Hypnosis Treatment for Gut Problems

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Abstract

Treatment of gastrointestinal disorders has been among the most researched medical applications of hypnosis over the past two decades. Twenty-four studies, including nine controlled trials, have examined the impact of hypnotherapy on gut symptoms. This body of work is reviewed in this article. The bulk of the research has focused on irritable bowel syndrome, and the resulting evidence collectively demonstrates that hypnotherapy can produce substantial, broad and lasting clinical improvement with high rates of success in this disorder. Hypnotherapy is also a promising mode of treatment for upper gut pain in adults and functional abdominal pain in children.

Keywords

Hypnosis, hypnotherapy, irritable bowel syndrome (IBS), functional dyspepsia, non-cardiac chest pain, inflammatory bowel disease, functional abdominal pain, gut, gastrointestinal disorders, abdominal pain, bloating, diarrhoea, constipation

Clinical hypnosis is a treatment method that uses verbal guidance and a special mental state of heightened receptivity to facilitate therapeutic psychological and physiological changes. The hypnotic state is induced in a variety of ways, which generally involve guiding patients to relax, narrow and intensify their focus of attention, vividly imagine what is being described to them and suspend deliberate control of their mental activity and instead allow things to happen automatically. Once the hypnotic state has been achieved, the hypnotherapist uses therapeutic imagery and verbal suggestions to encourage improvement in the problem that is being treated. Hypnosis has been formally investigated as a therapy for a wide variety of medical problems. In a few areas, sufficient evidence has accumulated across multiple trials for hypnosis to be deemed effective in empirical reviews. These include the use of hypnosis for treatment of cancer pain and chemotherapy-related nausea and vomiting in children, obstetric uses to aid labour and delivery, control of pain and distress during medical procedures in children and adolescents and treatment of irritable bowel syndrome (IBS).

Treatment of gastrointestinal symptoms has been among the most actively investigated of all medical uses of hypnosis over the past two decades. This article will review the status of that body of work and its implications for the current clinical management of gut problems.

The Empirical Literature on Hypnosis

Treatment for Gut Problems

There are 24 published research studies and case series in the research literature worldwide that have assessed the effects of hypnosis treatment on gastrointestinal symptoms (based on comprehensive searches of the Medline and PsychInfo databases and examination of reference sections of all found papers on this topic; single-case reports were excluded). A quick glance over this literature, which is summarised in Table 1, reveals that this collection of reports is heterogeneous and has significant limitations. Only nine studies are randomised controlled trials, which is the usual minimum for testing the effectiveness of medical therapies (even though uncontrolled trials and case series can certainly add valuable information as well). The nature and amount of hypnotherapy tested has varied greatly and sample sizes have often been small. The measures used to assess clinical outcomes have been diverse, making it somewhat hard to compare results across trials. Nearly two-thirds of all the research has concentrated on a single disorder, IBS (15 articles). For other gut problems, the data are far more limited. Two articles describe tests of hypnotherapy for upper gut pain and three for paediatric functional abdominal pain (FAP) and three others present uncontrolled evaluations of hypnosis treatment in the management of inflammatory bowel disease (IBD).

In spite of these various limitations and the great heterogeneity in the reports, the collective outcomes in this work are remarkable in how consistently they show that hypnosis can affect gastrointestinal symptoms. All the investigations have found positive changes in key clinical outcome variables, and it is particularly noteworthy that in every single controlled study where hypnosis treatment has been compared with another therapy, placebo or no treatment, the gastrointestinal symptoms have improved to a significantly greater extent in the patients treated with hypnosis. However, the strength of the evidence varies greatly for the different types of gastrointestinal problems where hypnosis has been put to the test, so it is best to consider the different gut applications separately.
Hypnosis Treatment for Gut Problems

