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Where Does Hypnotherapy Stand in the Management of Irritable Bowel Syndrome? A Systematic Review

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ABSTRACT

Background: Irritable bowel syndrome (IBS) is a gastrointestinal disorder characterized by chronic abdominal pain and altered bowel habits in the absence of any organic cause. Despite its prevalence, there remains a significant lack of efficient medical treatment for IBS to date. However, according to some previous research studies, hypnosis has been shown to be effective in the treatment of IBS.

Aim: To determine the definite efficacy of hypnosis in the treatment of irritable bowel syndrome.

Methods: A systematic review of the literature on hypnosis in the treatment of IBS from 1970 to 2005 was performed using MEDLINE®. Full studies published in English were identified and selected for inclusion. We excluded case studies and those studies in which IBS symptoms were not in the list of outcome measures. All studies were reviewed on the basis of the Rome Working Team recommendations for design of IBS trials.

Results: From a total of 22 studies, seven were excluded. The results of the reviewed studies showed improved status of all major symptoms of IBS, extracolonic symptoms, quality of life, anxiety, and depression. Furthermore these improvements lasted 2–5 years.

Conclusions: Although there are some methodologic inadequacies, all studies show that hypnotherapy is highly effective for patients with refractory IBS, but definite efficacy of hypnosis in the treatment of IBS remains unclear due to lack of controlled trials supporting this finding.

INTRODUCTION

Irritable bowel syndrome (IBS)—characterized by abdominal pain or discomfort, distension, and altered bowel habits in the absence of organic disease[1]—is the most prevalent gastrointestinal disorder, accounting for 12% of visits to primary care physicians[2] and between 40 and 70% of the gastroenterologists' workload.[3] The response of IBS to standard medical treatment is unsatisfactory, with many patients remaining troubled by symptoms long term.[4,5] The socioeconomic impact of IBS is therefore considerable, and patients with IBS account for significant healthcare resources.[6,7] The pathogenesis of IBS is poorly understood, although the roles of abnormal gut motor and sensory activity,[8] central neural dysfunction,[9,10] psychologic disturbances,[11] and stress have been proposed.[12] Furthermore, in IBS, a high level of comorbidity with psychiatric illness, especially anxiety and depression disorders, has been reported.[13,14] Various psychologic treatments have been investigated as alternatives (or adjuncts) to standard medical management, including cognitive-behavioral therapy, stress management training, psychodynamic therapy, and hypnotherapy.[15] Hypnotherapy is the complementary treatment approach most frequently reported to have a demonstrable therapeutic impact on IBS symptoms.[16–30] However, application of hypnotherapy does not have wide acceptance in the management of IBS, and, to our knowledge, there is no systematic review of this area prior to this paper.

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The aim of this study is to review critically the efficacy of hypnosis in the treatment of IBS via published clinical trials.

MATERIALS AND METHODS

Literature search

All published studies were identified by conducting a comprehensive search of the Medline database from 1970 through 2005, with the keywords of hypnosis, hypnotherapy, and irritable bowel syndrome in their titles. To find additional studies, the reference lists of all related articles were also reviewed. Studies were included if they used hypnosis in the treatment of IBS.

Study selection criteria

Studies that were not published in English and studies in which IBS symptoms were not in the lists of outcome measures were excluded. Finally, abstracts, letters, case reports, or reviews were excluded; only studies published in full texts were included.

We found that 15 studies (in 13 articles) fulfilled the inclusion criteria.[16–28] All studies were reviewed on the basis of the Rome Working Team recommendations for design of IBS trials.[31,32] In addition, we considered the same study by Talley et al. as a pattern.[15] Based on the methodology applied, we summarized the following information from each of the studies:

1. *Subject selection*—Population type, refusal and dropout rates, sample size, and the definition of irritable bowel syndrome used
2. *Research protocol*—Type of control group, randomization, blinding, baseline period, treatment method, equivalent of contact time, trial length, and follow-up
3. *Measures*—Baseline measures, concurrent drug use, psychologic assessments, compliance, outcome measures, expectancy, and clinical significance.

