

Hypnotherapy for people living with IBS; what influences perceptions and effectiveness

by

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Abstract

Hypnotherapy is a complementary and alternative medicine (CAM) which is demonstrably effective in treating irritable bowel syndrome (IBS), a chronic functional condition, characterized by gastric pain. Hypnotherapy for IBS appears to be relatively little used by people living with the condition. Further, it is not known what delivery factors contribute to effectiveness.

A mixed methods investigation was undertaken, starting with a narrative review of the public's opinions of hypnosis and hypnotherapy. This found a broad positivity towards hypnotherapy, conditional upon associations with conventional medicine or psychology. A qualitative study followed which found a tendency towards disengagement with conventional medical services, and subsequent adoption of self-care measures, but that there was a low level of awareness of hypnotherapy for IBS and little idea how it might help. However, participants were broadly open to it. A systematic review, meta-analysis, and subgroup analysis of trials of hypnotherapy for IBS identified three factors within the delivery characteristics of a hypnotherapy for IBS intervention which were associated with effective outcomes: group, weekly and high-volume delivery. A survey into people with IBS's attitudes towards hypnotherapy for IBS, identified that a lack of awareness and practical factors, such as travel time and cost, were the main barriers, but concerns regarding ability to enter trance and vulnerability in trance states were also present.

The thesis has substantially advanced the existing knowledge regarding the understanding of hypnotherapy for IBS by people with the condition and what factors are associated with the success of the intervention. The findings show poor awareness of hypnotherapy for IBS and provides guidance for intervention delivery.

Dedication

This thesis is dedicated to all those who participated, especially the participants in the qualitative work who generously shared their time, enthusiasm and some of their most personal life stories.

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Thanks to my supervisory team, Professor Sheila Greenfield, Professor Kate Jolly and Mr Tariq Ismail for guiding and supporting me throughout the PhD. I would also like to thank Doctor Anna Lavis for her critique and insight during performance review meetings. Thanks go to Doctor Amanda Farley for partnering with me for the systematic review.

Thanks go to my wife who more than anyone else supported the conduct of this thesis in innumerable ways. I would also like to acknowledge the generosity of my old friend D.J.Walton, whose bequest made this PhD possible.

Publications contributing to this thesis and authorship statement

The research presented in this thesis was conceived and designed by MK, SG and KJ. Research was conducted by MK. Below is a list of the papers which make up the core material of the chapter identified. Specific contributions to each of the articles included in the thesis are presented below.

Chapter 2

Krouwel M, Jolly K, Greenfield S. What the public think about hypnosis and hypnotherapy: A narrative review of literature covering opinions and attitudes of the general public 1996-2016. *Complementary Therapies in Medicine*. 2017;32: 75-84..... Pages 44-87

The study was conceived and designed by MK, SG and KJ. MK wrote the draft article and chapter, SG and KJ reviewed and critiqued the article.

Chapter 3

Krouwel M, Jolly K, Greenfield S. How do people with refractory irritable bowel syndrome perceive Hypnotherapy: qualitative study protocol. *European Journal of Integrative Medicine*. 2019;26: 50-55. pages 306-313

This article has been used as a foundation for the chapter but sections within it have been substantially expanded upon, and some elements removed, specifically those relating to Weberian theory, and as such it is not presented as a complete paper. The study was conceived and designed by MK, SG and KJ. MK wrote the draft article and chapter, SG and KJ reviewed and critiqued the article.

Chapter 5

Krouwel M, Jolly K, Greenfield S. How do people with refractory irritable bowel syndrome perceive Hypnotherapy?: qualitative study. *Complementary Therapies in Medicine*. 2019;45: 65-71.....Pages 148-173

The study was conceived and designed by MK, SG and KJ. MK conducted the interviews and thematic analysis. MK wrote the article, to which SG and KJ provided critical input.

Chapter 6

Krouwel M, Farley A, Ismail T, Greenfield S, Jolly K. Systematic review, meta-analysis with subgroup analysis of hypnotherapy for Irritable Bowel Syndrome, effect of intervention characteristics. *Complementary Therapies in Medicine*. 2021;57: 102672 ... Pages 187-121

The study was conceived and designed by MK, SG and KJ. MK and AF conducted systematic searches and data extraction. MK analysed the data. MK wrote the article, SG, KJ, TI and AF provided critical input.

Chapter 7

A survey of the attitudes and opinions of people with irritable bowel syndrome (IBS) towards hypnotherapy, and their use of conventional and complementary and alternative medicine (CAM) (Under review)pages 231-255

The study was conceived and designed by MK, SG and KJ. MK conducted recruitment and analysis. MK wrote the article, SG and KJ provided critical input.

Appendix

Krouwel M, Jolly K, Greenfield S. How do people with refractory irritable bowel syndrome perceive Hypnotherapy: qualitative study protocol. *European Journal of Integrative Medicine*. 2019;26: 50-55.pages 306-313

The study was conceived and designed by MK, SG and KJ. MK drafted the paper, SG and KJ provided critical input.

Krouwel M, Jolly K, Greenfield S. Comparing Skype (video calling) and in-person qualitative interview modes in a study of people with irritable bowel syndrome—an exploratory comparative analysis. *BMC Medical Research Methodology*. 2019;19: 219. Pages 330-340

The study was conceived and designed by MK, SG and KJ. MK conducted recruitment and analysis. MK wrote the article, SG and KJ provided critical input.

Krouwel M, Greenfield S, Farley A, Ismail T, Jolly K. Factors which affect the efficacy of hypnotherapy for IBS: Protocol for a systematic review and meta-regression. *European Journal of Integrative Medicine*. 2018;21: 58-62.Pages 341-347

The study was conceived and designed by MK, SG AF, TI and KJ. MK wrote the paper, SG, AF and KJ provided critical input.

Formatting – Alternative format thesis

This thesis is formatted in-line with the University of Birmingham's alternative format thesis guidelines.

alternative-format-thesis-guidelines.pdf (birmingham.ac.uk)

These guidelines allow for both material which is formatted for publication or has been published. However, because reproduced articles often contain very small text which may be difficult to read, they have been reproduced using the final accepted Word version which was published in the journal. In all other ways the article has been treated according to the guidance and as such they have an introductory page and a blank page after. Some specific details to aid the reader are given below.

Section numeration

The section headings of the articles are reproduced as they were for the final accepted word document and stand outside the chapter and section numbering of the thesis. As such each reproduced article has its own, self-contained, section numbering which is distinct from the section numbering of the thesis as a whole.

Article as published

A reproduction of each article, as published, is provided in the appendix. Where an article has not yet been published details of its publication status are given in the relevant chapter.

Reference lists

For those chapters where an article is present (Chapters 2,5,6 & 7), the reference list is presented within the article, and a second reference list for the other material within the chapter is provided at the end of the chapter. This has been done to keep the references close to the material they relate to and, in the case of the reference lists in published articles, to maintain the integrity of the article.

Covid-19 Statement

This thesis was conceived with the intention of the findings of the various strands of investigation coming together in the design and implementation of a feasibility study in collaboration with the colorectal surgery department of University Hospitals Birmingham (UHB) NHS Foundation Trust. Design of the study and collaboration with the colorectal surgery department of UHB had begun and were just about to become the primary focus of work when the global pandemic caused a general lockdown of society in March 2020. As the pandemic was likely to inhibit in-person therapeutic work for an unknown length of time and was likely to have further, unpredictable, impacts upon the operations within the Trust, the decision was taken to abandon the feasibility study. With the option of running a feasibility study removed other possibilities were investigated to help create a body of work with the appropriate depth and breadth. Investigating healthcare professionals' attitudes to hypnotherapy for IBS was a potential area, however there was insufficient prior research to conduct a narrative review and both qualitative and survey research with healthcare professionals was deemed likely to fail to recruit sufficient participants, due to the increase in workload it was anticipated that many were likely to experience because of the pandemic. Subsequently, a re-examination of and re-evaluation of theoretical perspectives brought Push-pull theory (see 1.5.2 below) to the fore which highlighted the potential benefits brought about by quantifying some of the attitudes and opinions identified by the qualitative work, and as such a survey of people living with IBS was embarked upon. Additionally, Push-pull theory prompted an examination of the lives of people with IBS, which resulted in a second examination of the qualitative research to help understand this.

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Abbreviations

AD – Taking Antidepressants

AF – Amanda Farley

AMA - American Medical Association

APA - American Psychological Association

AR– Adequate Relief Question

AS - Abdominal Surgery

ATH - Attitudes Towards Hypnosis

BHSQ - Beliefs about Hypnotic State Questionnaire

BHSQ-R - Beliefs about Hypnotic State Questionnaire- revised

BMA - British Medical Association

BS – Bowel surgery

BSS1-5 - Bowel Symptom Scale 1-5

BSSS - Bowel symptom severity scale

CAM - Complementary and Alternative Medicines

CBT - Cognitive Behavioural Therapy

CCBD: Comorbid Chronic Bowel Disease

CF-FBD – Cognitive Scale for Functional Bowel Disorders

CIA – Central Intelligence Agency

Con – Control

DO - Drop-Out

FDD-QoL - Functional Digestive Disorder Quality of life

FODMaP - Fermentable Oligosaccharides, Disaccharides, Monosaccharides and Polyols

FU – Follow Up

FUFM: Follow-up used in Meta-analysis

GDH – Gut-Directed Hypnotherapy

GGs - Global Gastrointestinal Symptoms

GHQ 28 – General Health Questionnaire, 28 question format

GI-SQ - GI-symptom questionnaire

GGDH - Group gut direct hypnotherapy

GP – General Practitioner

GS - gastrointestinal surgery

GSRS- IBS – Gastrointestinal Symptom Rating Scale IBS version

HADS - Hospital Anxiety and Depression Scale

HATCH - Hypnosis Antenatal Training for Childbirth

HGSHS:A = Harvard Group Scale of Hypnotic Susceptibility Form A

HPA - Hypothalamus-Pituitary-Adrenal

HRQOL - Health Related Quality of Life

IBS – irritable bowel syndrome

IBS-A - irritable bowel syndrome - Alternating between constipation and diarrhoea type

IBS-C – irritable bowel syndrome -Constipation predominant type

IBS-D - irritable bowel syndrome - Diarrhoea predominant type

IBS-IS – irritable bowel syndrome - Impact scale

IBS-M - irritable bowel syndrome - Mixed symptom type

IBS-QoL – irritable bowel syndrome - quality of life

IBS-SSS - irritable bowel syndrome - Severity Scoring System

IBS- U - irritable bowel syndrome - Unclassifiable type

IGDH - Individual gut directed hypnotherapy

Int - intervention

KJ – Kate Jolly

Lang - language skills insufficient for hypnosis work,

MK – Matthew Krouwel

NHS – National Health Service

NICE - National Institute of Health and Care Excellence

NIHR - National Institute for Health Research

NNH – Number Needed to Harm

NNT – Number Needed to Treat

OAH - Opinions About Hypnosis

OTC - Over the Counter

PTSD - Post Traumatic Stress Disorder

Psych - recent or on-going psychological intervention

Psych Dis - severe psychiatric disorder

QoL IBS-34 – Quality of Life IBS – 34 question scale

SD – Standard Deviation

SES - Subject Experience Scale

SF-36 – Short Form health survey

SCL-90 – Symptom checklist

SES – Socio-economic status

SES – Self-efficacy Scale

SG – Sheila Greenfield

SMD - Standardised Mean Difference

SPSS - Statistical Package for the Social Sciences

TiC-P – Questionnaire for Cost Associated with Psychiatric Illness

TRS - Therapeutic Reactance Scale

UHB - University Hospitals Birmingham

U.o.B – University of Birmingham

U.S. - United States

U.S.A – United States of America

U.K. – United Kingdom

VAS - Visual Analogue Scale

VSABTH-C - Valencia Scale of Attitudes and Beliefs Towards Hypnosis- Clients Version

Yoa - Years of age

Chapter 1 - Introduction

1.1 Introduction

I am a hypnotherapist, with training in nutrition, who has been working with and exploring the subject of irritable bowel syndrome (IBS) for over twenty years. During this time, I have worked with many patients who have sought help for their IBS. However, I have worked with far more patients in whom IBS was a comorbidity to their presenting symptoms. Few of these patients expressed any interest in treating their IBS with hypnotherapy despite being happy to use it for other problems. Due to the strong evidence base for hypnotherapy for IBS, I have promoted this treatment extensively and yet the number of patients presenting has been minimal compared to other areas of work. Something had to be causing this, perhaps something in the way people perceived hypnotherapy was a barrier to its use with IBS, and if this was the case, could anything be done about it? This thesis aims to identify if there are perceptions of hypnotherapy which inhibit its use for IBS, or if some other factor is the cause of low engagement with it by people with IBS, such as the number of sessions required for a treatment or the cost of those sessions. Further, it was important to identify factors which impact upon effectiveness within hypnotherapeutic interventions for IBS, as these may provide refinements to the design of any intervention and possible limits to any changes suggested by patient perceptions and preferences.

1.2 Context of the research

IBS can be considered a Cinderella condition: poorly understood and under-appreciated,¹ and it is certainly one for which conventional medicine has provided inadequate treatment for vast numbers of people.² As a consequence, many people

living with IBS use complementary and alternative medicines (CAM) to help manage their condition.³⁻⁵ Some CAM therapies have demonstrated positive benefits when treating IBS, in particular herbal therapies and mind-body therapies.⁶ Of the mind-body therapies, hypnotherapy has been studied as an intervention for IBS since the 1980s^{7, 8} and has been demonstrated to be effective in many studies,⁹⁻¹¹ and as such has warranted inclusion in the UK's National Institute of Health and Care Excellence (NICE) guideline for the treatment of the condition.¹² However, studies of CAM use by people with IBS show that CAM interventions, such as massage therapy, are being used by greater numbers of people with IBS than hypnotherapy.^{4, 13} Particularly interesting in these observations is that psychotherapy, which is arguably very similar to hypnotherapy, is being used by more people with IBS than hypnotherapy, as is acupuncture,^{4, 13} the latter being actively discouraged in the NICE guidelines.¹² All three examples, massage therapy, psychotherapy and acupuncture are led by a specialist practitioner, just like hypnotherapy, and yet appear to be more widely used, which raises the question of why hypnotherapy is not being accessed by more people.

Very little is known about the attitudes of people with IBS towards hypnotherapy for their condition, with the research prior to this thesis consisting of a qualitative subsection of a survey paper investigating people with IBS's use of CAM, which recorded fewer than forty words regarding hypnotherapy.¹⁴ Experts in hypnotherapy for IBS have suggested that a prejudice against the approach¹⁵ may be the reason for this low engagement with this demonstrably effective treatment. However, currently there is a lack of information on which to base an understanding of what is inhibiting the use of hypnotherapy for IBS, and thus no evidence-based way to approach addressing this issue.

Chapter 1 establishes the context for this research, defining key concepts, such as IBS, what hypnotherapy is and how it is used as an intervention for IBS, and goes on to outline the theoretical perspective underlying the thesis. Further, chapter 1 lays out the format of the thesis, including the objectives and how they will be achieved.

1.3 irritable bowel syndrome (IBS)

1.3.1 Definition

IBS is a digestive disorder characterised by abdominal pain, and frequently, a high degree of variability in patterns of bowel function and form.¹⁶ It is a functional disorder, meaning that there are no observable biological markers for it,¹⁷ resulting in an ongoing refinement of diagnostic criteria which started with the Manning criteria in 1978¹⁸ and later moved to the Rome criteria,¹⁹ which have been repeatedly refined and are currently on their fourth iteration.²⁰ Rome IV criteria diagnose IBS by the presence of abdominal pain at least once a week for the past three months, which is altered in some way by bowel movement.²¹ Further, subtypes of the condition exist, these are characterised by the predominance of diarrhoea (IBS-D), constipation (IBS-C) and a definable mix of these two bowel movement types (IBS-M), alongside a fourth category of 'unclassifiable' (IBS-U).²¹ However, these criteria have not always been effectively communicated to non-specialist doctors, whose

understanding of the diagnostic criteria has been seen to be only modestly accurate.^{17, 22, 23}

1.3.2 Symptoms of IBS

For people with the condition, the experience of living with IBS is associated with a substantial negative impact on health related quality of life (HRQOL).²⁴ Studies have found the level of abdominal pain experienced to be predictive of the negative impact upon HRQOL,²⁵ and that abdominal pain increases the frequency of suicidal behaviours amongst people with IBS.²⁶ However, it seems likely that negative HRQOL is not solely caused by abdominal pain, but that other factors such as urgency in relation to bowel movements,²⁷ and incidents of faecal soiling,²⁸ also contribute, particularly through embarrassment.^{29, 30} Fear of embarrassment is a likely cause for the often reported symptom of being housebound^{31, 32} or prompts the development of coping behaviours, such as the phenomena of 'toilet mapping' in which the person living with IBS gains a feeling of safety by knowing the location of every available toilet in a defined locality.³³ Further, people living with IBS frequently have impaired social³⁴ and sex lives,³² the latter possibly due to resultant abdominal pain.³⁵

1.3.3 Aetiology of IBS

The potential causes and underlying mechanisms of IBS are numerous and varied and poorly understood.³⁶ The current foremost candidate is an altered makeup in the composition of gut bacteria (microbiota),³⁶ the result of poor initial gut colonisation,³⁷ small intestinal bacterial overgrowth³⁸ or the use of broad spectrum antibiotics.³⁹

Another potential cause is dysregulation of the gut-brain axis,³⁶ however such dysregulation is increasingly believed to be intimately connected to the altered microbiota⁴⁰ with evidence suggesting that the microbiome changes may be the origin point⁴¹ and even that these microbiome changes may be the direct cause of IBS's common comorbid psychological issues of anxiety and depression.^{42, 43} However, the growing body of research into the effects of altered microbiome have yet to translate into substantially effective strategies, with the current evidence for faecal microbiota transfer, in theory at least, an effective technique for dramatically altering the microbiome, showing no significant benefits over controls for people with IBS.⁴⁴ But the picture is not clear as probiotic therapy has proven effective, although only when multiple strains have been employed.⁴⁵

Another major proposed aetiological factor is diet, with large numbers of people with IBS reporting food based triggers,^{46, 47} in particular, lactose intolerance appears to be common,⁴⁸ as does gluten intolerance⁴⁹ and a high degree of reactivity to capsaicin.⁵⁰ However, with capsaicin, consistent high levels of ingestion have been seen to produce significant reductions in abdominal burning sensations, suggesting that desensitisation to triggers may be possible.⁵¹ Correlations between IBS symptoms have been found with people who consume processed and canned meat, fruit compotes, confectionary, whole cereals and legumes⁵², with foods which are high in histamine and those which tend to result in the incomplete absorption of carbohydrates;⁵³ for the latter, the mechanism of action is believed to be alteration to the microbiome.⁵⁴

Stress has frequently been cited as a risk factor in IBS,⁵⁵⁻⁵⁷ and meta-analysis has demonstrated a correlation with post-traumatic stress disorder (PTSD)⁵⁸ and early

life stressors,⁵⁹ strongly suggesting that stress may be causative. However, there is also compelling evidence for stress as a maintenance factor in the condition,^{57, 60} in which the stress caused by the symptoms helps maintain the symptoms.⁵⁶ One proposed mechanism by which stress may produce IBS symptoms is through the overproduction of pro-inflammatory cytokines in response to stress⁶¹ which leads to dysregulation of the hypothalamus-pituitary-adrenal (HPA) axis, ultimately resulting in visceral hypersensitivity.⁶²

Beyond the above there are multiple and diverse risk factors which have been associated with increased rates of IBS including, low birth weight,⁶³ the level of various sex hormones,⁶⁴ sleep disturbance,⁶⁵ air pollutants and even radiation levels.⁶⁶ However, socio-economic status (SES) does not appear to make a difference,⁶⁷ although lower SES has been associated with higher levels of co-morbid anxiety and depression.⁶⁸

1.3.4 Prevalence of IBS

A large scale study published in 2021 and using Rome IV criteria identified a global adult prevalence for IBS of 4.1%, of whom approximately 64.2% are female.⁶⁹ Additionally it reported similar proportions of IBS-D, IBS-C and IBS-M, with their individual global prevalence rates estimated to be 1.2%, 1.3% and 1.3% respectively.⁶⁹ This study has helped address a number of historical problems in the IBS literature when attempting to establish global prevalence which were a result of changes in the diagnostic criteria,^{70, 71} as well as varied study populations. Varied study populations resulted from different recruitment methods, such as recruiting

directly from doctors' surgeries,⁷² or via the internet,⁷³ or by recruiting from specific populations such as medical students and geographically specific populations.^{74, 75}

1.3.5 Treatment of IBS

The primary focus of treatment has been the reduction of symptoms,⁷⁶ historically focusing on the use of dietary fibre, bulking agents and laxatives but with only moderate benefit to the patient,⁷⁷ although soluble fibre appears reliably effective.⁷⁸ When these prove insufficient, treatment moves to antispasmodics or linaclotide and then a tricyclic antidepressant if sufficient improvement is not attained.⁷⁹ However, for large numbers of people these conventional medical interventions have not translated into sufficiently satisfactory outcomes⁸⁰⁻⁸³ and relationships with the doctor subsequently decline,⁸⁴ for which a lack of treatment pathways has been explicitly cited by many patients as the cause,^{3, 85-88} although a smaller number have identified the experience of adverse events.³ As a result, and in combination with the desire for a more natural solution,³ many people living with IBS turn to CAM to self-manage their symptoms.^{4, 89}

CAM, the highly varied set of practices and products, healthcare and medical systems which are not currently considered a part of conventional medicine,⁹⁰ is popular amongst people with IBS, with studies finding that between 33.9%⁴-51.0%⁹¹ of people with IBS had recently used some form of CAM. However, CAM covers a diverse range of interventions, including everything from exercise⁹² to shamanism.⁹³ To simplify perspectives on CAM these have been broadly grouped, most recently into four different categories; nutritional, psychological, physical and combined,⁹⁴ but

for the purposes of this thesis an older classification based on five groupings⁹⁵ is more useful as the wider body of research has employed that system:

- Alternative medical systems, which are complete medical systems that have a different theoretical underpinning to conventional Western medicine, such as Chinese medicine or homeopathy.
- Mind-body interventions, which look to enhance the mind's ability to effect bodily processes, as with biofeedback or hypnotherapy.
- Biologically based therapies, which use naturally occurring substances, for example foods or herbs.
- Manipulative and body-based therapies, which involve movement to produce effect, such as massage, and
- Energy therapies, that employ various types of energy from magnetism to Qi, an example of which is Reiki.

Interventions from any of these categories could, in theory, be used for IBS, but biologically based interventions have been seen to be vastly more popular than mind-body therapies, which in turn are substantially more popular than manipulation and alternative medical systems.³ Although the motivation for these apparent preferences is not known, they do appear to match the known effectiveness of CAM therapies; a recent meta-analysis found that herbal and dietary interventions were most effective and mind-body ones the next most effective.⁹⁶ One of the most well researched dietary interventions is the Low fermentable oligosaccharides, disaccharides, monosaccharides and polyols (FODMaP) diet, which has been demonstrated to produce significant benefits for people with IBS,⁹⁷ and as such appears in some treatment guidelines.^{79, 98} However, a Low FODMaP diet is difficult

to follow, requires ongoing professional help to enact and is associated with the possibility of low nutrient intake.⁹⁹ Peppermint oil, by comparison, is also included in treatment guidelines⁹⁸ and is an effective and safe intervention for IBS.¹⁰⁰ However, peppermint oil is not a panacea for IBS and although it has a number needed to treat (NNT) of between 2-3¹⁰¹ this still leaves large numbers of people with substantial symptoms from IBS; these may be the people most likely to move on to using mind-body therapies.

Of the mind-body therapies the psychological therapies have been found to be cost effective interventions, compared to medication, predominantly because they do not have the ongoing cost.¹⁰² There are two main psychological therapies used for IBS, cognitive behavioural therapy (CBT) and hypnotherapy, both enjoying a similar long-term effectiveness¹⁰ and both appearing to retain effectiveness when delivered in groups.^{103, 104} However, there appears to be a substantial difference in the frequency with which people with IBS present for the two therapies with one study finding that only 1.4% of people with IBS had used hypnotherapy, compared to 8.1% for psychotherapy,⁴ and similar findings can be seen in other studies.¹³ Currently, we have no information to help understand why hypnotherapy is being relatively underused.

1.3.6 Costs of IBS to the individual and health care system

Living with IBS brings substantial financial impacts in out-of-pocket expenses, which one US study from 2004 found to be on average \$240 per annum in over the counter (OTC) medications and a further \$792 in CAM interventions. The financial impact of

IBS extends to the health service, with studies in the UK finding that patients first presenting with IBS cost on average £2492 per annum during the first three years, which rose by nearly £1000 a year if they were referred to secondary care,¹⁰⁵ resulting in a total expenditure of over £70 million on laxatives and antispasmodics, in the financial year 2012/13.¹⁰⁶ Other studies from around the world have also found substantial additions to medical bills,^{107, 108} with one German study concluding that IBS may be responsible for as much as 1/20th of the total national direct outpatient and medicine expenditure.¹⁰⁹ Further, people with IBS are more likely to have time off work,^{2, 110} resulting in a loss for their employer through low productivity.^{2, 111, 112} This means that people living with IBS experience, pain, embarrassment, isolation and expense.

1.4 Hypnosis and hypnotherapy

1.4.1 Defining hypnosis

There have been many attempts at a definition of hypnosis,¹¹³ these have struggled with issues around differentiating hypnosis and suggestion,¹¹⁴ been inextricably entangled with theoretical underpinnings,¹¹⁵ and some definitions have noted the observable actions taken to hypnotise whereas others have focused upon the experience.¹¹⁶ Consequently, many definitions of hypnosis have been over long, presenting more as descriptions than definitions.¹¹⁷ Intended to address many of these issues is the American Psychological Association (APA) definition of hypnosis,

‘A state of consciousness involving focused attention and reduced peripheral awareness characterised by an enhanced capacity for responsiveness to suggestion’¹¹⁸

This definition achieves brevity,¹¹⁸ but in doing so has drawn criticism for failing to acknowledge the phenomenon of spontaneous hypnosis.¹¹⁹ Arguably, hypnotherapy is free of restrictive theoretical underpinning,¹¹⁹ but it has been challenged for its tacit endorsement of hypnosis as a state and implicit undervaluing of the social and cognitive elements of hypnosis.¹¹⁶ The tension between the presence of a special physical state of hypnosis¹²⁰ and the social and cognitive perspective, which argues that the experience of trance is a response to the suggestion to behave as a hypnotized person,¹²¹ has been an ongoing debate within hypnosis since at least the 1950’s.¹²² Attempts have been made to integrate the two perspectives with theories that argue that hypnotic subjects are performing socially predefined roles but that they are unaware that they are doing so,¹²³. These have been backed up with a modest degree of evidence,¹²⁴ but there is no evidence that they have in anyway resolved the wider debate. However, the use of the word ‘consciousness’, a difficult concept to define is thus kept vague,¹²⁵ within the definition allows for a broad interpretation of the ‘state’ and as such this definition can be seen to be functional, if not precise.