The first gastrointestinal problem to be targeted with hypnosis in formal research was IBS, a common and complex functional gastrointestinal disorder characterised by abdominal pain in association with disturbed bowel habit (diarrhoea, constipation or a mixture of the two). IBS is often hard to treat effectively and leaves a substantial proportion of patients without satisfactory relief even after the best efforts of healthcare providers. The earliest hypnosis trial for IBS was a randomised, placebo-controlled study published in The Lancet by Whorwell and colleagues from Manchester, England in 1984. The investigators randomly assigned 30 patients with severe IBS symptoms unresponsive to medical treatment to either seven sessions of hypnotherapy or seven sessions of psychotherapy plus placebo pills. The treatment course for both groups was 12 weeks. At the end of treatment, the hypnosis group had substantially greater improvement than the comparison group in all measured bowel symptoms (abdominal pain, bloating and bowel habit) as well as in overall wellbeing. A follow-up assessment 18 months later showed that all hypnotherapy patients retained their clinical improvement.

Even though this was a small study, its design and sharp outcome differences between the groups provided compelling evidence that the hypnosis intervention had specific and potent therapeutic impact that could not be explained merely by a placebo effect or by the beneficial effect of visits to a therapist. These encouraging early results spurred other researchers to start investigating the utility of hypnosis in IBS management as well. They also led the Manchester group to continue further research on gut hypnosis and to establish a unique National Health Service hypnotherapy unit associated with their gastroenterology service, where patients who fail to respond to more conventional medical treatment receive a standard course of hypnotherapy.

### Table 1: Published Research on Hypnosis Treatment for Gastrointestinal Disorders

<table>
<thead>
<tr>
<th>Authors, Year</th>
<th>Disorder</th>
<th>Number of Subjects</th>
<th>Types of Significant Improvement from Hypnotherapy</th>
<th>Control Group(s)</th>
<th>Group Outcome Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whorwell et al., 1984</td>
<td>IBS</td>
<td>15 H, 15 C</td>
<td>G, E</td>
<td>Psychotherapy + placebo pills</td>
<td>Hypnosis superior</td>
</tr>
<tr>
<td>Galovski and Blanchard, 1998</td>
<td>IBS</td>
<td>5 H, 6 C</td>
<td>G, E</td>
<td>Waiting list</td>
<td>Hypnosis superior</td>
</tr>
<tr>
<td>Palsson et al., 2002</td>
<td>IBS</td>
<td>15 H, 9 C</td>
<td>G, E</td>
<td>Waiting list</td>
<td>Hypnosis superior</td>
</tr>
<tr>
<td>Roberts et al., 2006</td>
<td>IBS</td>
<td>40 H, 41 C</td>
<td>G</td>
<td>Usual medical care</td>
<td>Hypnosis superior</td>
</tr>
<tr>
<td>Vlieger et al., 2007</td>
<td>Functional dyspepsia</td>
<td>26 H, 24 C, 29 C</td>
<td>G, E, Q</td>
<td>Supportive therapy + placebo pills, or ranitidine</td>
<td>Hypnosis superior</td>
</tr>
<tr>
<td>Colgan et al., 1988</td>
<td>Duodenal ulcers</td>
<td>15 H, 15 C</td>
<td>G</td>
<td>Ranitidine treatment with or without hypnosis</td>
<td>Hypnosis superior</td>
</tr>
<tr>
<td>Jones et al., 2006</td>
<td>Non-cardiac chest pain</td>
<td>15 H, 13 C</td>
<td>G, Q</td>
<td>Supportive therapy + placebo pills</td>
<td>Hypnosis superior</td>
</tr>
</tbody>
</table>

### Hypnosis for Irritable Bowel Syndrome

The first gastrointestinal problem to be targeted with hypnosis in formal research was IBS, a common and complex functional gastrointestinal disorder characterised by abdominal pain in association with disturbed bowel habit (diarrhoea, constipation or a mixture of the two). IBS is often hard to treat effectively and leaves a substantial proportion of patients without satisfactory relief even after the best efforts of healthcare providers. The earliest hypnosis trial for IBS was a randomised, placebo-controlled study published in The Lancet by Whorwell and colleagues from Manchester, England in 1984. The investigators randomly assigned 30 patients with severe IBS symptoms unresponsive to medical treatment to either seven sessions of hypnotherapy or seven sessions of psychotherapy plus placebo pills. The treatment course for both groups was 12 weeks. At the end of treatment, the hypnosis group had substantially greater improvement than the comparison group in all measured bowel symptoms (abdominal pain, bloating and bowel habit) as well as in overall wellbeing. A follow-up assessment 18 months later showed that all hypnotherapy patients retained their clinical improvement.

