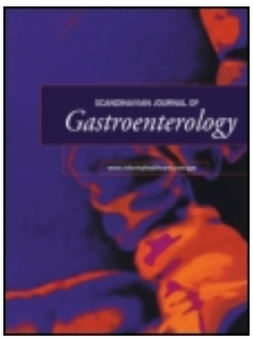

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**ORIGINAL ARTICLE**

# Long-term effects of hypnotherapy in patients with refractory irritable bowel syndrome

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**Abstract**

***Objective.*** Gut-directed hypnotherapy is considered to be an effective treatment in irritable bowel syndrome (IBS) but few studies report the long-term effects. This retrospective study aims to evaluate the long-term perceived efficacy of gut-directed hypnotherapy given outside highly specialized hypnotherapy centers. ***Methods.*** 208 patients, who all had received gut-directed hypnotherapy, were retrospectively evaluated. The Subjective Assessment Questionnaire (SAQ) was used to measure changes in IBS symptoms, and patients were classified as responders and non-responders. Patients were also asked to report changes in health-care seeking, use of drugs for IBS symptoms, use of alternative non-pharmacological treatments, and if they still actively used hypnotherapy. ***Results.*** Immediately after hypnotherapy, 103 of 208 patients (49%) were responders and 75 of these (73%) had improved further at the follow-up 2–7 years after hypnotherapy (mean 4 years). A majority of the responders still used hypnotherapy on a regular basis at follow-up (73%), and the responders reported a greater reduction in health-care seeking than non-responders. A total of 87% of all patients reported that they considered gut-directed hypnotherapy to be worthwhile, and this differed between responders and non-responders (100% vs. 74%; $p < 0.0001$). ***Conclusion.*** This long-term follow-up study indicates that gut-directed hypnotherapy in refractory IBS is an effective treatment option with long-lasting effects, also when given outside highly specialized hypnotherapy centers. Apart from the clinical benefits, the reduction in health-care utilization has the potential to reduce the health-care costs.

**Key Words:** *hypnotherapy, IBS*

## Introduction

Irritable bowel syndrome (IBS) is the most common of the functional gastrointestinal disorders, affecting 10–20% of the adult population [1–3]. It is characterized by the presence of abdominal pain and/or discomfort combined with diarrhea and/or constipation [4]. Patients with more severe, intrusive symptoms are often refractory to current conventional pharmacological treatment options [5], leading to substantial reduction in quality of life [6] and psychological distress [7]. The socioeconomic impact of IBS is considerable and patients consume significant health-care recourses [8,9]. Several studies of psychological treatments for IBS have been conducted, including cognitive behavior therapy (CBT) [10,11], hypnotherapy [12], brief psychodynamic psychotherapy [13], relaxation therapy [14], and stress management [15]. Although these treatments generally show beneficial effects [16,17], they have

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not been widely disseminated in the clinical management of patients with IBS [18].

Gut-directed hypnotherapy as a treatment option for patients with severe IBS was first described in a randomized controlled trial (RCT) from the Manchester group by Whorwell et al. in 1984 [12]. In this study, up to 80% of the patients had improvement of their IBS symptoms. The same group has subsequently published several articles supporting good long-term results with reduction of gastrointestinal, as well as extraintestinal symptoms, improvement in quality of life, and improved work productivity after treatment with gut-directed hypnotherapy in IBS [19–22]. Smaller randomized controlled studies from other groups have confirmed the results of the Manchester group. Although the results from these studies have been positive, they have not been as impressive as in the original publication [23–25]. Our group has recently presented two randomized controlled studies, where a positive effect of gut-directed hypnotherapy in IBS patients treated outside highly specialized research centers was found, even though the effectiveness was lower than the previous studies from the Manchester group [26]. No clear predictors for a positive effect of gut-directed hypnotherapy in IBS have been demonstrated so far [20], but in our recent randomized, controlled trials, the positive effect on sensory symptoms such as pain and bloating was more obvious than the effect on bowel symptoms such as constipation and diarrhea [26].