Despite the existence of a definition which has been subjected to academic peer review,¹¹⁸ hypnosis appears to be shrouded in misconceptions and myth,¹²⁶ with commentators providing lists of distinct myths which predominantly cover issues of control and involuntariness, memory retrieval and suppression, changes to awareness, and being in a sleep like state.^{127, 128} How much these myths might

impact on the acceptability of hypnosis is unknown, as some of these beliefs may be detrimental, as with those relating to the hypnotist having control over the subject,¹²⁹ or as with the belief that hypnosis can grant access to heightened abilities, may be perceived as attractive.¹³⁰ Some commentators have, however, observed strong negative opinions of hypnosis,¹³¹ possibly stemming from images of male hypnotists looming over supine hypnotised women¹²⁸ or film and TV depictions of men being hypnotised into committing robbery, murder and even assassination,¹³² and although CIA funded experiments have found the power of hypnosis to fall somewhat short of this,¹³³ it is entirely possible that the myths persist.

1.4.2 Defining Hypnotherapy

The APA definition of hypnotherapy is,

‘The use of hypnosis in the treatment of a medical or psychological disorder or concern.’¹¹⁸

This definition is broad enough to encompass most of the therapeutic work conducted through the modality of hypnosis, whilst also offering a limit.¹³⁴ As such it appears to have been accepted into the canon of academic hypnosis without dissention, or at least any public criticism. However, the line it draws, specifying the ‘treatment of a medical or psychological disorder or concern’, could be argued to preclude from the definition of hypnotherapy any work relating to positive psychology. Positive psychology is that work which looks to increase optimal functioning, creativity, happiness, and contentment, working from the underlying assumption that this is from a starting point of the average,¹³⁵ not the impaired

person. This issue aside, for the purposes of this thesis, which is concerned with the curative aspects of hypnotherapy the definition is more than adequate.

The breadth of the definition of hypnotherapy leaves issues, where markedly different interventions may be employed. For example, self-hypnosis will often be included in an intervention, it may be the whole intervention,¹³⁶ or in support of in-person therapy,¹³⁷ another intervention may use recordings for self-hypnosis, rather than teaching it,¹³⁸ and yet another may use both self-hypnosis and recorded suggestions.¹³⁹ Hypnotherapy has diverse influences which include psychodynamics¹⁴⁰, behavioural therapy,¹⁴¹ Rogerian counselling,¹⁴² CBT¹⁴³ and mindfulness¹⁴⁴ to identify only some of the most prominent. Further it employs a diverse set of techniques which may include suggestion,¹⁴⁵ visualisation¹⁴⁶ and story-telling.¹⁴⁷ Additionally, the training for hypnotherapy is not currently standardised.¹⁴⁸ The result of these differences means that one hypnotherapist approaching a problem may have a distinctly different approach to another.

1.4.3 The development of hypnotherapy

Hypnotherapists often claim their discipline has its origins in the sleep temples of ancient Egypt,¹⁴⁹⁻¹⁵² this is able to be challenged, as there is evidence that the curative dreams induced in such temples were at least sometimes induced via ingestion of opiates.¹⁵³ Regardless of the specifics, it seems likely that some of the techniques and approaches we now term 'hypnotherapy' share some commonality, and possibly common ancestry, with techniques employed by spiritual healers such as shamans, priests and fakirs, possibly having travelled to Europe from the Far East

with Paracelsus in the early 1500s.¹⁵⁴ However, the genesis of what would become the western tradition of hypnotherapy was in 1841 with the publication of James Braid's work '*Neurypnology – on the rational of nervous sleep*' which simultaneously popularised the term hypnosis and introduced the concept of scientific rigour to the subject.¹⁵⁵ Hypnotherapy has been repeatedly endorsed by medical associations, starting as far back as 1891 when a commission for the British Medical Association (BMA) endorsed hypnotherapy for pain, sleep disorders and functional disorders, and later for somatic disorders in 1955.¹⁵⁶ A little later, in 1957, the American Medical Association (AMA) decided that hypnotherapy should be included in medical training, and the Association of American Psychiatrists recognised it as a legitimate therapeutic approach.¹⁵⁷

From an early point in the history of the development of what would become hypnotherapy the presence of, and interplay with, the entertainment side of hypnosis is apparent. Figures like Anton Mesmer gave public displays of their ability,¹⁵⁸ in what commentators have described as a 'publicity frenzy',¹⁵⁹ and as such blurred the lines between therapeutics and entertainment. The interplay continued into the nineteenth century as personified by James Braid being influenced by the spectacle of a show of mesmerism to formally investigate the topic.¹⁶⁰ Later, whilst the BMA were endorsing hypnosis for medical work (above)¹⁵⁶ wider society used it for parlour games.¹⁵⁵ At some point the two aspects, therapeutic and entertainment, became distinct, although it is a blurry distinction at best when even in the twenty-first century a famous stage hypnotist such as Paul McKenna¹⁶¹ brings out multiple books of self-help therapeutics.¹⁶²⁻¹⁶⁵

Recent systematic reviews and meta-analyses of hypnotherapy have demonstrated beneficial effects in a number of different areas such as post-traumatic stress disorder (PTSD),¹⁶⁶ improvements in time taken to fall asleep in people with insomnia,¹⁶⁷ as an analgesic,^{168, 169} for anxiety,¹⁷⁰ with especially pronounced effects when used in combination with other psychological interventions such as CBT¹⁷⁰ and to be comparably effective to other psychological interventions for the treatment of the symptoms of depression.¹⁷¹ However, despite a consistent pattern, there is considerable heterogeneity in the hypnotherapy delivery protocols with differences in the numbers of sessions, for example smoking cessation interventions might be two¹³⁷ or eight sessions of therapy.¹³⁸ Equally, the gaps between sessions might be weekly¹⁷² or monthly,¹⁷³ or intervention contact time could be anything from thirty minutes to nine hours.¹⁷⁴ Justification for the differences is rarely provided. Beyond this, it is known that the training for hypnotherapists varies from institution to institution¹⁴⁸ and, although training and experience are occasionally acknowledged in the protocols of hypnotherapy trials,¹⁷⁵ little is known about its impact upon outcomes. For trials of hypnotherapy there is a further challenge in that blinding of such studies to participants is challenging, arguably even impossible.¹⁷⁶ Attempts have been made to compensate for this by blinding participant arms to the interventions received by other arms in a study,¹⁷⁷ however it seems likely that there are ethical questions over such an approach. As such, most hypnotherapy research is conducted with participants being aware at point of recruitment that they are agreeing to a trial of hypnotherapy and subsequently knowing if they are in the intervention or comparator arm.

However, probably the most intensive area of hypnotherapy research has been in the treatment of irritable bowel syndrome.

1.4.4 Hypnotherapy for IBS

Hypnotherapy for IBS has been researched since the 1980s,⁸ and the early research proved sufficiently positive¹⁷⁸ that a standard approach known as ‘Gut-focused’¹⁷⁹ or ‘Gut-directed’ hypnotherapy (GDH),¹⁸⁰ developed. Although other approaches within the hypnotherapeutic model have been used, such as hypnotically delivered cognitive behaviour therapy (CBT),¹⁸¹ these have not as yet become widely used. GDH was initially developed by Professor Peter Whorwell at the University Hospital of South Manchester¹⁸² and consists of a multiple treatment session programme, which through the use of imagery and suggestion encourages digestive calmness, regularity and strength.¹⁸³ The most used images are the ‘warm hand visualisation’, in which the patient is encouraged to imagine that their hand is warm and then to transfer this warmth into their gut,¹⁸³ and the ‘river visualisation’, in which a turbulent or blocked river is imagined, as appropriate to the type of IBS, and this river is then adjusted in such a way as to temper the symptom.^{184, 185} GDH is usually supported with a series of hypnotic recordings for home practice by patients.¹⁸⁶

Multiple possible mechanisms have been identified for how hypnotherapy may cause change in people with IBS. Currently, psychological mechanisms such as cognitive¹⁸⁷ and perceptual changes,¹⁸⁸ are believed to be primary drivers of change. Research into physical change, specifically rectal sensitivity, has generated conflicting results¹⁸⁹ so it remains unclear how much physical change contributes to improvement. It appears that hypnotherapy may have a moderating effect upon an area of the brain associated with the processing of signals from the body, the

posterior insula region,¹⁹⁰ resulting in a decrease in the sense of pain and the urgency for bowel movements.¹⁹¹ However, exactly how hypnotherapy creates changes in IBS remains unclear.¹⁹²

Because hypnotherapy for IBS has the dominant protocol of GDH the trials conducted into it are far more consistent than in most areas of hypnotherapy research. However, there are still numerous differences within the detail, for example GDH interventions are typically between seven¹⁹³ and twelve sessions long,¹⁹⁴ but as few as three sessions have been used.¹⁹⁵ Further, the length of those sessions may vary substantially, creating vastly differing overall contact times, which can be as low as 150 minutes¹⁹⁶ stretching up to 720 minutes,¹⁹⁷ nearly five times the amount. Even the gap between sessions may vary with some interventions having weekly sessions¹⁹⁸ and others monthly.¹⁹⁵ Some GDH interventions introduce additional imagery, such as 'control room of the mind' and a garden metaphor.¹⁹⁹ Further, training, both generally in hypnotherapy and specifically in GDH, may not be consistent.²⁰⁰ Any of these variations may be impacting upon the outcome and there is currently no evidence to help distinguish between the relative merits of the different approaches.

Despite these variations, the effectiveness of the core GDH protocol appears to be sufficiently robust that repeated systematic reviews have found it to be an effective intervention.²⁰¹⁻²⁰⁶ The most recent of these meta-analyses, using an inverse variance, random effects model, with a 95% confidence interval (CI), identified a relative risk (RR) of symptoms not improving of 0.74 (0.63 to 0.87) with heterogeneity between studies not being significant ($I^2 = 0\%$), ultimately producing a number needed to treat (NNT) of 5 (3.5 - 10).²⁰⁵ Interestingly, it appears that this

effectiveness is retained even when delivered to groups, with one recent trial finding that GDH delivered to groups of up to six participants was, using an intention-to-treat analysis, non-inferior (maximum 15% difference) to the same protocol delivered on an individual basis (1.4, 0.8-2.5) at three month follow up, and (0.7, 0.4-1.3)¹⁰³ at twelve. Group GDH offers the potential for the deliverer to use the same amount of labour to produce equivalent outcomes for greater numbers of people and, although to date, no cost effectiveness analysis has been conducted for the cost of delivery of hypnotherapy for IBS, it seems likely that group hypnotherapy offers the possibility of a relatively cost-effective psychological intervention.

This body of evidence has resulted in hypnotherapy being included in the NICE guidelines as a psychological intervention for IBS, which may be used after medical guidance has been followed for a year and yet symptoms persist,⁷⁹ the original inclusion was in 2008¹² and it was retained when guidance was updated in 2017.⁷⁹

1.5 Overview of the thesis

So far in this chapter, the key contextual elements required to understand the topic under discussion, IBS and hypnotherapy (above), have been defined. This section will discuss the research paradigm, the theory underpinning the research, and will go on to define the thesis's questions and objectives, and how these will be addressed.

1.5.1 Context of the research – paradigm and theory

It is important to understand the assumptions and models present during the conception and conduct of a thesis, as these inform every stage of the work. Some assumptions and subsequent methodological choices are explored in more detail in subsequent chapters, in particular chapter 3, which deals with the assumptions relating exclusively to the qualitative elements of the research. The concepts guiding this thesis as a whole cover two areas, the paradigm, and the theory. It is important to explain the paradigm choice, as the basic paradigms available to the researcher can be vastly different, and have even been considered antagonistic to each other.²⁰⁷ Equally important, is the choice of theory, which is actively used in the thesis to as a tool for focusing discussion of findings.

1.5.1.1 The mixed methods paradigm

A paradigm is a set of beliefs which come together to form a system of ideas.²⁰⁸ Historically there have been two basic paradigms in research, quantitative and qualitative.²⁰⁹ Quantitative research can be said to be embedded in what is termed the positivist approach, an approach which seeks empirically demonstrable facts to serve as a guide to action,²¹⁰ it sees all research and enquiry as inherently in the service of this goal,²¹¹ usually achieving this through statistical methods and numerical data.²¹² Quantitative data provides specific answers to specific questions, but in so doing it is prone to attempts to control, and thus reduce, variables, which can mean the results are not as generalizable as the certainty of numerical data often implies.²¹³ Qualitative research is more frequently interested in subjective reality,²¹⁴ using and providing narrative and experiential data.²¹² As such, qualitative

data is useful to capture data in its complex context,²¹⁵ establish understanding where little or nothing is known about an issue,²¹⁶ as well as addressing areas where there is a very limited sample size.²¹³ However, generalizability is rarely the aim of qualitative approaches²¹⁷ and as such it is not often or easily achieved.²¹⁸

Some have seen these two approaches as mutually incompatible²¹⁹ and even antagonistic to each other²⁰⁷ however a movement to integrate the two has existed since at least the 1970s,²²⁰ and has grown in popularity over the decades.²⁰⁹ The combination of quantitative and qualitative approaches within a single study has become known as mixed-methods research.²²¹ Combining methods within research can offset the limitations of either of the two paradigms²²² and act as a point of triangulation upon the data to increase rigour.²²³

One of the topics underpinning this thesis, why people with IBS appear to be using hypnotherapy for their condition less frequently than similar interventions such as psychotherapy, is poorly understood, which would recommend qualitative methods.²¹⁶ However, if the study were limited to qualitative approaches only, the potential usefulness of that data would be limited as there would be a lot of information but no way of distinguishing the relative importance of the individual findings. Further, quantitative understandings are required to provide a balance to the opinions and attitudes identified by the qualitative research as some of these opinions may, if accepted without a quantitative perspective, encourage adaptations in the presentation or application of hypnotherapy for IBS that might be detrimental to outcomes. As such, a mixed methods approach has been adopted for this thesis so that the strengths of each approach can counter the weaknesses of the other. However it should be acknowledged that all mixed methods research is a balance

between the two underlying paradigms,²²⁴ and because of the paucity of data regarding people living with IBS's attitudes to hypnotherapy for their condition the balance here favours the qualitative.

Integration of quantitative and qualitative can be done in two different ways, sequential in which research moves between the two different methods, or concurrently with quantitative and qualitative running simultaneously with the aim of them acting as a validator to each other.²¹² The main barrier to the use of a sequential model of mixed methods research is time,²²⁵ which was not a primary concern for this thesis and as such the opportunities to reflect upon and use the insights from one phase of research to influence the next were available to this thesis.²¹² Therefore a sequential design was adopted.

1.5.2 Theoretical perspective

This thesis is focused on identifying and overcoming inhibition to the use of a CAM intervention, hypnotherapy, for IBS by people with the condition, as such a theoretical perspective which would examine the potential patient's movement towards hypnotherapy was appropriate to help structure and direct these investigations.²²⁶ However, no theory regarding the movement towards hypnotherapy exists, as such, a broader approach was taken which looked at theory which considered the movement to CAM.

How and why people move towards CAM has been of interest to academics for many years.²²⁷ Serious academic interest in the growth of the use of CAM treatments dates back to the late twentieth century,²²⁸ some of this research was

driven by a sense of the dangers inherent in people engaging with loosely regulated and untested therapies.²²⁹ Early research identified, that rather than being driven by a 'flight from science', as some commentators had opined, that people adopted CAM because conventional medicine for their condition had failed to achieve sufficient results, and further that the same people rarely abandoned conventional medicine entirely.²³⁰ Later studies found that the desire to be treated as a whole person and to have influence over treatment were also substantial factors in people's choice to use CAM.²³¹ Further research found that people's specific choice of CAM intervention could be affected by numerous factors including the nature of symptoms, availability of services and materials, and personal preference.²³² These findings coalesced into a theory of negative factors in conventional medicine pushing people away from it, and appeal and accessibility factors pulling people towards specific CAM interventions,²³³ generally referred to as Push-pull theory.²³⁴

1.5.2.1 Defining Push – pull theory

One of the most comprehensive expressions of Push-pull theory available is found in a paper by Shaw, Thompson and Sharp²³⁵ and it is this version which forms the basis of Push-pull theory employed here. "Push" factors are defined as, problematic factors with conventional care which cause patients to look elsewhere.²³⁵ "Pull" factors draw people towards a particular CAM intervention, these can be seen as 'internal', those pull factors which relate to the potential patient's personal philosophy and 'external' factors which are those elements of the CAM intervention which make it more appealing, such as the qualities of the therapists.²³⁵ This model appears to

work well for the general movement to CAM and may explain a person's particular choice of CAM, but is less useful when it comes to explaining why a CAM has not been selected. To address this issue, an additional set of factors, henceforth referred to as inhibitory factors, are introduced into the model. Inhibitory factors are those factors particular to a CAM intervention which might put off a potential user.

Inhibitory factors can be seen as the opposite of Pull factors, so where a person might be pulled towards a CAM which is cheap, locally available or suits the way they perceive their issue, they might be equally inhibited if a CAM is expensive, requires substantial travel or in some way refutes their conceptualisation of their problem.

To understand how people living with IBS might move towards hypnotherapy for their condition using Push-pull theory it is necessary to obtain information on the four areas of the theory: push, internal pull, external pull and inhibitory factors. This directs research to identify if people with IBS are experiencing push away from conventional medicine, if there are any factors innate to hypnotherapy which would make it appealing to people with IBS (internal pull), what general factors make a CAM appealing to people with IBS, so that these can be assessed in the context of hypnotherapy (external pull) and what factors may put people with IBS off using hypnotherapy (inhibitory factors).

1.6 The importance of the research

Hypnotherapy offers a potentially valuable treatment for IBS, further, if group delivery proves as effective as the current evidence suggests^{103, 236} with its associated

potential efficiency of delivery, then hypnotherapy could prove to be a relatively inexpensive treatment for the many people living with IBS. However, if people with IBS have an inhibition towards hypnotherapy, then none of these potential benefits are accessible. By identifying barriers to the use of hypnotherapy for IBS by people with the condition and providing sufficient understanding to identify the relative impact of these, information is gained to help overcome these barriers. However, this is not the sole concern of this thesis, which recognises that there may be limits to adjustments which can be made to interventions. As such this thesis intends to provide the information required to allow for informed design of a hypnotherapy for IBS intervention.

1.6.1 The research questions

It seems that something is inhibiting the use of hypnotherapy for IBS by people with the condition. Equally, it is unclear what elements of a hypnotherapy for IBS intervention, such as number of sessions, or location of intervention, impact upon its effectiveness and thus can, or cannot, be adjusted. To provide the information required to address these issues the following research questions will be answered:

1. What can the current literature tell us about attitudes and opinions towards hypnosis and hypnotherapy?
2. What are the experiences of people living with IBS and why do they move towards using CAM?

3. What are the beliefs and expectations of people living with IBS of hypnotherapy for their condition?
4. What factors within the patient's characteristics, intervention protocol and delivery setting, impact outcomes of hypnotherapy for IBS?
5. How important, both on their own and in relation to one another, are factors effecting the acceptability of hypnotherapy for IBS by people living with the condition?

1.6.2 Objectives

To meet the above aims the following objectives will be achieved:

1. To identify what people understand by hypnosis and hypnotherapy.
2. To establish the current understanding of hypnotherapy for IBS by people with the condition.
3. To establish what factors contribute to people with IBS adopting CAM and what affects their choice of CAM.
4. To establish what inhibits the use of hypnotherapy for IBS by people with the disorder, and their relative importance.
5. To identify what factors within the GDH protocol result in decreased effectiveness and which improve effectiveness.

1.6.2.1 Meeting the objectives

This thesis is predominantly based upon published and peer reviewed papers (Chapters 2,5 and 6), and papers submitted for publication (Chapter 7) which are presented in full as the body of the individual chapters and to discuss findings in the context of Push-pull theory. The other chapters (3,4 and 8) are presented in traditional format.

Chapter 2 – Presented in the form of a published paper, this chapter covers the findings of a narrative review of the literature into the public's attitude towards and understanding of hypnosis and hypnotherapy. As there was a paucity of information on the attitudes towards hypnotherapy of people living with IBS, but a substantial body of research into the attitudes and understanding of the wider population, this narrative review was undertaken to provide context, for both the development of and interpretation of the later investigations into the IBS specific population's attitudes and understanding (chapter 5). Further, the findings are explored from a Push-pull theory perspective to identify possible pull and inhibitory factors which may be found in the perceptions of the general population.

Chapter 3 – This chapter presents the methods of the qualitative elements of the study (Chapters 4-5) and their development and rationale. It goes on to provide the demographic elements of the study sample as these are common to the two subsequent analysis (Chapter 4-5). Due to the use of full papers within the presentation of this thesis there is some overlap between this chapter and the material presented in the papers reproduced in the subsequent qualitative chapters

(Chapter 4-5), however this chapter expands upon many of these topic areas providing a more detailed explanation.

Chapter 4 – This chapter presents a qualitative examination of the lived experience of people with IBS from an open coded analysis and contextualises the findings within the wider body of qualitative research into people with IBS. The findings are subsequently examined with the lens of Push-pull theory to identify if living with IBS produces substantial push factors and possible inhibitory factors for the movement to CAM. This chapter evidences the existence of push factors causing people with IBS to move away from conventional medicine.

Chapter 5 – This chapter presents, in the form of a published paper, an examination of people with IBS's attitudes and opinions of hypnotherapy for IBS. A discussion in the context of Push-pull theory is undertaken, which notes the presence of external pull and inhibitory factors for the use of hypnotherapy for IBS.

Chapter 6 – This chapter presents, in the form of a published paper, a systematic review, meta-analysis and subgroup analysis of hypnotherapy for IBS. The subgroup analysis identifies factors which appear to impact on the effectiveness of hypnotherapy for IBS, as such it provided important insights as to what is effective and what is not and as such gives definition to the extent to which any protocol of hypnotherapy for IBS can be altered.

Chapter 7 –presents in the form of a paper, which is, at time of writing, under consideration for publication a survey of attitudes to hypnotherapy for IBS of people living with this condition. The questions are predominantly informed by the findings of the qualitative work into people with IBS's attitudes to hypnotherapy for their condition (Chapter 5) and are intended to identify the relative importance of the

attitudes and beliefs identified in the earlier work. A discussion employing Push-pull theory provides an understanding of which inhibitory factors and external pull factors are the most important to people with IBS.

Chapter 8- This chapter brings the findings together. It will highlight the main findings and assess how, and how well, the objectives have been met and critique findings, methods, and the use of the Push-pull theoretical perspective. Conclusions will be made. Further, the strengths and limitations will be discussed, as will potential avenues for future research.

1.7 Introduction chapter summary

This chapter introduced and outlined the research to be conducted in this thesis. It has defined key terms such as IBS, CAM, hypnosis, hypnotherapy, and hypnotherapy for IBS. It introduces the mixed methods paradigm and explains why this is relevant to this thesis and explains and outlines Push-pull theory and how it is used within the study. Finally, it gives a full list of the thesis aims and objectives and an overview of the thesis. The next chapter (Chapter 2) examines the existing literature on the public's attitudes and understanding of hypnosis and hypnotherapy.

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Chapter 2 – The publics opinions and attitudes of hypnosis and hypnotherapy - a narrative review.

2.1 Introduction

This chapter presents, in the form of a published paper,¹ a narrative review of research into the general public's attitudes, opinions and knowledge of hypnosis and hypnotherapy. As the thesis is interested in people with IBS specifically it would have been preferable to look into their attitudes regarding hypnotherapy, however scoping searches identified only one study with any information regarding the attitudes of people with IBS towards hypnotherapy for their condition and this study reported only four sentences of qualitative research on the topic.² As there was such a dearth of research, a wider scope was taken, and attitudes of the public as a whole were studied. It is an assumption of this study that people with IBS have a similar exposure to sources of knowledge regarding hypnosis and hypnotherapy as the wider public and as such, the knowledge of the general public is likely to be broadly representative of this. This assumption is explored in chapter 5 when the qualitative data from people with IBS is examined in the context of hypnosis and hypnotherapy.

Following the paper in this chapter there is an exploration of the findings through the lens of Push-pull theory of movement towards CAM³ (See 1.5.2.1 Defining Push – pull theory). This chapter concerns itself with identifying external pull factors, those which relate to the modality of treatment, and inhibitory factors, factors which slow or prevent the uptake of certain CAM treatments. Other components of the Push-pull theory will be explored in the context of the findings of later chapters.

This chapter addresses objective one of the thesis, to identify what people understand by hypnosis and hypnotherapy, by establishing a baseline understanding of what is already known of people's opinions and understanding of hypnosis and hypnotherapy. The findings were subsequently used to inform the design of the

qualitative research topic guide (Chapter 3) and provide some comparison points for the findings of that research, specifically on broad topics such as people's openness to hypnotherapy.

2.2 What the public think about hypnosis and hypnotherapy: A narrative review of literature covering opinions and attitudes of the general public 1996-2016. *Complementary Therapies in Medicine*. 2017.32 75-85

What the public think about hypnosis and hypnotherapy:
A narrative review of literature covering opinions and
attitudes of the general public 1996-2016

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Summary

Objectives: To describe the public's understanding of hypnosis and openness to hypnotherapy.

Methods: A comprehensive search of English language peer reviewed journal articles from 1st January 1996-11th March 2016 was performed over 9 databases (Medline, PubMed, PsycARTICLES, CINAHL, Embase (excerpta medica), PsychInfo, Cochrane, Science citation index-expanded, Conference citation index) and a title-only search of Google scholar. 39 keyword combinations were employed: hypnosis, hypnotherapy, hypnotic, perception, beliefs, knowledge, view, opinion and understanding, in singular and plural where appropriate. A search of the bibliographies of eligible articles was undertaken.

Inclusion criteria – Articles containing original data regarding the general public's attitudes towards hypnotherapy or hypnosis.

Exclusion criteria - Non-therapy hypnosis (forensic, entertainment) materials and those concerned with groups likely to possess prior or professional knowledge of hypnosis, (hypnotists, clinicians and psychologists).

Analysis was conducted in line with the questions.

Results: 31 articles were identified, covering diverse populations. Most people believe that: hypnosis is an altered state which requires collaboration to enter; once hypnotized perception changes; hypnotherapy is beneficial for psychological issues and is supportive of medical interventions; hypnosis can also enhance abilities especially memory. People are open to hypnotherapy subject to validation from the

psychological or medical establishment. Similarity of opinion is more apparent than difference.

Conclusion: Most people are positive towards hypnotherapy, and would consider its use under the right circumstances.

