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Review article: the effectiveness of group and self-help hypnotherapy for irritable bowel syndrome and the implications for improving patients' choice and access to treatment

Carolyn Gillan

School of Nursing and Midwifery, University of Plymouth, Plymouth, UK

Correspondence
Carolyn Gillan
Email: carolyn@seachangetherapy.co.uk

Summary

Background: Individual hypnotherapy (IH) is a recognised treatment for irritable bowel syndrome (IBS). However, it is not widely available to patients due to its resource-intensive nature, lack of adequately trained therapists, and scepticism about hypnosis. Non-individualised hypnotherapy approaches, such as group and self-help hypnotherapy, could maximise existing therapist resources by treating more patients at the same time, thus widening patient access to treatment without incurring additional expenditure.

Aims: To investigate the research literature for non-individualised approaches to hypnotherapy for IBS and to determine their effectiveness for reducing symptom severity and/or providing adequate relief.

Methods: A literature review of published peer-reviewed studies was conducted. Quantitative research was selected to determine the effectiveness of the interventions.

Results: Ten studies were eligible for inclusion. Three delivered group hypnotherapy, three integrated hypnosis within a group concept, and four utilised a self-help home hypnotherapy treatment using audio recordings. Both group hypnotherapy for adults and the self-help home hypnotherapy treatment for children were effective interventions that may be non-inferior to IH for patients with mild-to-moderate symptoms. Treatment benefits were long-lasting. The evidence for the integrative group concept and home treatment for adults was less compelling.

Conclusions: Group hypnotherapy for adults, and self-help hypnotherapy for children, may be cost-effective treatments that can widen access for patients with milder IBS in primary care settings. Further research is needed to determine the effectiveness of group hypnotherapy for patients with severe, refractory IBS.

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1 | INTRODUCTION

Irritable bowel syndrome (IBS) is a chronic disorder of gut-brain interaction (DBGI) and is characterised by recurrent abdominal pain that may be related to defaecation and associated with changes in stool frequency and/or form.[1,2] Worldwide prevalence has been estimated to affect between 3.5% and 10.1% of the population using Rome III[3] diagnostic criteria and 1.5%-4.6% using the more restrictive Rome IV[2] criteria.[4-6] Prevalence is more common in women than men.[4-6] Often debilitating, IBS can adversely impact the quality of life[5,7,8] and psychological wellbeing.[5,9]

IBS is a complex disorder that is better understood using the biopsychosocial model.[2] Despite advancements in understanding, the disorder remains difficult to diagnose and clinically manage.[10] To navigate this complexity, a practical framework for the diagnosis and clinical management of IBS was recently published by the British Society of Gastroenterology (BSG).[11] First-line treatments include regular exercise, dietary advice, Loperamide for the management of diarrhoea and certain antispasmodics for relief of global symptoms and abdominal pain. Second-line treatments include tricyclic antidepressants, selective serotonin reuptake inhibitors and various drugs for managing the symptoms of either diarrhoea or constipation. Psychological therapies, specifically IBS-specific cognitive behavioural therapy and gut-directed hypnotherapy (GDH) are recommended if symptoms do not improve after 12 months. Patients may be referred for psychological treatment earlier if they prefer and if it is available locally. The American College of Gastroenterology also recommends these same psychological therapies for the treatment of global IBS symptoms, declaring them as low-risk treatments with long-term benefits.[12] This review will focus on GDH as a treatment option.

1.1 | Hypnotherapy for IBS

Medical hypnosis dates back to ancient times and has been simultaneously praised and criticised over the centuries.[13] In recent decades, hypnotherapy has sought to establish itself as an evidence-based practice and has been used successfully as an adjunctive therapy with many medical conditions, including pain,[14] headaches and migraines,[15] depression,[16] anxiety and stress-related disorders[17] and asthma.[18]

Hypnotherapy was first documented in 1984 as an effective treatment for refractory IBS by Whorwell et al[19] In their randomised control trial (RCT) of 30 patients, highly significant improvements were reported in the hypnotherapy group for all bowel symptoms and well-being, compared with the control group who received psychotherapy and a placebo. The RCT was conducted in the UK using a hypnotherapy protocol known as GDH developed by Whorwell and his team. GDH uses suggestions for relaxation, improved self-confidence and increased well-being, and also teaches the patient to influence the way the brain and gut communicates to control and normalise their gut function.[20] It is uncertain how hypnotherapy does this, however, it is speculated that GDH works by activating parts of the brain responsible for subconscious imagination and creativity, cognition and attention, and by influencing psychological and physiological mechanisms that are outside of conscious control.[21] Unlike other interventions which only treat one symptom, hypnotherapy can improve many of the global symptoms of IBS.[22]

Since 1984, the evidence supporting GDH has continued to grow. In 1995 a dedicated National Health Service (NHS) funded hypnotherapy unit was set up in Manchester in the UK to treat patients with IBS.[20]Systematic reviews and meta-analyses have concluded that hypnotherapy is safe[23,24] and superior when compared to control conditions,[23-26] including education and support, proposed as the gold standard of control conditions,[26] and is comparable in efficacy to other psychological therapies for IBS.[26] GDH also provides long-lasting improvements in IBS symptoms.[23,26] An audit of 1000 patients receiving GDH as a one-to-one individual hypnotherapy (IH) treatment,[27] reported 76% achieved the primary outcome of ≥50-points reduction using the IBS Symptom Severity Score (IBS-SSS)[28]—which is a standard measure of treatment effect for IBS clinical trials[29]—indicating highly clinically significant improvements ($P < 0.001$). Highly significant improvements were also reported in non-colonic symptoms, quality of life and anxiety or depression scores ($P_s < 0.001$). In the largest RCT[30] of IH to date, with 448 patients to test the non-inferiority of six sessions of IH compared with 12 sessions, clinically significant improvements of ≥50-points reduction were achieved by 78% of patients after 6 sessions and 73.9% after 12 sessions. IH has also been reported to be effective in 65% of patients when delivered at a distance using video consultation.[31]

1.2 | The problem

The evidence for hypnotherapy is so convincing that it has been asserted it should be routinely offered to those with IBS.[32] However, GDH is still not widely available.[11,31] In the UK, some NHS Clinical Commissioning Groups do not routinely commission hypnotherapy, with funding requests only considered in exceptional circumstances.[33-35] Consequently, patients who live in these areas are unlikely to be able to access treatment or may have to travel long distances.