The long-term effect of gut-directed hypnotherapy in IBS has also been evaluated by the Manchester group [21]. A total of 204 IBS patients prospectively completed questionnaires concerning gastrointestinal, extraintestinal, and psychological symptoms, as well as quality of life immediately after and up to 6 years after hypnotherapy. All subjects also subjectively assessed the effects of hypnotherapy retrospectively in order to define their "responder status," using the Subjective Assessment Questionnaire (SAQ). In this study 71% of the patients initially responded to the therapy, and of these, 81% maintained their improvement over time. Patients also reported a reduction in consultation rates and medication use following the completion of hypnotherapy. Notably, this study was performed at a center highly specialized in gut-directed hypnotherapy. It is not known whether the long-term effectiveness of gut-directed hypnotherapy is as impressive when given at centers not specifically specializing in providing gut-directed hypnotherapy.

Therefore, in this study, we aimed to investigate long-term effects of gut-directed hypnotherapy delivered outside a highly specialized hypnotherapy center, using a retrospective assessment, as described above [21].

## Methods

### *Study design*

This is a retrospective study of an IBS population recruited from three different hospitals/clinics in Sweden. The patients had been treated with gut-directed hypnotherapy due to severe IBS refractory to standard management between 2000 and 2006. Two of the hospitals were centers specialized on management of patients with functional gastrointestinal disorders (Sahlgrenska University hospital, Gothenburg, Sweden, and Ersta hospital, Stockholm, Sweden) and the third hospital was a medium-sized county hospital with a small gastroenterology department (Gävle hospital, Gävle, Sweden). The patients from Gothenburg and Gävle received their treatment as part of RCTs, and the 1-year results of these trials have recently been presented in detail [26]. The patients treated in Gävle received their treatment at the gastroenterology outpatient clinic, whereas the patients treated in Gothenburg were recruited at the unit for functional gastrointestinal disorders at the University Hospital, but received the treatment in psychology private practices outside the hospital. The patients from Stockholm received their treatment as part of the clinical routine at the unit. Patients who had been treated for more than 12 weeks were not included in this study. The three hospitals in this study were the only hospitals in Sweden that offered gut-directed hypnotherapy at the time of the study. All patients met the Rome II criteria for IBS [2] and had before the treatment started undergone appropriate GI diagnostic tests in order to rule out organic GI diseases, as judged by the treating physician. Patients with other GI conditions potentially explaining their symptoms were not included. The patients were identified by search on diagnosis and treatment code in the hospital records and received a letter, where they were asked to participate in this follow-up evaluation. All subjects provided written informed consent before inclusion. The patients who agreed to participate returned the SAQ (see below) in a stamped self-addressed envelope. The ethics committee of the University of Gothenburg and the local ethics committee at Landstinget Gävle/Dalarna approved the randomized controlled studies performed in Gothenburg and Gävle. The follow-up of the clinical sample from Stockholm was after discussion with the ethics committee considered as a clinical follow-up control and no additional approval from the ethics committee was requested.

*Gut-directed hypnotherapy*

The intervention method used in these studies was based on the gut-directed hypnotherapy described by the Manchester group [27]. This protocol was used by all the psychologists who performed the treatment in this study. It is based on muscular and mental relaxation, and general hypnotic suggestions were used either to focus on the symptoms or to distract from them. After feedback from the subject, individually adapted suggestions were used to develop the ability of the subject to bring forward a deeper feeling of being able to control the symptoms. Specifically, suggestions toward normalizing the GI function were used, such as a river floating smoothly or a blocked river cleared by the patient. The main strategy was to let the subject experience that they had an ability to control external stimuli such as sounds, lights, and pressure from the surface of the chair, and to gain control of inner physiological phenomenon such as breathing and finally the IBS symptoms. All patients were treated individually during 12 sessions, each session lasting 60 min once a week. The patients were told to practice their hypnotic skills at home between the sessions on a regular basis. Audiotapes were used in the clinical sample from Stockholm and in the patients from the Gävle study but not in the patients from the Gothenburg study. In total, six different psychologists (one in Gävle, two in Stockholm, and three in Gothenburg) delivered the treatment. The psychologists all had several years of experience in conducting hypnotherapy for other medical condition and all had formal training in gut-directed hypnotherapy, but only the psychologists from Stockholm had previous clinical experience in gut-directed hypnotherapy for IBS patients.