1.Introduction

The use of complementary and alternative medicine (CAM) is widespread in the UK with between 21-41% of people using some form of CAM every year.¹ Of the CAM approaches hypnotherapy enjoys only moderate popularity.² Hypnotherapy is however one of only a few CAM therapies included in National Institute of Health & Care Excellence (NICE) guidelines^{3,4} and enjoys the support of general practitioners.⁵ The public's lack of enthusiasm may be because they lack an adequate understanding of hypnotherapy, or that they may distrust it due to negative concepts derived from popular culture.^{6,7,8}

Numerous reviews have been conducted on hypnotherapy, covering such topics as: irritable bowel syndrome,⁹ chronic pain,¹⁰ cancer patients' symptoms,¹¹ insomnia,¹² labour pain,¹³ fibromyalgia,¹⁴ migraine,¹⁵ nausea,¹⁶ anxiety,¹⁷ and temporomandibular disorders.¹⁸ However no review covers the public's conception of hypnotherapy, despite nearly 80 years of research.^{19,20} The motivation behind previous public opinion research has varied, exploring how beliefs predict outcomes,²¹⁻²³ how changing attitudes may affect outcomes,^{24,25} how a patient group perceive hypnotherapy²⁶ and gathering data towards a general picture of CAM.²⁷ Some research has tried to get a picture of the beliefs of the general public^{28,29} but this is inevitably limited to a single population group or culture. A broad understanding of the general public's perception of hypnotherapy would provide valuable information for health practitioners considering referring to or offering hypnotherapeutic services and in particular those considering establishing services, either external to or within an existent healthcare framework.

Therefore the aim of this study is to use existing research to gain an understanding of:

- What people understand by the concept of 'hypnotizability': the ability to enter trance.
- What people understand by the state of hypnosis and the phenomena associated with it.
- Whether people have preferences and biases with regard to who conducts hypnotherapy and where.
- Whether certain population groups have differing perceptions of hypnotherapy.
- Whether people are open to hypnotherapy.

As hypnosis is currently poorly understood even amongst hypnotists,³⁰ only minimal interpretations of the validity of public opinion will be forwarded. A broad definition can be offered in that 'hypnosis' refers to an interaction between a hypnotist and one or more subjects in which the hypnotist focuses the attention of the subject away from their surroundings towards their inner experience and creates changes of perception and experience through suggestion.³¹ Hypnotherapy is when the suggestions are made towards a specific therapeutic outcome.³²

2. Materials and Methods

It was apparent from scoping that several assessment tools were used with variable, often uncomparable, outcome measures. In addition, a broad series of aims were

proposed, which would be unachievable in a single systematic review. The narrative review approach, however, can allow the breadth and interpretation required, and was considered appropriate.³³

2.1 Inclusion and exclusion criteria

2.1.1 Types of studies – Studies that included definable cross sectional data, from 1st January 1996 to 11th March 2016, were included. The period was chosen as it covered a sizeable increase in CAM usage.^{34,35}

2.1.2. Type of participant - Adult participants (80% ≥18 years).

2.1.3 Inclusion Criteria -. Articles were included if they contained original data regarding the general public's attitudes, opinions and perceptions of hypnotherapy or hypnosis. This did not extend to the characteristics of hypnotherapy users or non-user. Only English language publications were included, this decision was driven by pragmatic considerations of time and resources.

2.1.4 Exclusion Criteria - Articles were excluded if they were about hypnosis used for non-therapy reasons, such as forensic hypnosis, used predominantly to recover memories in legal proceedings, or for entertainment purposes i.e. stage hypnosis. We excluded articles about groups with participants who predominantly had previous experience of hypnosis. We also excluded groups which were likely to have professionally formed opinions of hypnotherapy, including: hypnotists, who have direct experience; clinicians and post graduate level psychologists who are likely to have encountered hypnosis during training, by being approached by hypnotherapists promoting services or training, or through patient enquiry and as such will have been forced to formulate opinion with a professional slant. No exclusions were made on grounds of quality of study.

2.2 Search Strategy

Relevant literature was identified by a systematic review of computerized databases (Medline, PubMed, PsycARTICLES, CINAHL, Embase (excerpta medica), PsychInfo, Cochrane, Science citation index-expanded, Conference citation index) for English language articles in peer reviewed journals. Several key word combinations were employed (Hypnosis + Perception/s, Hypnosis + attitude/s, Hypnosis + belief/s, Hypnosis + Knowledge, Hypnosis + view/s, Hypnosis + Opinion/s, Hypnosis + understand/ing, Hypnotherapy + perception/s, Hypnotherapy + attitude/s, Hypnotherapy + Belief/s, Hypnotherapy + Knowledge, Hypnotherapy + View/s, Hypnotherapy + Opinion/s, Hypnotherapy + Understand/ing, Hypnotic + Perception/s, Hypnotic + attitude/s, Hypnotic + belief/s, Hypnotic + Knowledge, Hypnotic + view/s, Hypnotic + Opinion/s, Hypnotic + understand/ing.)

A multiple stage process of inclusion/exclusion was undertaken with titles alone examined first, then titles and abstracts or titles and introduction, if no abstract was available, then finally full-text articles. At each stage those articles clearly ineligible were excluded. Additionally, a series of Google Scholar searches were conducted using the same keyword combinations in 'title only', with citations and patents excluded. This was sorted by the article titles and subsequently by abstract, or introduction if no abstract was available, using the same inclusion / exclusion criteria. Eligible articles' reference lists were searched for further articles that might meet the criteria. Some papers were removed upon close reading of the full article because they failed to meet the criteria. Six articles were unobtainable.

2.3 Data extraction

Data were extracted by one author (MK). A structured quality assessment of studies was not undertaken.

3. Results:

3.1 Characteristics of the studies

Thirty-one articles met the inclusion/exclusion criteria. These fell into three broad types: those which directly addressed people's attitudes, opinions and perceptions of the use of hypnosis (N=9); those which gathered attitudinal data for some other purposes, such as assessing the differences hypnotic experience makes (N=17); and those which looked broadly at CAM approaches and included some data on hypnotherapy (N=5). The characteristics of the included studies are in Table 1. The majority of the papers drew exclusively on quantitative data (N=30), specifically survey data with some repetition of standardized tools, such as the Opinions About Hypnosis (OAH) questionnaire³⁶ (N=5), Attitudes Towards Hypnosis (ATH) questionnaire³⁷ (N=3) and variants of the Valencia Scale of Attitudes and Beliefs Towards Hypnosis- Clients Version (VSABTH-C)³⁸ (N=2). A number of studies used both OAH and ATH (N=3).

There was a bias towards undergraduate populations (N=15). This is ameliorated by the remaining studies being sampled from a variety of patient populations (N=10), and studies which made attempts to recruit diverse populations (N=6). The literature has a general bias towards populations with English as a first language, but includes

multiple nationalities, including samples from Iran, Germany, Hong Kong and non-English speaking U.S. Latinos. Most of the studies had a gender bias with a larger representation of women.

3.2 Hypnotizability

The concept of hypnotizability, meaning the ability to enter the state of hypnosis can be seen to have two distinct elements: the transition from 'normal' state to 'hypnotized'. No information was found on this topic, other than that most people think it requires relaxation.³⁹

A number of studies have addressed the question of control (N=5^{22,28,38,40,41}) within the transition into trance, these have found that the majority of people reject the ideas that the hypnotist is in charge⁴⁰, and that people can be hypnotized against their will.^{22,28} Most believe that collaboration is required for hypnosis.^{38,41}

Of those papers which examined respondents' perception of their own, and other people's, hypnotizability (N=5),^{22,28,42-44} the majority reported that most people felt they could enter a hypnotic state.^{22,42} However, one study found that when asked about their hypnotizability the majority stated that they were 'uncertain'.⁴³ Most people appear to believe that the ability to enter hypnosis is variable.^{22,28,44}

Six papers addressed the question of personal characteristics that people associate with hypnotizability.⁴⁴⁻⁴⁹ These found that people rejected the idea that hypnotizability was associated with mental instability⁴⁴⁻⁴⁹ however a number of the same papers identify modest agreement with the concept that intelligent people are the least likely to get hypnotised, and that those who are hypnotizable are 'weak people'.^{44,46,49}

Overall it can be seen that most people consider that hypnosis is a state which requires collaboration to enter, at the very least the choice not to resist, and one that most people will be able to enter, although the ease with which this happens is inversely related to intellect and strength of mind. There is too little information available about perceptions of the transition from 'normal' to 'hypnotized' to comment.

3.3 Hypnosis and hypnotic phenomena.

A major area of investigation has been people's beliefs about being in hypnosis, the state of hypnosis, the nature of hypnotic control and the phenomena hypnosis can produce.

3.3.1 The Hypnotic State

One question which has historically taxed researchers is whether or not hypnosis is a special state of consciousness or a socio-cognitive construct.⁵⁰ All of the studies which asked if hypnosis was a special state of consciousness found strong positive agreement for the idea.^{26,28,29,44,46,49,51,52} Those studies which asked about socio-cognitive factors and models have found lower levels of certainty for these.^{26,44,46,49,51} It is safe to conclude that on the evidence found people broadly believe hypnosis to be some form of altered state.

Beliefs about the nature of the hypnotic state have also been investigated. Low acceptance of hypnosis as a 'sleep state' has been observed^{28,39} and some studies found modest evidence for recognition of concepts of dissociation and depersonalization.^{20,53}

It can be seen that the public perceive hypnosis to be an altered state of consciousness. They are, however unclear as to the nature of that state with most, but not all, rejecting the sleep interpretation and some suggestion that a dissociative interpretation may be predominant.

3.3.2 Hypnotic Control

Twelve articles contribute material regarding control when already in a hypnotic state.^{20,26,28,29,38-40,44,46,49,53,54} A number of studies (N=11) found tendencies towards the locus of control being with the hypnotist.^{20,28,29,38-40,44,46,49,53,54} The studies which employed OAH questions^{26,44,46,49} show a mixed picture with ideas about hypnotic responses 'happening automatically' and being irresistible being endorsed, whilst the opposite idea is also supported. A more focused form of the control debate can be seen with those studies (N=6)^{26,28,29,44,46,49} which have explored the phenomenon of compulsive truth-telling in hypnosis. This idea is accepted by the public to varying extents in all of the studies.^{26,28,29,44,46,49} The data explored are not sufficient to say if the public as a whole believe that power lies with the hypnotist or the subject, although there does appear to be a slight tendency towards the hypnotist.

3.3.3 Awareness in hypnosis

Awareness is a subject which seven of the articles touched upon,^{26,28,39,44,46,49,51} five through OAH based questions.^{26, 44,46,49,51} The idea that a hypnotized person has reduced awareness is strongly endorsed^{26,28,40,44,46,49} and there is also acceptance that hypnotic subjects may possess a 'double awareness',^{26, 44,46,49} however it is

unclear whether this undermines or explains the concept of reduced awareness.

Within the literature there is significant evidence that the general public believe that hypnosis results in a reduced or internally focused awareness, it is unclear if this is seen as absolute or partial.

3.3.4 Beneficial phenomena

The use of hypnosis in its therapeutic and enhancement capacity is a common theme addressed by fourteen of the studies.^{22,26,28,29,38-40,43,44,46,49,53,55,56} The evidence suggests that hypnosis for psychological problems is strongly endorsed,^{22,44} in particular for anxiety.^{39,40} There is low recognition that hypnotherapy can cure physical illness.^{22,44} There is, however, evidence of a strong endorsement for the use of hypnosis in support of medical treatment.^{43,55} The subject of hypnotic pain control has garnered particular attention, with several studies identifying belief in its efficacy.^{26,38, 43,44,46,49} However, a high variance of opinion is apparent in assessment of its usefulness (9%²⁸-90%³⁹). In some sources this appears to be related to severity of pain⁴³, which may indicate that it is seen as unreliable or only partially effective.

The capacity of hypnosis to enhance abilities, sometimes with implications of the superhuman or esoteric, has been examined in a number of papers, with several finding an endorsement of the concept.^{44,53,56} The strongest endorsements for specific abilities relate to accessing past lives.^{28,44} Memory enhancement attracts particular attention, with six papers reporting an endorsement of the concept.^{26,29,38,44,46,49} Conversely hypnosis's ability to suppress memory is endorsed.^{22,28,40}

The evidence suggests that the general public believe that hypnosis can have psychological, and to a lesser extent, medical benefit, and that hypnosis can enhance human capacity. There is pronounced belief in hypnosis's ability to affect memory and access past life experiences.

3.4 The hypnotist and their setting

Evidence has been gathered regarding the characteristics of the hypnotherapist (9 articles).^{26,28,39,44,46,49,51,54,57} This is focused upon their individual skill in hypnotism and hypnotherapists' association with traditional relevant professions. There is good evidence that people prefer the hypnotist to be connected with the medical or psychological establishment, either through qualification²⁸ or via referral.⁵⁷ Additionally, there is a clear perception that the hypnotist's skill is a factor in the success of the hypnosis.^{26,28,44,46,49,51} No evidence addressed place of practice or personal characteristics, leaving these questions open.

3.5 Perceptual differences in populations

A major question is how consistent are people's perceptions of hypnosis, and whether they vary with nationality, socio-economics, age or gender, however a paucity of data in most of these areas has limited any findings.

3.5.1 Nationality

A number of countries have been studied using the same tools, and some of these have used similar populations (students) making it possible to conduct an international analysis. A comparison of OAH scores for a U.S. population⁵¹ and Chinese population⁴⁴ showed more similarity than difference. An analysis of a study covering the U.S., Iran, Germany and Australia found a similar pattern with only 4 statistically significant differences over 35 questions, and none of these so pronounced as to distinguish any one nation from the others.⁴⁶ Internationally the trend appears to favour similarity over difference.

3.5.2 Age

Only one study provided a finding regarding age, which was that more than double the number of students (young) would like to be hypnotized than retirees (older).²⁸

3.5.3 Gender

Evidence for gender difference is limited; one study which supplied a breakdown of findings by gender,²³ showed no significant differences, however an earlier study⁵¹ identified small but statistically significant gender differences in 2 of 21 questions. As with nationality, similarity is far more apparent than difference.

3.5.4 Education

None of the studies conducted comparisons between highly and less educated populations, nor is there data which allows for this with any reliability. One study did

compare psychology students with non-psychology peers, finding the psychology students to be more positive about hypnosis.⁴⁴

3.5.5 Morbidity

Despite a number of studies which recruited from patient populations for methodological reasons, little comparison between patient groups and non-patients is possible. What data is available suggests that psychiatric outpatients were less aware of the medical uses of hypnosis⁴⁰ than general outpatients and that women having an abortion²⁶ give lower scores than their closest non-patient comparator (USA population).⁴⁶

Many of the demographic details explored are on small data sets and as such can only be treated as provisional findings, however where larger bodies of data have been available the apparent theme is one of similarity.

3.6 Are people open to hypnotherapy?

One of the most significant questions is 'would people use hypnotherapy?'. The literature contains a multiplicity of sources providing evidence for the acceptability and positive regard for hypnotherapy,^{38,41-44,46,48,49,54} however, a minority ranging from 1%-31%^{40,58} rejected it. There also appears to be conditionality to the acceptance of hypnosis as a treatment, with large numbers of respondents choosing 'more information' when this option is presented,⁴⁰ and the suggestion of an inverse relationship between severity of intervention and willingness to accept

hypnotherapy.⁴³ It would appear from the data examined that there is a positive attitude and openness towards hypnotherapy for the majority of people, however, actual use is conditional and there is a minority which rejects it.

4.0 Discussion

Although a number of areas of investigation (control in trance, hypnotherapist's characteristics and preference of treatment location), yielded unclear findings, it appears that internationally the public conceive hypnosis as an altered state, which can be entered with the subject's consent under the guidance of a skilled practitioner. Once hypnotized it appears the perception is that the subject's awareness is altered to some degree and that some medical and substantial psychological benefits can be obtained. The majority of people appear conditionally open to the idea of hypnotherapy, and a minority reject it.

Of particular interest is the apparent gap between the low acceptance of hypnosis as a medical therapy and its high acceptance as a mental health therapy. This implies that people possess a Cartesian dualism⁵ of body and mind rather than a 'Mind-body' interactive model⁶⁷. This may present a barrier to the medical use of hypnotherapy which has some of its strongest evidence with pain and gastro-intestinal conditions⁶⁸ both of which are likely to be perceived as bodily conditions. This trend may also apply widely to CAM therapies.

It was apparent that hypnotherapeutic services seem to be more acceptable if referral is made by a clinician. This has implications for increasing usage of hypnotherapy and may provide a counter to the limitation of a perceived psychological treatment being offered for a physical problem. Again this may be generalizable to most CAM therapies.

The resistant minority appear to be problematic for anyone wishing to promote hypnotherapeutic treatments. It may be that this group possesses a negative view of hypnosis derived from media portrayals, however, 3.8% of respondents in one study believed hypnosis could lead to demonic possession,²² suggesting that religious beliefs may be a factor. It is unclear how large this resistant group is and thus how significant a barrier they represent.

4.1 Limitations

The exclusion of non-English language journals will have an effect on the international representativeness of the findings, even though a variety of nationalities have been included. We did not undertake a formal quality assessment of the studies and there were some limitations. For example, a disproportionate number of articles used psychology students as their primary subjects. As there is tentative evidence that psychology students are more positive towards hypnosis than other students, and further that the young may be more positive towards hypnosis than the old, there is a possibility that the overall impression has a stronger positive slant than

may be representative. Equally, a bias towards the female population over the male is apparent, although the significance of this is unclear.

4.2 Recommendations

4.2.1 Recommendations for future research

There is a paucity of data in a number of areas particularly regarding how age and education affect people's attitudes towards hypnosis. Pertinent to informing practice would be a deeper understanding of how factors such as location, patient morbidity and therapists' characteristics affect attitudes to hypnosis.

4.2.2 Recommendation for practice

Most people appear to accept that they are hypnotizable, but there is an apparent concern around control in trance, suggesting the hypnotherapist should emphasize the patient's self-efficacy. For the practitioner looking to increase uptake of hypnotherapy it appears that a significant proportion of people are more willing to consider hypnosis if it is associated with the mainstream medical or psychological world, either through referral or qualification.

5. Conclusion

The research looked at all the identifiable peer reviewed journal articles published in English from 1st January 1996 -11th March 2016, which included primary research into the adult public's perceptions of hypnotherapy. This literature covered multiple

nations, ages, patient groups and both sexes. There was a slight over representation of women and psychology students.

Most people considered hypnosis to be an altered state of consciousness which required a skilled practitioner and the subject's consent to enter. It can be seen that people were open to hypnotherapy under the right circumstances, meaning the presenting condition is mental or treatment is supportive of, but not instead of, a medical procedure, and the hypnotist needs to be identified with either the medical or psychological mainstream through qualification or referral. A number of people appeared to reject hypnosis, the significance of this is unclear as the numbers varied widely.

These findings dispel the concept that most people's attitude towards hypnotherapy is affected by negative media representation and in fact suggest that the public possess a nuanced conceptualization of hypnotherapy. It identifies a possible barrier to hypnotherapy's usage with physical problems which may explain its modest usage.²

Conflict of interest & funding

MK is a hypnotherapist and is not receiving any funding and is unaware of any commercial interest in the findings. SG and KJ are part funded by the National Institute for Health Research (NIHR) Collaboration for Leadership in Applied Health

Research and Care West Midlands. The views expressed are those of the authors and not necessarily those of the NIHR, the NHS or the Department of Health.

Table 1 – Studies including data on public opinion and attitudes towards hypnotherapy

Article	Nation	Population	Process	Type of study and aim	Key relevant findings
Barling, & De Lucchi, (2004). ⁴⁵	Australia.	186 Psychology outpatients. 84 with previous hypnotic experience, 102 non-experienced. 38.2% male 55.8% female 5.8% unknown. All adult (≥18), mean age male 37.9 (2.2), female 39.5 (2.0).	Self-administered questionnaire in psychologists waiting room.	Cross sectional questionnaire study comparing the understanding of experienced hypnotic subjects and non-experienced hypnotic.	Non-hypnotically experienced participants had poor knowledge of hypnosis but were moderately open to and in favour of it.
Boutin et al (2000). ⁵⁹	USA	567 Outpatients. Included ≤5% 18 years. 52% Male, 47%Female 1% unknown Multiracial 60% white, 18% Afro-American	English language survey distributed over 16 municipal medical centres to outpatients & a postal survey for staff physicians about alternative medicine. (N=250)	To identify frequency of usage and attitude towards use of CAM.	19% think hypnotherapy should be offered.

Capafons, et al (2004). ³⁸	Spain, Cuba, Argentine, Honduras.	2404 Psychology undergraduates. 72.5% female 27.5% male 586. Spain 75% Cuba 15% Argentina 3% Chile 3% Honduras 4% Mean age 22.3 (5.2) years. 13.8% had no previous hypnosis experience.	Questionnaire administered to students (circumstances unclear).	Cross sectional, multi-national study of a survey tool Valencia Scale of attitudes and beliefs towards hypnosis- Client version REVISED (VSABTH-C) to run a confirmatory factor analysis	Collective scores of various individual questions suggest a belief that hypnosis is collaborative, is helpful and is of interest. There was low acceptance that it provided a 'magical solution'
Carvalho, et al (2007). ⁵⁴	Portugal	444 Psychology students 172 had experience of hypnosis, 272 had no hypnosis experienced. 21.6% male. 76.8% female. 1.6% unknown Age 18-54 years, 92% under 26.	Questionnaire administered in class and by e-mail.	Cross sectional Survey (VSABTH-C) comparing attitudes of those with and without hypnosis training.	Collective scores of various individual questions which show that the participants believe that hypnosis requires cooperation, and is helpful. It is unclear if results are out of 5 or 6.

Dufresne et al 2009. ²⁷	Canada	350 women ≥18 years, attending for first trimester abortions.	Given questionnaire pre-randomization and again post randomization and post intervention for non-control group. Intervention was a standardized hypnotic analgesia 20 minutes prior to surgery.	Randomised controlled trial of hypnosis for pain and anxiety during an abortion procedure.	Pre-randomised OAH data collection. The clearest findings are that participants believed hypnosis to be an altered state of consciousness in which subjects responded unconsciously and could experience significant mnemonic and analgesic phenomena.
Elkins & Wall (1996). ⁴⁰	USA	191 <u>Outpatients</u> 51% psychiatric, 49% family practice. Mean age 37 years. 65.4% females, 34.6% males. 56 <u>Clinicians</u> Mean age 41 years, 7.1% females, 92.9% males.	Survey conducted by mail with clinicians and solicited during outpatient visits for the outpatients	Cross sectional survey of clinicians & outpatient's perceptions of hypnotherapy	Outpatients expressed positively towards hypnosis, with only 6% rejecting the idea of a referral for hypnosis.
Emslie, Campbell & Walker (1996). ⁶⁰	Scotland	341 Public. Demographically stratified to within 5% of the true adult population. 18≤ years.	Postal survey of Grampian, population identified using the community health index	Cross sectional questionnaire study of CAM use and opinions about CAM use covering 8 different CAM therapies.	17% would consider using it and 36.7% thought hypnotherapy should be available on the NHS.

Emslie, Campbell & Walker (2002). ⁶¹	Scotland	432 Public. Demographically stratified to within 10% of the true adult population. All of voting age.	Postal survey of people registered to vote in the Grampian area.	Cross sectional questionnaire study of CAM use and opinions about CAM use covering 8 different CAM therapies. A follow up on Emslie, Campbell & Walker (1996) to assess change.	37.7% thought hypnotherapy should be provided on the NHS.
Gaedeke, Tootelian, & Holst, (1999). ⁶²	USA	900 Public, identified as 'Head of household' .66% female. Age ≥21 years.	Respondents identified via random dialer, verbally questioned.	Cross-sectional survey to identify CAM awareness and use.	35% would consider using it and willingness rose with physician's recommendation. 36.1% felt it was not beneficial. Over half of respondents expressed that information of efficacy was important.
Glaesmer, Geupel, & Haak, (2015). ⁶³	German.	102 dental patients. Mean age 46.1 years. 50% Female. 50% Male.	Patients attending a dental practice for a tooth extraction were interviewed about attitudes towards medical hypnosis and then alternatively assigned to treatment as usual (TAU) or Hypnosis+TAU. Intervention was delivered by CD and patients awoken by the dentist. HYP+TAU patients were re-interviewed upon exit.	Randomized control trial (not blinded) to assess the effect of hypnosis on dental anxiety upon tooth extraction patients.	Most had little or no prior experience of hypnosis (68.6%), about twice as many considered hypnosis to be scientifically based (22.5%) as based on 'old traditions' (11.8%), equally about twice as many indicated that 'hypnosis should be used more in medical care' (13.7%) than reported negative

					attitudes towards it (6.9%).
Gow et al 2006. ³⁰	Australia.	279 Public. 55.9% Female. 44.1% Male. >18, 55% over 36 years old.	Participants were identified in their place of residence by researchers knocking on doors. The questionnaire was unique but included both ATH & OAH questions.	Cross sectional survey of attitudes which is primarily concerned with establishing factor variance.	Strong beliefs in hypnosis as an altered state and having mnemonic effects were identified.
Green 2003. ³⁹	USA	276 undergraduates. 37.0% males, 63.0% females. Mean age 19.6 (5.7) years.	In class, all participants were administered a variant of the OAH questionnaire. 146 were then put through the HGSHS, it is unclear how this group was selected. All 276 were reassessed on the OAH after a month had elapsed.	Controlled trial to assess the effect of hypnotic experience upon attitudes and opinions.	Pre-intervention there was a strong endorsement of hypnosis as an altered state of consciousness and for automatic responsiveness amongst the hypnotized.
Green 2012. ⁴¹	USA	448 Undergraduates. 50.4% female. 49.6% male Mean age 20.0 (4.6) years.	Participants completed in class VSABTH-C & telegenic absorption scale (TAS), about 7 days later they completed the inventory of childhood memories and imaginings (ICMI) and	Trial to establish the relationship between attitudes and beliefs about hypnosis and hypnotic responsiveness.	Identified a high perception of hypnosis as helpful, having mnemonic effects and low levels of fear of towards it.