The lack of therapists trained in hypnosis is considered part of the problem.[11,22,36] Hypnotherapy should only be practiced by someone with appropriate training.[23]Achievement of the national occupational standards for hypnotherapy as defined by the Complementary and Natural Healthcare Council (CNHC) in the UK, typically takes a minimum of ten months of training and supervised practice.[37] NHS therapists are also required to have a medical or social work background in addition to extensive training in hypnosis and GDH.[27] The requirements for training combined with the labour-intensive nature of hypnotherapy—which usually involves up to 12 individual, face-to-face sessions, each lasting up to an hour—makes hypnotherapy resource-intensive and costly to provide.[38,39] However, this cost should be considered in the context that patients with IBS tend to have more time off work, experience a lower quality of life, use health services more frequently and on average incur more healthcare costs than patients without IBS.[7,40] In England the NHS

healthcare expenditure in 2012-2013 for IBS related hospital admissions and associated costs was £95 692 068. Whilst the cost of prescribing laxatives and antispasmodics by GPs was £121 804 929.[41] As the benefits of GDH have been found to last between 2 and 7 years following treatment, with responders using healthcare services less than non-responders,[42] it is possible that investment in GDH may be more cost-effective than usual care in the longer-term and may have beneficial implications for earlier intervention.

For patients experiencing milder IBS symptoms, it has been proposed that group-delivered GDH may be beneficial and may provide a cost-effective and more accessible alternative to individual GDH.[11] It would be interesting to learn whether the evidence supports the use of group GDH or any other non-individualised hypnotherapy approaches.

Unfortunately, many people with IBS are unaware of GDH as a possible treatment option, even though they would be open-minded towards using it.[43,44] This lack of awareness may reflect GPs' and gastroenterologists' reluctance to refer patients with IBS for GDH or other psychological interventions, because of their doubts about the evidence-base.[36,45,46]

1.3 | Aims and objectives

This review aims to investigate the research literature for non-individualised approaches to hypnotherapy for IBS and to determine their effectiveness for reducing symptom severity and providing adequate relief. A non-individualised approach would be more cost-effective in terms of time, money and resources. It could also increase patient access to hypnotherapy, improve patient treatment choice and potentially lead to earlier intervention. The objectives of this review are therefore to:

- identify the different methods used for delivering non-individualised hypnotherapy;
- critically review the evidence to determine its validity and reliability;
- make recommendations for the type of additional research that may be needed and the questions that could be addressed to support or refute the body of evidence;
- raise awareness of the findings to both clinicians and the public;
- identify opportunities and barriers for replicating and implementing effective treatments in practice;
- discuss the implications of the findings for hypnotherapists working in private practice.

2 | MATERIALS AND METHODS

2.1 | Inclusion and exclusion criteria

2.1.1 | Studies

Quantitative studies published in a peer reviewed journal were eligible for inclusion. Studies not written in English and those not available as full text, either online or through a library, were excluded.

2.1.2 | Patients

Adults and children who had been diagnosed with IBS were included.

2.1.3 | Interventions

Home-based self-help hypnotherapy or group hypnotherapy interventions were eligible for inclusion as these interventions are non-individualised and do not involve one to one hypnotherapy with a hypnotherapist. Subsequently, they have the potential to significantly reduce the burden on resources and increase access to treatment for patients. Additionally, only studies that defined the intervention specifically as "hypnotherapy" or "hypnosis" were included to avoid confusion with relaxation or guided imagery therapy.

2.1.4 | Outcome measures

Studies were included if any continuous measure of IBS symptoms were used. Outcome measures assessed by the clinician, the participant or the participant's parent, in the case of children, were eligible.

2.2 | Search strategy

A comprehensive literature search was conducted of the AMED, CINAHL Plus, Cochrane Library, MEDLINE, PsycINFO and PubMed databases for English language, peer reviewed journal articles. Boolean operators of AND and OR were used to connect the search terms and focus the search results. Medical Subject Headings (MeSH) of "hypnosis" and "irritable bowel syndrome" were used to perform a higher specificity search. Free-text search terms of "irritable bowel syndrome," "ibs," "gastrointestinal disorder," "bowel inflammation," "gut inflammation," "functional abdominal pain," "functional abdominal pain syndrome," "recurrent abdominal pain," "hypnosis," "hypnotherapy," "hypnoses," and "hypnotism" were used to search for higher sensitivity. Citations were also searched manually to discover further literature. This technique proved productive and yielded 2 additional eligible articles.

Searches were initially conducted using date limits from 2010 to 2020 to identify relevant and contemporary articles. However, this yielded too few results, which is unsurprising given that, as discussed earlier, hypnotherapy for IBS is still a relatively recently endorsed evidence-based treatment that has yet to become widely available. Therefore, a second search using the same search strategy documented above was performed with date limits from 1984 (when the first hypnotherapy for IBS RCT was conducted) to 2020.

2.3 | Results and selection of literature

The search strategy yielded 146 results (after removing 83 duplicates), of which 104 records were excluded following screening by

title and abstract. The remaining 42 articles were assessed by full text and a further 32 were excluded because they did not meet the inclusion criteria (see Figure 1). Of the remaining ten eligible studies, three delivered GDH as a group intervention,[47-49] three integrated group GDH within a wider therapeutic approach,[50-52] and the remaining four studies used a GDH home treatment intervention[53-56] using compact discs (CDs) or audiotape. Seven of the studies are RCTs[47,49,51,52,53,55,56] and three are quasi-experiments.[48,50,54] Characteristics of the studies are shown in Table 1.

RCTs allow for the most robust evaluation of a therapeutic intervention,[67] however, quasi-experiments have been included within this review as it is not always feasible to conduct an RCT due to ethical or practical reasons.[68,69] Additionally, whilst RCT evidence plays a key role in the recommendation and commissioning of psychological therapies, leading experts believe that non-RCT practice-based evidence can play a supplementary role in informing clinical guidelines, providing assurance of the generalisability of outcomes to real-world patients.[69] Furthermore, dismissing allegedly credible therapeutic interventions due to a lack of RCT evidence can also lead to decreased patient choice and reduced access to potentially helpful treatments.[70,71]

The Joanna Briggs Institute (JBI) critical appraisal tools,[72] which have been peer-reviewed and approved by the JBI Scientific Committee, were used to appraise the eligible studies.

3 | REVIEW OF THE LITERATURE

This review is themed into the aforementioned 3 intervention categories. Each study is summarised and critically appraised to determine the validity and reliability of the evidence, whilst also comparing and contrasting the different methods and findings.

3.1 | Group GDH

A 3-month follow-up RCT conducted in the UK by Harvey et al[47] with 36 adult patients diagnosed with refractory IBS compared the