*Subjective Assessment Questionnaire*

The SAQ is a questionnaire constructed and validated for the use of retrospectively measuring changes after hypnotherapy intervention. It is a short questionnaire devised at the hypnotherapy unit in Manchester, UK [21]. The results obtained from the SAQ have been shown to correlate well with evaluation of the treatment effect measured by the Irritable Bowel Syndrome Severity Scoring System (IBS-SSS) in a prospective manner [18,24]. The questionnaire consists of six questions that retrospectively assess the following:

(1) Change in IBS symptoms directly after treatment on a seven-grade scale (very much better, moderately better, slightly better, about the same, slightly worse, moderately worse, much worse) and at follow-up (continued to improve much more, continued to improve moderately more, remained the same, gone slightly worse, gone moderately worse, gone much worse).
(2) Differences in consultation rates with a gastroenterologist for GI symptoms, with a GP for GI symptoms and with a GP for other symptoms (more often, about the same, less often).
(3) Differences in the use of drugs modifying IBS symptoms (more often, about the same, less often).
(4) The active use of hypnotherapy technique at follow-up.
(5) Whether the course of hypnotherapy had been worthwhile.
(6) If any other type of treatment or therapy to relieve IBS symptoms had been tried since hypnotherapy.

Patients were divided into responders and non-responders to therapy based on the first item of the SAQ, with responders being defined as patients rating their symptoms to be either "very much better" or "moderately better" at the end of the course of hypnotherapy. Non-responders were defined as those rating symptoms as "slightly better" or less. This is the same definition as earlier described by the Manchester group [18].

*Data analysis and statistics*

Patient data and results from the questionnaire were entered into a database by persons otherwise not involved in the conduct of the study. As ordinal data were obtained from the questionnaire, between-group comparisons of continuous variables were performed with the nonparametric Mann–Whitney U test. Categorical variables were compared with the Chi-squared test. The data analyses were performed with SPSS version 19. The scores from the questionnaires are displayed as mean ± standard deviation, unless otherwise stated. Statistical significance was accepted at the 5% level, all the hypotheses tested were two-sided.

## Results

*Subjects*

The SAQ was sent to 244 patients who had received hypnotherapy from 2000 to 2006 at the three different hospitals/clinics (Gothenburg $n = 80$; Gävle $n = 30$; Stockholm $n = 134$). In total, 208 patients (183 females, 25 males; mean age 46, 5 (25–72) years) responded. The overall response rate was 85% (Gothenburg 81%, Gävle 83%, Stockholm 88%; NS). There were no major demographic differences

between the patients from the different hospitals/clinics. This long-term follow-up was performed 2–7 (mean 4) years after treatment with gut-directed hypnotherapy.

*IBS symptoms and general meaningfulness*

Responders were defined as a patient who reported that his or her IBS symptoms at the end of the course of hypnotherapy compared with before the treatment started were "very much better" or "moderately better" [21]. With this definition, 103 of 208 patients (49%) were considered as responders and 105 patients (51%) were considered as non-responders (Table I). With a less strict responder definition, that is, patients reporting that their IBS symptoms were "very much better," "moderately better," or "slightly better," 159 of 208 (76%) patients would have been considered to be responders. However, all analyses in this study are based on the stricter definition. In the responder group, 75 patients (73%) reported that they had improved further at the follow-up compared with 56 patients (53%) in the non-responder group ($p < 0.0001$) (Figure 1).

A total of 87% of the patients reported that they considered the gut-directed hypnotherapy to be worthwhile. In the responder group, all 103 patients reported the hypnotherapy being worthwhile, compared with 78 of the 105 patients (74%) in the non-responder group ($p < 0.0001$).