<p>Harvard group scale of hypnotic susceptibility form A (HGSHS)</p>					
Green & Lynn 2010. ²⁴	USA	460 Psychology undergraduates. 50.6% Female. 49.3% Male. Age not supplied.	In classrooms OAH and telegenic absorption scale (TAS) surveys were administered and then followed up on 7-10 days later. Participants gave 'expectancy statements' about hypnosis. 4 randomized conditions were created by varied 'attitude instruction' then assessed with HGSHS form A.	Randomized control trial to assess the effect of the manipulation of attitude expectation upon hypnotic responsiveness.	Pre -intervention data Identified homogeneity in gender attitude towards hypnosis.
Green et al 2006. ⁴⁶	USA, Iran, Australia, Germany.	280 undergraduates, 70 of each nationality 70% female 30% male. Mean age 20.5 years.	A variety of on campus recruitment methods were employed and data collection approaches. The questionnaire combined ATH, OAH, and the Beliefs About Forensic Hypnosis (BAFH) questions.	Cross-sectional survey study to identify cultural difference in attitudes and opinions towards hypnosis.	Attitudes appear broadly similar across different cultures.
Harris & Roberts 2008. ⁵⁷	England	256 IBS suffers. 73.4% female, 26.6% Male.	Postal survey of previously identified IBS suffers.	Cross sectional study of Irritable Bowel Syndrome (IBS) patient's views, receptivity and inhibitions	163/256 (63.7%) indicated acceptance of hypnotherapy as a treatment, this was

		All over 18, mean age 55.9 (14.8) years.		towards 9 forms of treatment.	weighted towards the younger (≤ 55), with no significant gender, education or employment status bias. Negative respondents questioned efficacy of hypnotherapy. Hypnotherapy was more acceptable if recommended by a clinician.
Hawkins & Bartsch 2000. ⁴²	Australia	77 Psychology Undergraduates. 88% female 12% Male. Mean age 24 years. Only 32 of these provide data which was eligible for this study, of these the same gender ratio was present but the mean age was 22 (6.7).	A lecture was given to 44 students on the subject of hypnosis, 9 months later those 44 students and 32 who did not receive the lecturer were given a questionnaire which included the ATH and several bespoke questions. The HGSHS was then applied.	A controlled trial to assess the impact of education about hypnosis on views and responses to hypnosis.	The non-lecture group, prior to application of HGSHS showed a strong positive view of hypnosis and strong desire to experience it, and modest lack of fear.
Hermes, Hakim, & Sieg. (2004). ⁴³	Germany	310 dental patients. 56.8% female. 43.2% Male. Age ≥ 16 .	Patients were questioned at department of oral and maxillofacial surgery on Schleswig-Holstein university hospital using a bespoke 21	Survey of dental patient's knowledge, attitudes and acceptance of the use of hypnosis as part of dental procedures.	The majority of respondents were aware of the medical use of hypnosis and positive or conditionally positive, towards it. A small number (6.1%) rejected

			questionnaire.		medical hypnosis entirely.
Hollingworth, (2012). ³⁹	Australia. 67% either Australian or New Zealand.	337 pregnant women. All had been recruited for the Hypnosis Antenatal Training for Childbirth (HATCh) program trial. 16-42 years. 59% had tertiary education (high for the demographic).	Expression of interest forms for the HATCh trial were made available in various antenatal settings. A bespoke questionnaire was administered to participants prior to randomization.	A cross sectional survey study to identify pregnant women's understanding of hypnosis in general and specifically for childbirth.	Strong agreement was found for the ideas that hypnosis reduces anxiety and is good for pain control, strong rejection was observed for: hypnosis as role-play, getting stuck in trance, decreasing maternal control and the need for a hypnotist (although the context of this is unclear)
Johnson & Hauck (1999). ²⁹	USA	272 respondents. Varied population. All participants were undergraduate age or older.	A 27 item questionnaire was distributed to 4 groups each with a different demographic composition. Standardized instructions were given by either the author or group leader.	Cross sectional survey to identify beliefs about and sources of information regarding hypnosis.	The study identified strong recognition for; hypnosis as a 'different state of consciousness', in trance people have limited awareness, mnemonic effects, that both the skill of the hypnotist and the subject's ability are important, and that hypnotherapists have medical or psychological

					training. There was low recognition for; being hypnotized against your will and being unable to lie in hypnosis.
Miller, Schnur, Montgomery, & Jandorf, (2011). ⁵⁸	USA	213 colonoscopy screening patients. Mean age 58.8 (7.2) years. 72.8% female, 17.2% male. 49.3% African-American, 50.7% Latino. 84.5% low income.	Patients were recruited in a primary care clinic in a large metropolitan hospital and were asked 4 questions each on an 11 point Likert scale.	A cross sectional survey conducted to ascertain the level of positive feeling towards having hypnosis for relaxation prior to colonoscopy.	14.1% of participants expressed entirely favorably (40/40) 31.1% of participants expressed entirely unfavorably (0/40) 54.8% of participants expressed somewhere between (1-39/40)
Milling (2012). ⁴⁸	USA	925 Psychology undergraduates. 68% female 32% male. Mean age 19.3 (3.2).	Recruitment details are absent. Groups were tested in batches of 10-40. Factor analysis was conducted of the cumulative results	A cross sectional survey to gain a large enough pool of data to establish normative values for the Attitudes Towards Hypnosis (ATH) Questionnaire.	Participants expressed a mild positive attitude towards hypnosis, a strong belief that the hypnotizable were mentally stable and a non-statistically significant difference between fearlessness of hypnosis between the genders (male 4% higher)

Molina., & Mendoza (2006). ⁶⁴	Spain	80 psychology undergraduates, who signed up for course in hypnosis. 75% female, 25% male. Mean age 24.5 (5.1).	Subjects were given a list of 40 words, half classed favorable, half unfavorable. They identified up to 5 which best described hypnosis and rated from unfavorable (low) to favorable (high). This was repeated after their hypnosis course and responses compared.	Uncontrolled experimental trial to identify stereotype beliefs about hypnosis and the change created by the process of training in hypnosis.	Pre-training respondents identified 'therapeutic' as the second most frequent adjective with a favorability rating of 4.2. 'Relaxing' and 'useful' also scored well and by counter point so did 'discredited'.
Page, Handley, & Green, 1997. ²³	USA	266 Undergraduate psychology students. 54.9% Female, 45.1% male. Mean age 20.7 (5.6) years. 7 participants were dropped from the original due to previous hypnotic experience leaving 259 however age and gender figures are based on the original 266.	Participants completed a hypnosis survey. 3 days later they were given a tape recorded version of the HGSHS: A.	Cross-sectional study assessing the relationship of beliefs about hypnosis with perceived hypnotic responsiveness.	High numbers of respondents indicated they believed they would be able to experience hypnosis, very small numbers associated hypnosis with gullibility and demonic possession. A marked difference was apparent between the belief in hypnosis's ability to help with psychological (62.5%) and physical illness (15.8%).

Pettigrew, King, McGee, & Rudolph, 2004. ⁵⁵	USA	250 women attending a women's health clinic. Mean age 31 (12.3) years.	Women waiting for appointments with physicians & midwives were approached by a registered nurse data collector to complete the questionnaire.	Cross-sectional study to identify women's understanding of, their perceived effectiveness of and sources of information about CAM	196 / 250 rated the perceived effectiveness of hypnosis as 3.04/5.
Pires, Pires, & Ludeña, 2013. ⁵²	Portugal	152 students of the faculty of psychology and educational science. Of whom 115 went through the full procedure. No gender or age details supplied.	No details of recruitment methods. In a group session Each participant completed the VSABTH-C questionnaire. In a second session (2-4 weeks later) the participants were assigned to either an imagination condition or a hypnosis condition.	An experimental study attempting to understand the difference in opinions engendered towards hypnosis by experiencing hypnosis or an imaginal equivalent.	'Belief in the altered state of consciousness.' 30.2/54 (SD 3.54)
Shimizu 2014. ⁵³	Japan	1104 undergraduates on a psychology course. 49.2% Female, 50.4% Male, 0.4% unspecified. Mean age 19.9 (2.0) years. A subgroup of 180 conducted the full experiment.	Students who were willing completed the BHSQ in class, and a proportion completed a modified ATH, some volunteered to go forward to go through the and SES in groups of 1-5. Exploratory factor variance was then conducted between all four measure	A Cross-sectional study that assess the relationship of beliefs about hypnosis with perceived hypnotic responsiveness.	Strong beliefs in 'loss of control, and 'therapeutic expectation' and moderate endorsement of 'Dissociation' and 'arousal of extraordinary abilities'

Shimizu 2016. ²¹	Japan	360 undergraduates. 53% Female, 47% Male. Mean age 19.4 (1.5) years. A subgroup volunteered to conduct the full experiment of 106, 66% female 34% Male.	Method of recruitment is unclear. All subjects completed the BHSQ-R & TRS, 106 subjects completed the HGSHS:A and SES in groups of 1-4, in a sound proof environment. Exploratory factor analysis was conducted for the TRS, TRS- BHSQ-variance, and volunteer – non-volunteer variances for TRS and BHSQ were calculated.	Cross-sectional study assessing the relationship of beliefs about hypnosis with perceived hypnotic responsiveness.	Strong beliefs in 'loss of control, and 'therapeutic expectation' and mild endorsement of 'Dissociation' and 'arousal of extraordinary abilities' very similar findings to Shimizu 2014.
Wang, Caldwell- Andrews & Kain 2003. ⁶⁵	USA	1235 respondents from a broad demographic base. 61% female, 39% Male. Mean age 51 range 18-92 years.	Questionnaires were distributed to all patients presenting for non-emergency surgery at Yale-New Haven Hospital. The inpatient and outpatient responses were compared.	Cross-sectional Survey assessing comparative usage and interest in CAM approaches in out and in surgical patients	21% were willing to incorporate hypnosis into anesthesia care.
Yu 2004. ⁴⁴	China	457 undergraduates. 43.3% psychology majors. 66.5% female, 33.5% male. Mean age 21.3 (2.3) years.	Method of recruitment is unclear, but participants were volunteers. They filled questionnaires out in silence. The questionnaire contains elements of OAH & AST	A cross-sectional survey study of Chinese student's attitudes and beliefs about hypnosis with comparison with western equivalents and internal comparison of psychology and non-psychology students.	No statistically significant difference was observed between the attitudes of the psychology undergraduates and the non-psychology undergraduates

					<p>regarding the general beliefs about hypnosis. In the AST psychology majors were more positive towards hypnosis than non-majors, this was statistically significant for questions 1,3,4,7, 12.</p>
Yu 2007. ⁴⁹	China	<p>120 psychology undergraduates.</p> <p>74% female, 26% male.</p> <p>Mean age 21.6 (2.8) years.</p>	<p>Subjects were randomly chosen from a pool of psychology majors, then assigned, using a stratified and random allocation method to experimental (75%) or control condition (25%). Both conditions completed a survey based on the AST and OAH prior to the experimental condition subjects receiving the CIS, whilst the control subject waited, then both groups were retested with the questionnaire.</p>	<p>Randomized controlled trial to establish the effect of the CIS test on perceptions of hypnosis</p>	<p>Subjects showed a high degree of belief in involuntariness in hypnosis and a high degree of control by the hypnotist over the subject. They also showed a high level of belief in the altered state of consciousness. The lowest expressions of belief were noted for the hypnotic response being mainly about the skill of the hypnotist and the idea that suggestions cannot be rejected when in trance.</p>

Abbreviations;

ATH = Attitudes Towards Hypnosis Questionnaire

BHSQ = Beliefs about Hypnotic State Questionnaire

BHSQ-R = Beliefs about Hypnotic State Questionnaire- revised

CAM = Complementary and Alternative Medicine

HGSHS:A = Harvard Group Scale of Hypnotic Susceptibility Form A

OAH = Opinions and Attitudes about Hypnosis questionnaire

SES = Subject Experience Scale

TRS = Therapeutic Reactance Scale

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2.3 What the public think about hypnosis and hypnotherapy, the Push-pull theory perspective

Within this narrative review is the potential for information covering two of the four elements of push-pull theory, external pull factors, factors relating to hypnotherapy which may prove attractive to potential users, and inhibitory factors, barriers to its use. These will be identified and discussed, with a view to understanding what these findings, from a general population, might mean for our population of interest, people with IBS. To this end the findings will be examined in the order in which they appear within the narrative review and explored for elements relevant to external pull factors and inhibitory factors, which will then be discussed in general and then for their potential meaning to people with IBS.

The narrative review identified very little about people's perceptions of the transition from a normal state into a state of hypnosis, other than a small amount of information which suggested that relaxation was involved.⁴ Normally, relaxation is likely to be perceived positively, and thus presents an external pull factor. However, the idea that relaxation is involved is based on only one study,⁴ meaning there is insufficient evidence for a strong conclusion. Further, the assumption that relaxation is seen positively may be inaccurate when viewed from the perception of the population of interest to the wider thesis, people with IBS, for whom relaxation could include the interpretation of relaxation extending to the sphincter muscles, with the inherent danger of loss of bowel control. The evidence that people consider hypnosis relaxing is very limited, so should not be generalised, and even if it were present, there is insufficient understanding to say if that is seen as positive, or negative by

people with IBS. As such no external pull or inhibitory factors can be seen to be present in the public's perception of the transition from normal to hypnotic states.

The issue of control within the hypnotic state provided an insufficiently clear finding to draw any meaningful lessons from, however, a proportion of people feel that the hypnotherapist is in control during the session. How this finding from a general population might apply to people with IBS is unclear. It is possible that a proportion of people may find the idea of letting someone, who they identify as having expertise, take control for a while appealing, possibly because this would relieve them of responsibility.⁵ Equally, allowing another person control is potentially anxiety inducing and could create a feeling of vulnerability. A history of sexual abuse is common amongst people with IBS^{6, 7} and as such they may be particularly sensitive to putting themselves in a vulnerable position. However, these are highly speculative interpretations and based on only slight evidence as such no determination can be made as to the implications of this for either external pull or inhibitory factors.

There was an expectation that awareness within the hypnotic state was reduced. This has potential implications as an inhibitory factor, as there is again the possibility of an increased sense of vulnerability of the subject in these circumstances. As noted in the discussion of control (above) this might be heightened in the IBS population due to the high prevalence of a history of abuse.^{6, 7}

There appears to be a strong endorsement of hypnotherapy for psychological conditions and as an adjunct to conventional medical treatments for physical conditions. This endorsement is a clear external pull factor for the use of hypnotherapy for psychological problems, and in support of physical ones. This finding means that hypnotherapy is perceived to be almost universally beneficial, as

it can help both psychological and physical ailments, and thus it is likely to remain a viable external pull factor in relation to people with IBS. The only question is the magnitude of the effect of this external pull factor, if the person with IBS were to perceive their condition as psychological in nature it would be a powerful pull factor for hypnotherapy as it may be perceived to be an effective treatment for the condition. However, if they perceived their IBS as physical in nature it would be a relatively modest pull factor as it would be perceived as an adjunct to conventional medicine only, not in itself a cure.

Hypnosis was also perceived to enhance memory, a further potential external pull factor. However this may also act as an inhibitory factor for some as there is an established connection between IBS and a personal history of psychological trauma⁸ with the implied possibility of traumatic memories resurfacing.

Any connection between the hypnotist and the medical or psychological establishment was identified as an endorsement, and as such would be, where present, an external pull factor. In real terms, this would mean such things as a referral from a conventional medical source, such as general practitioner or gastroenterology consultant, would improve hypnotherapy's standing, as would being based in an orthodox medical centre, primary or secondary care. Additionally, the hypnotherapist having qualifications or a background in medicine or psychology would also act as an external pull factor. There is no obvious reason why this would be different for people with IBS.

The analysis identified no pronounced variation between different demographic groups, be this because identified differences were slight, as with nationality, or because of a lack of data, as with education. In particular, women, who make up the

majority of people with IBS⁹ and as such any gender specific attitudes would likely have a disproportionate impact on the behaviour of people living with IBS as a whole, have comparable attitudes to men. As such there is no evidence for any group specific push-pull factors.

2.4 Summary of chapter

This chapter reported the findings of a narrative review of the existing research into the general public's attitude and knowledge of hypnosis and hypnotherapy, which identified that many people have a positive attitude towards hypnosis and hypnotherapy, and this increases the more closely it is connected with conventional medicine or psychology.

The Push-pull perspective highlighted four potential external pull factors, that hypnosis is perceived as relaxing, may enhance memory, and is effective for psychological problems and as an adjunct to conventional medical treatments. Of these, relaxation and enhancing memory were, conceivably, problematic for people with IBS.

The data and conclusions here, of relevance to people with IBS, are highly hypothetical, being based on trends observed in the general population and speculation from wider knowledge of people with IBS, as such their value is in helping to guide subsequent work, such as informing the topic guide for the qualitative research (Chapter 3). Further it has provided valuable insights for the push-pull analysis which will be explored in full in the discussion (Chapter 8).

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Chapter 3 – Qualitative research methods and recruitment

3.1 Introduction

This chapter introduces and discusses in detail the methods used to conduct the qualitative research component of the thesis, the findings of which are described in chapters 4 and 5. The qualitative interviews carried out are examined in two distinct ways in the subsequent chapters, chapter 4 explores participants' lived experience of IBS and chapter 5 examines participants' opinions towards hypnosis, hypnotherapy and hypnotherapy for IBS.

This chapter is based on, and reproduces substantial elements of, the details outlined in the published protocol paper for the qualitative work¹ and expands on several topic areas to provide context and depth. Specifically, the chapter expands upon the importance of qualitative research, the background to the paradigm position which underpins the work, reflexivity, and trustworthiness. Further, the chapter goes on to provide those elements of the findings which are common to all the studies, the participant characteristics and strengths and limitations of that recruitment.

3.2 Qualitative research Methodology

3.2.1 Qualitative research

The core aim of qualitative research is to understand a phenomenon or event within a context.^{2, 3} This is achieved by various means of observation, such as examining

relevant documentation generated by those within the context of the event,^{4, 5} by entering the context personally,^{2, 6} or by questioning those who are within the context, predominantly in interviews^{2, 4, 7} or focus groups.⁸ The observations made and words recorded are then examined in a systematic way,⁷ which could be driven by either methodology, such as open coding,⁹ where codes are created in response to the material present, or by theory, where codes are pre-defined and only material relating to those codes is coded.¹⁰

3.2.2 Paradigm Position

The assertion of a paradigm position potentially occurs at multiple levels in a piece of research, the choice to adopt a qualitative or quantitative approach to addressing a question is itself taking a paradigm position.^{11, 12} However, paradigm positions are most frequently asserted in the context of qualitative research.¹² Within qualitative research, the major underlying paradigm is the interpretivist stance² which assumes that knowledge is experienced within the observer's mind, and as such is inherently and unavoidably affected by that mind,^{13, 14} ultimately it argues that there can be no true objectivity.¹⁵ Interpretivism is further concerned with understanding the way a person sees the world,¹⁶ as such it is an appropriate stance for any research into attitudes and opinions, which are inherently subjective. Interpretivism is distinct from the other three types of knowledge; empirical, logical and ethical,¹⁷ in that it accepts that an individual's understanding is sufficiently abstract that it is untestable¹⁸ and thus by extension, irrefutable and unrankable, meaning that within interpretivism multi-paradigms can exist simultaneously, yet may appear at times contradictory and

are by default of equal worth. However, choice can be made between paradigms on the grounds of the researcher's inclinations towards a perspective or its relevance to the study. The need to identify a paradigm is driven by the assumption that no researcher can ever be objective¹⁵ and thus their paradigm will be present in any work they produce. Identifying the paradigm provides a shorthand for the reader to understand the assumptions underlying the work and for the researcher to more consciously make paradigm consistent decisions about the research.¹⁵

Interpretivism is an appropriate stance for any research into attitudes and opinions, which are inherently subjective.¹⁹ The interpretivist stance has been actively adopted for the qualitative work in this thesis. In practice this means that the researcher accepts their own influence upon the material generated and that the voice of those speaking is a true and authentic representation of their reality, even if that reality cannot be empirically validated.

3.2.3 Reflexivity and Trustworthiness

The principle of triangulation^{20, 21} is used within the study to reduce bias, as three researchers (MK, SG, KJ) were used at various stages to varying degrees to understand the data. All three researchers brought different perspectives, both as individuals and from their disciplinary backgrounds. Within the interpretivist paradigm this means that a reality was constructed by the three researchers interacting with the participants' words. MK is a practicing hypnotherapist, a career which is likely to

affect his perceptions and that of participants, to this end the decision was taken to keep his profession undisclosed to participants unless they directly asked. KJ is a clinical academic, and SG is a medical sociologist, it is believed that the use of a multidisciplinary team enhances rigour.²²

3.2.4 Recruitment

Recruitment was aimed directly at people with IBS, who may or may not be seeking treatment at the time of recruitment. This was relatively quick and easy to initiate. A convenience sample ²³ of people with refractory IBS was recruited via a poster and leaflet campaign based around three target locations, which in order of preference were:

1. On-line self-help and IBS support groups.
2. Through local large employers, such as local supermarkets, manufacturers, and universities.
3. Paid on-line advertising.

In addition, snowball sampling²⁴ was used in an attempt to maximise recruitment from these sources. When contacting online groups, a procedure was followed whereby group rules were sought out and consulted to see if posting to recruit for this kind of research was permissible, in the event that this could not be ascertained a group administrator was contacted and asked directly, in the event that neither was possible no posting was made.

3.2.5 Sample

As a gender disparity is apparent in IBS, with an approximate ratio of two women having IBS to every man,²⁵ an approximation of this division was aspired to. To this end gender specific versions of the recruitment strategies were planned for deployment should the appropriate gender balance not occur naturally. Although other demographic trends may be present in the IBS population none appear to be as pronounced as the gender division²⁶ and as such were not prioritised.

Recruitment was ongoing through these strategies until an adequate sample size was obtained to achieve data saturation,²⁷ this was anticipated to be between 15-25 interviews according to the literature.^{28, 29}

3.2.6 Interviews

There are several methodological approaches available to qualitative researchers for the identification of data, which can broadly be categorised into two types, observational and interrogative. Observational methods are exemplified by the study of cultural documentation, materials created by peoples within the context under study.⁴ People with IBS tend to be private or secretive due to the perceived embarrassment of the condition³⁰ and as such opportunities to observe them are limited. One possible place where people with IBS could be observed is the internet, especially in social media forums, however this raises ethical issues³¹ and the content itself is likely to be of limited value if the people on the forums were not discussing hypnotherapy. Another primarily observational approach is ethnography,

in which the researcher embeds themselves into the context of interest,⁶ this approach is most appropriate when studying a culture, such as a tribe,³² a folk art movement,³³ or an institution like a hospital³⁴ or the military.³⁵ Although 'culture' can be a broadly interpreted term, there is little to suggest that people with IBS have a shared set of values, attitudes, and cultural practices. Equally, people with IBS have few shared spaces which the researcher could inhabit. The previously mentioned social media forums (above), and some, in-person groups, exist but these appear to be limited to a relatively small number of active participants and are likely to be cultures unto themselves which may not be representative of the whole experience of people with IBS. For these reasons cultural documentation and ethnographic approaches were considered inappropriate.

As the thesis is concerned with identifying factors which impact upon the acceptability or otherwise of hypnotherapy for IBS, the requirement for both elements, IBS and hypnotherapy, to be simultaneously present in the analysed material is paramount. As the natural co-occurrence of IBS and hypnotherapy is relatively rare, interrogative approaches which can provoke this co-occurrence are appropriate. Focus group work enables the identification of consensus beliefs,⁴ but as research into the attitudes of people with IBS to hypnotherapy has no substantial body of previous work to build upon or use for comparison (see chapter 1), consensus may obscure the true breadth of opinion. Further, the public nature of a focus group may inhibit open discussion of a personal subject.³⁰ Interviews, by comparison provide an opportunity for the interviewer to build rapport, resulting in greater comfort on the part of the

participant³⁶ and leading, in theory at least, to increased disclosure.³⁷ For this reason, interview methods were considered appropriate for this research.

3.2.6.1 Interview methods

Interviews were individual, semi-structured and face-to-face. The semi-structured interview is considered to achieve an effective balance between providing topic orientation whilst allowing space for the interviewee to talk broadly.³⁸ The interview was initially conceived to be in-person, but interviews conducted via a real-time electronic visual communications platform (video call) such as Skype³⁹ were later introduced. Interviews via video calling have a number of theoretical advantages including financial savings,⁴⁰ time savings from reduced travel and related environmental benefits.⁴¹ However, the primary advantage for this study was to capitalise on recruitment blooms which occurred, in which large numbers of potential candidates all volunteer simultaneously but are at high risk of loss of interest, a phenomenon which internet-based recruitment, with its ability to reach large numbers of people over a wide area, may generate. The choice to conduct interviews in-person or at a distance was mutually agreed between participant and researcher. When interviews were conducted in-person the choice of venue e.g., their home, café or local library, was made by the interviewee. Both the decision to conduct distance interviews and to allow the interviewee to choose the location of the interview were in part motivated by the knowledge that many people with IBS become uncomfortable when they are unfamiliar with the location of lavatories in the local area.⁴² In line with the university's 'Lone worker' policy, when visiting people's homes or any other

locations where the interviewer was likely to be vulnerable, appropriate measures to ameliorate risk were planned for and taken.⁴³

3.2.6.2 Topic guide

A topic guide was devised consisting of thirteen primary questions, around the participant's experience of IBS, treatments for it, their perceptions of hypnosis and hypnotherapy. The topic guide was amended during the study to include a question relating to hypnotherapy via the internet, this had arisen in response to the discovery that GDH had been successfully delivered in this way,⁴⁴ this brought the total number of question to fourteen (see Appendix 8).

3.2.7 Participants

3.2.7.1 Inclusion criteria

Three inclusion criteria had to be met:

- a. Participants have stated that they have a medical diagnosis of IBS.
- b. At least 18 years of age.
- c. Fulfil, by self-report, the NICE criteria for referral for psychological intervention.

This is 'people with IBS who do not respond to pharmacological treatments after 12 months and who develop a continuing symptom profile'.⁴⁵ This was assessed at first contact with the question "Would you say that you have

continued to experience symptoms for 12 months or more following pharmacological treatment?”

3.2.7.2 Exclusion criteria

- 1) Previous experience of hypnotherapy for IBS. These people were excluded on the grounds that their opinions and attitudes were retrospective rather than prospective.
- 2) Health care professional and allied professions with a specialism in gastrointestinal problems as they were likely to have had prior exposure to information and medically orientated opinions and attitudes regarding hypnotherapy for IBS.

3.2.8 Consent

The interviewer sought informed consent from potential participants for the interview, its recording and transcription and subsequent use within academic publications (see Appendix 7). Recording and transcription are preferable to notes alone as they are demonstrably more accurate.⁴⁶ Issues of consent were outlined in all written materials and for in-person interviews final consent was obtained at the start of the face-to-face meeting prior to any formal topic related discussion and explained verbally before a signed consent form was completed by both interviewer and interviewee. For distance interviews, consent was first explained and sought off-

record and then repeated in the recording once digital recording had been permitted by the interviewee. A consent form with return envelope was posted to the distance interviewees. At any point up to a month after the interview the consent could have been withdrawn without issue, the time period was explained as after the month the data would be integrated into the larger data set and not possible to disentangle.

3.2.9 Transcription and data analysis

Transcription was conducted at the first opportunity after the interview by the interviewer (MK). The decision to transcribe as soon as possible was undertaken with the intention that it would enhance reflection upon the interview and highlight any likely changes required to the style of the interview, order and topic of the questions. At this stage each interviewee was given a numerical designation (0001, 0002, 0003 etc) to preserve anonymity. Any time an interviewee is being cited or quoted this designation will be given. NVivo.11 software was used for data management.