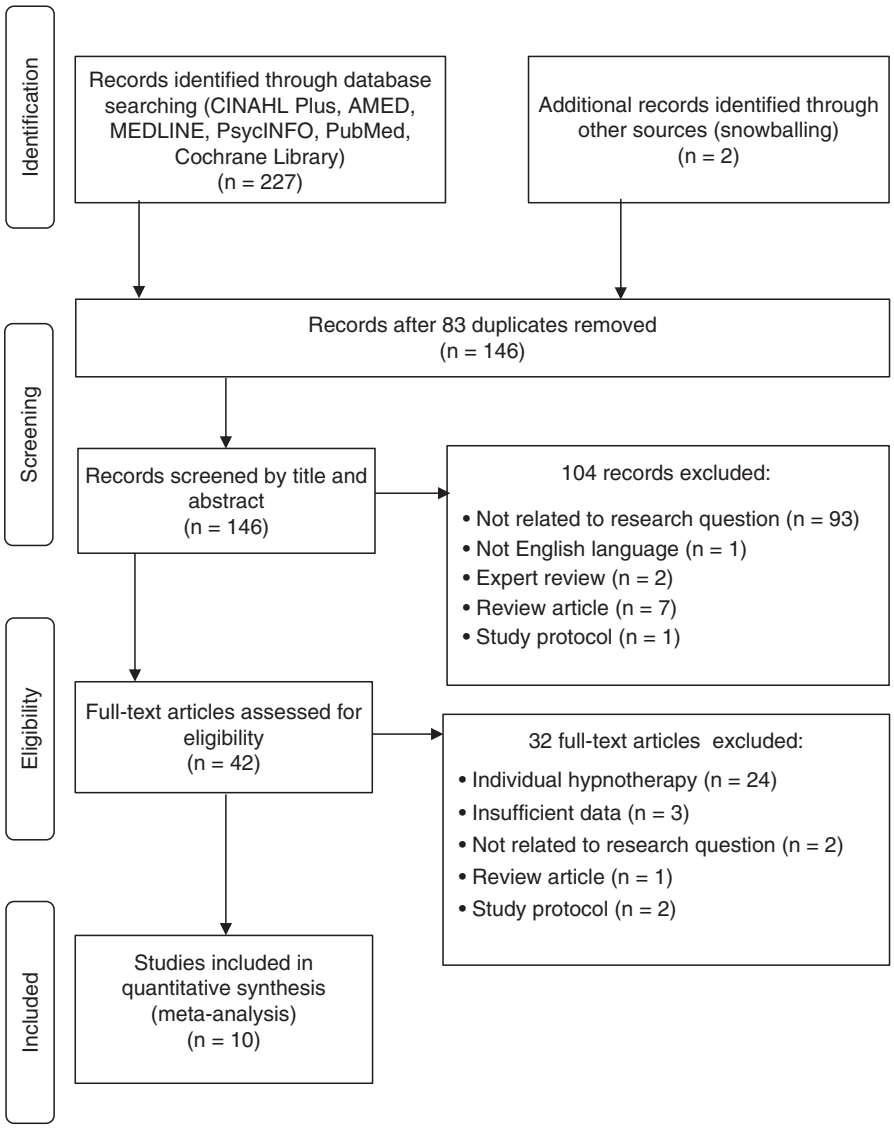

FIGURE 1 PRISMA flow diagram

TABLE 1 Characteristics of included studies

Author, year, country (setting)	Design	n (age)	Population	Intervention	Control/ Comparator	Primary outcome measure	Results
Berens et al,[52] 2018, Germany (University Hospital)	Pilot RCT	34 (18-65)	IBS refractory to basic primary care treatment. Rome III with somatoform autonomic dysfunction symptom pattern[57]	IG: GDH, education, psychodynamic therapy and CBT	Waitlist group receiving enhanced medical care, plus completion of online daily diary	IBS-SSS. Measure of clinical improvement was not defined	No significant improvements compared with control. IG scores improved from mean (SD) 271.18 (104.93) to 181.5 (79.09) producing a large within-group effect size $d = 0.956$ Control group also improved from mean (SD) 263.43 (106.05) to 231.69 (107.00) (effect size $d = 0.298$) ITT analysis with repeated-measures mixed ANOVA reported the main effect for the group was not significant ($P = 0.370$) nor was the time × group ($P = 0.267$). The effect size for between-group difference was moderate post-treatment ($d = 0.539$)
Flik et al,[49] 2019, the Netherlands (11 hospitals)	Multicentre, parallel group, long-term follow-up RCT	354 (18-65)	Rome III,[58] referred by primary and secondary care clinicians	GGDH	Educational supportive therapy (EST) & IH	ARQ "Did you have adequate relief of IBS related abdominal pain or discomfort in the past week?" Treatment response is defined as an answer of "Yes" 3 or 4 times over 4 consecutive weeks	Hypnotherapy significantly more effective than EST at 3 months $P = 0.024$ and 12 months $P = 0.0185$. ITT analysis at 3 months 40.8% of IH, 33.2% of GGDH and 16.7% of EST reported adequate relief. At 12 months 40.8% of IH, 49.5% of GGDH and 22.6% of EST reported adequate relief. Per-protocol analysis at 3 months 49.9% of IH and 42.7% of GGDH reported adequate relief. At 12 months 55.5% of IH and 51.7% of GGDH reported adequate relief. Therefore, GGDH non-inferior compared to IH at 3 months $P = 0.34$ and 12 months $P = 0.17$
Forbes et al,[53] 2000, UK (St Mark's Hospital—specialist bowel hospital and home-based)	Equivalence RCT	52 (19-71)	IBS diagnosis with 3 or more Manning et al[59] criteria and satisfying Rome 1[60] Symptomatic presentation for ≥6 months and refractory to fibre, antispasmodics and diet changes	HHT: Home-based autohypnosis, education and reassurance using audio recordings	IH	Daily symptom diary recording severity and frequency of pain, abdominal distension or bloating, excessive gas or wind, bowels open, stools/motions, performance at work/ normal daily tasks, fatigue and tiredness. Measure of clinical improvement was not defined	Using ITT, symptom scores were reduced in 76% of IH and 59% of HHT participants with median post treatment scores of 11 and 13 respectively. The median differences of −3 (IH) and −1 (HHT) proved not to be significant. In the 45 participants who completed the symptom diary, IH median scores reduced from 14 to 8.5 and HHT median scores remained unchanged at 13 showing advantage to IH ($P < 0.05$). Semi-objective assessment by the assessor reported 52% improvement in both groups

(Continues)

TABLE 1 (Continued)

