that it only helps a finite number of individuals (approximately 70%), and those who do not respond to it become very despondent as they often view hypnotherapy as their last chance to gain some improvement in the quality of their lives. Consequently, it is essential to have a system for supporting those who do not respond and this is much easier to provide if the hypnotherapy forms part of a comprehensive service for looking after these patients. Hopefully, ongoing research in our unit may help us identify those individuals most likely, or least likely, to respond so that we can target those who should do well and save disappointing those who probably will not.

## References

- [1] Whorwell PJ, Prior A, Faragher EB. Controlled trial of hypnotherapy in the treatment of severe refractory irritable-bowel syndrome. *Lancet* 1984;2:1232–4.
- [2] Houghton LA, Heyman DJ, Whorwell PJ. Symptomatology, quality of life and economic features of irritable bowel syndrome — the effect of hypnotherapy. *Aliment Pharmacol Ther* 1996;10:91–5.
- [3] Gonsalkorale WM, Houghton LA, Whorwell PJ. Hypnotherapy in irritable bowel syndrome: a large-scale audit of a clinical service with examination of factors influencing responsiveness. *Am J Gastroenterol* 2002;97:954–61.
- [4] Whorwell PJ, McCallum M, Creed FH, Roberts CT. Non-colonic features of irritable bowel syndrome. *Gut* 1986;27:37–40.
- [5] Maxton DG, Morris JA, Whorwell PJ. Ranking of symptoms by patients with the irritable bowel syndrome. *BMJ* 1989;299:1138.
- [6] Maxton DG, Morris J, Whorwell PJ. More accurate diagnosis of irritable bowel syndrome by the use of ‘non-colonic’ symptomatology. *Gut* 1991;32:784–6.
- [7] Prior A, Whorwell PJ. Gynaecological consultation in patients with the irritable bowel syndrome. *Gut* 1989;30:996–8.
- [8] Francis CY, Duffy JN, Whorwell PJ, Morris J. High prevalence of irritable bowel syndrome in patients attending urological outpatient departments. *Dig Dis Sci* 1997;42:404–7.
- [9] Whorwell PJ. Back pain and irritable bowel syndrome. *Gastroenterology* 2004;127:1648–9.
- [10] Jones H, Cooper P, Miller V, Brooks N, Whorwell PJ. Treatment of non-cardiac chest pain: a controlled trial of hypnotherapy. *Gut* 2006;55:1403–8.
- [11] Calvert EL, Houghton LA, Cooper P, Morris J, Whorwell PJ. Long-term improvement in functional dyspepsia using hypnotherapy. *Gastroenterology* 2002;123:1778–85.
- [12] Gonsalkorale WM, Miller V, Afzal A, Whorwell PJ. Long term benefits of hypnotherapy for irritable bowel syndrome. *Gut* 2003;52:1623–9.
- [13] Younger JW, Rossetti GC, Borckardt JJ, Smith AR, Tasso AF, Nash MR. Hypnotizability and somatic complaints: a gender-specific phenomenon. *Int J Clin Exp Hypn* 2007;55:1–13.
- [14] Spiegel D, Hunt T, Dondershine HE. Dissociation and hypnotizability in posttraumatic stress disorder. *Am J Psychiatry* 1988;145:301–5.
- [15] Brown W. Treatment of cases of shell shock in an advanced neurological centre. *Lancet* 1918;192:197–200.
- [16] Camilleri M, Spiller RC, editors. Irritable bowel syndrome: diagnosis and treatment. WB Saunders, 2002.
- [17] Gonsalkorale WM, Toner BB, Whorwell PJ. Cognitive change in patients undergoing hypnotherapy for irritable bowel syndrome. *J Psychosom Res* 2004;56:271–8.
- [18] Whorwell PJ, Houghton LA, Taylor EE, Maxton DG. Physiological effects of emotion: assessment via hypnosis. *Lancet* 1992;340:69–72.
- [19] Lea R, Houghton LA, Calvert EL, Larder S, Gonsalkorale WM, Whelan V, et al. Gut-focused hypnotherapy normalizes disordered rectal sensitivity in patients with irritable bowel syndrome. *Aliment Pharmacol Ther* 2003;17:635–42.
- [20] Chiarioni G, Vantini I, De Iorio F, Benini L. Prokinetic effect of gut-oriented hypnosis on gastric emptying. *Aliment Pharmacol Ther* 2006;23:1241–9.
- [21] Stacher G, Berner P, Naske R, Schuster P, Bauer P, Starker H, et al. Effect of hypnotic suggestion of relaxation on basal and betazole-stimulated gastric acid secretion. *Gastroenterology* 1975;68(4 Pt 1):656–61.
- [22] Klein KB, Spiegel D. Modulation of gastric acid secretion by hypnosis. *Gastroenterology* 1989;96:1383–7.
- [23] Simren M, Ringstrom G, Bjornsson ES, Abrahamsson H. Treatment with hypnotherapy reduces the sensory and motor component of the gastrocolonic response in irritable bowel syndrome. *Psychosom Med* 2004;66:233–8.
- [24] Beaugerie L, Burger AJ, Cadranet JF, Lamy P, Gendre JP, Le Quintrec Y. Modulation of oro-caecal transit time by hypnosis. *Gut* 1991;32:393–4.
- [25] Mertz H, Morgan V, Tanner G, Pickens D, Price R, Shyr Y, et al. Regional cerebral activation in irritable bowel syndrome and control subjects with painful and nonpainful rectal distention. *Gastroenterology* 2000;118:842–8.
- [26] Rainville P, Duncan GH, Price DD, Carrier B, Bushnell MC. Pain affect encoded in human anterior cingulate but not somatosensory cortex. *Science* 1997;277:968–71.
- [27] Spiller RC. Infection, immune function, and functional gut disorders. *Clin Gastroenterol Hepatol* 2004;2:445–55.
- [28] Gruzelier JH. A review of the impact of hypnosis, relaxation, guided imagery and individual differences on aspects of immunity and health. *Stress* 2002;5:147–63.
- [29] Naito A, Laidlaw TM, Henderson DC, Farahani L, Dwivedi P, Gruzelier JH. The impact of self-hypnosis and Johrei on lymphocyte subpopulations at exam time: a controlled study. *Brain Res Bull* 2003;62:241–53.
- [30] Kiecolt-Glaser JK, Marucha PT, Atkinson C, Glaser R. Hypnosis as a modulator of cellular immune dysregulation during acute stress. *J Consult Clin Psychol* 2001;69:674–82.
- [31] Wood GJ, Bughi S, Morrison J, Tanavoli S, Tanavoli S, Zadeh HH. Hypnosis, differential expression of cytokines by T-cell subsets, and the hypothalamo–pituitary–adrenal axis. *Am J Clin Hypn* 2003;45:179–96.
- [32] Miller V, Whorwell PJ. Treatment of inflammatory bowel disease: a role for hypnotherapy? *Int J Clin Exp Hypn* 2008;56:1–12.
- [33] Francis CY, Whorwell PJ. Bran and irritable bowel syndrome: time for reappraisal. *Lancet* 1994;344:39–40.
- [34] Whorwell PJ. Effective management of irritable bowel syndrome — the Manchester Model. *Int J Clin Exp Hypn* 2006;54:21–6.