RESULTS

Of the total of 22 studies (in 20 articles), seven were excluded—four case reports, one article that had not measured IBS symptoms, and two studies that had used hypnosis to induce emotional states, but not as a therapeutic method. No clinical trials were found in languages other than English in the MEDLINE database. Of the 15 studies that fulfilled the inclusion criteria, two were the follow-ups of other studies.[21,27] The results of all reviewed studies showed that hypnotherapy significantly decreased the primary symptoms of IBS: abdominal pain and distension,[16–26,28,33] and improved bowel habits,[16–21,25–28,33] decreased extracolonic symptoms, improved quality of life,[17,25,33] decreased anxiety,[18,22–26] decreased depression,[18,23–26,33] and improved work attitude[17] in refractory patients (Table 1). Of all the studies, only nine had control groups[17–20,22–24,26,28] and six were randomized controlled trials.[19,20,22–24,28] In the following discussions, specific issues and Rome Working Team recommendations about trial design are reviewed.

Subject selection

Patient population. By describing the study population in an accurate manner, we can make a judgment on the generalizability of the study.[34] In all except one[18] of the reviewed studies, patients had refractory IBS although there was not a satisfactory definition of this condition. One study included refractory patients, as well as patients with no previous treatment[24] (Table 1).

Refusers and dropouts. The characteristics of the patients who refused to participate should be recorded for comparison with included patients to estimate if there is selection bias.[15] Nine of the reviewed studies reported the numbers of dropouts, ranging from 0[21,33] to 50%,[28] but only one reported refusers[28] (Table 1).

Defining irritable bowel syndrome. For clinical trials to be interpretable and particularly comparable, a clear and consistent definition of IBS is essential.[31] Although the definitions of IBS varied from study to study, all reviewed studies provided acceptable IBS definitions although three provided no details of the tests or other criteria used to exclude organic disease.[16,18,21] The operational criteria for bowel habit were vague in all reviewed studies (Table 2).

Research protocol

Randomization. The randomized controlled clinical trial with parallel group design is the study design of choice for functional gastrointestinal disorders (FGID). The randomization method should be appropriate and clearly described.[31,32] Of the reviewed studies, six were randomized controlled trials and only one[28] reported the actual method used (randomization was based on computer generated random numbers in blocks of 10, stratified according to the predominant feature of the patient's syndrome). One study grouped the patients into pairs matched by age, presence or absence of an axis I disorder, and hypnosis susceptibility before randomization,[27] but the exact value of such a stratification technique has not been determined (Table 3).

Baseline period. The assessment of the severity and frequency of IBS symptoms and the psychologic factors at baseline document that patients in the active and control group are comparable. These can also be used to determine the efficacy of the intervention.[32] The optimal length of time for baseline observation is uncertain, dependent on the type

Table 1. Quality of Reviewed Controlled Trials—Subject Selection and Results

Reference	*Population type*	n	*Refusers*	*Dropouts*	*Results*
Vidakovic-Vukic[16]	Clinic attenders—treatment resistance	27	?	3/27 (11%)	IBS symptom significantly improved with HT
Houghton et al.[17]	Clinic attenders—treatment resistance	50	?	?	IBS, noncolonic symptoms, and QOL significantly improved with HT; also less time off work in HT group
Prior et al.[18]	Symptomatic volunteers	30	?	2/30 (6.6%)	IBS symptoms, anxiety, and depression significantly improved in HT group
Harvey et al.[19]	Clinic attenders—treatment resistance	36	?	3/36 (8.6%) (some details)	IBS symptoms improved; no significant differences between group and individual therapy or between therapies
Whorwell et al.[21]	Clinic attenders—treatment resistance	35	?	0%	IBS symptoms and well-being significantly improved
Whorwell et al.[20]	Clinic attenders—treatment resistance	30	?	?	IBS symptom improvement significantly greater with HT than with controls
Palsson et al. (study 1)[22]	Clinic attenders—treatment resistance	21	?	3/21 (14.2%) (some details)	IBS symptoms, anxiety, and somatization significantly improved; no difference between groups with and without pain-specific suggestions
Palsson et al. (study 2)[23]	Clinic attenders—treatment resistance	30	?	6/30 (20%) (some details)	IBS symptoms, anxiety, depression, and somatization significantly improved with HT
Galovski and Blanchard[24]	Both refractory patients and patients with no previous treatment	12	?	2/12 (16.6%) (some details)	IBS symptoms and state-trait anxiety significantly improved in HT group
Gonsalkorale et al.[25]	Clinic attenders—treatment resistance	78	?	?	IBS symptoms, anxiety, depression, QOL, and FBD-related cognitions significantly improved with HT
Lea et al.[26]	IBS patients from 3 levels of care settings (probably refractory)	23	?	?	IBS symptoms and psychologic factors (anxiety and depression) significantly improved with HT
Gonsalkorale et al.[27]	Clinic attenders—treatment resistance	250	?	0% (some details)	IBS symptoms, anxiety, depression, and QOL significantly improved with HT
Forbes et al.[28]	Clinic attenders—treatment resistance	52	4/56 (7%)	25/52 (48%) (some details)	IBS symptoms, anxiety, depression, and QOL improvement significantly greater with HT than with audiotape