Author, year, country (setting)	Design	n (age)	Population	Intervention	Control/ Comparator	Primary outcome measure	Results
Gerson et al,[48] 2013, United States (University Hospital)	Long-term follow-up, one group, pre-test, post-test	89 (20+)	Moderate to severe IBS refractory to prior medical treatment. Rome II[61]	GGDH		IBS-SSS. Clinical improvement is defined as ≥50 point reduction in IBS-SSS scores	ITT mean scores of IBS-SSS improved significantly from 259 to 196 ($P < 0.05$) Mean IBS-SSS scores of treatment completers improved significantly from 258 to 183 after 1 year ($P < 0.001$) Scores lower post treatment at every interval $P < 0.001$ 45 of the 75 treatment completers (60%) achieved clinically significant improvement
Gulewitsch & Schlarb,[55] 2017, Germany (Home-based, contact via short telephone calls and emails)	RCT	45 (6-17)	Paediatric Rome III[62]	HHT: GDH using audio recordings (GDH)	HHT: Unspecified hypnotherapy using audio recordings (UHT)	Daily symptom diary scoring number of days with pain, mean duration and intensity of pain. >80% improvement represented clinical remission. 30%-80% represented significant improvement. <30% considered unsuccessful	Reduction in number of days with pain: UHT $P = 0.001$, GDH $P < 0.001$ Reduction in pain intensity: UHT $P < 0.001$, GDH $P = 0.171$ (not significant) Reduction in pain episodes: UHT $P = 0.001$, GDH $P < 0.005$ Using ITT, significant reduction in symptoms over time for both groups [$F(1,43) = 20.97\text{-}43.90$, $Ps < 0.001$] Clinical remission (34%): UHT (n = 9), GDH (n = 2) Significant improvement (41%): UHT (n = 6), GDH (n = 7) Unsuccessful (25%): UHT (n = 3), GDH (n = 5)
Harvey et al,[47] 1989, UK (Hospital)	3 month follow up RCT	36 (19-62)	Refractory IBS is defined as abdominal pain, disordered bowel habit and abdominal distention	GGDH	IH	Daily symptom diary. Maximum weekly score of 63. Weekly score of ≤5 considered symptom free. Severe symptoms are defined as ≥35	No significant differences were reported between GGDH and IH Symptom-free (n = 11): IH (n = 5), GGDH (n = 6) Less symptoms (n = 9): IH (n = 3), GGDH (n = 6) No improvement (n = 13): IH (n = 8), GGDH (n = 5)
Moser et al,[51] 2013, Austria (University Hospital)	Long-term follow-up RCT	100 (18-70)	Severe or incapacitating refractory IBS, Rome III[22]	IG: GDH with supportive talks and medical treatment	Supportive talks and medical treatment (SMT)	IBS-IS. Mean score of ≤4 was defined as severe IBS. Clinical improvement is defined as an increase in an overall score of ≥1	IG was found to be superior to SMT. Significant improvements were reported within 12 weeks for IG: 28 out of 46 (60.8%) and SMT: 18 out of 44 (40.9%) [absolute difference 20%; 95% confidence interval (CI):0%-40.2%; $P = 0.046$] At the 12-month follow-up post-treatment, significant improvements were reported for 54.3% of IG and 25% of SMT participants (absolute difference 29.4%; 95% CI: 10.1%-48.6%; $P = 0.004$)

(Continues)

TABLE 1 (Continued)

Author, year, country (setting)	Design	n (age)	Population	Intervention	Control/ Comparator	Primary outcome measure	Results
Palsson et al,[54] 2006, United States (Home-based, contact via e-mail, internet, mail)	Non-randomised comparative follow-up pilot study	25 (mean 43)	Clinical diagnosis satisfying Rome II[63] in an active phase of IBS	HHT: GDH treatment using audio recordings	Usual medical care	IBS-SSS. Clinical improvement is defined as >50% reduction in symptom severity	10 out of 19 participants (53%) HHT participants reported statistically significant improvements of ≥50% reduction in symptom severity in comparison to 15 out of 57 control group participants (26%) ($P < 0.05$).
Rutten et al,[56] 2017, Netherlands (Secondary and tertiary care centres, & home-based. Contact via visit from research nurse and two follow-up telephone calls)	Non-inferiority RCT with 1 year follow-up	260 (8-18)	Rome III[62]	HHT: Home-based GDH treatment using audio recordings	IH	Daily symptom diary scoring pain frequency and intensity during 7 consecutive days. Treatment success is defined as ≥50% reduction in scores	HHT was reported to be significantly non-inferior to IH with 90% CI, $P = 0.002$ Immediately post treatment 46 (36.8%) HHT and 62 (50.1%) IH participants achieved treatment success. 12 months post treatment, 78 (62.1%) HHT and 88 (71.0%) IH participants achieved treatment success
Taylor et al,[50] 2004, England and Ireland (Hospital or community settings)	Feasibility study, one group, pre-test, post-test	190 (18-80)	Clinical diagnosis of IBS with compatible symptomatic presentation	IG: GDH with CBT		GSRS. Measure of clinical improvement was not defined	16 of 23 groups reported statistically significant improvements in gastrointestinal symptoms. When adjusted for clusters, scores significantly improved pre and post treatment from mean (SD) 40.2 (11.8) to 29.2 (9.4) ($P < 0.001$)

Abbreviations: ANOVA, analysis of variance; ARQ, Adequate Relief Questionnaire[64]; CBT, cognitive behavioural therapy; GDH, gut-directed hypnotherapy; GGDH, group gut-directed hypnotherapy; GSRS, Gastrointestinal Symptom Rating Scale[65]; HHT, Hypnotherapy Home Treatment; IBS-IS, IBS Impact Scale[66]; IBS-SSS, IBS-Symptom Severity Scale[28]; IH, Individual Hypnotherapy; ITT, Intention to Treat Analysis; RCT, Randomised Controlled Trial.

effectiveness of group GDH (GGDH) with individual GDH (IH) for improving IBS symptoms and general wellbeing. Patients were randomised to four 40-min sessions over 7 weeks with either GGDH (n = 17) or IH (n = 16), plus daily hypnotherapy homework. The primary outcome was measured using a daily diary to score symptoms. Patients whose accumulated weekly scores added to 5 or less, were considered to be symptom free. The study concluded that GGDH was as effective as IH in improving IBS symptoms and that improvements continued in many patients after the treatment was completed; 11 patients (GGDH n = 6, IH n = 5) were assessed as symptom free, and nine patients reported fewer symptoms (GGDH n = 6; IH n = 3). Three patients were lost to follow-up and excluded from analysis.

Only brief details of the study were reported. No information was given about patients' baseline data, randomisation or data analysis methods. Minimal information was provided about eligibility criteria and outcome data. This lack of information, combined with the small sample size, make it impossible to be confident about the study's generalisability to a wider population, or the validity and reliability of its findings.[67]

A more thorough account of the evidence for GGDH was provided by Gerson et al[48] This study conducted in the USA had a larger sample size of 89 adult patients with mild, moderate and severe IBS, thereby improving generalisability. It also had a longer-term follow-up to determine whether GGDH significantly improved IBS symptoms 1-year post-treatment. Unlike Harvey et al,[47] the study was of one-group, pretest-posttest quasi-experimental design, which negates the need for a comparator or control group.[73] Patients received seven 45-minute group sessions of GDH on a fortnightly basis, plus daily hypnotherapy homework. The primary outcome was measured using the validated self-report IBS-SSS[28] before and after treatment, and at follow-up of 3, 6 and 12 months post-treatment. Clinical improvement was defined as >50 points reduction in IBS-SSS scores. An intention-to-treat (ITT) analysis of all patient outcomes regardless of dropout, concluded that GGDH significantly improved IBS symptom scores at all follow-up intervals ($P_s < 0.001$). One year after treatment, 45 of the 75 treatment completers (60%) reported clinically significant improvements with mean IBS-SSS scores improving from 258 to 183 ($P < 0.0001$).