Data was subsequently analysed using the framework method,⁴⁷ a form of thematic analysis.⁴⁸ The researcher conducted a process of 'open coding',⁴⁹ which consists of assigning a code to every statement within the transcript, regardless of the relevance of its content to the larger interest of the study. Codes are generated to capture the meaning of the data and may be used to code subsequent data within the transcripts if sufficiently similar material reoccurs. This results in a number of codes, which may cover a wide variety of material, for example 'IBS symptoms' or 'CAM treatment'. Once all the material had been coded the codes were examined to amalgamate similar codes and exclude data which was not about either hypnosis or IBS,

sometimes referred to as 'dross codes'.⁴⁹ This produced a smaller number of codes, and the material was then coded again under this set of reduced codes. A matrix was created which included the codes on one axis and the data source (individual transcripts) on the other. This allowed the data to be examined both by code across data sources and to contextualise each code within the wider context of the original transcript.⁴⁷ These tables were examined separately for the subsequent analyses, be that lived experience (Chapter 4) or attitudes towards hypnosis (Chapter 5).

A selection of the transcripts was read by three people (MK, KJ, SG) to determine emerging themes, discussed, and a selection agreed upon. The use of inductive coding allowed for a broad and relatively unbiased understanding of the data and provided evidence of data saturation.²⁹

3.2.10 Data protection and data management

MK conducted all recruitment, interviews, data entry and transcription. Data collected in the field remained in the possession of the interviewer at all times until it could be transferred into a lockable filing cabinet. During transcription anonymization occurred by the removal of names and each interviewee was identified with a specific designation which was used on paper file records and for electronic file names or transcripts and audio files. Separate and stand-alone documents were used to identify participants with their file names which are retained in a lockable metal filing cabinet. Only MK has access to the original data. Upon direct and written request, in line with the Data Protection Act,⁵⁰ interviewees are able to access their own data

records. At the end of the study all electronic data was transferred to password protected secure servers at the University of Birmingham.

3.2.11 Ethics

The study received ethical approval under the University of Birmingham's ethics procedures (reference ENR_15-1473). The study had no serious anticipated ethical issues; however, it was considered that the interview may touch upon personal issues and as such, efforts were made to convey the importance placed upon anonymity and confidentiality to participants. In addition, the research prioritised the safety, well-being and confidentiality of the participants by anticipating and avoiding potential harms, avoiding unnecessary intrusion and respecting participants' right to withdraw at any time up to a month after the interview, without the need to give a reason.

3.3 Participants and their characteristics

A convenience sample²³ of 17 participants was recruited via poster advertising around the campuses of several universities in the West Midlands region (UK) (n=8), by providing leaflets to IBS groups (n=0), and via online Facebook IBS support groups⁵¹ (n=9). Attempts at snowball sampling produced no additional participants. Initial contacts were made through telephone, text, and Facebook, responses to enquiries were made in kind, eligibility criteria confirmed, and interviews conducted as soon after contact as possible. Both in-person and video calling interviews were

conducted until data saturation was achieved, which literature indicated should be a point three interviews after substantial numbers of new codes have stopped emerging from the analysis of the transcripts.^{29, 52}

Seventeen participants, predominantly female (88%) and mostly white (British or Irish) (88%) with a duration since diagnosis ranging from 2-40 years (11.2 mean) were interviewed (see Table 1). Interviews took place at the participant's home (n=1), local library (n=1), or on the campus of the University of Birmingham (UoB) (n=7). Nine in-person interviews were in the Midlands (UK), eight video-call interviews covered other areas of the UK. Interviews lasted an average of 38 minutes (range 27-55), from which a total of a total 97,779 words were transcribed averaging 5752 per participant (range 3825-8414).⁵³

Table.1 – participant characteristics

Interviewee	Age	Gender	Ethnicity (self-identified and in their own words)	In-person	Video interview	Estimated time since diagnosis (years)
0001	23	Female	White British	x		5
0002	22	Male	British Asian	x		2
0003	56	Female	White British	x		10
0004	43	Female	White British		x	20
0005	32	Female	White Irish		x	2.5
0006	26	Female	White British		x	10
0007	63	Female	White British	x		40

0008	36	Female	White Scottish	x	2
0009	36	Female	White European	x	2
0010	36	Female	White Irish	x	5
0011	42	Female	White British	x	10
0012	41	Female	White Irish	x	16
0013	41	Female	Eurasian	x	17
0014	25	Female	White British	x	25
0015	51	Female	White British	x	12
0016	24	Male	White British	x	7
0017	50	Female	White British	x	5

3.4 Strengths and limitations

Recruitment brought in a range of people of different ages and backgrounds from around the UK. However, the desired gender ratio sought (see 'Sample' above) was not achieved with only two men recruited when five or six would have been ideal, and this was despite a campaign targeting male participants. There are marked differences between the male and female presentations of IBS,^{54, 55} there is however no reason to think that these would impact upon recruitment rates for a study of this nature. It is possible that the online recruitment element targeted women more than men, however what little evidence exists regarding online support groups suggest that in gender mixed groups gender behavioural differences are minor⁵⁶, however

Facebook has a slightly higher female than male user base ⁵⁷, a disparity which could be magnified by the gender bias of IBS to create a substantial difference in the online IBS support groups. However, with a sample of this size such a variation is well within the realm of chance.

A notable difference between the age distribution of participants and that of the general population was apparent, although no particular distribution was specified and an age range spanning over forty years was present (range 22-63), it is clear that the sample had a disproportionate number of people in their 20s (29.4%) compared with the general public (13.6%⁵⁸). This may reflect the use of leaflet and poster advertising on university campuses for recruitment. Although occupation was not recorded as part of the interview it was a subject touched upon by the interviewer as part of a pre-interview conversation, so it is known that only two of the participants were full time students, which may have contributed to the disproportionate representation of people in their twenties but is not sufficient in itself to explain it. Equally, on-line recruitment cannot explain this as Facebook has an older user-base than most social media⁵⁷ and only one of the participants in their twenties was recruited this way. A possible explanation is that older women tend to experience fewer negative impacts from IBS⁵⁹ and as such may be less motivated to engage in research.

As a qualitative study, which is aiming to identify previously unknown attitudes and opinions, it is likely that a diversity of population is more important than a strictly representative one. The use of on-line recruitment and interviewing approaches, by effectively allowing for national advertising with a swift follow-up to counter loss of

interest, contributed to accessing a geographically more diverse population than is likely to have occurred otherwise.

3.5 Chapter summary

This chapter has described the methods, participants, and their characteristics common to the subsequent qualitative analyses of the data (Chapters 4, 5). Qualitative methods were used as little previous research exists regarding people with IBS's attitudes and opinions of hypnotherapy for their condition and thus an understanding of the breadth of those opinions and attitudes had to be established before any quantitative understanding of the prevalence of those attitudes and opinions could be determined. Interviews were used as they were likely to be the most efficient way to get people with IBS to talk freely and the interviewer could prompt them to talk about hypnotherapy for their condition. The benefits to validity through the use of the triangulation of perspectives were discussed. Recruitment was covered, explaining the types of recruitment planned, and those used, posters, leaflets, and on-line support groups. Inclusion and exclusion criteria, and the consent process have been explained and subsequent transcription and data management and analysis processes. The successful recruitment of seventeen participants, their demographic details and the strengths and limitations of this population are described.

The next chapter discusses the interpretation of the data identified, focusing upon the experience of people living with IBS, with a particular focus how they cope with and manage their chronic illness (Chapter 4 – The experience of living with IBS – moving to CAM).

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Chapter 4 - The experience of living with IBS – moving towards CAM

4.1 Introduction

This chapter explores the lived experience of people with IBS, with a view to understanding their movement towards and routes into the use of CAM. It uses the experiences of the qualitative research participants who have been recruited and interviewed in-line with the procedures described in chapter 3 (Qualitative research methods and recruitment results) and is the first of two analyses of this data undertaken in this thesis. The collective objective of these analyses is to understand the factors associated with the acceptability of hypnotherapy for IBS. The subsequent analysis examines factors which may encourage and inhibit the choice of hypnotherapy (Chapter 5 – Opinions of people with IBS of hypnotherapy).

This chapter presents the data of people with IBS's lived experience, the findings of which are explored in the context of Push-pull theory¹ of movement towards the use of CAM. This fulfils objective three of the thesis, to establish what factors contribute to people with IBS adopting CAM and what affects their choice of CAM, and as such provides an understanding which will contextualise expressed and implicit opinion and attitudes regarding hypnotherapy explored in subsequent chapters.

4.2 Background

The purpose of this thesis is to investigate the acceptability of hypnotherapy for IBS by people with the condition and the factors which affect this, a substantial part of which is understanding why people with IBS would adopt a nonconventional therapy for their condition, and within that, what factors influence their choices of which

therapy to adopt. The experience of living with all types of IBS² has been examined using qualitative methods for more than twenty years²⁻³⁵, with publications coming out as recently as 2020³⁴. This body of research is broad in its coverage of different geographical population groups, with studies from; Australia,²² Finland,¹⁰ Great Britain,^{9, 17-19, 21, 24, 25, 28, 29, 33, 34, 36, 37} Iran,^{6, 27} Norway,³ Romania,¹¹ Sweden,^{4, 12-14, 31, 32} Taiwan,³⁵ and the United States of America.^{2, 5, 7, 8, 30} Despite this the literature is not exhaustive, with no studies from Africa or South America and only one study available in English for the entire continent of Asia³⁵ leaving voices, which may have a different perspective, marginally represented. Further, there is a distinct bias towards the population of the UK, with over a third of the identified studies being UK based. However, this study has an explicit interest in the UK context and as such the UK bias and the absence of both African and South American voices and the dearth of Asian ones, is less important than it would otherwise be.

The body of research is characterised by a bias towards female over male participants, with most studies having a greater female population than male^{2-28, 30-34} and the presence of two studies exclusively focused upon female participants.^{29, 35} This tendency in the literature is to be expected as the disorder is more commonly presented to doctors by women than men,³⁸ however meta-analysis of prevalence studies suggests that there is only a modestly higher prevalence of IBS in women,³⁹ It seems likely that the male voice within the qualitative literature may be under represented. It has been suggested that the masculine gender role may inhibit reporting of IBS symptoms⁴⁰ and it is possible to hypothesise that this inhibition may extend to volunteering for qualitative IBS research. It is unclear how this gender bias affects findings.

Within the geographical areas where studies have taken place the majority of recruitment of participants has been directly through primary^{3, 5, 8, 9, 11, 17, 19, 25, 36, 37} and secondary^{11-14, 18, 25, 26, 37} healthcare services. Only a small proportion of qualitative research participants have been recruited outside of core healthcare, such as via Foundations' websites⁷ and IBS related charities²⁹, and of these only a very small number can be said to have been directly recruited^{2, 10, 34, 35} which could skew the sample towards those people who are willing to engage with health services and charitable institutions. It can be seen that recruitment of participants has been biased towards those engaged with healthcare services. Arguably recruitment from healthcare service is natural for a disorder which tends to limit peoples movements²⁹ and is embarrassing,^{3, 4, 6} and as a result there are few, if any other, places where people with the condition congregate. As such people who may have disengaged, or not engaged, with healthcare services are potentially underrepresented. This would mean that those people who feel excluded from mainstream healthcare for some reason, would have their voices lost, and with it, the reason they feel excluded missing from the narrative.

The majority of studies have used semi-structured interviews,^{5, 6, 9, 11, 12, 17-19, 21, 24, 25, 28, 37} which may result in the skewing of perspectives through social-desirability biasing,⁴¹ a noted concern with interview approaches⁴² and something which people with IBS are believed to be particularly prone to.³⁷ However, this approach is arguably an appropriate choice for a subject which is considered embarrassing⁴³ as it allows the interviewers to build rapport.⁴⁴ Other information gathering formats have been used, including expressive writing,² open ended questions in questionnaires^{33, 36} and analysis of online content,³⁴ which provides some balance.

The use of theory has been relatively modest within the literature. A substantial number of studies identified themselves as being within a phenomenological paradigm,^{3, 4, 6, 14, 25, 27, 31, 32} identifying themselves as aiming at a deeper understanding of the experience of living with IBS,⁴⁵ but this is stating a paradigm position, not a theory driven analysis or understanding. Only a few have adopted a more specific theoretical perspective, with gendered theories being the most common,^{12, 13, 35} an appropriate perspective considering the gender divide in symptom presentation.⁴⁶ However, to date none have used theory to highlight the process of adopting CAM approaches. Inductive approaches, those which aim at identifying arising themes within a set of data,⁴⁷ have been used to address descriptive questions, such as; what is it like living with IBS,^{3-9, 12, 27, 29, 32, 34, 35} what do people with IBS understand of their condition,^{5, 10, 14, 17, 24} what is it like being an IBS patient^{2, 5, 11, 13, 21, 31} and what their experience of certain treatments were.^{18, 19, 25, 26, 28, 33, 36, 37} However, there is a notable lack of work moving beyond the descriptive to attempt to understand the process of how and why behaviours and attitudes develop, and although the use of CAM is briefly noted by many of these studies,^{3, 4, 6, 7, 9, 10, 13, 14, 17, 37} and a few identify specific CAM interventions such as; special teas,²⁷ probiotics²⁸ and food supplements,³⁴ only one makes any attempt to understand factors which impact upon the use of certain CAM therapies, and this is only brief and predominantly focused upon barriers to the use of certain types of CAM.³⁶ None have however specifically examined the processes and methods by which people with IBS move to use CAM approaches.

Despite a broad base of qualitative research, why and how people with IBS adopt and use CAM is poorly understood. This chapter aims to gain a deeper understanding of the experience of living with IBS, with a specific interest in the

adoption of CAM therapies. The aim of this analysis was to explore the experience of people living with IBS and their move towards CAM therapies for managing their condition and to interpret the findings using the Push-pull theory.¹ Whilst this could have been approached using secondary analysis of published qualitative research, this is limited by only having selected quotes and summary themes. The interviews undertaken for this thesis to explore the potential role of hypnotherapy for IBS offered a primary source of data to also explore this topic.

4.3 Methods and Analysis

As reported in more depth in chapter 3 the data used here comes from seventeen one-to-one, semi-structured interviews⁴⁸ conducted both in-person and via video call software⁴⁹ from a convenience sample⁵⁰ of adult participants, who had lived with diagnosed IBS for over a year, with no prior experience of hypnotherapy for IBS nor a background in healthcare specialising in gastrointestinal problems. They were recruited directly through online IBS support groups and via a poster campaign on the campuses of several universities in the West Midlands region (UK). A topic guide was used, of which the first three questions covered the interviewee's experience of IBS (see Appendix.8), their symptom development, diagnostic and treatment journey, with a focus on their experience with and use of CAM and conventional medicine, as well as any personal self-help approaches which they may have used or developed, and an examination of treatments which they had not used but had considered. However, the entire transcript was examined for the analysis in this chapter so that information appearing anywhere within it that was relevant to these topics would be captured. The framework method^{51, 52} was used for analysis as

described in chapter 3, with ‘open-coding’¹⁵³ analysis of the material being used to identify naturally occurring themes.

4.4. Results

Seventeen people participated in the study, of which fifteen were female (88%) and fifteen (88%) identified as white. Their ages ranged from 22 to 63 years old and had had their diagnosis of IBS for anything from 2 to 40 years. More detail on participant characteristics is reported in chapter 3.

Three main themes arose from the open coding analysis of the data, ‘IBS related suffering’, ‘dissatisfaction with orthodox healthcare’ and ‘self-management in the face of IBS’. These and their sub-themes (see Table.1) are now presented using quotes which reflect the range of views expressed. The identifier at the end of each quote refers back to Table.1 in Chapter 3.

Table.1 – Living with IBS - Themes and Subthemes

Topic	Theme	Subtheme
Living with IBS	IBS related suffering	Unpredictability of symptoms
		Bodily discomfort
		Activity limitations
		Financial costs
	Dissatisfaction with orthodox healthcare	Clinicians’ attitude & limitations
		Lack of testing
		Limits of medication
		Dietary recommendations
		Need for

	Self-management in the face of IBS	Side effects/limitations
		Psychological coping
		Strategies

4.4.1 IBS related suffering

It was clear that the lives of participants were severely negatively affected by the condition, with problems arising as a direct result of the symptoms and as a secondary effect of them. Some participants spoke of the discomfort of their own bodies (0002, 0010), summarised by the words of this participant,

“I find it just pure uncomfortable.” (0012)

Participants used analogies of period cramps for the pain (0005) and pregnancy for the bloating (0004, 0010). The validity of the pregnancy analogy is underscored by an incident recounted by one of the participants,

“Yeah because I bloat up, I was in Asda the other day, where I work, and had a really bad day at work the kids were just trying their hardest to just smack me all day and wot not, so I um ... yeah so I was at Asda and I was at the check-out and they were saying things like “oh you look shattered love” and she looks at my belly and she was like “um not long to your due date I’m guessing” and I’m like “I’m not pregnant but ok, oh but I’m not pregnant” and she’s like “oh” and I’m fine I get it all the time but I was like that bloated.” (0006)

For many of the participants eating had become problematic, such as having to starve for periods of time (0009) and as 0013 described it,

“... I was absolutely petrified to eat or drink anything it was just playing on my mind, now is that going to make me worse, is that going to bring on more spasms, so I didn’t eat properly for about two or three days, then obviously I started to feel worse because I wasn’t eating.”

As such it is not surprising that weight loss was mentioned (0003, 0009). Others referred to the symptoms causing insomnia (0011) and low mood with irritability (0004). Suffering from these symptoms appeared to be exacerbated by the unpredictability of the triggers for episodes.

“it appears to be very random” (0007)

Stress acted as a trigger to symptoms for many (0003, 0007, 0011, 0015, 0016), producing an additional burden to any stressful situation.

“when I had my driving test for example my stomach tends to go a little bit crazy” (0016)

A variety of secondary impacts of living with IBS were mentioned including persistent tardiness,

“my fear of being late all the time, that upsets my tummy and that’s what makes me late” (0015)

High work absences.

“I mean last year I had a lot of time off but the thing is with IBS is it’s not a long period of time so it will just be a day here and there and I think last year my days off accumulated to 8 days.” (0014)

and the inhibitory cost of over-the-counter medication (0005).

“so, there was times when I couldn’t afford it (over the counter medication) so you were kind of like praying it would pass and then it got to a certain point where you just knew you couldn’t move from the house.”

Possibly the most widely mentioned indirect impact was the limitation IBS had on a person’s ability to participate in the wider world. Participant 0002 spoke of not wanting to go out when experiencing bloating and others explained how going out compounded symptoms,

“you’re trying to de-stress but at the back of your mind you’re going ‘if I don’t get better...I’m no going to get to college’, and that’s more stress, you can run in a circle”. (0007)

Another described becoming progressively more reluctant to go out.

“I was scared to go out socialising I wasn’t wanting to see friends as much as much as I would, I was absolutely petrified of being, you know, away from toilets, just in case, and I started to notice that I wasn’t seeing friends or family much, I wasn’t able to join them in celebrations, going out, restaurants, drinking, that type of thing, that made me quite depressed so I suffered depression on top of that” (0013)

The ultimate experience of which for some was becoming effectively housebound, as seen in this participant’s discourse,

“at one point, in one year, the times that I left the house were to go to the hospital and to take my son to and from school, which is a couple of minutes away, and a couple of times I had to phone friends and ask ‘can you come and get him’, I can’t take him to school even I’m that bad” (0011)

Such impacts can engender a feeling of alienation,

“I feel that I’m displaced, I don’t fit anywhere any more... I’ve lost contact with a lot of people I knew, I don’t really know what to tell them” (0009)

Further, the inability to eat freely was identified as a barrier to socialising,

“I am a very social person, I love people, I can’t describe how much I like people, when you feel bloated and you feel uncomfortable it kind of effects your social life as well.” (0002)

In particular, a limit to consuming alcohol was identified by several participants (0009, 0011), the subtle socially distancing effect of which is seen in this comment,

“why can’t I do that and yeah, with drinking, it’s quite interesting because socially I can’t keep up and that’s quite annoying” (0016)

Others had restrictions on liquids, which were equally socially limiting,

“my diet was so restricted, I can’t drink normal tap water, I can only drink bottled water and it does, I mean people look at me like, and I can only drink room temperature things”. (0011)

Participants explained that to cope they had to be,

“tied to a loo all the time” (0017)

A sentiment echoed by another participant (0005). In some cases, this appeared to be driven by the fear of soiling themselves, as with this participant who explained that when away from home there were times when this nearly occurred,

“very difficult, particularly when we’re in France, yeah it’s been a big problem and err yeah there have been occasions where I only just made it (laughs) literal” (0007)

For at least one participant this led to difficulty going beyond familiar areas,

“It’s made me worried about going to new places (laughs) If I don’t know where a loo is I don’t like (laughs) ... yeah” (0006)

Embarrassment over toilet use was mentioned as a socially limiting factor (0002, 0014), the essence of which is summed up by participant 0015 who said,

“With new people and new places and it can be a little bit embarrassing when you meet them for the first time you go to the loo and it’s a study in IBS, you sound like the whole brass ensemble in there, it’s embarrassing”.

The social impact of IBS is captured by this statement,

“mostly I think overall it’s a very lonely condition”. (0009)

It is apparent from this discourse that the participants experienced physical discomfort, often for long periods of time with substantial embarrassment, fear of embarrassment and a resulting sense of social isolation.

4.4.2 Dissatisfaction with orthodox healthcare

Participants described ways in which they felt that mainstream healthcare had failed to meet their needs. This can be seen in broad statements such as,

“my experience with the NHS hasn’t been too good” (0002)

Underlying this were specific beliefs that clinicians do not value IBS (0007, 0009, 0011), as can be seen in these quotes,

“I mean the IBS was identified years ago but they just go oh yeah it’s a bit of IBS and you know unless you’re constantly on the door-step they don’t deal with it” (0003)

“...I think that they don’t realise how bad IBS can be.” (0014)

Additionally, there was a perception that doctors do not know how to treat it beyond medication (0010). Some reported encounters with clinicians in which they felt invalidated as patients or people, with one participant mentioning a “paternalistic attitude” (0009), others, a lack of compassion (0001) and a lack of empathy,

“I told my GP that it was just a bad idea and what was happening and he wasn’t very understanding at all to my situation” (0013).

Several participants expressed disappointment at the absence of testing related to IBS (0012, 0013, 0015),

“at this stage I was quite fed up so I went back to the doctor and I spoke to them and I said that it went away but it came back, and they said to me you’ll just have to try and change your lifestyle, your diet, you’ve just had a child that’s adding to the stress so I felt as if they just kept on fobbing me off you know with all these different reasons why I’m having IBS as opposed to actually checking anything else out.” (0013)

As a result, the diagnosis of IBS, was derided by some (0010, 0011).

“IBS is just a cluster of symptoms, it’s not really a diagnosis” (0010).

Medication was problematic for the participants, the reasoning motivating this included lack of effectiveness and concerns over possible side effects, as can be seen in this comment,

“I stopped taking my anti-spasmodic because I didn’t feel like they were doing my body any good, um, I got to a point where I was pumping so much medicine into my body it can’t be good and if you’re doing that from say 20 years old you know that’s a lot of medicine to be taking when it’s not doing much” (0001).

There were also fears that medication might trigger their IBS (0002, 0012),

“...how do we know that there isn’t something in that which isn’t going to cause it or continue to irritate in another way rather than calm it or get rid of it...” (0012).

Some had experience of this happening (0006, 0010).

“...when it’s more C (constipation) than D (diarrhoea) they put me on laxatives and that is an absolute no, well it just works too much ... yeah it went too far the other way, and if it’s too bad then I can’t take Imodium because that just goes the other way and all.” (0006).

Other participants objected to medication on the grounds that it failed to address the underlying causes,

“Well, I’m much more interested in getting to the root of the problem and treating the root of the problem rather than just chucking a lot of medication to

kind of mask symptoms, so I wasn't keen on the idea of kind of taking something just in case." (0004).

And

"I refuse to take medication for the simple reason of, well it's not simply really, but I really believe in root cause and addressing that, and I never think it's just one thing." (0009).

Several participants (0004, 0009, 0011, 0012) had been guided through referrals towards the FODMAP diet, a diet plan which looks to reduce the consumption of short chain carbohydrates, which are poorly absorbed in the gut and prone to fermentation,⁵⁴ but found it excessively challenging, and as one participant commented,

"...actually, doing the dietary intervention (FODMAP) which I have followed has exacerbated matters" (0004).

Some participants expressed the view that there was a sense of having come to an end point with orthodox medicine,

"I've felt completely abandoned by the health system" (0009).

With another participant saying that they had,

"I sort of lost faith in my GP to be honest ... I'm on a waiting list with the NHS and the first time I had my gastro appointment with them I was dismissed and told that I had IBS and go home and take Clomipramine even though I knew it didn't work, so I have kind of lost faith to be honest." (0010).

Others overtly stated that they no longer engage with orthodox medicine (0003, 0007).

“to be honest I don’t bother going to the doctors anymore” (0003).

It was clear from these participants’ reported experiences that they felt orthodox healthcare fails them in many ways, the diagnostic procedure feels inadequate, the treatments do not work sufficiently well and often come with side-effects, healthcare professionals present as unsympathetic, all of which leads to some disengaging entirely.

4.4.3 Self-management in the face of IBS

Participants displayed many ways in which they attempted to cure, control and live with their symptoms. The desire to self-help appeared to be driven by need,

“you keep thinking I’ve got to try something, I’ve got to try something” (0011).

This, in part, may be the result of the perceived inability of the wider world to help,

“yeah right, I cannot live like this, ok, I’m the only one who can actually do something about it” (0009).

However, self-help can be problematic,

“some things help, and some things really don’t help, somethings put you back instead of forward as well, something’s make it worse but you don’t know until you’ve tried it do ya” (0006).

Some self-help strategies are as simple as ensuring that medication is always available (0008, 0011), the lived reality of which is captured in this comment,

“you always had to make sure you were carrying practically a full pharmacy, you know, so if you were bunged up or you were loose or whatever you had to carry a pharmacy with you essentially” (0005).

Most participants said that they had engaged in some degree of self-education about IBS, for some this was a core part of their identity,

“I think my personal journey with IBS has been very much one of self-discovery and I’ve really needed to educate myself” (0009).

For others it was more ad hoc and of questionable benefit.

“when it’s particularly bad I read up on the internet, you shouldn’t read the internet should you” (0015).

Some participants (0004, 0005, 0006, 0008, 0009, 0010, 0011, 0012, 0013) used Facebook IBS groups as support, although again this is potentially problematic.

“there were times when constantly reading through IBS type problems can be very, very depressing” (0013).

One of the more subtle strategies to be identified was adopting attitudinal stances (0009, 0010, 0015), such as acceptance of adaptations,

“yeah so it was mostly listening to my body ... to really take time to be with myself to, it was a really really big move for me to say my body has to slow down, and say my body is crying for attention, just not trying to suppress what I was going through really listening to myself” (0009).

And the rejection of symptom driven limitation.