?, Information not available; HT, hypnotherapy; FBDs, functional bowel disorders; QOL, quality of life.

Table 2. Definitions and Details of Irritable Bowel Syndrome

Reference	*Definition*	*Criteria required*				
		Pain	*Bowel habit*	*Distension*	*Duration*	*Exclusion tests*
Vidakovic-Vukic[16]	Acceptable	Yes	Disordered	Yes	—	—
Houghton et al.[17]	Acceptable	Yes	Disturbance	Yes	—	Sigmoidoscopy, hematology, biochemistry
Prior et al.[18]	Acceptable	Yes	Altered	Yes	—	—
Harvey et al.[19]	Acceptable	Yes	Disordered	Yes	—	Hematology, barium enema, physical exam, sigmoidoscopy
Whorwell et al.[21]	Acceptable	Yes	Abnormal	Yes	—	—
Whorwell et al.[20]	Acceptable	Yes	Disordered	Yes	—	Hematology, biochemistry, colonoscopy, or contrast radiology
Palsson et al. (study 1)[22]	Acceptable (Rome I)	Yes	Altered	Yes	At least 3 months	Sigmoidoscopy and other tests to exclude organic disease
Palsson et al. (study 2)[23]	Acceptable (Rome I)	Yes	Altered	Yes	At least 3 months	Sigmoidoscopy and other tests to exclude organic disease
Galovski and Blanchard[24]	Acceptable	Yes	Altered	Yes	6 months (GI symptomatology)	—
Gonsalkorale et al.[25]	Acceptable (Rome I)	Yes	Altered	Yes	At least 3 months	Hematology, sigmoidoscopy, and other tests to exclude organic disease
Lea et al.[26]	Acceptable (Rome I)	Yes	Altered	Yes	At least 3 months	Colonoscopy, barium enema, and other tests to exclude organic disease
Gonsalkorale et al.[27]	Acceptable (Rome I)	Yes	Disturbed	Yes	At least 3 months	Hematology, biochemistry, sigmoidioscopy, and other tests to exclude organic disease
Forbes et al.[28]	Acceptable (Manning and Rome I)	Yes	Altered	Yes	At least 6 months	

?, Information not available; Rome, Rome Working Team.