Generalisability was further improved by homogenous sampling using inclusion and exclusion criteria.[74] However, like Harvey et al,[47] baseline data were omitted reducing confidence that imbalances in patient characteristics were avoided. Additionally, quasi-experiments are highly susceptible to bias,[75] and as diaries were not used, confounding variables may not have been captured or accounted for; although this bias was likely minimised as the mean duration of illness was 18 years. Higher initial IBS-SSS scores were correlated with greater improvement in scores, which Gerson et al[48] speculate may suggest GGDH may be more effective for those with more severe symptoms. However, as there was no control group, regression to the mean cannot be excluded.[76]

Flik et al[49] provided the most comprehensive evidence with a multicentre, parallel group, long-term follow-up RCT conducted in the Netherlands with 354 patients with IBS from primary and secondary care clinics. The study hypothesised that GGDH (n = 150) was non-inferior compared with IH (n = 150) and that hypnotherapy was more efficacious than a control of educational supportive therapy (EST) (n = 54). This presumption of outcomes may have introduced researcher bias, which may have caused the researchers to influence the study design or data analysis to favour one outcome over another.[67] All patients received six fortnightly 45-60-minute sessions of their allocated treatment, plus daily homework. The primary outcome was assessed at 3 and 12 months from the start of treatment using the validated adequate relief questionnaire, which asks, "Did you have adequate relief of IBS related abdominal pain and discomfort in the past week?"[64] Those who responded "yes" 3 or 4 times over 4 consecutive weeks were deemed as treatment responders. Based on per-protocol analysis of treatment completers, as recommended by the CONSORT statement,[77] the study found GGDH was non-inferior to IH immediately after treatment at 3 months ($P = 0.34$) and at 12 months ($P = 0.17$). Hypnotherapy was reported to be significantly superior to EST at the same data points ($P = 0.024$ and $P = 0.0185$). Unlike Gerson et al,[48] improvements in IBS-SSS scores assessed as a secondary outcome did not reach significance, despite patients attaining adequate relief. The study's authors speculate this may be because patients came from primary and secondary care settings and therefore had less severe symptoms at baseline; and whilst symptom severity may not have reduced significantly, perception of symptoms and coping mechanisms had improved. This latter explanation fits with current understandings of the complex biopsychosocial nature of IBS.[2]

Heterogeneity among IBS patients was increased by recruitment from different medical settings, which improved generalisability.[78] Selection bias was minimised by concealing the allocation sequence of patients to the intervention groups from study staff, thereby improving the internal validity of between-group comparisons.[79]

3.1.1 | Emerging themes

In reviewing these studies, four themes emerged related to sample size, outcome measures, attrition and daily hypnotherapy homework.

Sample size

The sample sizes within each of the studies may have been too small to have detected a genuine effect, which could have led to a Type 1 error[80] showing the interventions as effective when they were not. Neither Harvey et al[47] nor Gerson et al[48] performed a power analysis[74] to calculate the minimum sample size needed to detect a genuine effect. Whilst Flik et al[49] did, they reported that their analyses may have been suboptimal due to incorrect estimates of response differences for identifying superiority and non-inferiority.

Attrition

All three studies lost ≥10% of patients to dropout or loss to follow-up, with Flik et al[49] experiencing 36% attrition by the 12-month

follow-up—perhaps because their patients had the least severe symptoms and were, therefore, less motivated to fully engage with treatment. These levels of attrition can be damaging to a study's internal validity and the generalisability of results. Losses of ≥5% represent intermediate bias, whereas losses of >20% attrition rarely succeed against challenges to their validity.[81] Both Gerson et al[48] and Flik et al performed ITT analyses to minimise this threat of bias. Whilst Flik et al also performed extensive sensitivity analyses, they acknowledge bias could not be excluded, particularly for the non-inferiority comparison.

Outcome measures

Each study selected different subjective self-report measures to assess the primary outcome; possibly because no agreed definition for "severity" of IBS symptoms exists.[29] This can introduce challenges for interpreting and synthesising overall outcomes and can lead to researchers cherry-picking outcome measures.[82] Both Gerson et al[48] and Flik et al[49] used validated questionnaires, strengthening internal validity.[80]However, subjective outcomes are prone to performance bias, especially in studies like these where it is impossible to prevent therapists or patients from knowing who is receiving the intervention (a process known as blinding).[83] Consequently, this can lead to patients overstating improvements to please the therapist or the therapist interpreting results favourably. This bias was mitigated by Flik et al[49] who blinded their outcome assessors.

Hypnotherapy homework

All three studies required daily home hypnotherapy practice, raising questions about whether the group work or the homework contributed to the outcomes. Or whether the homework had an additive effect on group work. Unfortunately, analysis of homework compliance during treatment was not available for any of the studies. However, Gerson et al[48] reported at the one-year follow-up that continued use of homework after treatment was not correlated with a reduction in IBS-SSS scores ($P = 0.836$). This suggests that either homework had no effect on the outcomes, or that maximum improvement had already been attained.

3.1.2 | Summary

Based on the combined evidence from these studies, GGDH appears to be an effective treatment with long-lasting results, which may be non-inferior to IH for reducing symptom severity and providing adequate relief in patients with mild to moderate IBS. However, the existing evidence is not robust enough to support the use of GGDH for patients typically seen in tertiary care settings with severe IBS. Harvey et al[47] and Gerson et al[48] both had small samples sizes and incomplete outcome data increasing the risk of bias. Without a control group, the latter study was also at greater risk from confounding variables and regression to the mean. The strongest evidence came from the Flik et al[49] study, which included patients from primary and secondary care settings who had less severe IBS symptoms. Although patients achieved adequate relief, clinically significant improvements on the IBS-SSS were not reported. Consequently, further RCT evidence is needed to determine whether GGDH is effective for patients with severe, refractory IBS.

Whilst all three studies were limited by methodological difficulties it is evident improvements were made as the research evolved. All the studies used a similar GDH protocol, delivered at a similar frequency both in session and at home. These factors improve the replicability of the studies and increase confidence in the outcomes.[84] However, inconsistencies were apparent in the number of sessions delivered and how the primary outcomes were measured.

3.2 | Integrated group GDH

Taylor et al[50] conducted a feasibility study of quasi-experimental one group, pre-test post-test design across 15 locations in the UK and Ireland with 190 adult patients diagnosed with symptomatic IBS. The study assessed the feasibility and short-term effectiveness of a combined psychoeducation, cognitive-behaviour therapy (CBT) and GDH group intervention. Patients were allocated into 23 groups and received 16 weekly 3-hour sessions, plus daily homework exercises. Symptom severity was measured before and after treatment using the validated Gastrointestinal Symptom Rating Scale (GSRS).[65] Statistically significant improvements in gastrointestinal symptoms were reported for 16 out of 23 groups. Using a cluster regression analysis of the combined mean scores, they remained highly statistically significant ($P < 0.001$). Cluster sampling is a time and cost-efficient method suited to studies spread across multiple locations; but the results can be less statistically reliable because clusters can accidentally become under-representative of the sample population, thereby impacting generalisability.[85]