*Health-care utilization*

When comparing the consultation rates reported after hypnotherapy in the responder and non-responder group, 69% of patients who were responders reported reduction of visits to a GP for GI symptoms after the end of the hypnotherapy compared with 31% among non-responders ($p < 0.0001$). For visits to a GP for other symptoms, these figures were 19% vs. 12% ($p = 0.19$). Regarding visits to a gastroenterologist, 64% of the responders reported that they had consulted less often after the hypnotherapy vs. 32% of the non-responders ($p < 0.0001$) (Figure 2). Among the non-responders, the health-care consumption for GI symptoms was more frequently unchanged and few patients in both the responder and non-responder group reported an increase in health-care consumption at follow-up (Table II).

At follow-up, 54 patients (52%) in the responder group and 54 patients (51%) in the non-responder group reported active use of drugs for IBS symptoms (NS). There were numerically more responders that reported using pharmacological treatment alternatives less often and a numerically higher proportion of non-responders reported an increase in the use of medication after the course of hypnotherapy, but these differences did not reach statistical significance (Table III). In the responder group, 28 patients (27%) had tried other treatment options after the hypnotherapy treatment and 18 found these helpful, compared with the non-responder group, where 33 patients (31%) had tried other treatment options and 20 found them helpful (NS). The most common types of treatment reported were acupuncture, complimentary alternative medicine (CAM), and yoga.

*Continued hypnotherapy practice*

In the responder group, 75 patients (73%) reported that they still actively used the hypnotherapy technique on a regular basis at follow-up, compared with 51 patients (47%) in the non-responder group ($p < 0.001$). Most patients in the responder group that still actively used gut-directed hypnotherapy reported that they used it several times a month,

Table I. Effect on irritable bowel syndrome (IBS) symptoms of gut-directed hypnotherapy at the end of the course of hypnotherapy, compared with before the treatment period.

| | |
|---|---|
| Very much better | $n = 35$ (17%) |
| Moderately better | $n = 68$ (32.5%) |
| Slightly better | $n = 56$ (27%) |
| About the same | $n = 48$ (23%) |
| Slightly worse | $n = 1$ (0.5%) |
| Moderately worse | $n = 0$ |
| Much worse | $n = 0$ |

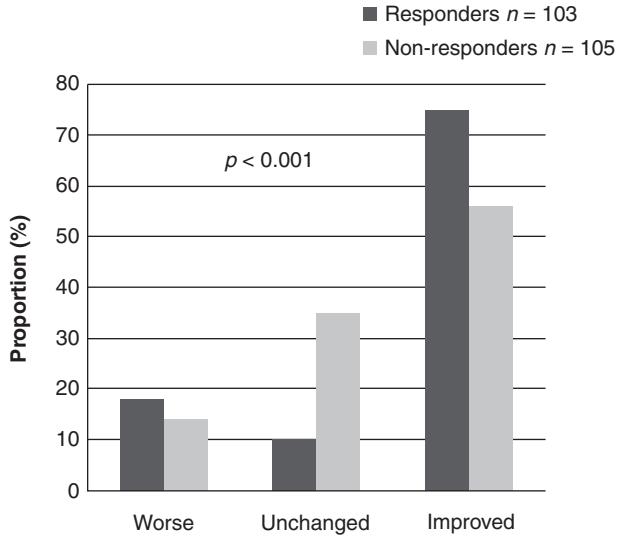


Figure 1. Irritable bowel syndrome (IBS) symptoms at follow-up compared with that at the end of the course of hypnotherapy. Responders vs. non responders, $p < 0.001$.