TABLE 3. QUALITY OF REVIEWED CONTROLLED TRIALS—RESEARCH PROTOCOL

Reference	*Control group*	*Random allocation*	*Baseline period*	*Treatment and control*	*Contact time*	*Blinding*	*Trial length (wk)*	*Follow-up*
Vidakovic-Vukic[16]	No	—	None	12 × 1 h sessions HT, autohypnosis	—	—	12	6–12 mo only 5 patients
Houghton et al.[17]	Yes	No	None	12 × 30 min sessions HT, autohypnosis vs. waiting list	N/A	Not blinded or not mentioned	12	Not done
Prior et al.[18]	Yes	No	None	10 × 30 min sessions HT, autohypnosis vs. healthy volunteers	N/A	Not blinded or not mentioned	12	Not done
Harvey et al.[19]	Yes	Yes	2 wk	4 × 40 min sessions individual HT, autohypnosis vs. same in group of 6–8	Equivalent	Not blinded or not mentioned	7	3 mo
Whorwell et al.[21]	No	—	None	7 × 30 min sessions HT, autohypnosis	—	Not blinded or not mentioned	12	3 mo
Whorwell et al.[20]	Yes	Yes	2 wk	7 × 30 min sessions HT, autohypnosis vs. supportive discussion, placebo pill	Equivalent	Outcome assessor blinded	12	18 mo, treated subjects only
Palsson et al. (study 1)[22]	Yes	Yes	2 wk	7 × 45 min sessions HT (pain specific suggestions), autohypnosis vs. same without pain specific suggestions	Equivalent	Not blinded or not mentioned	12	Not done
Palsson et al. (study 2)[23]	Yes	Yes	2 wk	7 × 45 min sessions HT, autohypnosis vs. waiting list	N/A	Not blinded or not mentioned	12	10 mo
Galovski and Blanchard[24]	Yes	Yes	6 wk	12 × 0.5—1 h sessions, autohypnosis vs. waiting list	N/A	Not blinded or not mentioned	12	2 mo
Gonsalkorale et al.[25]	No	—	None	12 × 30 min sessions of HT autohypnosis	—	—	12	Not done
Lea et al.[26]	Yes	No	None	12 × 1 h sessions of HT, autohypnosis for patients	N/A	Not blinded or not mentioned	12	Not done
Gonsalkorale et al.[27]	No	—	3 mo	12 sessions of HT, autohypnosis (duration of sessions was not reported)	—	Not blinded or not mentioned	12	2–5 yr
Forbes et al.[28]	Yes	Yes	None	6 × 30 min of HT, autohypnosis vs. therapeutic audiotape	N/A	Outcome assessor blinded	12	?

N/A, not applicable; HT, hypnotherapy; ?, information not available; E-S, ego-strengthening.

of disorder and intervention.[32] Seven of the reviewed studies included no baseline period. Six studies had baseline periods, ranging from 2 to 12 weeks, and all of them reported IBS symptoms significantly changed after hypnotherapy compared with the baseline (Table 3).

Treatment method. All studies used the same treatment: 7 to 12 weekly sessions, at a duration of 30 to 60 minutes of gut-directed hypnotherapy based on the approach described by Whorwell et al.[20] Briefly, this involved hypnotic induction (using eye fixation or progressive muscle relaxation) and techniques to deepen the hypnotic trance state (e.g., hand levitation, imagination). This was followed by therapeutic suggestions, guided imagery (metaphors, such as a river), and other techniques appropriate for the individual, such as inducing warmth through the patient's hands on the abdomen, directed toward control and normalization of gut function, and relevant ego-strengthening interventions. Patients were asked to practice these hypnotic skills on a daily basis with the help of an audiotape (Table 3).

Control group. Although certain treatments look promising for managing IBS (e.g., psychotherapy or hypnotherapy), none of them are considered to be the current standard of care.[15] The placebo response can be particularly high in FGIDs, making it difficult to show superiority of a new treatment over placebo. In IBS the reported placebo effect has been as high as 70%.[35,36] Therefore, an appropriate control group is an essential requirement. Of the reviewed studies, nine had included control groups. Three studies used other forms of hypnotherapy for control groups (group hypnotherapy,[19] gut-directed method of hypnotherapy without pain-specific suggestions,[22] and therapeutic audiotapes.[28]) One study used psychotherapy as placebo for the control group.[20] In two studies only rectal sensitivity was measured in the control group,[18,26] and one of them selected healthy volunteers as a control group.[26] Three other studies used a nontreatment (e.g., symptom-monitoring, waiting list) as a control group[17,23,24] (Table 3). However, symptom-monitoring or use of placebo may cause patients to expect that they will improve.[15] Expectancy may itself contribute to improvement or worsening of symptoms, depending on the cognitive effect of expectancy in that particular patient.[37,38] Other described methods also have shortcomings. None of the reviewed studies measured the expectancy time and/or effect. Only three trials ensured equivalent contact time between treatment and control group.[19,20,22] Of the four studies using active control groups, none assessed the comparative expectancies among the treatments and nonspecific factors, including therapist empathy and attention. In all other cases, expectancy may also have been unequal among the groups; therefore any apparent efficacy of hypnotherapy may not be attributed to specific active ingredients of it.

Blinding. Blinding of patients and research personnel is of vital importance to eliminate biased results of subjective, measured responses. For some interventions (e.g., psychologic treatments and hypnotherapy), it may be difficult or even impossible to keep patients or investigators blinded. One solution to overcome the problem of blinding is the use of independent observers to evaluate the groups to prevent researchers' bias of the outcome measures.[15,31,32] There were only two successful reports of blinded outcome measures in these studies[20,28] (Table 3).