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Six additional controlled trials of hypnotherapy for IBS have been published since Whorwell et al.’s first study, although only one of them tested hypnotherapy against another active treatment. In that study, Forbes and colleagues20 assigned 56 IBS patients to either a six-session course of hypnotherapy (25 patients) or an audiotape home intervention (27 patients) that contained a combination of patient education, stress-reduction training, therapeutic suggestions and coping skills training (but no hypnosis). Bowel symptoms improved to a significantly greater extent (p<0.05) in the hypnosis group compared with the audiotape group, although the responder rates (76% versus 59%) were not statistically different. The remaining five controlled studies, three of which used randomised designs, all found significantly better improvement in bowel symptoms in the hypnotherapy compared with the control groups of patients, who only received usual medical care21,22,23 or waited untreated to begin hypnosis treatment for a period of time equivalent to the hypnotherapy course.24

Apart from these controlled studies, eight (i.e. without non-hypnosis comparison groups) uncontrolled evaluations17,18,20-23 of hypnotherapy for IBS have also been published, and they have been universally positive as well. All but one reported significant improvement in bowel symptoms, and the one that did not report such benefits25 found significant improvements in quality of life after hypnotherapy. Perhaps the most informative of these reports is a case series of 250 consecutive patients treated in the hypnotherapy unit of the Manchester team, detailed in a pair of papers.22,23 Because of the large size of this patient series, the systematic evaluations conducted with validated clinical questionnaires before and after treatment and re-assessment of symptom status for years after therapy, this case series gives the clearest picture to date about what can generally be expected if IBS patients unresponsive to other treatment are treated with hypnosis. In the first paper,22 the authors reported that after their hypnosis treatment.

The evidence also indicates that the therapeutic benefits achieved with hypnosis can typically be expected to be highly durable without further intervention. Three out of four studies that have re-assessed IBS patients treated with hypnosis a significant period of time after treatment (10 months to five years22,23,26) found the bowel symptom improvement seen at the end of the therapy course to be fully maintained in the long term for most patients.

When one further considers that these broad, substantial and generally durable therapeutic benefits from hypnotherapy have in many cases been achieved in samples of patients who have already failed to improve from regular medical care approaches, it is clear that hypnotherapy is an excellent treatment option for patients with severe and intractable IBS symptoms.

Hypnosis for Upper Gut Pain

The Manchester group that pioneered hypnosis treatment for IBS has in recent years extended its hypnosis investigations to upper gut problems in a couple of randomised, placebo-controlled trials. In the first of these studies,14 they assigned patients with functional dyspepsia to one of three therapies for a 16-week treatment period: 26 patients completed 12 sessions of hypnotherapy, 24 completed 12 sessions of supportive therapy and received placebo tablets as well, while 28 patients were treated with conventional medication for this condition (ranitidine). The hypnotherapy group showed significantly greater reduction in epigastric pain scores than both the other groups at the end of treatment and also at follow-up 40 weeks later. Quality of life improved more in the hypnosis group only compared with the medication group. During the extended follow-up period, none of the patients in the hypnotherapy group used medication for their pain, while most of the patients in the other two groups did.

The second study by the same team was conducted on patients with non-cardiac chest pain.26 This is a difficult-to-treat problem of recurrent pain under the breastbone where cardiac problems and reflux disease have been ruled out, and is thought to often have oesophageal causes.27 The investigators assigned 28 patients with this condition to either 12 sessions of hypnotherapy or 12 sessions of supportive listening plus placebo tablets. After treatment, 80% of hypnotherapy patients versus only 23% of control patients described their chest pain as completely better or moderately better. This dramatic advantage of hypnosis in pain reduction was fully maintained at follow-up evaluations conducted more than two years later on average.27 The hypnosis patients in this trial also showed...
greater improvements in quality of life and a greater reduction in medication usage compared with the other group.