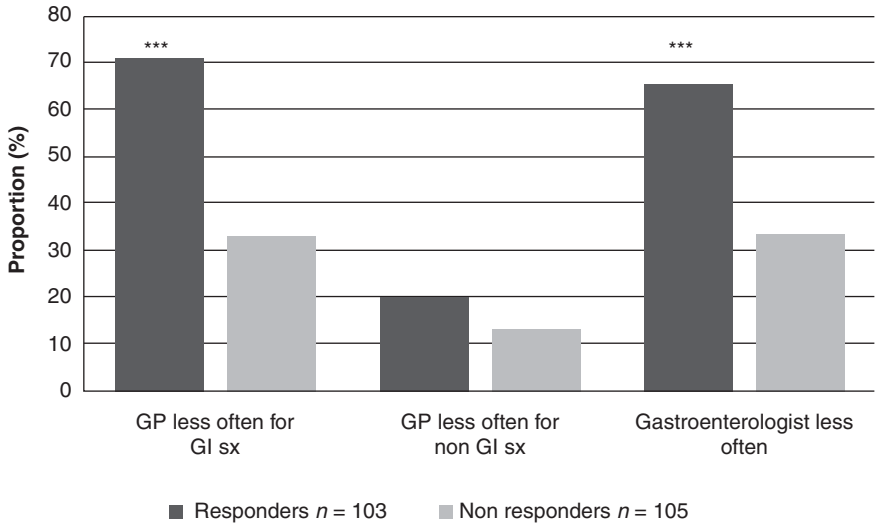


Figure 2. Self-reported reduction in health-care utilization at follow-up. *** $p < 0.001$ responders vs. non-responders.

whereas it was more common to use hypnotherapy on a daily basis in the non-responder group (Table IV). Among patients who still used hypnotherapy actively, 47 of 75 in the responder group (63%) still used their taped session compared with 24 of 51 patients (47%) in the non-responder group ($p = 0.19$).

## Discussion

In this retrospective study of hypnotherapy, we used the SAQ to evaluate the long-term effect of gut-directed hypnotherapy in 208 IBS patients not responding to other treatment alternatives. Patients were subdivided into responders and non-responders based on the reported reduction in IBS symptoms immediately following hypnotherapy. Patients then reported how the symptom burden had developed over time. The mean follow-up time was 4 years after the end of the course of hypnotherapy. Patients also reported changes in health-care use, use of drugs for IBS symptoms, use of other therapies, current use of hypnotherapy, and whether the course of hypnotherapy had been worthwhile. Forty-nine percent of the subjects were considered as responders, and the majority of the responders had improved further at the follow-up. Moreover, a majority of the patients who responded favorably to the treatment reported reduction in the use of health care since the course of hypnotherapy. The majority of the patients in the responder group (73%) still used the hypnotherapy technique actively at follow-up, which is perhaps easy to understand, but this was also true for 47% of the non-responders, and in this group it was more common to actively use the technique every day. Close to 90% of the total sample and all of the responders reported that the course of hypnotherapy had been worthwhile. However, there was no statistically significant difference between the groups in the reported use of IBS drugs after hypnotherapy. We do not have any explanation for this somewhat surprising finding.

This long-term follow-up study indicates that gut-directed hypnotherapy in refractory IBS is an effective treatment option, with an effect that is sustained over

Table II. Reported changes in health-care utilization at follow-up.

| | | Responders $n = 103$ | Non-responders $n = 105$ |
|---|---|---|---|
| More often | GP for GI sx | $n = 2$ (2%) | $n = 3$ (3%) |
| | GP for non GI sx | $n = 8$ (8%) | $n = 10$ (10%) |
| | GE for GI sx | $n = 3$ (3%) | $n = 2$ (2%) |
| About the same | GP for GI sx | $n = 30$ (29%) | $n = 70$ (67%) |
| | GP for non GI sx | $n = 75$ (73%) | $n = 82$ (78%) |
| | GE for GI sx | $n = 34$ (33%) | $n = 69$ (66%) |
| Less often | GP for GI sx | $n = 71$ (69%)*** | $n = 33$ (31%) |
| | GP for non GI sx | $n = 20$ (19%) | $n = 13$ (12%) |
| | GE for GI sx | $n = 66$ (64%)*** | $n = 34$ (32%) |

***<0.001 responders vs. non-responders.

Table III. Change in use of drugs for irritable bowel syndrome (IBS) symptoms at follow-up.