Trial length. The duration of treatment and the expected time of response should be specified in the protocol. A trial length of 8–12 weeks has been recommended for IBS to allow for the placebo response to settle and to control the fluctuating nature of the disorder.[31] Only one of these trials did not fulfill these criteria[19] (Table 3).

Extended follow-up of patients after intervention should be considered to determine the long-term efficacy of the treatment. Follow-up is of particular interest in psychologic treatments because the benefits may extend well beyond the end of therapy.[15] Five studies were performed with no follow-up and there was a 2–10 month follow-up in 3 controlled studies.[19,23,24] Three trials conducted follow-ups only in the case groups,[20,21,33] which turned these controlled trials to uncontrolled ones for the follow-ups. In one study, there were 22 dropouts of a total of 27 subjects during the follow-up. In another study, the follow-up was performed only for psychologic improvements in 25 patients out of 52[28] and the duration was not reported (Table 3).

Measures

Comparisons of baseline characteristics. In spite of randomization, inequalities among groups can occur by chance, especially when the sample size is small. Thus, it is important to compare the baseline characteristics of the groups. Age, sex, socioeconomic status, ethnicity, severity and duration of disease, psychologic status, previous therapies and, their outcomes, and coexisting medications are worth comparing in IBS trials because such considerations may potentially affect treatment response.[15,32] Of nine controlled trials, two had similar baseline symptoms between groups[24,28], four studies did not measure baseline symptoms[18,19,22,23], and two reported a different pretreatment IBS characteristic among the groups,[17,20] although one was statistically significant[17] (Table 4). In one study, the control group was comprised of healthy subjects and a comparison was done only for rectal sensitivity,[26] which is not the only aspect of this disorder.

Drugs. Concurrent medication may impact the outcome and make the interpretation of the results difficult, especially in complementary treatments, and therefore should be measured and reported. Eight studies did not report any information on the possible drugs used during the

Table 4. Quality of Reviewed Controlled Trials—Measures

Reference	*Comparison of initial symptoms*	*Concurrent drugs*	*Psychologic assessment*	*Compliance*	*IBS outcome measures*	*Outcome source*	*Clinical significance*
Vidakovic-Vukic[16]	—	Noted, IBS drugs used	Not report	Measured but not report	?	?	Not considered
Houghton et al.[17]	HT group had more severe bloating	Noted, IBS drugs used in control group	QOL pre and post	Measured but not report	Acceptable	Questionnaire before and after HT	Not considered
Prior et al.[18]	Not compared	Not noted	HAD pre and post Only in HT group	Measured but not report	Acceptable	Questionnaire before and after HT	Not considered
Harvey et al.[19]	Not compared	Not noted	GHQ pre only	Measured but not report	Acceptable	Daily diary	Not considered
Whorwell et al.[21]	—	Not noted	GHQ pre only	Measured and acceptable	Acceptable	Daily diary	Not considered
Whorwell et al.[20]	HT group had more severe bowel habit (not significant)	Not noted	GHQ pre only	Measured and acceptable in HT group	Acceptable	Daily diary	Not considered
Palsson et al. (study 1)[22]	Not compared	Not noted	SCL-90R and BDI pre and post	Measured but not reported	Acceptable	Daily diary	Not considered
Palsson et al. (study 2)[23]	Not compared	Noted, none	SCL-90R and SPSR pre and post	Measured but not reported	Acceptable	Questionnaire before and after HT	Not considered
Galovski and Blanchard[24]	Equal	Not noted	BDI and STA pre and post	Measured but not reported	Acceptable	Daily diary	Considered (CPSRS)
Gonsalkorale et al.[25]	—	Not noted	HAD, QOL and TCS pre and post	Measured but not reported	Acceptable	Questionnaire before and after HT	Considered (CPSRS)
Lea et al.[26]	—	Noted, none	HAD pre and post in HT group	Measured but not reported	Acceptable	Questionnaire before and after HT	Not considered
Gonsalkorale et al.[27]	—	Not noted	HAD and QOL pre and post	Measured but not reported	Acceptable	Questionnaire before and after HT	Considered (CPSRS)
Forbes et al.[28]	Equal	Noted, IBS drugs used	GHQ, HAD and SF-36 pre and post	Measured and acceptable in HT group	Acceptable	Daily diary	Not considered