Even though these two trials focused on different disorders, they both targeted pain in the oesophageal area that was not attributable to organic disease and utilised strong designs that controlled for placebo responses and general effect. Together they provide compelling evidence that hypnotherapy can markedly enhance outcomes in upper gut functional (i.e. non-organic) pain conditions, which are health problems that currently constitute major management challenges in regular medical care.

**Hypnosis for Paediatric Abdominal Pain**

Paediatric FAP and IBS in childhood are two similar gastrointestinal disorders without organic cause, the main difference being that the latter involves disturbed bowel habits in addition to pain. A Dutch study by Vlieger et al. tested hypnotherapy in children ranging in age from eight to 18 years who had either of these diagnoses (31 with FAP, 22 with IBS) in a randomised controlled trial. The children were assigned to either six sessions of hypnotherapy or standard medical therapy consisting of education, diet advice, increase in fibre intake and use of medications as appropriate. The standard medical care group also received six sessions of supportive therapy where symptoms were discussed. Pain scores decreased significantly in both groups from baseline to one-year follow-up, but the hypnotherapy group showed much greater pain reduction. At one-year follow-up, treatment was judged successful for 85% of children in the hypnotherapy group and 25% of those in the comparison group (p<0.001).

This well-designed study demonstrating a very substantial advantage for hypnosis over standard medical care is unfortunately the only controlled hypnosis trial for paediatric abdominal pain problems to date. The only other published reports in this area have been a couple of small case series reporting good response rates after a single hypnosis session or self-hypnosis instruction. However, it should be noted that further controlled research studies on this general type of intervention for abdominal pain in children have been performed under the name of guided imagery, a therapy method closely related to hypnosis. That less formal and fantasy-rich approach may be directed at the functional disorders of the gastrointestinal tract – inflammatory bowel disease (IBD). No controlled trials have been completed in this area yet, but three small uncontrolled tests have been published. The largest of these was by Miller and Whorwell, who reported on the outcomes of 15 IBD patients treated with 12 sessions of hypnotherapy. Corticosteroid use was dramatically reduced after hypnotherapy, with 60% of the patients able to discontinue their medication altogether. Keefer and Keshavarshian reported improved quality of life after a course of hypnosis treatment in eight adults with IBD, and Shaoul et al. also reported positive effects of hypnosis in six paediatric cases. While it is too early to judge how effective hypnosis will prove to be in this serious and sometimes life-threatening disease, these preliminary investigations give some indication that hypnosis may be of use as an adjunctive therapy to improve quality of life and perhaps reduce the need for medication in IBD.

**How Hypnotherapy Is Conducted in the Treatment of Gastrointestinal Disorders**

The nature of the hypnotherapy that has been tested for gut problems has been variable, and some of the published research articles unfortunately provide little or no information about the content of the intervention used. However, two particular hypnotherapy approaches for gut problems have been well standardised and described in great detail in published papers, with inclusion of sample scripts of whole intervention sessions. These are the Manchester approach developed by Whorwell’s team in England and the North Carolina Protocol developed in the US by myself in collaboration with colleagues at the University of North Carolina. These are the only two methods that have been used in multiple published gut hypnosis studies, and both of them have been found to have a substantial impact on gastrointestinal symptoms and to benefit the majority of treated patients in all trials where they have been used. Although these two approaches are different in some ways, many key aspects are similar. Most importantly, they both utilise a lot of gut-focused direct and indirect verbal suggestions combined with metaphors and imagery, and these are varied and repeated across the series of treatment sessions. This gut-directed content is considered the main therapeutic ingredient in the treatment; the state of hypnosis is merely a vehicle for aiding delivery of that ingredient by enabling the patient to be more receptive to it.