| | Responders | Non-responders |
|---|---|---|
| More often | *n* = 4 (7%) | *n* = 8 (15%) |
| About the same | *n* = 34 (63%) | *n* = 36 (67%) |
| Less often | *n* = 14 (26%) | *n* = 11 (20%) |

time in the majority of subjects. This long-term effect is in line with earlier reports concerning gut-directed hypnotherapy from the Manchester group and has also been described when IBS has been treated with cognitive behavioral treatment [21,28]. Furthermore, the patients reported a high degree of satisfaction with the hypnotherapy treatment. Even a substantial proportion of the non-responders found the treatment to be worthwhile. This may reflect that gut-directed hypnotherapy affects the ability to cope with symptoms, even if the severity of the symptoms is unchanged. Only three-fourth of the responders still used the hypnotherapy technique actively at follow-up, which may suggest that the effect is sustained and the need for active use of hypnotherapy has ceased over time. In the group that still actively used hypnotherapy, only half of them used the taped sessions. This is probably due to the fact that many patients over time learn to use the technique without support from the taped sessions. Also in the non-responder group, almost half of the patients still actively used hypnotherapy and in this group it was common to use the technique on a daily basis, which may reflect that the patients in this group despite reporting non-response regarding IBS symptoms probably experience some beneficial effect by the treatment when using it on a regular basis.

The economic burden of IBS for the society is substantial, and direct costs related to health-care consumption constitute a substantial part of the total cost [29]. One obvious goal for treatment alternatives for IBS patients is to reduce the societal costs in parallel with improving quality of life and reducing the symptom burden. In this follow-up study, the health-care-seeking behavior was altered in the group responding favorably to hypnotherapy, with a majority reporting a reduction in visits to gastroenterologists and GPs for GI symptoms. This is likely to be due to the fact that responders suffer less from the condition, which leads to less worries and concerns about their symptoms. We consider this to be an important finding, with potentially great relevance for this group of patients, supporting a favorable cost–benefit ratio for hypnotherapy in IBS. However, we acknowledge the fact that we do not have exact data regarding health-care consumption in our cohort of patients, but only a subjective assessment of health-care seeking from the patients. Future studies should address this important question further with more reliable data on health-care consumption, and preferably in a prospective manner.

Table IV. Frequencies of hypnotherapy practice at follow-up.

| | Responders using hypnotherapy actively *n* = 75 | Non-responders using hypnotherapy actively *n* = 51 |
|---|---|---|
| Daily | 20.5% | 38.5% |
| Several times a week | 30.8% | 32.7% |
| Several times a month | 37.2% | 26.9% |
| Rarely | 11.1% | 1.9% |

Different psychological treatment techniques for IBS have been shown to relieve IBS symptoms, improve quality of life, and reduce health-care costs [11,12,22,30,31]. Apart from gut-directed hypnotherapy, cognitive behavioral treatment (CBT) is the best studied type of psychological treatment where positive long-term effects have also been described [28]. In their large long-term follow-up study, the Manchester group reported that 70% of their IBS patients were responders to gut-directed hypnotherapy using the same responder definition as in this study [21]. This is in line with the impressive results earlier reported from the same group in RCTs of gut-directed hypnotherapy [9]. The lower response rate observed in our previous RCT [26] and in this follow-up study may reflect the fact that the treatment in our studies was given outside a highly specialized hypnotherapy unit. More specifically, this may potentially be due to psychological effects, such as higher treatment expectation when patients attend a specialized hypnotherapy unit. In the Manchester study, 81% of the patients maintained their improvement over time, and this was true for 71% in our study, which supports the long-lasting effect of hypnotherapy.

This is a retrospective study reporting subjective data and there is an obvious risk of recall bias. Therefore, the data must be interpreted with some caution. However, the SAQ questionnaire has been validated against the widely used prospective questionnaire, IBS-SSS [32,33], increasing the reliability of our results. However, we advocate further studies using long-term prospective follow-up evaluation of patients who have received gut-directed hypnotherapy, to validate the long-term efficacy of hypnotherapy suggested in our study. The understanding of the mechanisms behind the effects of gut-directed hypnotherapy is poor and studies aimed to explore this are needed. There is also need for RCTs, comparing

different types of psychological treatments (i.e., CBT vs. hypnotherapy) "head to head."

Gut-directed hypnotherapy seems to be an important and effective treatment option for patients with severe IBS, associated with sustained positive effects over time and great patient satisfaction. The reduction in health-care utilization is of importance and has the potential to reduce the cost for the society for this patient group. These results are in line with previous results from other groups and demonstrate the possibility to deliver gut-directed hypnotherapy outside highly specialized hypnotherapy centers.

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