HT, hypnotherapy; GHQ, general health questionnaire; HAD, hospital anxiety and depression scale; SCL-90R, symptom-checklist-90-revised; BDI, Beck depression inventory; CPSRS, composite primary symptom reduction score; TCS, the cognitive scale; SF-36, short-form health survey.

trial.[18–21,23,25,33] One study reported that medications had been maintained throughout the trial,[16] and two other studies recorded information about drug consumption but then failed to account for it in the analysis.[17,28] Only in two studies were no psychotropic or other active drugs used[22,26] (Table 4).

Psychologic assessment. Psychologic factors should be considered in outcome assessment because of the high co-occurrence of psychologic and psychiatric problems in IBS.[14] Three of the reviewed studies obtained psychologic assessments only at the beginning,[19–21] and one trial did not obtain any psychologic data at all.[16] The nine remaining trials appropriately measured the degree of changes in some psychologic domains before and after treatment,[17,18,22–25,28,33] (Table 4). Only three studies analyzed psychologic improvement and IBS symptom reduction and found significant correlation.[25,26,33]

Compliance. Noncompliance with psychologic and complementary treatments may seriously affect the results. Even good attendance can be deceptive if a patient fails to pay attention to, or appropriately participate in, the process.[15] Homework tasks, such as use of relaxation or self-hypnosis with or without audiotapes, are particularly vulnerable to lack of compliance. The phenomena of hypnosis mean that the patient willingly follows the order of therapist[40]; in the sessions of hypnotherapy, compliance seems to be the production of hypnotic phenomena. With this consideration, all reviewed studies measured compliance but only three of them reported its acceptance[20,21,28] (Table 4).

Outcome measures. Since symptoms may vary during different patients and during different times, the primary outcome index should be a measure of overall change in symptoms. As it is preferable that the main assessment of outcome be done by the patient (subjective symptom improvement), and not the physician,[32] the method of outcome assessment is of vital important. Following the Talley et al. study,[15] outcome measures were considered acceptable if they appeared to be relatively sensitive to change (based on face validity of questionnaire), especially incorporating the major IBS symptoms. Only one study failed to report outcome measures clearly.[16] Use of a daily diary was common among the reviewed studies,[19–22,24,28], while six studies used questionnaires before and after treatment[17,18,23,25,26,33] (Table 4).

Clinical significance. Efficacy evaluation should be based on the percentage of subjects meeting a predefined criterion of clinical significance rather than on the statistical significance of differences between groups or between periods of observation,[32] which only describes whether a difference is likely to result by chance or not.[41] Of the reviewed studies, three used the Composite Primary Symptom Reduction Score (CPSRS)[24,25,33]; one of them defined clinical significance as a reduction in primary symptoms score from pre- to post-treatment of 50% or more[24] and found that subjects had clinical improvement after the course of hypnotherapy. Two other studies defined improvement as positive CPSRS, one of them reporting improvement in 78% of the patients.[33]

DISCUSSION

In controlled clinical trails of FGIDs, the primary measure of success is the ability of the treatment to produce a greater percentage of responders or responses (based on which should be defined a priori) compared to the appropriate control group.[32] Regarding the association between symptoms and psychologic factors, such as stress, anxiety, and depression, various psychologic treatments have been investigated as alternatives (or adjuncts) to standard medical management, including cognitive-behavioral therapy, stress management training, relaxation training, psychodynamic therapy, and hypnosis.[13–15] The proposed mechanisms of actions for psychologic treatments include the alleviation of depression, anxiety, or other psychologic contributors to IBS, such as abnormal illness behavior and maladaptive coping strategies.[15,42,43] According to previous