“I normally find that, if I feel bad, if I just bite the bullet and just go out anyway and breath, by the time I’ve got to the bus station I’m fine.” (0015).

Many participants adopted their own coping tools, such as using a hot water bottle to reduce bloating (0006) and another found listening to Arabic beneficial,

“... there was one other thing which actually really helped, people don’t believe me, they say that Arabic is a very soothing language, because they say it’s a very nice language, I actually listen to Arabic, sometimes I listen to the Koran, and that just calms it down a bit, which you’ve probably never heard that before.” (0002).

One described how prioritising finding the lavatory in any new location she visited allowed her to feel safer, and further that she had found a way to go on holiday which always allowed easy access to a lavatory,

“We actually went on holiday, but we took a camper van with it’s own toilet just in case... ...I didn’t need it but it was there.” (0015).

The most common self-help strategies were dietary, several participants spoke of working through their diets systematically to observe what triggered IBS issues. Participants identified issues with milk and dairy products (0001, 0011, 0014, 0017), which they could subsequently reduce and avoid.

“now I’ve come to the realisation that dairy doesn’t help so I’m on lacto free everything” (0014).

However, none of the participants described dietary methods as solving their IBS problems.

Most of the participants had initiated some form of CAM therapy; some explicitly cited the shortcomings of orthodox medication as the reason for a move towards CAM therapies.

“that’s why I went down the natural route because I felt like medicine going through your body is never going to be good” (0001).

Several recited extensive lists of CAM approaches, for example,

“I have a (laughs) a baby aloe Vera plant, I eat aloe a lot and clays, like Bethonite clay, is something I try and do, magnesium to relax the gut, vitamin c, it’s quite a big topic, but yes tea is one of them, I use herbs a lot and I take them in many forms, and mushrooms as well, also herbs from the Amazon such as uno de gato, Cats claw, very high ant-inflammatory, Reishy mushroom, things like this” (0009).

Another summed this up as,

“all the crazy weird powders and probiotics” (0011).

This same participant explained the motivation behind using a variety of interventions.

“I basically started doing, trying, all the things that everybody said” (0011).

However, CAM use was not necessarily indiscriminate,

“I’m pretty ‘on’ alternative therapies, although I’m still sceptical, I try something and if I feel it works for me then I’ll go ahead with it” (0004).

Some participants used CAM to cope with specific circumstances,

“I’ve actually had colonic hydrotherapy because at one point my condition was so bad and I was due to go away for the weekend and knew it would ruin the weekend” (0015).

Some found useful treatments,

“I think it was a Pakistani remedy, it’s a type of seed and I’m really sorry I’ve forgotten what it’s called, when I go home I can ask, its literally, it’s kind’a like, it’s a seasoning in one way, I have a teaspoon of it with some water and it goes like that (clicks fingers)” (0002).

It was later confirmed to be Carom seed. Another used cider vinegar (0013),

“I must say the apple cider vinegar is very, it helps with, I believe for me, with acid indigestion, because in between this period of me waiting around I started to have a lot of acid indigestion and I just assumed that is was part of the IBS, that I was getting the anxiety as well that I was probably getting some sort of problem in the stomach, so I tried the apple cider vinegar it did actually help before I ate food, I felt as though I was able to, I can’t find the right word for it, previously it didn’t feel that my food wasn’t going down properly but with the apple cider vinegar it made it sort of move around a lot easier” (0013).

However, a second participant had a very different response,

“my personal trainer suggested apple cider vinegar, that just made me throw up” (0006).

However, many also found the experience fruitless (0009, 0015), as this comment conveys,

“I spent an absolute fortune on the likes of Holland and Barratt and online, everything from slippery elm to the natural laxatives, Senna, I’m trying to think what else I have tried, I’ve tried spirulina, which is an algae, I have tried Clorela, I have literally tried every natural thing they recommend for constipation and nothing has made a bit of difference, it’s just left me a lot lighter in the pocket.”(0010).

Further, the fear of adverse events was apparent in at least one participant’s thinking around CAM and home remedies,

“with all of these different remedies, whether its medicine, you know natural capsules, yoghurts, you know teas, your still digesting them, you know they are going through your body so they could potentially make things worse” (0001).

It is clear from this that participant’s, driven by perceived necessity, were energetic in their pursuit of strategies to help in coping with IBS. They devised their own, they tried dietary strategies and initiated CAM treatments, the benefits of which appear to be mixed.

4.5 Discussion

The findings indicated that the participants experienced both physical suffering and social embarrassment because of their condition. Further, they often had a negative opinion of orthodox medicine, feeling that the IBS diagnosis may be arrived at in a way they did not consider thorough, that the treatment they receive has minimal effect or makes matters worse, and that healthcare professionals are unsympathetic, resulting in many disengaging with orthodox healthcare services for their IBS. Consequently, people engaged in their own behaviours to manage and improve

symptoms, which include self-education, dietary experimentation, and subsequent dietary restriction, and engaging with CAM.

Many of the behaviours and attitudes which have been identified agree with findings from the wider body of literature. The experience of IBS related suffering found amongst the participants of this study is familiar, be that physical,^{8, 13, 17} or psychological suffering,^{3, 9} such as anxiety brought about through the anticipation of symptoms⁸ or the social impacts,^{8, 9} in particular embarrassment.^{3, 4, 6} Equally, many of the elements causing dissatisfaction with orthodox healthcare are present in earlier studies, such as the lack of a clear pathway to improvement⁵ and negative encounters with health care professionals,^{11, 13, 14, 21} leading to disengagement.^{5, 8, 9} The theme of self-management in the face of IBS is also well recognised,³⁻⁵ with particular elements such as adopting a positive attitude^{9, 37} and acceptance of IBS as a chronic condition⁶ being mentioned. CAM use was frequently noted in other studies,^{5, 8, 18, 33, 34, 36} although it is unclear how common this was. Broadly, the participants' experience of suffering from IBS, dissatisfaction with orthodox medicine and subsequent use of CAM was similar to the experiences of those in other studies and as such suggests they can be seen to be a representative group of people with IBS. When compared with the older studies specifically, those which are twenty or more years old,^{5, 8, 21} the same themes of suffering,⁸ disengagement from conventional medicine,^{5, 8} and self-management⁵ are all present, suggesting that little has changed in the experience of people with IBS over that time. However, these themes only present a descriptive analysis, to understand the underlying processes it is necessary to consider how these experiences play out in the person with IBS moving to CAM.

4.5.1 Push-pull theory¹

The use of CAM was clearly present from the open coding analysis of the transcripts, as were elements of the movement to CAM, but a theoretical perspective is required to perceive that journey as a whole. Push-pull theory,¹ described in detail in chapter 1, has been used as a way of interpreting the findings. Within the context of Push-pull theory¹ push factors, external pull factors and inhibitory factors can all be observed in the study participants.

Push factors, those incidents and actions which push a patient away from conventional medicine, are highlighted by the theme of 'dissatisfaction with orthodox healthcare'. Participants perceived that clinicians did not take IBS seriously, leaving them feeling invalidated. Further, many anticipated and had the experience of medication producing significant side-effects. There were also concerns about masking symptoms. The expressions of dissatisfaction with orthodox healthcare were many and overt, leaving little doubt that people with IBS were experiencing 'push' away from conventional medicine.

Within the expressed experience of this study's participants, evidence for an external 'pull' factor, where the characteristics of the treatment make it more appealing to people with the condition, may be present. It appears that dietary and oral CAM approaches were favoured, which is congruent with evidence from other studies.³⁶ It could be argued that dietary and oral approaches fit into a logical model, dietary solutions for dietary problems. However, it is also possible that dietary and oral approaches are generally favoured because they reduce or avoid many of the factors which contribute to the burden of treatment, such as time and cost.⁵⁵ It could be argued that there is a strong likelihood that oral and dietary treatments have a

degree of external pull to them not present in other forms of CAM, which could be based either on convenience, or that they make more sense for an issue that is perceived to be dietary. To a lesser extent, there were also several references to stress in this study's participants' discourse, sometimes drawing a direct connection between this and their IBS symptoms, suggesting that relaxation and stress reducing CAM approaches would have an external pull factor for those who believed stress made their symptoms worse.

There was also evidence amongst these participants suggesting possible inhibitory factors, those elements associated with CAM that prevent people from using it. Within the 'Self-management in the face of IBS' theme can be seen evidence that self-help strategies come with the risk of worsening symptoms, and at least one participant referenced the cost of the various treatments she had tried (0010). As a result, it can be said that both cost and the fear of worsening symptoms may be inhibitory factors for the use of CAM.

The expressions of dissatisfaction with orthodox medicine, push factors, were far more overt and frequent than the expressions of interest in CAM. This suggests that, within this population, the push is more important than the pull factor in the movement to CAM, meaning that there was little evidence present that CAM was philosophically preferable to orthodox medicine. It is just that CAM is the next available option once a person's dissatisfaction with orthodox medicine has led them to break with it.

This research into the lived experience of people with IBS has found ample evidence that they are pushed away from conventional medicine by negative experience of both treatment and perceived clinician attitudes, which is similar to patterns observed

in other chronic conditions,^{1, 56, 57} Further, there is a suggestion that oral and dietary CAM may have an additional external pull and that the possibility of making symptoms worse and costs may both be inhibitory factors for CAM. It appears that the movement to CAM is primarily driven by dissatisfaction with orthodox medicine rather than a general preference for CAM.

4.5.2 Significance for hypnotherapy

When this material is examined from a hypnotherapy perspective there are at least two potential inhibitory factors which may be relevant, the cost and it being neither an oral nor dietary intervention. These may be contributory factors in explaining why use of hypnotherapy for IBS appears to have been modest. The fear of side-effects and worsening symptoms identified is an unknown for hypnotherapy as it is not established whether people with IBS would consider hypnotherapy more or less likely to produce side effects than oral and dietary approaches. However, a more detailed analysis of attitudes to hypnotherapy is required to contextualise this understanding.

4.6 Strengths and limitations

This study has recruited its participants directly, rather than through a healthcare service or healthcare foundation and as such has added an additional dimension to the available body of research. As the first interpretation of the experience of people

living with IBS using Push-pull theory¹ to aid in the examination of the movement to adopting CAM, this study has improved the understanding of why people living with IBS adopt CAM approaches and gives new insight into the motivation behind their choices. The similarity of findings with those of earlier qualitative studies into people living with IBS validates the findings. Strengths and limitations relating to the population of this study are noted in the methods chapter (Chapter 3.)

4.7 Conclusion

The analysis was interested in how people with IBS adopted CAM treatments and it has been seen that participants began to use CAM because conventional medicine was ineffective, caused side effects or practitioners had a poor attitude. Oral and dietary approaches appeared to be the most appealing forms of CAM. Issues around cost and the fear of side effects inhibited the movement to CAM and influenced the choice of CAM approaches used.

4.8 Chapter Summary

This chapter has explored the experiences of people living with IBS. An open-coded framework analysis was used to examine the transcripts of the interviews described in chapter 3, and the material identified, which related to the lived experience of IBS, has been described. Three themes were identified, IBS related suffering,

disengagement with orthodox health care and self-management in the face of IBS. Findings were found to be consistent with those of earlier qualitative research into people's experience of living with IBS. The Push-pull theory¹ interpretation found evidence of people being pushed away from orthodox healthcare, and the use of CAM was inhibited by fears of side-effects and cost. In having understood the factors which push people away from conventional medicine and gained some insights as to the factors which affect choice of CAM the understanding of this process has been increased. However, for the purposes of this thesis this needs to be examined in the context of the intervention of interest, hypnotherapy. In the next chapter (Chapter 5) the data are analysed with a focus upon the participants' attitudes and opinions towards hypnotherapy.

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Chapter 5 – Perceptions of hypnotherapy for IBS by people with the refractory IBS - a qualitative study

5.1 Introduction

This chapter presents, in the form of a published paper (see appendix 9)¹ a qualitative research study into the attitudes and opinions of people living with IBS towards hypnotherapy for their condition. Following the presentation of the paper, the findings of this study will be explored in two ways, firstly in relation to the findings of Chapter 2 (The public's opinions and attitudes of hypnosis and hypnotherapy - a narrative review) to assess the assumption that the proportion of the population with IBS is likely to share the same sources of information and thus beliefs regarding hypnosis and hypnotherapy as the wider population. Secondly, an exploration of the findings using Push-pull theory will be undertaken. As the paper is solely concerned with the hypnotherapy side of Push-pull theory, push elements, which are innately bound into conventional medicine are not part of this analysis. Similarly, internal pull factors, such as general positivity towards CAM, are innate to the person and not specific to the intervention and thus will not be looked for in this analysis. The analysis will focus upon external pull factors, those pull factors that relate to hypnotherapy specifically, and the inhibitory factors which hypnotherapy produces.

This chapter fulfils objective 2, to establish the current understanding of hypnotherapy for IBS by people with the condition, and partially fulfils objective 4, to establish what inhibits the use of hypnotherapy for IBS by people with the disorder, and their relative importance. The latter part of objective 4 being fulfilled by chapter 7 (A survey of the use of conventional and complementary and alternative medicine by people with irritable bowel syndrome and their attitudes towards hypnotherapy). The

information is subsequently compared with the findings of the Narrative review (Chapter 2) to highlight any substantial differences and used to inform the survey research (Chapter 7) by providing a basis for questions which can then be quantitatively assessed and as a guide to the design of a hypnotherapeutic intervention for IBS (Chapter 8).

5.2 - Krouwel M, Jolly K, Greenfield S. How do people with refractory irritable bowel syndrome perceive Hypnotherapy?: qualitative study. *Complementary Therapies in Medicine*. 2019;45: 65-71

How do people with refractory irritable bowel syndrome perceive

Hypnotherapy? : qualitative study

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Disclaimer – The views expressed in this article are those of the author(s) and not necessarily those of the University of Birmingham, Nation Health Service (NHS), National Institute for Health Research (NIHR) or the Department of Health and Social Care.

Keywords – hypnosis, hypnotherapy, irritable bowel syndrome, IBS, qualitative,

Summary

Objectives - Hypnotherapy is recognised in the UK's National Institute for Health and Care Excellence (NICE) guidelines as a potential treatment for Irritable Bowel Syndrome (IBS). However, little is known about the views of people with IBS regarding hypnotherapy. This qualitative study aimed to identify perceptions of and barriers to hypnotherapy for IBS by people with the condition.

Design - One-to-one semi-structured interviews using thematic analysis.

Setting - Convenience sampling in the UK. Participants were recruited by poster advertising and online IBS support groups. Interviews were conducted at the interviewees' preferred location or via video calling.

Participants 17 people (15 female, 2 male) who self-identified as having refractory IBS according to a provided definition.

Results – Four hypnotherapy related themes arose from the data: conceptualisation of hypnotherapy, hypnotherapy for IBS, barriers to hypnotherapy for IBS, ideal format of hypnotherapy for IBS. Participants saw hypnosis as an altered state in which change was possible, but many had not considered it for IBS. They were broadly open to hypnotherapy for IBS, but a variety of potential barriers were apparent, including cost and therapist validity. Group hypnotherapy was less acceptable than one-to-one treatment. Hypnotherapy via video call was seen as convenient, but there were concerns about its effectiveness.

Conclusion – People with IBS may be put off hypnotherapy by a lack of understanding of how it works for their condition and lack of awareness of it as a

therapeutic option. Uptake may be improved through effective promotion of the approach which addresses its mechanisms of effect.

1. Introduction

Irritable bowel syndrome (IBS) is a common condition¹ characterised by abdominal discomfort and a high level of variability in bowel movement frequency and form.² IBS has multiple potential causes for which conventional medicine has had limited success resulting in many people with IBS seeking help through complementary and alternative medicine (CAM).³

Hypnotherapy is an approach which proved sufficiently effective in treating the refractory form of IBS to warrant inclusion in the UK's National Institute of Health and Care Excellence (NICE) guidelines for refractory IBS.⁴ Refractory IBS is defined as IBS which has not responded to pharmacological intervention and where a continuous profile of symptoms is present twelve months or more after diagnosis.⁴ Hypnosis, a state characterised by reduced peripheral awareness and increased responsiveness to suggestion⁵ is the basis of hypnotherapy, a therapeutic approach that combines hypnosis with suggestion and metaphor.⁶ Gut directed hypnotherapy (GDH) is the main hypnotherapeutic approach to treating IBS.⁷ GDH is a treatment protocol typically taking between seven⁸ and twelve sessions⁹ which uses metaphor, imagery and suggestion to encourage digestive calm and regularity.⁷ Effectiveness has been confirmed in multiple reviews of trial data.¹⁰⁻¹³

Hypnotherapy appears acceptable to the public, conditional upon its endorsement by the medical or psychological establishment.¹⁴ Only one previous study carried out in the UK in 2008 has looked at the acceptability of GDH for people with IBS.¹⁵ Although hypnotherapy was viewed as acceptable there is however little evidence that acceptability translates into usage, with the only identified study covering the topic, a US study also in 2008, finding only 1.4% of people with IBS had used

hypnotherapy for their condition.¹⁶ This suggests a gulf between what is theoretically acceptable and what is actively sought. There are many potential reasons for this gap, which could include negative media stereotypes,¹⁷ popular myths and misconceptions¹⁸ or people not feeling they have enough evidence.¹⁵ Equally, lack of awareness, resources or opportunities may be factors.

Qualitative interviews, with their ability to capture the nuanced human perspective¹⁹ are the appropriate method to help understand and gain insight into what is causing the gap between the apparent acceptability of hypnotherapy for IBS and actual usage. There already exists a wide body of qualitative research into people with IBS,²⁰⁻³⁶ covering their experience of living with IBS,^{20, 24-27, 29, 30, 33, 35-37} their encounters with clinicians,^{24-28, 31, 34-36} and attitudes to specific interventions.²¹⁻²³ Even in the one paper which addresses hypnotherapy, in which people were asked to outline any reasons for the non-acceptability of treatment, hypnotherapy is only one of many treatments touched upon, resulting in, fewer than forty words of speech published regarding non-acceptability of hypnotherapy for IBS. This provides some limited insight into why people may be eschewing hypnotherapy, and included questions of safety, as with one respondent's concerns about the safety of the method "What if hypnotherapy goes wrong?" and not seeing how a psychological approach would benefit a physical disorder.¹⁵

This study aims to identify factors which may be inhibiting the use of hypnotherapy for IBS by people suffering from it and thus provide useful insights on how to formulate patient education materials, where to locate services and who should deliver them for healthcare providers considering referral to or the provision of GDH services.

2. Methods

This study used one-to-one, face-to-face, semi-structured interviews.³⁸ Age, gender, and self-described ethnicity were collected and a fourteen-question topic guide was used. The first four questions covered the interviewee's experience of IBS and treatment, these were included to get the participants talking before moving into the remaining ten hypnotherapy related questions, this paper is concerned solely with these ten questions. These questions were designed to identify barriers, by asking what anxieties and limitations they were aware of and to explore possible unconscious barriers by asking about their image and understanding of hypnosis. A convenience sample³⁹ of participants was recruited via poster advertising around the campuses of several universities in the West Midlands region (UK), by providing leaflets to IBS groups and via online Facebook IBS support groups. Initial contacts were made through telephone, text, and Facebook, responses to enquiries were made in kind, eligibility criteria confirmed, and interviews conducted as soon after contact as possible. Both in-person and video calling interviews were conducted until data saturation was achieved, judged to be the point three interviews after substantial numbers of new codes have stopped emerging from the analysis of the transcripts.^{40, 41} Video calling⁴² was added later in the interview process to take advantage of an influx of recruits from social media who may otherwise have been lost due to the wait between contact and interview that in-person interviews would have required. An additional question regarding the use of video calling for hypnotherapy was therefore added to the topic guide and those participants who had not been asked about it were contacted. Interviews were conducted and transcribed

by the lead author (MK), a practicing hypnotherapist. The decision was made to not actively disclose this to prevent it from biasing participants' responses, however if directly asked, MK would disclose, however none of the participants did ask.

2.1 Inclusion and exclusion criteria

2.1.1 Inclusion criteria were:

- d. Potential participants have stated that they have a medical diagnosis of IBS.
- e. At least 18 years of age.
- f. Fulfil, by self-report, the NICE criteria⁴ for referral for psychological intervention: 'people with IBS who do not respond to pharmacological treatments after 12 months and who develop a continuing symptom profile'.⁴
This was assessed at first contact with the question "Would you say that you have continued to experience symptoms for 12 months or more following pharmacological treatment?"

2.1.2 Exclusion criteria:

- 3) Previous experience of hypnotherapy for IBS.
- 4) Health care and allied professions with a specialism in gastrointestinal problems.

2.2 Consent

Consent was sought by the provision of an information sheet prior to interview and confirmed at multiple points both in writing and verbally. For video-call interviews written consent was obtained by post. Ethical approval was given by the University of

2.3 Thematic analysis

Thematic analysis was used to analyse the data.⁴³ A multiple stage process was undertaken consisting of open coding the transcripts, then reducing the number of codes identified by amalgamating them and removing those irrelevant to the topic, the transcripts were then re-coded using the new codes.⁴⁴ Data analysis was led by MK, SG a medical sociologist and KJ a medical academic, independently read early examples of the transcripts and related coding as a quality measure and monitored the consolidation of codes following the open coding phase.

3. Results

3.1 Participants

Seventeen participants, predominantly female (88%) and mostly white (88%) with a duration since diagnosis ranging from 2-40 years (11.2 mean) were interviewed (Table 1). Interviews took place at the participant's home, local library, or on the campus of the University of Birmingham (UoB). Nine in-person interviews were in the Midlands (UK), eight video-call interviews covered other areas of the UK. Interviews lasted an average of 38 minutes (range 27-55).

3.2 Themes

Four key themes emerged from the interviews: (1) conceptualisation of hypnotherapy; (2) hypnotherapy for IBS; (3) barriers to hypnotherapy for IBS; (4) ideal hypnotherapy for IBS, each with several subthemes. These are explored below with illustrative quotes.

3.2.1 Conceptualisation of hypnotherapy

3.2.1.1 Media influenced imagery

It was apparent that people's perception of hypnosis had been influenced by media presentations, with stage show imagery appearing in their discourse, however many were conscious of this.

“you’ve seen on TV where you’ve got people running around like a chicken but I’m sure that’s stage presence” (0015)

3.2.1.2 Special state

The idea of hypnosis as a special state was mentioned by several participants.

“I know that you go under some sort of trance” (0001)

An alternative term to trance was sleep, it was noted that this was not true sleep.

*“like you’re not really asleep but maybe you’re in like in bit of a bubble”
(0012)*

3.2.1.3 Presentation of the hypnotherapist

There appeared to be a dualism in the perception of the hypnotherapist with expressions of associations with popular entertainment sitting alongside more mainstream images.

*“if I was to go into a room now to be hypnotised it would automatically
have that sort of funfair comedy magician thing at the back of my mind”
(0001)*

“I’m associating a hypnotherapist with maybe a psychologist?” (0001)

Despite the idea of eccentricity around the hypnotherapist the anticipated presentation was of a professional, smartly dressed, middle aged or older. However, hints at idiosyncrasy remained.

“everyone gets an idea which is a very sort of academic individual and that’s a particular look, and maybe a little bit quirky as well,” (0003)

3.2.1.4 How hypnotherapy creates change

The main concept expressed was that hypnosis allowed access to the unconscious.

“it’s a matter of having my subconscious made available, like really tapping into, it’s like tapping in to dream world really for me (laughs), not having the barrier of consciousness” (0009)

The suggestion was that new concepts can be incorporated by the mind in this state.

“you’re in a state of mind where you’re more susceptible to like positive suggestions” (0013).

Some also referenced memory work and metaphorical approaches.

“talking to you with a story or a scenario to get, the subconscious mind sounds a bit cheesy, but to get you thinking about things that you forget about.” (0015)

3.2.2 Hypnotherapy for IBS

3.2.2.1 Mechanism of effect

How hypnotherapy worked for IBS was difficult to conceive for some.

“I actually wouldn’t have a baldie to be honest with you, I don’t, I wouldn’t have a clue how they actually remove the actual physical symptoms,” (0005)

It appears that this conceptual difficulty may be due to hypnotherapy being perceived as a psychological therapy, whereas IBS is seen as a physical problem.

“I don’t know I can’t picture it full on as an actual medical, cos I can picture it in my mind for more sort of mental disorders like anxiety, depression, even OCD” (0001)

Some thought that hypnotherapy might work by reducing stress, be this specifically in the gut brain or more generally.

“I wonder if it would be possible for someone to tell my gut-brain to stop being so stressed” (0016)

Other elements which participants mentioned as possible ways in which hypnotherapy could address IBS included distraction from symptoms, memory work and promotion of healing.

“I think it could be multifaceted, I think it could be helping a person possibly understand the root causes or possibly the history of what’s happened with the gut,” (0009)

3.2.2.2 Advantage of hypnotherapy

Hypnotherapy was seen as safer because nothing physical, which may aggravate the IBS, was used.

“you are not putting anything in your body with hypnosis other than thoughts” (0007)

“at the end of the day it’s not an intrusive or invasive thing that’s gonna hurt” (0011)

3.2.2.3 Willingness to use hypnotherapy for their IBS

All participants indicated that that they would use hypnotherapy, the degree of positivity varied from the mild and conditional to enthusiastic and largely appears to be based upon being open to any treatment option.

“I’ve blimin tried everything else so I’d be willing to give it a go (laughs)” (0010)

3.2.2.4 Group hypnotherapy for IBS

Most of the participants expressed an openness to group hypnotherapy for IBS, albeit with a degree of reticence.

“I don’t think I’d have a problem with that, when you just said that I thought no I would want it one to one, but no why would I want that” (0017)

Some found group hypnotherapy acceptable if everyone had similar symptoms and some expressed a potential social benefit.

“groups are good in the respect that if you all suffer from the same thing and understand that it’s hard work and you’re not on your death bed but it’s a chronic thing a chronic niggling miserable condition quite frankly and if you can kind of share that with other people it’s quite a positive thing” (0004)

Group hypnotherapy raised the problem of social inhibition, both generally and in the context of discussing symptoms.

“yeah, if you like had to talk about your past and or even saying about your toilet habits like, I’ve just overcome being able to go to the toilet in public I don’t want to start talking in public” (0014)

3.2.2.4 Hypnotherapy via video calling

The initial response to hypnotherapy by video-call for some was one of uncertainty, with concerns about dropped calls and a lack of relationship expressed.

“it’s good to kind of feel that you can trust them (the hypnotherapist), so it’s good to almost be there with them” (0002)

However, following the initial uncertainty all four who responded to this question were open to the idea to varying degrees, from enthusiastic to reservedly open.

3.2.3 Barriers to hypnotherapy for IBS

3.2.3.1 Lack of awareness

Perhaps the most fundamental barrier was not knowing that hypnotherapy could be used to treat IBS.

*“I’ve never really thought about it before because I’ve never really come across it before, never thought about linking it (hypnotherapy) to IBS”
(0006)*

3.2.3.2 Practical barriers

Cost and time were barriers for many, the former highlights the sparsity of NHS services.