The hypnotic suggestions used are aimed at improving the patient’s condition in many different ways, for example changing symptom experience directly by suggesting that abdominal pain will diminish from day to day, or emphasising that patients will gain greater control over their bowel activity, that their sense of physical wellbeing will increase or that they will pay less attention to intestinal discomfort. Examples of metaphors used in this treatment include imagining the gut as being a river flowing evenly and mentally altering the pace of the flow according to the desired effect on bowel function – increasing the speed to counter constipation or slowing it down to reduce diarrhoea symptoms (Manchester approach); or imagining a strong protective coating being applied to the inside of the gut wall, making the gut immune to uncomfortable and painful sensations (North Carolina Protocol). Between therapy visits, patients treated with both approaches are asked to use recorded hypnosis exercises at home every day, and are also encouraged to learn to enter a self-hypnosis state so that they can eventually practise without those
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recordings. This home practice between visits to the therapist is generally considered to be an integral part of treatment and patients are strongly encouraged to adhere to it.

Finally, the treatment course is typically about 12 weeks in both approaches, although the number of therapy sessions delivered during that time period is different (12 in the Manchester approach versus seven in the North Carolina Protocol).

It is unknown exactly how the verbal intervention of gut-directed hypnotherapy translates into actual improvements in gastrointestinal symptoms. Several studies have investigated whether pain sensitivity or the physiological activity of the gut is changed after hypnosis treatment, and they have found surprisingly little change. None of the three studies\textsuperscript{11,13,14} that measured the smooth-muscle tone (tension) of the intestinal wall in IBS found this to be changed after hypnosis treatment, so gut-directed hypnotherapy does not seem to relax the bowel muscles. Four studies used balloon inflation tests inside the intestines to measure gut pain sensitivity changes after hypnotherapy in IBS,\textsuperscript{11,13,14,15} and two of these found overall changes that could account for the substantial reduction seen in these studies in the clinical symptom of abdominal pain (although one study found that a subset of patients with the highest pain sensitivity before treatment were less sensitive after treatment). A Swedish research group found that hypnosis treatment reduced the sensitivity and muscle reactivity of the stomach and duodenum (top part of the small intestine) to fats in IBS patients treated with hypnosis,\textsuperscript{16} but the significance of this to clinical symptom improvement is unclear. Finally, our research team examined changes in several measures of autonomic nervous system functioning (such as heart rate, blood pressure and sweat gland activity) in IBS patients after hypnosis treatment, and found almost no changes in those parameters.\textsuperscript{11}

In contrast to the general absence of physiological changes that can explain the impact of hypnosis on gut symptoms in the research to date, psychological symptoms such as anxiety, depression and somatisation (the mental tendency to experience and report numerous non-specific body symptoms) have been found to improve significantly after gut-directed hypnotherapy in many studies. It is likely that these positive mental changes play some causal role in gastrointestinal symptom improvement, as psychological factors are thought to contribute to fuelling the gut symptoms of functional gastrointestinal disorders. However, it is unknown whether this is the case or whether psychological improvement is merely a side benefit of the hypnosis treatment that is unrelated to, or even results from, the bowel symptom changes. This can be tested directly through a method called mediation analysis,\textsuperscript{22} but no such tests have been performed in gut hypnosis research so far. Such testing would be highly desirable in future research.

Conclusions

Hypnosis has much going for it as a therapy for gastrointestinal problems. It is a comfortable form of treatment that does not have any adverse side effects, can be easily be applied as an adjunctive therapy to any conventional medical interventions and often produces substantial and long-lasting improvements in gastrointestinal symptoms as well as in emotional wellbeing and quality of life. Three placebo-controlled studies demonstrate that the potent impact hypnosis has on gut problems cannot be explained by the placebo effect, but how it causes improvement in gastrointestinal symptoms is still unclear. The consistently positive results of 15 studies of hypnotherapy in IBS, including multiple controlled trials, strongly support the clinical utility of this therapy in that disorder, especially for patients with severe and refractory symptoms. For other gastrointestinal problems where hypnotherapy has been tested the evidence is still a bit thin, but upper gut pain problems in adults and paediatric abdominal pain are highly promising areas of application. There is recent interest in using hypnosis to aid management of IBD, but the work in this area so far is insufficient to judge the potential of that application.