Table 5. Recommendations for Trials Evaluating Hypnotherapy for IBS

1. Describe the study population; consider enrolling both a medical treatment-resistance population by clearly defining refractory IBS and newly diagnosed patients.
2. Use a consensus-based operational definition of IBS (Rome criteria).
3. Enroll a sample size large enough for adequate power.
4. Measure refuser and dropout numbers and their characteristics.
5. Use an active credible control group (other psychologic or behavioral treatments such as cognitive-behavioral therapy or relaxation training), in addition to standard medical treatment group.
6. Randomize patients and describe the method of randomization.
7. Define the clinical significance before conducting the study.
8. Compare pretreatment characteristics of the groups, including IBS symptoms and psychologic status, especially anxiety and depression.
9. Measure hypnotizability with appropriate scales.
10. Use reliable, valid, sensitive-to-change, and self-administered instruments to measure IBS symptoms.
11. Use multiple therapists and have the data analyzed in a way that tests for differences between therapists.
12. Use independent, blinded evaluators for assessment of outcome(s).
13. Assess and give a report of concurrent drug use.
14. Assess compliance with treatment (also homework practices).
15. Conduct long-term (at least 12 month) follow-up of all groups.

IBS, irritable bowel syndrome; Rome, Rome Working Team.

studies, hypnotherapy is one of the complementary treatments that have been shown to be effective in the treatment of refractory IBS.[16–28] In the case of hypnosis, direct control of gut function,[44] reduction of visceral pain sensitivity,[26] reduction of psychologic trait somatization,[22] and psychologic arousal[23] through hypnotic suggestions have been hypothesized to be important. However, one cannot rule out that hypnotherapy could have had at least some partial effect by directly reducing anxiety and depression. This reduction itself could also help improve symptomatology, particularly if psychologic factors played a role in triggering or exacerbating symptoms.

CONCLUSIONS

The method of hypnotherapy that was reported to be of value in refractory IBS was the same in almost all reviewed studies and included hypnotic induction, techniques to deepen the hypnotic state and increase the subject's openness to progressive muscle relaxation, ego-strengthening technique, and "gut-directed" hypnotherapy. All studies demonstrated significant improvement of nearly all IBS symptoms and some psychologic factors; however, based on our assessment of their quality, substantial methodological insufficiencies were identified in all of these studies.

One of the most important issues in studies of psychologic and complementary treatments such as hypnotherapy in IBS is that the studies should be controlled trials with appropriate long-term follow-up because of the high response of IBS patients to placebo.[35,36] Although in reviewed studies without control groups the participating patients were severe cases who had proved to be refractory to conventional forms of therapy and therefore might be expected to have a low placebo response, enrollment of such patients might serve to heighten the expectation of success from a novel type of treatment (psychologic treatments and hypnotherapy with their own philosophic basis versus conventional medical treatment).[45] Having an active control group enables us to compare hypnotherapy with other psychologic treatments, such as cognitive behavioral therapy, to find the best way of managing IBS (considering the time and cost benefits).

One important issue in studies of psychologic treatments is to determine whether specific factors are responsible for improvements beyond those generated by expectancy or nonspecific factors.[15] In the case of hypnotherapy, this importance is heightened because of the unique nature of hypnosis and the expectations of people using it.

The attention to these aspects was particularly poor in the reviewed studies even though expectancy can be assessed by simple self-report measures.[31,38] During the baseline period, it is recommended that the improvements in symptoms be rated by subjects based on their expectations resultant from hypnotherapy. Also, Talley et al.[15] recommended that as expectancies may alter because of ongoing experiences with treatment, another rating of expected symptoms should be taken at or near the completion of treatment. Aside from expectancy, factors common to most therapeutic procedures (such as attention to symptoms by a professionals, therapist contact time, and empathic attitude) should be carefully controlled, because significant inequality of these factors between study groups may alter the outcome.[15] Another important variable in trials using hypnotherapy is hypnotrizability (although there is some controversy on its definition) that can alter outcomes.[46] Of the reviewed studies, some reported that patients under the age of 50 and female patients responded better to hypnotherapy,[16,21,27,33] which can be due to higher hypnotizability in females and younger clients.[46] Thus, we suggest assessing hypnotizability with standard scales, such as the Stanford Scales of Hypnotic Susceptibility[47] or the Harvard Group Scale of Hypnotic Susceptibility,[48] in future studies.

In conclusion, although hypnotherapy offers some promise in the case of refractory IBS, its efficacy has not been conclusively established because of methodologic inadequacies in the reviewed studies. Before hypnotherapy is widely used, well-designed trials supporting its value are needed. Based on our review and with a few modifications (related to hypnotherapy trials) to the recommendations of Talley et al.[15] a list of practical recommendations is summarized in Table 5 to assist future trials on hypnotherapy for IBS.

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