“oh god no, if I could get hypnotherapy I would be in there in a minute, but I’m not prepared to pay privatised prices” (0005)

“for me it was about getting the times to attend and get the treatment because of being a carer and then working full time” (0003)

When questioned as to how much time they could commit, most participants felt that once a week or once every two weeks was manageable.

3.2.3.3 Fear of the unknown

Several participants expressed a fear of the unknown, often with an accompanying desire for explanation.

“I would want someone to literally sit with me and say right you’re gonna have this, this, this and this like this is what’s gonna happen like this is what might happen” (0006)

Further there were questions about the effectiveness and possible side effects.

“because I know so little about it, whether it takes sort of other parts of your mind, whether you can forget other things that you don’t want to forget” (0007)

3.2.3.4 Vulnerability

The issue of possible abuse was raised.

“what happens if they put you under hypnosis, how deep they can put you under, and there’s nobody around and you’re just in that very vulnerable state with a random person that you’ve only just met, that’s quite a vulnerable situation to put yourself into” (0011)

3.2.4 Ideal hypnotherapy for IBS

3.2.4.1 Interpersonal skills and characteristics

Participants identified a raft of desirable characteristics for a hypnotherapist such as understanding, friendliness, kindness and being non-judgemental.

“you’d want them to have a certain demeanour which means that you feel comfortable,” (0004)

Some participants identified specific behaviours that they would want to encounter in a hypnotherapist, such as smiling, eye contact, using first names and concise explanations. For some, a flexibility in approach was important.

“if I said something, I’d like to recognise that they could then, based on something I’d said they could go off on a tangent then deal with that rather than just ignoring it”(0014)

3.2.4.2 Qualifications and experience

Most participants wanted a hypnotherapist to have a formal qualification, however the preferred level of qualification was variable.

“it needs to be someone who has done some sort of training, it doesn’t necessarily have to be a PhD” (0003)

“Masters would be a definite” (0014)

For some experience was more important.

“I don’t think it really would maybe matter the standard of the ...the qualification or the level, if they have the experience with regards to treating people with IBS with hypnotherapy” (0010)

As with the accepted level of qualification the acceptable level of experience was variable, but several expressed that specific experience with hypnotherapy for IBS was important, as was experience with a wide variety of people.

“they should at least have practiced it, they’ve done it on people before” (0002)

“I don’t necessarily mean experience in terms of 20 years’ service I think just experience with a variety of people” (0001)

3.2.4.3 Appearance

Although appearance was a minor issue to many, some had strong opinions. Scruffiness and a new age presentation were actively disliked in favour of a casual version of professional attire, consisting of trousers or skirt with shirt or blouse.

“not sort of scruffy, long haired type” (0007)

“they would have to look I suppose quite professional, not business like because that’s not how I, that would make me feel intimidated” (0013)

3.2.4.4 Gender

The few participants who expressed a preference favoured a female hypnotherapist, notably this included both male participants.

“I know it sounds weird but somehow I get on more with females than males” (0002)

“I would probably for my own historical reasons prefer a female hypnotherapist” (0009)

3.2.4.5 Location of therapy

Most participants expressed a desire for hypnotherapy services to be within the NHS. For some it was likely that this was driven by issues of cost, it was also apparent that it would validate the approach.

‘if I could get it on the NHS I would be down, I would be wherever I could get in XXXX in a heartbeat so I would’ (0005)

“if the NHS doctors referred me for it I don’t think I’d have any reservations”

(0017)

Specifically, there was a desire for services to be provided at their local general practice or a small healthcare centre. Hospitals were more problematic, being the preference of some but actively rejected by others.

*“probably not a hospital, I’d find that too clinical just in a building or a like um
oh what are they called like a health centre” (0014)*

Of greater importance to many of the participants was the therapeutic space, this needed to feel safe and comfortable.

*“to me it wouldn’t be a specific where the room would have to be as long
as I felt comfortable in the room” (0010)*

4. Discussion

This qualitative study has identified some key themes in the opinions of people with IBS for hypnotherapy as a potential treatment for their condition. People’s ideas about hypnotherapy showed the influence of entertainment,¹⁷ however, a dualism was present with an awareness that these ideas are media generated and for some the image of the hypnotherapist is paralleled with that of the psychotherapist or counsellor. It is possible these media derived images are presenting a barrier to acceptability; however, this is not certain.

Concepts of how hypnosis creates change acknowledged a ‘special-state’⁴⁵ but how a psychological therapy might affect a predominantly physical condition was confusing to many. No consistent explanation of mechanisms for change emerged,

which reflects the current understanding of researchers,⁴⁶ and may be a block to acceptability. Some participants said they did however find hypnotherapy's lack of a physical aspect refreshing and it was perceived to potentially be relatively safe, which reflects the low level of side effects observed in trials.⁴⁷

Perhaps the most important finding is whilst all participants said they would be open to using hypnotherapy for their IBS, numerous explicit barriers to the use of hypnotherapy for IBS were cited. These can be broadly seen as time, cost, lack of awareness, vulnerability and a fear of the unknown. Awareness is possibly the most fundamental of these barriers. Mechanisms of awareness previously identified for CAM therapies cite word of mouth and active searches as the most important,⁴⁸ however these routes appeared to be ineffective for hypnotherapy amongst the study participants. It is possible that people keep IBS private due to embarrassment⁴⁹ and as such word of mouth is limited; equally, active searching, particularly through the medium of the internet, may only be effective if the appropriate search terms are used, and people may not think to use 'hypnotherapy'. Inclusion within the NHS, which was universally popular among participants, would likely overcome cost issues and for many would validate both the approach and practitioners. Services are likely to be more acceptable if practitioners conform to the expressed preferred stereotypes⁵⁰ of appearance of the practitioner and therapeutic space (primary care facility, comfortable and private).

The idea of group hypnotherapy, which offers comparable effectiveness at a lower cost to individual therapy,⁵¹ was acceptable to most. Some participants predicted a supportive element to this, which matches the findings of other studies into group psychological work,⁵² however, it was clear that social fears over the need to actively

participate were present. How much social anxiety would affect uptake is unclear, several anxiety types are more prevalent amongst people with IBS, but social anxiety appears to be no more common than amongst the general population.⁵³ Should such a group programme be implemented appropriate measures should be taken to offset social fears by addressing them in patient literature or in an initial one-to-one meeting.

The idea of hypnotherapy via video-call is relatively new and its unfamiliarity was apparent from some of the participants' responses, however it is being used within NHS IBS services based in Manchester.^{54, 55} It holds several potential practical advantages for healthcare providers, such as cost savings, and participants identified several potential benefits to its use. Participants suggested that there may be a loss of therapeutic relationship using the video medium, and current research suggests that it may be a less effective approach⁵⁵

4.1 Strengths and Limitations

These data substantially deepen the understanding of what people with IBS think about hypnotherapy. The requirement to ensure that participants were aware that most of the questions related to hypnotherapy for IBS in the initial advertising and the self-selecting nature of volunteer recruitment may have impacted upon the type of people presenting, however the study encompassed a wide variety of people with IBS, which included people from around the UK, a spread of ages and longevity of symptoms. The inclusion of the alternative interview format of the video call allowed for interviews with people whose movements were potentially limited by their condition but who might not have been comfortable to have a stranger in their home.

The study is substantially stronger for the diverse team, including a hypnotherapist (MK), a medical sociologist (SG) and a medical academic (KJ) who were involved in the analysis. The addition towards the end of the study of a question regarding the use of video calls for the delivery of hypnotherapy for IBS meant that most participants had disengaged by the time they were re-contacted with this question and ultimately only four answered it, this means on this specific topic data saturation was not achieved, although it was elsewhere.

5. Conclusion

IBS is a chronic condition for which there is a desire amongst people with the condition for wider treatment options to be explored and as such our participants were open to hypnotherapy. Participants did not immediately think of hypnotherapy in relation to IBS and neither did they automatically see how it could help them, suggesting that the provision of information materials is important. Beyond this there was concern about their vulnerability in the hypnotherapeutic situation as well as experiencing practical barriers of time and cost. It was apparent that many of these barriers would be removed for hypnotherapy for IBS by it being included within the standard healthcare system, which provides payment and validity. Acceptability of services could be further improved by adhering to anticipated norms of professional presentation for the psychological professions and delivering services in the primary care setting. Group hypnotherapy appeared to be acceptable to a smaller number of people because of social anxieties and concerns about a lack of individualisation. Hypnotherapy via video-call was seen to have many practical advantages although concerns were raised around technical issues and the possibility of lost rapport.

This study focused upon the views of people with IBS, other potential causes for the low use of hypnotherapy for IBS may exist. To identify these, further research into doctors' awareness, attitudes and the availability of services is necessary.

Ethical approval and consent to participate

Ethical approval was given by the University of Birmingham Science, Technology, Engineering and Mathematics Ethical Review Committee ERN_15-1473. All participants gave their written consent for inclusion in the study.

Consent to publish

All participants gave consent for their anonymised words to be used in academic publication.

Declaration of interest

MK is a practicing hypnotherapist. SG and KJ are part funded by the National Institute for Health Research (NIHR) Collaboration for Leadership in Applied Health Research and Care West Midlands.

The views expressed in this article are those of the author(s) and not necessarily those of the NHS, the NIHR, or the Department of Health and Social Care.

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Table.1 – participant characteristics

Interviewee	Age	Gender	Ethnicity (self-identified and in their own words)	In-person	Video interview	Estimated time since diagnosis (years)
1	23	Female	White British	x		5
2	22	Male	British Asian	x		2
3	56	Female	White British	x		10
4	43	Female	White British		x	20
5	32	Female	White Irish		x	2.5
6	26	Female	White British		x	10
7	63	Female	White British	x		40
8	36	Female	White Scottish		x	2
9	36	Female	White European		x	2
10	36	Female	White Irish		x	5
11	42	Female	White British		x	10
12	41	Female	White Irish		x	16
13	41	Female	Eurasian	x		17
14	25	Female	White British	x		25
15	51	Female	White British	x		12
16	24	Male	White British	x		7
17	50	Female	White British	x		5

1. Krouwel M, Jolly K, Greenfield S. How do people with refractory irritable bowel syndrome perceive Hypnotherapy?: qualitative study. *Complementary Therapies in Medicine*. 2019;45: 65-71.

5.3 People with IBS's views on hypnotherapy in the context of the wider population

It was specified in the narrative review (chapter 2) that the use of the findings of the narrative review was on the assumption that these would be an effective approximation of the attitudes and opinions of people with IBS. This assumption was made due to the dearth of research directly into people with IBS's understanding of hypnotherapy for their condition, a situation which is, in-part, superseded by this research. However, these findings are qualitative and cannot entirely take the place of the, arguably more generalisable, quantitative data identified by the narrative review. This new information offers the opportunity to examine the two sets of findings for any notable differences which may disconfirm the assumption that the general population data can be used to fill knowledge gaps where IBS populations specific data is unavailable. To this end the topics covered by the narrative review, which are likely to overlap with the topics of this study, will be used as a starting point and the findings of this study examined for evidence of similarity or difference. As such the topics will be perceptions of the hypnotic state, issues of control and awareness, the importance of skill and effects of associations with conventional medicine.

The idea of hypnosis being a special state was apparent in both the IBS population and the general population studies. The assumption that control lay with the hypnotist was apparent in the general population and comments around vulnerability

hint at a similar perception with the IBS study, although it is not a strong presentation. The general population study identified a perception that awareness was, at the very least, altered whilst under hypnosis, the IBS study identified no information on this topic. Skill, a factor identified as important in the general population study, was not a term used by the population of the IBS study, but frequent references were made to qualification and appropriate experience which could be argued to be components of skill; however, the connection is not sufficiently explicit to be confirmed. Hypnotherapy gaining increased validity through connections with the conventional medical and psychological world was apparent in the general population, and something similar is suggested by comments made regarding the preferred location for hypnotherapy by the IBS population study, which made frequent reference to healthcare locations as preferable. However, this was specific to primary care locations with secondary care being more problematic, so again the picture is not clear.

It can be seen that, in the areas of being a special state there was substantial agreement between the evidence from the general population and the IBS specific population. Further, all the other areas of comparison suggested similarity between the two populations' perceptions, although it was not expressed using the same language and may come with caveats. The only exception to this was 'awareness whilst in trance' where no evidence was reported for the IBS population. As it stands there is some evidence for similarity between the two populations and no evidence that contradicts that potential similarity. In light of this, the use of the general population data within the thesis, which is only interested in people with IBS, holds where no IBS specific data is available.

5.4 What people with IBS think about hypnosis and hypnotherapy for their condition, the Push-pull theory perspective.

Within this qualitative study of people with IBS's attitudes towards hypnotherapy is considerable information covering two of the components of Push-pull theory, external pull factors and inhibitory factors. These will be identified, discussed, and examined with a view to assessing their impact upon the acceptability of hypnotherapy for IBS. The external pull factors will be examined first and then the discussion will move to the inhibitory factors.

5.4.1 External pull factors

The study identified that stress reduction was one method of potential effect postulated by the participants. Stress reduction is likely to appeal to people with IBS as many perceive stress to be a part of their symptoms.¹ As such the promise of stress reduction through hypnotherapy is an external pull factor, albeit one which only applies to those who perceive its presence. Other factors of potential effect were forwarded, such as by-passing the conscious mind and distraction from symptoms, but these are harder to perceive as being actively appealing, as there is no evidence that people with IBS are identifying either their unconscious mind as the source of their IBS or that distraction would be effective for them.

There was the presence of an attitude which sees hypnotherapy as non-physical, and thus, more likely to be a low risk of side-effects. Side-effects are a concern for people with IBS as a large proportion have experienced them from other treatments.² Low side effects are likely to be an external pull factor only in comparison to those approaches which involve the consumption of something intended to affect the body, such as medication, teas, dietary supplements, and probiotics.

It has been seen that hypnotherapy has some, limited and conditional external pull factors, in its perceived ability to reduce stress and relative safety from side-effects. Further potential external pull factors can be found in the person of the hypnotherapist themselves. Because these are about the specific hypnotherapist themselves, they are conditional upon the hypnotherapist both possessing them and being able to communicate this to people with IBS prior to engagement with services. The most substantial were personality factors, such as friendliness, understanding and being non-judgemental, characterised by behaviours such as eye contact, using first names and smiling. Beyond this adherence to a certain dress code, which could be characterised as professional but informal was appealing.

The other major area in which the hypnotherapist may contribute to their external pull factor is in qualifications and experience. Both experience and qualifications were considered appealing, but not always to the same people and not always in the same way. Broadly it can be said, that the higher the level of hypnotherapy qualification and the greater the level of relevant experience the more appealing the hypnotherapist. However, a corresponding inhibitory factor may be present in which low level qualifications or poor experience are actively off putting and an argument

could be made that long experience and high-level qualification may represent protection from these inhibitory factors rather than an actual pull factor.

The location of the hypnotherapy may also act as an external pull factor. The preferred location for most of the participants was a primary care setting. Secondary care was less well endorsed with some participants happy with it but a few having negative associations with it. The motivation behind the preference for primary care is unclear, proximity or familiarity may have been factors for some, as may have been the association with the regular health service embodied by being physically within it, associations with conventional medicine are known to enhance the status of hypnotherapy.³ It is apparent that other potential venues which were suggested within the topic guide (see Appendix 8), such as the hypnotherapist's own practice, were not endorsed so clearly, suggesting that the primary care setting is the most generally acceptable location. Ultimately, it is unclear if being in a primary care setting would be an active external pull factor or simply represents the negation of potential inhibitory factors such as distance, unfamiliarity, and lack of credibility.

It has been observed that potential external pull factors were identified regarding the hypnotherapist, such as their presentation, interpersonal skills, qualifications, experience and their location of work. However, dress and interpersonal skills, are limited by the hypnotherapists ability to communicate these prior to first contact and qualifications, experience and location of delivery could represent the alleviation of inhibitions rather than pull factors. Overall, a few factors pulling people towards hypnotherapy were identified in the findings of the research, but all were conditional in some way, limiting their effect. There is little within hypnotherapy that is clearly pulling people with IBS towards it.

5.4.2 Inhibitory factors

Many potential inhibitory factors were present in the findings, including the image of hypnosis, limited understanding of how it works for IBS, issues of context with both group and video call hypnotherapy, never having known that hypnotherapy can treat IBS, time, cost, fear of the unknown and vulnerability whilst in hypnosis. Each of these will be examined to assess likely impact.

The image of hypnosis is complex with elements of the entertainment side emerging into conceptualisations of it. This may prove inhibitory, not because of fear, but more due to a lack of seriousness around hypnosis.

Some participants had no idea how hypnotherapy might help with IBS. For some this was about awareness for others however it may be due to their conceptualisation of IBS rather than ideas around hypnotherapy itself. The only other qualitative research covering hypnotherapy for IBS, recorded a comment from one participant in which they stated that they consider the condition physical and not mental,⁴ similar expressions were made by study participants, suggesting that hypnotherapy, a psychological therapy may not appear to be able to help them. Further, as has been noted (Chapter 4 – The experience of living with IBS – moving towards CAM) many people with IBS have negative associations with psychological explanations of IBS, finding them dismissive or hard to accept when their symptoms are physical in nature. If we recall one of the findings of the narrative review (Chapter 2), that hypnotherapy was strongly endorsed for psychological issues but much less so for those seen as medical, then we see a potentially substantial inhibitory factor in that a

proportion of participants perceive IBS as predominantly a physical issue and thus hypnotherapy would only be of moderate benefit.

There is a strong cost saving argument for the use of group hypnotherapy within healthcare systems, and it appears to be an effective approach (see Chapter 6). However, the thought of group work brought with it the inhibitory factor of social self-consciousness for some participants. Video call hypnotherapy also raised an inhibitory factor for one participant because they felt trust was deepened by the physical presence of the hypnotherapist (0002 at 3.2.2.5 in 5.2 above).

Both the cost of hypnotherapy and the time to attend were inhibitory factors for people with IBS. Cost as an inhibitory factor is relevant when hypnotherapy is outside of conventional medicine, however when medical insurance or the health care system bears the cost it may reduce substantially. Time presents a substantial barrier, with hypnotherapy for IBS requiring multiple visits, frequently as many as twelve⁵, each requiring travel time in addition to the session time. Video therapy would negate the travel time element but, as has been noted, this comes with its own inhibitory factor and the existing research suggests a lower level of effect from video therapy.⁶

Fear of the unknown was identified as a barrier and thus an inhibitory factor.

Considered by some authorities as the most fundamental fear, and arguably the basis of all others,⁷ fear of the unknown could present a substantial inhibitory factor in a population with a higher than average propensity to anxiety.⁸

The final inhibitory factor identified was the vulnerability the patient may experience whilst in hypnosis. Within the expression of this was the implication that it was being

alone with a hypnotherapist which was problematic, as such this is less likely to be an issue with group work.

5.5 Summary of chapter

This chapter reported, in the form of a published paper,⁹ the findings of a qualitative analysis of people with IBS's opinions and attitudes towards hypnotherapy for their condition. It was found that the participants were open to using hypnosis. However, substantial barriers to its use were identified, particularly blocking were a lack of awareness that hypnotherapy could help with IBS and difficulties conceiving of how it would help. Beyond these were concerns about vulnerability in trance, a fear of the unknown, as well as practical concerns of time and cost. Delivery of hypnotherapy in a group was not acceptable to some, due to issues around social anxiety, and video call delivery was also problematic for some because it felt less safe. The idea of hypnotherapy for IBS being available through standard healthcare systems was strongly endorsed. There was a concept of an ideal hypnotherapist, characterised by good people skills, a high level of qualification and relevant experience.

Where the topics of this study overlapped with topics encountered in the narrative review (Chapter 2) broad similarity was found. This means that this study does not disconfirm the assumption that the findings of the narrative review, which cover a general population, can be used as guides when no data specific to an IBS population is available.

The push-pull analysis identified some conditional external pull factors, such as stress reduction and low side effects, and from the hypnotherapist themselves interpersonal skills, appropriate dress, qualifications and experience. Each of the barriers to hypnotherapy identified represented an inhibitory factor, of these, lack of understanding and awareness were probably the most substantial.

The findings of this chapter will provide the foundation for the design of the survey of people with IBS's attitudes towards hypnotherapy (Chapter 7) which will, in part, attempt to quantify the relative importance of some of the inhibitory factors identified by this study. The Push-pull theory observations of this data will inform the overall analysis of the findings in chapter 8.

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Chapter 6 – Factors associated with the effectiveness of hypnotherapeutic interventions for IBS - Systematic review and meta-analysis with subgroup analysis

6.1 Introduction

This chapter presents, in the form of a published paper¹ a systematic review and subgroup analysis of factors which potentially impact upon the effectiveness of hypnotherapy for IBS. Additionally, a protocol for the systematic review and subsequent statistical analysis was published (Appendix 10)² to provide a record of methodological intent against which the review can be assessed, and as such helps to reduce the risk of bias entering the review at a later stage.

Several systematic reviews and meta-analyses have been conducted before into hypnotherapy for IBS,³⁻⁷ but none had conducted meaningful subgroup analysis of factors which impact upon the effectiveness of the intervention, such as volume of hypnotherapy or therapist characteristics. Within the context of this thesis, an understanding of the impact of delivery and patient characteristics upon outcomes provides information within which the preferences stated by the potential user (Chapter 5 & Chapter 7) can be assessed (Chapter 8).

This chapter fulfils objective 5 of the thesis, to identify what factors within the GDH protocol result in decreased effectiveness and which improve effectiveness.

6.2 - Krouwel M, Farley A, Ismail T, Greenfield S, Jolly K.
Systematic review, meta-analysis with subgroup analysis of
hypnotherapy for Irritable Bowel Syndrome, effect of
intervention characteristics. *Complementary Therapies in
Medicine*. 2021;57: 102672

ABSTRACT

Background – Hypnotherapy has been shown to be effective at relieving global gastrointestinal symptoms (GGS) in irritable bowel syndrome (IBS). This study examines the impact of hypnotherapy delivery and participant characteristics on IBS outcomes.

Methods –This systematic review searched CINAHL, Cochrane Library, Conference Citation Index, Embase, PubMed, PsycARTICLES, PsychINFO, Science Citation index-expanded, Social Science Citation Index. Titles and abstracts, then full-text articles were screened against inclusion criteria: trials with a concurrent comparator of hypnotherapy in adults with IBS diagnosed using Manning or ROME criteria, which provided symptom data. Included studies were extracted and assessed for bias using Cochrane Collaboration 2011 guidance. Random-effects meta-analysis was conducted with sub-group analysis to assess the impact of delivery characteristics on outcomes.

Results –Twelve trials were included, 7 in the meta-analyses. Hypnotherapy reduced the risk of GGS, but this was not statistically significant, (standardised mean difference (SMD) 0.24, [-0.06, 0.54], I^2 66%). Higher frequency of sessions (≥ 1 /week) reduced GGS (SMD 0.45 [0.23,0.67] I^2 0%), as did higher volumes of intervention (≥ 8 sessions with ≥ 6 hours of contact) (SMD 0.51 [0.27,0.76] I^2 0%) and group interventions (SMD 0.45 [0.03, 0.88] I^2 62%). Only volume of intervention produced a significant effect between the subgroups.

Conclusion – This review suggests that high volume hypnotherapy is more beneficial than low and should be adopted for GDH. Both high frequency and group interventions are effective in reducing GGS in IBS. However, the sample size is small and more studies are needed to confirm this.

Study registration number: PROSPERO CRD42018065533

Keywords – Irritable bowel syndrome, hypnosis, functional gastrointestinal disorder, review, Meta-analysis

Acronyms

GGS - Global gastrointestinal symptoms

IBS - irritable bowel syndrome

1.0 INTRODUCTION

Irritable bowel syndrome (IBS) is a chronic functional bowel disorder characterised by volatility in bowel movements. It is often accompanied by abdominal pain¹ which significantly impacts quality of life (QoL).^{2, 3} Hypnotherapy, the use of hypnosis⁴ to enhance therapeutic outcomes⁵, has been used for IBS since the 1980s,^{6, 7} with a specific set of techniques, known as Gut Directed Hypnotherapy (GDH) having developed⁶ (see Box.1).

Gut Directed hypnotherapy (GDH) typically consists of 6-12 sessions of hypnotherapy which may include:

- Suggestions for digestive calm, reduced sensitivity, increased comfort and the establishment of healthy digestive rhythm, possibly coupled with calming imagery such as waves lapping on a shore.⁸
- The 'Warm hand visualisation', in which suggestions are used to enable the patient to access the idea of a warm hand, often enhanced by imagining the hand as a warm colour. Patients then learn to transfer this perceived warmth into their gut, mimicking the effect of resting a hot water bottle on their stomach.⁹
- The 'River metaphor', in which the patient is encouraged to imagine a river which may be turbulent or blocked as appropriate to their symptoms and to imagine it calming or unblocking.¹⁰

Box 1: Commonly used content of gut directed hypnotherapy

Recent meta-analyses have confirmed hypnotherapy's effectiveness for IBS.¹¹⁻¹⁴ However, individual trials have different delivery characteristics.¹ There are variations in the treatment protocol, such as using the GDH model¹⁵ when other approaches combine hypnotherapy with cognitive behavioural therapy (CBT),¹⁶ and others use hypnotherapy as part of a much wider 'integrated therapy'.¹⁷ Further, there are differences in the amount of therapy, with some protocols having just three¹⁸ sessions of hypnotherapy and others sixteen.¹⁶ Equally, overall contact time varies, with some studies having 150 minutes¹⁹ and others 720 minutes.²⁰ An understanding of the effects of delivery characteristics would inform service commissioning and delivery.

The objective of this review is to investigate the effect of patient and delivery characteristics on outcomes of hypnotherapy for IBS. The aim of this is to identify ways to deliver the most efficient approach to provide hypnotherapy for IBS.

2.0 METHODS

2.1 Study registration

This review has been registered on PROSPERO CRD42018065533 and methods reported in detail elsewhere.²¹

2.2 Identifying literature

The following electronic databases were searched: CINAHL, Cochrane Library, Conference Citation Index, Embase, PubMed, PsycARTICLES, PsychINFO, Science Citation index-expanded, Social Science Citation Index.

The search strategies included the Medical Subject Headings (MeSH) “colonic disease” “colonic diseases, functional” “irritable bowel syndrome” and “hypnosis” and text words: irritable bowel, hypnotherapy\$ or hypnos\$ or auto-hypnos\$ or Self-hypnos\$ or mesmerism\$.²¹ Searches were undertaken from inception of the database until 27 April 2020. Two reviewers (MK, AF) independently screened titles and abstracts and subsequently examined full text articles for inclusion. Disagreements were adjudicated by a third reviewer (KJ). Data on trial methods, outcomes, intervention, patient and delivery characteristics were extracted.

2.2.1 Eligibility

Study design - Randomised controlled trials and quasi-randomised studies with a concurrent comparator published in English language journals only.