Patients were recruited from medical clinics and local advertisement and screened by interview and questionnaire. This may have simultaneously increased heterogeneity but also limited generalisability by introducing selection bias. Indeed, patients were selected with a view to improve group dynamics and chance of success. Consequently, patients lacking motivation were excluded from the study, as were patients with co-morbid psychological illnesses and those receiving counselling. Furthermore, the number and length of sessions were greater than typical GDH treatments,[86] further limiting generalisability and potentially making it less attractive to healthcare commissioners. Risks to internal validity from confounding variables may have been minimised by the short duration of the study.[73]

In contrast to the previous study, Moser et al[51] assessed the efficacy and long-term effectiveness of a group intervention (IG) of GDH with supportive talks and IBS-related medical treatment (SMT) compared with SMT alone for improving IBS symptoms. The 12-month follow-up RCT in Austria randomised 100 adult patients to either IG (n = 51) or a control group of SMT (n = 49). IG patients received 10 45-minute group sessions of GDH over 12 weeks,

plus daily hypnotherapy homework and SMT. The control group was offered individual 45-minute sessions of SMT with a doctor trained in psychosomatic medicine. It is not clear whether the IG group accessed SMT individually or in a group as part of the GDH session. The primary outcome was measured using the validated IBS Impact Scale (IBS-IS).[66] Outcomes were assessed at baseline, sessions 1, 5 and 10, and at 3, 6 and 12 months post-treatment. IG reported statistically significant improvements compared with the control group of SMT for improving IBS symptoms after 12 weeks ($P = 0.046$) and highly significant improvements 12 months' post-treatment ($P = 0.004$).

In contrast to Taylor et al,[50] patients with non-severe psychological problems and those using antidepressants or counselling for more than 3 months were eligible, thereby improving generalisability but increasing confounding variables. Significant differences existed between the groups at baseline for age, illness duration, social functioning and levels of anxiety. Analysis of co-variance and binary logistic regression models were undertaken, which adjust for these confounders,[87] proving IG as the only significant predictor on improvement. However, outcome data was inadequately reported thereby introducing a high risk of bias.[88]

A 2018 study by Berens et al[52] went further than Taylor et al[50] by adding psychodynamic elements to their group concept (IG) to test its feasibility and efficacy for treating refractory IBS patients diagnosed with stress associated somatoform autonomic dysfunction (SAD) of the lower gut gastrointestinal tract. The pilot RCT conducted in Germany randomised 34 adult patients to either IG (n = 17) or a waitlist control (WL) (n = 17). The treatment group received twelve 90-min, weekly group sessions, plus daily hypnotherapy homework. WL patients received enhanced medical care and then IG after 3 months. As with the aforementioned study by Gerson et al,[48] symptom severity was measured using the validated IBS-SSS.[28] An ITT analysis found no significant improvements in symptom severity for IG compared with WL. However, using Cohen's d[89] to measure the effect size, the magnitude of the effect,[90] between the two groups post-treatment, the effect was moderate at $d = 0.539$ and the within-group effect size was large at $d = 0.956$. The very low 17% eligibility rate, due mainly to the exclusion of non-SAD diagnoses, reduced generalisability.

3.2.1 | Emerging themes

In reviewing these studies, four themes emerged related to sample size, outcome measures, attrition and the impact of GDH on the outcomes.

Sample size

In common with Group GDH, the sample sizes may not have been sufficiently powered to detect a genuine effect. Only Moser et al[51] conducted a power calculation. This may explain why Berens et al[52] failed to find statistically significant improvements despite discovering moderate to large effect sizes, perhaps leading to a Type II error, a false negative finding.[90] Whilst Moser et al[51] conducted a power-analysis, the study subsequently became under-powered because dropouts immediately following randomisation were excluded from the ITT analysis.

Outcome measures

All three studies used a different primary outcome measure to assess symptom severity, introducing similar methodological concerns as discussed for group GDH.

Attrition

Each study was threatened to varying degrees by attrition bias, ranging from 14.7% for Berens et al,[52] 16% for Taylor et al[50] and rising to 37% for Moser et al[51] by the 12-month follow-up. However, whilst ITT analyses were performed in all studies to minimise the risk to internal validity and generalisability of results, Moser et al,[51] as mentioned earlier, failed to include patients who dropped out immediately after randomisation, compromising their analyses.

Impact of GDH on outcomes

Except for Moser et al,[51] the effect of GDH on the outcomes is unclear. A recent systemic review and meta-analysis[91] comparing psychological therapies for treating IBS, which included the Moser et al[51] study, proposed that future research should be dismantled and assessed to determine which factors improve the effectiveness of a treatment.

3.2.2 | Summary

The heterogeneity of each approach makes the results difficult to compare and generalise. However, the overall evidence for an integrative group concept is less compelling than for GGDH. Taylor et al[50] proved statistical significance; however, the study was significantly limited by its time and resource-intense nature and by its inclusion of highly motivated patients without co-morbidities. Berens et al[52] had limited generalisability due to very strict eligibility criteria, plus the primary outcome failed to reach statistical significance. Attrition bias and incomplete outcome data seriously threatened the findings of Moser et al[51] However, this latter study's findings, suggesting that GDH was likely to be the component that improved the effectiveness of the treatment, adds additional support to the evidence for GGDH.

3.3 | Hypnotherapy home treatment

Forbes et al[53] conducted an equivalence RCT in England with 52 adult patients diagnosed with refractory IBS to evaluate the effectiveness of a 12-week home hypnotherapy treatment (HHT) using a 30-min audiotape which included autohypnosis. Patients were randomised to either HHT (n = 27) or IH (n = 25). Outcomes

were measured using mean scores calculated from the first and last 2 weeks of a daily symptom diary. A definition for clinical improvement was not stated. An ITT analysis reported improvements in 76% of IH patients and 59% of HHT patients but differences did not reach statistical significance. Per-protocol analysis, considered appropriate for equivalence studies,[77] found IH to be significantly superior to HHT ($P < 0.05$). However, reporting was generally vague, making it difficult to be confident about the findings.

Using a different study design, Palsson et al[54] conducted a non-randomised comparative follow-up pilot study in the USA with 25 adults in an active phase of IBS to assess whether a 12-week HHT intervention using a CD improved IBS symptoms and quality of life. Patients with severe psychological conditions were excluded for safeguarding reasons, reducing generalisability. The comparison control group of 57 adults was from a separate observational study of standard medical treatment (SMT). Controls were systematically matched 3:1 with HHT patients, which is suggested to minimise bias from confounding variables.[92] Symptom severity was measured before and after treatment, and at 3 and 6 months follow-up using the aforementioned IBS-SSS.[28] A reduction of ≥50% in symptom scores indicated treatment response. Statistically significant improvements were reported at 3 months follow-up for HHT compared with SMT ($P < 0.05$) and were preserved at 6 months follow-up.

Palsson et al[54] acknowledge that there were significant limitations caused by the lack of randomisation to groups, patients self-selecting to enter the study (suggesting greater levels of motivation) and not controlling for patients' positive expectations of HHT. These combined factors would have biased the findings to some degree for reasons mentioned previously.

In contrast to the latter studies, Gulewitsch and Schlarb[55] conducted an RCT in Germany with 45 pediatric patients, aged 6-17 years, to test the feasibility and efficacy of GDH compared with unspecific hypnotherapy (UHT) as 12-week self-help treatments for reducing functional abdominal pain (FAP) and IBS symptoms. Patients were randomised to either GDH (n = 21) or UHT (n = 24). Gulewitsch and Schlarb[55] were able to blind both parents and children to their treatment condition reducing performance bias. The primary outcome was measured using a daily symptom diary to record rating scores based on the validated Faces Pain Scale.[93] The mean scores were taken from 14 days before the start and after the end of treatment. Clinical remission was defined as >80% improvement, whereas 30%-80% improvement was defined as significant. Using a per-protocol analysis, highly statistically significant improvements were reported for both groups for the reduction in number of days with pain (GDH $P < 0.001$, UHT $P = 0.001$) and mean duration of pain episodes (GDH $P = 0.005$, UHT $P = 0.001$). UHT also reported highly significant improvements in the intensity of pain episodes ($P < 0.001$) suggesting that UHT may be slightly superior to GDH.

Randomisation led to more females being allocated to the UHT group, which may have impacted the difference in outcomes observed between the two groups. Sub-group analyses were not conducted for IBS and FAP patients, making it impossible to measure the outcomes specifically for patients with IBS. Children who dropped out of the study tended to have greater frequency, intensity and duration of pain suggesting that treatment success may be correlated with less severe symptoms.

The final study reviewed was a non-inferiority RCT with 1 year follow-up conducted by Rutten et al[56] in the Netherlands with 260 paediatric patients, aged 8-18 years of age, diagnosed with IBS, FAP or FAP syndrome (FAPs). The study randomised patients to either a home hypnotherapy treatment using a CD (HHT) (n = 132) or IH (n = 128) to compare the effectiveness of a 3-month GDH home treatment. The primary outcome was measured using a daily symptom diary to score abdominal pain intensity and frequency before and after treatment and at 6 and 12 months follow-up. Treatment was successful if scores reduced by at least 50%. At 1-year follow-up, 71.0% of IH patients and 62.1% of HHT patients reported treatment success, with HHT remaining significantly non-inferior to IH ($P = 0.002$). Unlike Palsson et al,[54] subgroup and multivariate analyses were performed which showed no significant differences in treatment effect for IBS, FAP or FAPs. Analysis of baseline predictors found that treatment success was correlated with a shorter duration of symptoms, male sex, and less negative beliefs about abdominal pain.

Generalisability was improved by the large sample size and recruitment from both secondary and tertiary care clinics. Outcome measurements for both groups were completed at home to minimise performance bias. Patient expectations prior to treatment were not correlated with treatment success so expectation bias was an unlikely confounder. Additionally, patients had suffered symptoms for around 2.5 years prior to the study making spontaneous remission unlikely.

3.3.1 | Emerging themes

Sample size

Only Rutten et al[56] performed a sample size calculation to determine the sample population needed to achieve statistical power. The other three studies had very small sample sizes and may not have been sufficiently powered to detect a genuine effect.

Outcome measures

All four studies used different subjective self-report measures introducing the same methodological concerns as seen throughout this review.

Attrition

With the exception of Rutten et al,[56] attrition was >20% for the remaining three studies. However, as seen in a systematic review and meta-analysis of online CBT for pain conducted by Macea et al,[94] high drop-out rates are a common challenge to treatments delivered at a distance. ITT analyses were used to mitigate attrition bias by all except Palsson et al[54] The lower rates of attrition in the Rutten et al[56] study may have been because patients had contact with a research nurse on three occasions throughout the treatment. HHT was also adapted to the child's age and developmental level.

3.3.2 | Summary

The evidence for HHT for children appears more promising than for adults. Both Gulewitsch and Schlarb[55] and Rutten et al[56] reported significant improvements in IBS symptoms for children with mild to moderate symptoms, with the latter study reporting HHT as being non-inferior to IH for children. Furthermore, the larger sample sizes and lower attrition rates of the Rutten et al[56] study add additional support to the body of evidence. In contrast, the current evidence for HHT for adults is less convincing with Forbes et al[53] failing to reach statistical significance. Moreover, findings were limited by small sample sizes, high attrition rates, inconsistent outcome measures and other methodological biases.

3.4 | Overall summary of findings

In this author's opinion, this review has demonstrated that non-individualised hypnotherapy may be effective for reducing symptom severity and providing adequate relief in patients with mild to moderate IBS, and that improvements are maintained in the longer term. Three types of non-individualised interventions were identified: GGDH, IG and HHT. Of these, the evidence is most compelling for GGDH for adults and HHT for children, with both being reported as non-inferior to IH. The evidence for HHT for adults and IG is less convincing due to methodological limitations and the failure of one study in each category to reach statistical significance for the primary outcome.

Similar themes affecting methodological quality consistently emerged throughout the review relating to small sample sizes, inadequate reporting, high attrition rates and variability of primary outcome measures. Questions arose about the effectiveness of GGDH for patients with severe, refractory IBS; the optimum time to intervene with treatment in terms of symptom severity and illness duration; the optimal number of GGDH sessions needed; the impact of homework compliance on GGDH; the impact of GDH as a component of IG; and the reported superiority of UHT over GDH. These themes and questions should be addressed by future research.

4 | IMPLICATIONS FOR FUTURE RESEARCH, EDUCATION AND PRACTICE

The findings of this review concur with the BSG guidelines[11] that GGDH may be beneficial for adults with mild to moderate IBS in primary and secondary care settings. GGDH offers advantages over IH by maximising the use of therapists' time to treat more patients for the same cost, thus enabling greater access to treatment and improving the lack of provision identified by Vasant and Whorwell.[36] Additionally, the long-lasting effects of GGDH could relieve the burden of IBS-related healthcare costs,[41] justifying its wider implementation. This would mean that more patients would benefit from local access to treatment. Where patients choose to privately fund hypnotherapy, GGDH would provide a more affordable alternative to IH.

Whilst IH has been found to be an effective treatment for patients with severe, refractory IBS,[19,27,30,31,42,95] the current evidence for GGDH is not robust enough to support its implementation into practice for this patient population. The most compelling evidence for GGDH is provided by Flik et al,[49] however, patients were from primary and secondary care settings and had milder symptom severity than those typically seen in tertiary care settings. Furthermore, whilst patients attained adequate relief, improvements in symptom severity using the IBS-SSS did not reach clinical significance. This then raises questions about the optimum time to intervene with GGDH based on symptom severity and illness duration. Determining this will enable better targeting of resources towards patients most likely to benefit from treatment. As suggested by Vasant and Whorwell,[36] it may be that GGDH will be best suited as an earlier intervention within primary care settings.

Based on the findings of this review, future research is needed to determine the effectiveness of GGDH for patients with severe, refractory IBS. Future studies should also investigate the optimal number of sessions needed. This concurs with the findings of a recent systematic review[86] evaluating the effect of delivery on GDH for IBS, which included five of the RCTs within this review. The review concluded that GDH was significantly more effective when delivered as ≥8 sessions with at least 6 hours of contact time. This contrasts with the previously mentioned RCT[30] which reported that six sessions of IH were at least as effective as 12. Future studies should also provide more robust reporting about homework compliance to determine the effect of daily GDH practice on outcomes. It may be that homework has no effect on outcomes or it could be a significant contributor.

Whilst the evidence for HHT is less convincing for adults, it is promising for children with mild to moderate IBS symptoms. This is especially reassuring given that many children will continue to experience IBS symptoms into adulthood.[96] Successful early intervention with HHT could equip children with the skills to better manage a potentially lifelong illness and reduce the significant negative impact that IBS has on health and lifestyle.[40]HHT requires minimal resources once developed and would therefore introduce substantial savings compared with therapist led GDH. Future research into the effectiveness of a mobile app for smartphones or tablets could facilitate the implementation of a national programme prescribed by GPs. Additional features providing daily reminders and rewards for completing sessions, could improve treatment adherence and retention.

Future studies of non-individualised approaches should use adequately powered sample populations and adopt improved strategies for maximising retention, such as those proposed by Schulz and Grimes.[81] A consistent approach to measuring outcomes would also be beneficial, which concurs with the recommendations by Drossman et al[29] and Mayo-Wilson et al[82]In accordance with Laird et al,[91] further research into the integration of GGDH with other psychotherapeutic approaches would benefit from determining whether GDH has an additive effect on the outcomes and if so, how this compares to GGDH alone. The findings by Gulewitsch and Schlarb[55] that UHT was superior to GDH in reducing pain intensity,

warrants further investigation as most of the existing research, as evidenced by this review, has been conducted using a GDH protocol.

4.1 | Education and practice

Despite the wealth of evidence reporting the effectiveness of GDH for IBS, it is still not widely available or accepted as a legitimate approach by many healthcare providers.[27,33,34,35,36] As such there are still barriers to overcome before hypnotherapy is taken seriously.

Encouraging organisations and clinicians to adopt evidence-based practice is a complex process that can take years to implement.[67]Therefore, the reluctance of clinicians to implement GDH is unsurprising, especially given hypnotherapy's chequered history. Hence, Keefer et al[46] in the USA and Vasant and Whorwell[36] in the UK wrote articles to promote the incorporation of psychogastroenterology into the management of IBS to encourage gastroenterologists to refer patients for GDH. Both articles acknowledge that the implementation of GDH will be improved if access to trained therapists becomes more widely available. The cost and time savings offered by GGDH for adults and HHT for children could facilitate this process.

Given the current lack of availability of GDH within healthcare systems, it is likely that many patients will seek this form of treatment privately. Therefore, private hypnotherapists should also seek to implement evidence-based practice accordingly.

4.2 | Implications for hypnotherapists in private practice

A benefit of working as a private hypnotherapist is that implementing evidence-based practice is less complex than in a large organisation. However, the American Psychological Association Presidential Task Force on Evidence-Based Practice[97] stresses that practitioners should have appropriate clinical expertise as this has been shown to have a positive impact on outcomes. This is corroborated by Miller et al[27] who found that outcomes were less effective when hypnotherapy was delivered by a hypnotherapist without relevant understanding of the gut-focused element of treatment. Therefore, private hypnotherapists should ensure they receive specialist GDH training or are well-read in the IBS literature. Keefer et al[46] recommend that GDH should ideally be delivered in liaison with healthcare clinicians as part of a holistic care package. Private hypnotherapists should therefore seek to develop networks with local clinicians. This is especially important given the current lack of trained therapists within healthcare systems and would provide clinicians an opportunity to outsource GDH treatment. Additionally, liaison with healthcare clinicians about specific patients (with the patient's consent) would increase awareness of the effectiveness of this approach, which might otherwise go unnoticed. Furthermore, private hypnotherapists can also contribute to the hypnotherapy research literature by getting involved in practice-based research to bring together scientific rigour and real-life clinical practice.[98] The outcomes of this research can also be used to promote public awareness.

Many private hypnotherapists also sell hypnotherapy downloads or CDs. Consequently, hypnotherapists should ensure that they are familiar with the current body of evidence for HHT so that they can implement the findings accordingly.

4.3 | Strengths and limitations

Strengths of this review are its rigorous use of the JBI appraisal tool[72] to critically review the literature, and the use of strict inclusion and exclusion criteria. Whilst the latter resulted in a relatively small number of studies being eligible, it ensured that those included were relevant to the research question. A limitation of this review is that it was not possible for two critical appraisers to appraise the evidence. A further limitation is that a meta-analysis was not conducted to analyse the data as a body of evidence, which may have provided more meaningful results. However, as the studies were varied and followed different methodological designs, this process may have been inappropriate.[99] This latter limitation was also noted by the previously mentioned systematic review and network meta-analysis of RCTs in psychological therapies for refractory IBS,[26] which also concluded that GGDH was more efficacious than control conditions of education, support or routine care and that results were enduring. Furthermore, another recent systematic review[86] concluded that GGDH may be at least as effectiveness as IH.

5 | CONCLUSION

Based on the existing body of evidence, this author concludes that GGDH for adults and HHT for children may be effective treatments for reducing symptom severity and/or providing adequate relief in patients with mild to moderate IBS. Both approaches were reported to be non-inferior to IH and to have long-lasting effects. These interventions are likely to prove cost-effective, widen access to treatment and could allow earlier intervention for patients with milder IBS symptoms in primary care settings. In contrast, the current evidence for HHT for adults and IG was less compelling and this author does not recommend their implementation into practice.

Future research for GGDH should focus on determining its effectiveness for treating severe, refractory IBS; the optimum number of sessions required; the role of homework compliance and the best time to offer treatment in terms of symptom severity and illness duration to achieve the most effective outcomes. Future research into HHT would benefit from trialling a mobile app with built in reminders and reward features to improve motivation and retention. Furthermore, future research into non-individualised approaches would benefit from adequately powered sample sizes, improved strategies to maximise retention and the use of consistent outcome measures. The evidence for UHT's potential superiority over GDH warrants further investigation.

This author acknowledges that implementation into practice will be challenging given the existing reluctance of healthcare providers to commission hypnotherapy. Even where there is an openness to this approach, the lack of trained therapists remains a barrier. GGDH and HHT for children could alleviate this problem to some degree, as could outsourcing to the private sector.

Hypnotherapists in the private sector should familiarise themselves with the IBS literature and ensure they implement EBP appropriately. Where possible, opportunities for liaising with the patient's healthcare clinician should be sought to provide a holistic approach to treatment and to raise awareness of the effectiveness of these treatments.

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AUTHORSHIP

Guarantor of the article: Carolyn Gillan.

Author contribution: Carolyn Gillan performed the review of the research, collected and analysed the data, wrote the review article and approved the final version of the manuscript.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

ORCID

Carolyn Gillan https://orcid.org/0000-0002-6747-744X

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