Type of participant – Adults (≥18 years of age). No limitation was placed on gender, location or ethnicity. Diagnosis of IBS using one of the prevailing diagnostic criteria at the time, namely Manning²² or Rome I- IV.²³⁻²⁶

Type of intervention - had to have an element explicitly identified as hypnotherapy.

Type of comparator – Comparator groups had to be in receipt of an alternative treatment, this could include a different hypnotherapeutic approach, treatment as usual, placebo intervention or waiting list. Waiting list was included on the assumption that participants would receive usual care.^{27,28,29}

Outcome measures – could either be clinician or self-assessed.

The outcomes of interest were any continuous measure of global gastrointestinal symptoms (GGS), QoL, anxiety or depression. Follow-up point was defined as the furthest data point from the start of the study at which relevant data were available.

2.3 Assessment of risk of bias in included studies

Studies were assessed independently by two reviewers (MJ, AF) for risk of bias using the 2011 Cochrane Collaboration³⁰ tool for randomised studies, with differences resolved by a third reviewer (KJ). The overall bias rating was defined by the highest single risk of bias category assessed for the paper. As 'blinding of participants and personnel' is impossible in hypnotherapy trials this category was not assessed.

2.4 Statistical analysis

Inverse variance random effects models were selected due to an anticipated high level of clinical heterogeneity. Studies reported outcomes using different measurement tools and therefore the effect is reported as the standardised mean difference (SMD). Data were analysed using the Cochrane Collaboration's Revman software, version 5.3.³¹

Studies which provided both mean and standard deviation figures, at baseline and follow up or the difference between these two points, were included in the meta-analyses. When the difference between baseline and follow up had not been calculated the standard deviation was calculated using Gaussian error propagation $\sqrt{([SD_1]^2 + [SD_2]^2)}$. When trials contained multiple hypnosis arms, for example a group hypnotherapy arm, an individual hypnotherapy arm, and a comparator arm, the

hypnotherapy arms were combined using Revman's calculator feature for comparisons where the group or individual element was not a factor of interest.³²

An initial pooled SMD was calculated with 95% CI, with all trials included. Statistical significance was defined as having a 95% CI that did not include zero. Where data were available, we planned to explore the importance of the multiple patient and delivery characteristics on effectiveness of hypnotherapy, using meta-regression if ten or more studies were available and subgroup analysis where fewer were present.

The proposed comparisons were

- Frequency of sessions: <1/week / ≥1 session/week.^{33, 34}
- Number of sessions: ≤7 sessions / >7 sessions.³⁵
- Total contact time: ≤6 hours / >6 hours.³⁵
- Level of hypnotherapy training.³⁶
- Hypnotherapist gender³⁷ and age.³⁸
- Population age³⁹ and education level.⁴⁰
- Duration of symptoms.⁴¹
- Group / individual hypnotherapy.^{35, 42}
- GDH compared to 'other' hypnotherapy approaches.⁴³
- Recruitment and delivery setting.^{44, 45}

- IBS by predominant symptom type.⁴⁶

3.0 RESULTS

3.1 Search results

After the removal of 986 duplicates, 1319 articles were identified, 1287 were excluded on title and abstract, leaving 32 full text articles assessed for eligibility (figure 1). Twelve studies²⁰ in eleven papers^{17, 18, 20, 47-54} met the inclusion criteria, seven provided sufficient data for meta-analysis and subgroup analysis.

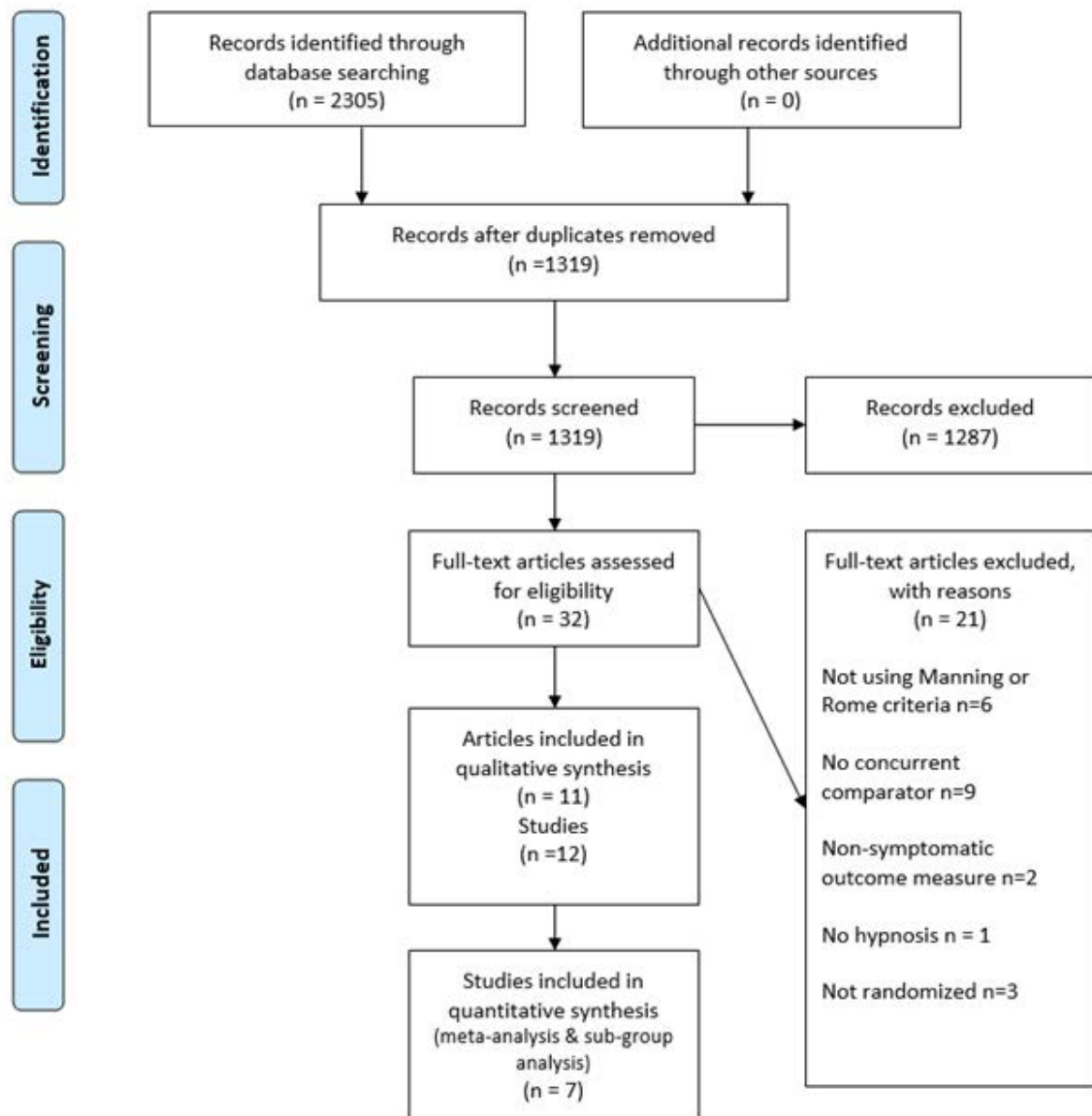


Figure 1-PRISMA

3.2 Narrative review

3.2.1 Study characteristics

Eight studies were carried out in Europe,^{17, 18, 20, 47-50} two in Australia^{51, 53} and one each in North America⁵⁴ and Asia⁵² (table 1) . Seven studies provided sufficient detail for subgroup analysis. The twelve studies included 1030 participants, the seven in the meta-analysis included 723 of these. All trials used some variant of GDH, although one used GDH as the core of a wider therapeutic approach,¹⁷ another had a study arm which received both GDH and low FODMAP advice,⁵³ a third had a GDH arm but also an alternative hypnotherapy approach.⁵¹ Comparators varied substantially and included waiting lists,²⁰ waiting lists with active medical intervention,^{20, 52} enhanced medical care,¹⁷ supportive therapy,^{47, 50} progressive relaxation⁵¹, low FODMAP diet⁵³ and biofeedback.¹⁸ Several studies compared different GDH approaches, such as recorded suggestions versus in-person therapy,⁴⁸ individual versus group,^{47, 49} personalised suggestions versus generic⁵¹ and GDH with pain specific suggestion to GDH without pain specific suggestions.⁵⁴ All the non-gender specific studies had predominantly female participants (63.3%¹⁷ - 86.3%).⁵¹ The number of sessions varied from three¹⁸ to twelve,^{17, 20} with most of them lasting around an hour, but ranged from thirty⁴⁸ to ninety minutes,¹⁷ delivered weekly,^{17, 20, 50, 53} approximately every other week^{47-49, 51, 54} or less frequently.¹⁸

3.2.2 Outcome measures

A wide variety of outcome measures were reported. One study⁴⁷ used the binary 'adequate relief question'⁵⁵ to measure symptoms, however continuous measures of

GGS were most common, such as the IBS severity scoring system (IBS-SSS),⁵⁶ used by three studies,^{17, 18, 47} with another using just the visual analogue scale element of it,⁵³ the Bowel Symptom Scale (BSSI-5) was used by one,⁵¹ and a number of studies used ad hoc measures.^{20, 48, 49} Several studies reported QoL measures, the IBS QoL (IBS-QoL)⁵⁷ measure was used by four trials,^{20, 47, 52, 53} the SF-36 QoL scale⁵⁸ was used by two^{48, 50}, and the Functional Digestive Disorder QoL questionnaire (FDD-QoL)⁵⁹ was used in one.¹⁷ Six studies^{18, 20, 48, 53, 60} used the Hospital Anxiety and Depression Scale (HADS).⁶¹

Table.1 Characteristics of trials

Trial, design	Inclusion	Population	Intervention	Comparator	Outcome Measures and follow-up (FU) point for meta-analysis (FUFM)
Berens et al ¹⁷ RCT Germany	18-65 yrs. Rome III. Refractory. Abdominal pain of ≥3 on an 11-point Likert scale. Exclusion criteria: Psych, taking antidepressants, Lang, Psych Dis and substance abuse	N=34, 5 lost to FU. Int=15 (52%) Con=14 (48%)	Integrative therapy including psychodynamics, GDH, and education. 12 Sessions of 90 minutes. All in Group.	Enhanced medical care and online diary.	IBS – SSS FUFM = End of treatment
Dobbin et al 2013 ¹⁸ RCT UK	Women. 18-60 yrs. ROME III criteria. Exclusion: Psych Dis, clinical history of cardiovascular, neurological, renal or endocrine disease, or ingestion of prescribed medication known to influence cardio	N = 97 randomized 36 lost to FU. Int: 30 (49%) Con: 31 (51%)	IGDH 3 sessions.	Biofeedback 3 sessions	IBS-SSS HADS FUFM =12 weeks post treatment

	autonomic tone.				
Flik et al 2019 ⁴⁷	18-65 yrs. Rome III	N=354,	GGDH: six 60 - minute sessions with 6 patients every two weeks.	Six x 60-minute supportive therapy. Group.	AR
RCT	Exclusion - lang, psych Dis, CCDB, GS, or radiotherapy.	150 GGDH, 150 IGDH, 54 Con.	IGDH was six 45-minute sessions every two weeks.		CF-FBD IBS – QoI IBS-SSS SCL-90 Self-efficacy Scale ⁶² TiC-P FUFM =12 months for start of treatment
Forbes et al (2000) ⁴⁸	Adults. Rome I.	N=25 IGDH N=27 audiotape	IGDH, 6 sessions of 30 minutes at 2- week intervals delivered in a specialist hospital.	30-minute audiotape to be listened to once a day.	GHQ -28 HADS SF-36
RCT UK	Exclusion for current organic disease and upper GI symptoms if they were predominant over lower GI symptoms.				
Harvey et al (1989) ⁴⁹	Defined by combined abdominal pain, disordered bowel habit, and abdominal distention.	N=36. 3 lost to FU. 17 GGDH, 16 IGDH.	4 x 40 minutes of IGDH.	4 x 40 minutes of GGDH.	1-week symptom diary GHQ-28
RCT UK	Exclusion, CCBD, abnormality on physical examination by sigmoidoscopy, blood test and barium enema.				

Lindfors et al (2012) Study 1 ²⁰	Adults. ROME II.	N=90 randomised 45 in each arm.	Treated at private psychological practices. 12 x 60-minute IGDH.	Supportive therapy	GI-SQ HADS IBS-QoI FUFM =3 months from baseline
RCT					
Sweden					
Lindfors et al (2012) study 2 ²⁰	Rome II criteria and refractory. Exclusion - CCBD	N= 48 3 lost to FU. 22 Int. 23 Con.	12 x 60-minutes IGDH	Waiting list control	GSRS-IBS HADS SF-36. FUFM =3 months from baseline
RCT					
Sweden					
Moser et al 2013 ⁶³	Inclusion – 18-70 rs. Rome III and refractory. Exclusion – taking antidepressants, Psych.Dis, pregnancy, bowel surgery, mental retardation,	N=100. 51 Int. 49 Con.	10 x 45-minute GGDH.	Supportive therapy.	IBS-IS SF-36 HADS FUFM = 12 month post treatment
Austria					
RCT					
Palsson et al 2002 study1 ⁵⁴	Eligibility – Rome 1. Exclusion – CCBD, abdominal surgery, psychotropic medication.	N=18 9 Int. 9 Con.	7 x 45 minutes IGDH with pain specific suggestion.	7 x 45 minutes IGDH without pain specific suggestion.	14-day symptom diary. Barostat ⁶⁴ BDL SCL-90
USA					
RCT					

Peters et al 2016 ⁵³ Australia RCT	Eligibility – Adult. Rome III. coeliac disease excluded.	N-78 enrolled. 4 lost to FU. 25 received IGDH.	6x 60 IGDH. The combined intervention group received the same as both the GDH and the low FODMAP group (see comparator)	A single 1-hour session on the low FODMAP diet. Weekly phone contact.	100-point VAS HADS IBS-QoI FUFM = 6 months from baseline.
	Exclusion criteria- CCBD, psych.dis, disorder, excessive alcohol intake, pregnancy. Previous experience with gut directed hypnotherapy or the low FODMAP diet.	24 received the comparator Low (FODMAP). 25 received combined IGDH and low FODMAP			
Phillips- Moore et al (2015) ⁵¹ RCT Australia	Eligibility –meeting Rome II. Refractory. 4 days in the 14 following screening in which they had experienced moderate or worse pain.	N-51 17 individualised hypnotherapy. 17 IGDH 17 Con.	5 x 30 minute. Group 1 received 'individualised' suggestions and standard imagery. Group 2 received standard IGDH.	5 x 30 minute of progressive relaxation.	Bowel Symptom Scale 1-5 ⁶⁵ ⁶⁶ SCL-90 SF-36
	Exclusion –coeliac disease, CCBD.				
Shahbazi et al 2016 ⁵² RCT Iran	Eligibility –Rome III.	N = 60.	GDH – 5 x 45-60 minutes.	Standard medical treatment	QoL IBS-34
	Exclusion – psychiatric medication taken in the last three months, having had psychological intervention in the last six months.	30 int. 30 Con.			

CCBD: Comorbid Chronic Bowel Disease; CF-FBD – Cognitive Scale for Functional Bowel Disorders ⁶⁷; con: control; FUFM : Follow-up used in meta-analysis; GDH – Gut direct hypnotherapy; GHQ – General Health Questionnaire, 28 question format. ⁶⁸; GI-SQ - GI-symptom questionnaire ²⁰; GGDH : Group gut direct hypnotherapy; GS: gastrointestinal surgery; GSRS- IBS – Gastrointestinal Symptom Rating Scale IBS version ⁶⁹; HADS – hospital anxiety and depression scale ⁶¹; IBS – QoI – IBS Quality of Life ⁵⁷; IBS-IS – IBS Impact scale ⁷⁰; IBS-SSS – IBS symptom scoring system ⁵⁶; IGDH: individual gut directed hypnotherapy; int: intervention; Lang : language skills insufficient for hypnosis work, Psych : recent or on-going psychological intervention; Psych Dis : severe psychiatric disorder ; QoL IBS-34 – Quality of Life IBS – 34 question scale ⁷¹; Rome: meet Rome criteria for IBS; SF-36 – Short Form health survey ⁵⁸; SCL-90 – Symptom checklist ⁷²; TiC-P – Questionnaire for cost associated with psychiatric illness ⁷³; VAS : Visual analogue scale; yrs : years of age;

3.2.3 Risk of bias

All the trials were randomised; seven studies were assessed to have a high risk of bias, four were unclear and only one was at low risk (see table 2). Of the seven used for the subgroup calculations four were at high risk, two unclear and one at low risk of bias. The main reason for the high risk of bias was incomplete outcome data, predominantly this was the result of inadequate reporting.

Table 2. Quality of studies – Cochrane tool for randomised trial

	Random sequence generation	Allocation conceal- ment	Blinding of outcome assessment	Incomp- lete outcome data	Select- ive report- ing	Other bias	overall – defined by highest pre- sent risk factor.
Berens et al ¹⁷	Low	Low	Unclear	Low	Unclear	Low	Unclear
Dobbin et al 2013 ¹⁸	Unclear	Unclear	Unclear	High	Low	Low	High
Flik et al 2019 ⁴⁷	Low	low	Low	Low	Low	Low	Low
Forbes et al (2000) ⁴⁸	Low	Unclear	Low	High	Low	Low	High
Harvey et al (1989) ⁴⁹	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear
Lindfors et al (2012) study 1 ²⁰	High	Unclear	Unclear	Low	Low	Low	High
Lindfors et al (2012) study 2 ²⁰	Low	Unclear	Unclear	Low	Unclear	Low	Unclear
Moser et al 2013 ⁶³	Low	Low	Unclear	High	Low	Low	High
Palsson et al (2002) study 1 ⁵⁴	Unclear	Unclear	Unclear	Low	Low	Low	Unclear

Peters et al 2016 ⁵³	Low	Unclear	High	High	Unclear	Low	High
Phillips-Moore et al (2015) ⁵¹	Low	High	Unclear	High	low	Low	High
Shahbazi et al (2016) ⁵²	Unclear	Unclear	Unclear	High	Low	Low	High

3.2.4 Effectiveness of hypnotherapy for IBS

All but one study,¹⁸ found hypnotherapy to be superior to the comparator, three to a statistically significant level.^{20, 50, 52} The exception was a study in which biofeedback was the intervention of interest and hypnotherapy the comparator,¹⁸ the hypnotherapy element of this study was designed to reflect the level of intervention of the biofeedback arm, a level which was lower in frequency and volume than any of the other studies.

Several studies conducted research into group GDH;^{17, 47, 49, 50} in those studies which compared group GDH to a non-hypnotherapy group based comparator,^{17, 47, 50} all were superior to the comparator in effect on GGS. However, in one study the comparator was received by the GDH arm in addition to the GDH¹⁷ making it unclear if the intervention or the increased contact time was the active factor, despite this, the results suggest that group GDH is effective. Two studies directly compared group GDH with individual GDH.^{47, 49} One reported⁴⁹ that a higher proportion (70.1%; 12/17) of the group intervention had fewer or no symptoms at follow-up compared to baseline than individual GDH (50%; 8/16); however, the differences were non-significant. Another⁴⁷ however, found mixed results with individual and group GDH arms being both inferior and superior depending upon the measure, the follow-up

period and method of analysis, all to a non-significant level, presenting no overall dominant pattern but suggesting possible equivalence. Overall, from this data, group GDH appears to be beneficial for IBS and as effective as individual GDH.

Three studies compared different approaches to treating IBS with hypnotherapy. One compared recorded suggestions with in-person, reporting in-person therapy to be substantially better,⁴⁸ suggesting recordings may be useful as part of the approach but in themselves have limited value. Another examined the effects of GDH with specific suggestions to reduce pain compared to GDH without, concluding this made no difference.⁵⁴ The third compared a psychologically holistic hypnotherapy approach to GDH, with a relaxation control, finding the best improvements with the holistic hypnotherapy arm but not significantly different to the others.⁵¹

As has been seen, several studies reported effects of the intervention characteristics, however only one reported the effect of participant characteristics and this in only one area.⁴⁷ A subgroup comparison of the various types of IBS as defined by predominant symptom; diarrhoea, constipation and mixed, found no significant difference between outcomes for these groups.⁴⁷

The narrative overview suggests despite substantial variation with the protocols, hypnotherapy for IBS appears to be consistently effective for IBS, and this holds true when delivered in groups.

3.3 Meta-analysis and subgroup analysis

3.3.1 Overall effectiveness

Six papers, covering seven studies, provided sufficient information for a meta-analysis.^{17, 18, 20, 47, 50, 53} The SMD for GGS in the hypnotherapy group compared to control was 0.24 (95% CI -0.06, 0.54), but this was not statistically significant ($p=0.12$) and heterogeneity was high (I^2 66%). (Figure 2)

One study included in the meta-analysis used an ‘integrated therapy’ approach which had GDH as a component of a broader approach which took in elements of mindfulness, diet and approaches to stress.¹⁷ Although the study met the inclusion requirements it was judged to be sufficiently different that a sensitivity analysis³⁰ would be carried out to assess its impact on the overall findings and in any subgroup analysis in which it appeared. The sensitivity analysis found similar results to the full data analysis with an SMD of 0.22 (95% CI -0.12, 0.55) with the findings remaining non-significant ($p=0.22$).

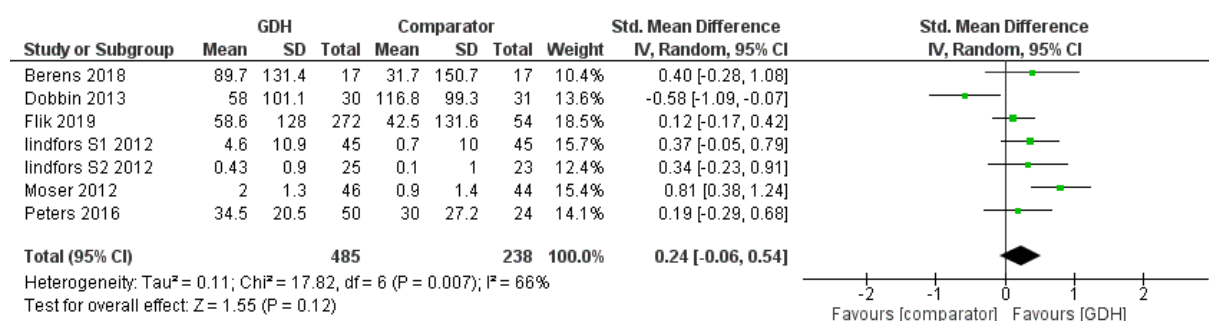


Figure 2: Standardised mean difference in global gastrointestinal symptoms.

3.3.2 Subgroups

Subgroup analyses were not possible for most of the proposed comparisons described in the protocol paper²¹ because the data were not available. The studies

with 8 or more sessions were found to be the same ones with more than 6 hours contact time so these have been renamed as high-volume interventions (≥ 8 sessions with ≥ 6 hours total contact time) and compared to low volume interventions (< 8 sessions with < 6 hours contact time).

3.3.2.1 Volume of intervention - global gastrointestinal symptoms

Four studies had higher volumes of intervention, (≥ 8 sessions with ≥ 6 hours total contact time),^{17, 20, 50} and three lower.^{18, 47, 53} The higher volume produced significant improvements in GGS compared to controls (SMD 0.51 [0.27,0.76] $p=0.0001$; I^2 0%) (figure 4), whereas low volume interventions did not (SMD -0.06 [-0.49,0.37] $p=0.79$; I^2 0%;) (figure 4). The difference between the two was significant ($p=0.02$). Removing the 'integrated therapy' trial¹⁷ from the high volume group did not alter the pattern of the findings with the high volume group remaining significantly effective (SMD 0.53 [0.22,0.83] $p=0.0007$; I^2 23%).

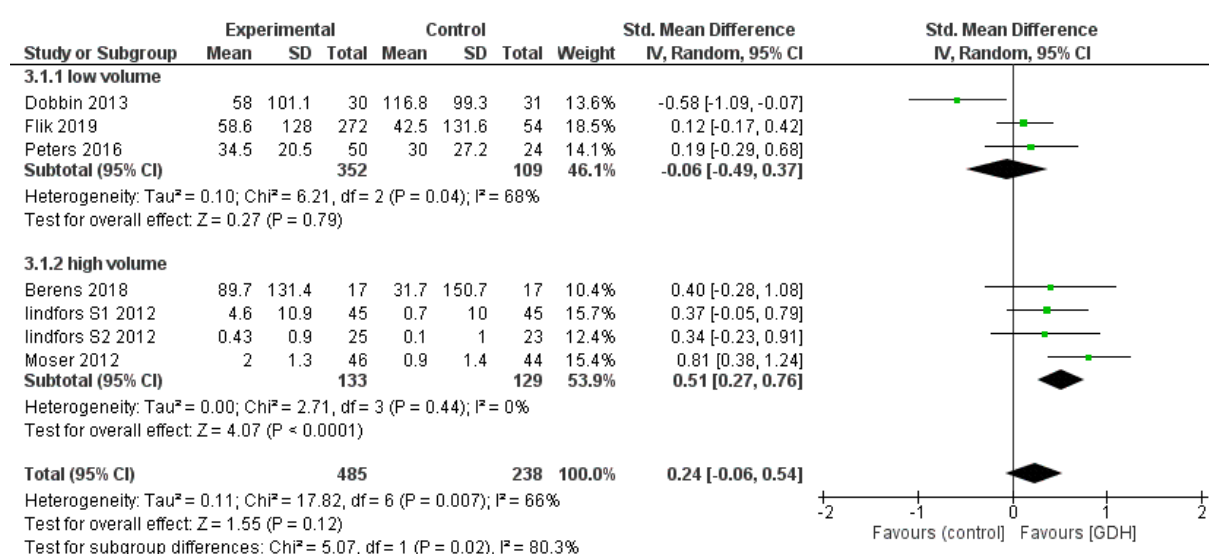


Figure 4: Standardised mean difference in global gastrointestinal symptoms of high volume GDH interventions vs. low volume interventions.

3.3.2.2 Frequency of sessions – global gastrointestinal symptoms

Five studies delivered weekly sessions^{17, 20, 50, 53} two with a lower frequency.^{18, 47} The SMD in GGS was significantly higher than the comparators (SMD 0.45 [0.23,0.67] $p < 0.0001$; I^2 0%) (Figure 3) for the studies delivering weekly sessions. There was no significant difference in GGS in the interventions delivered less than once weekly (SMD -0.19 [-0.88,0.49] $p = 0.58$; I^2 82%) (Figure 3). Removing the ‘integrated therapy’ trial¹⁷ from the weekly trials in a sensitivity analysis, did not change the nature of the results which remain significant (SMD 0.45 [0.18, 0.72] $p = 0.0001$; I^2 25%) (Figure 3) and the difference between the frequency groups remained non-significant ($p = 0.09$).

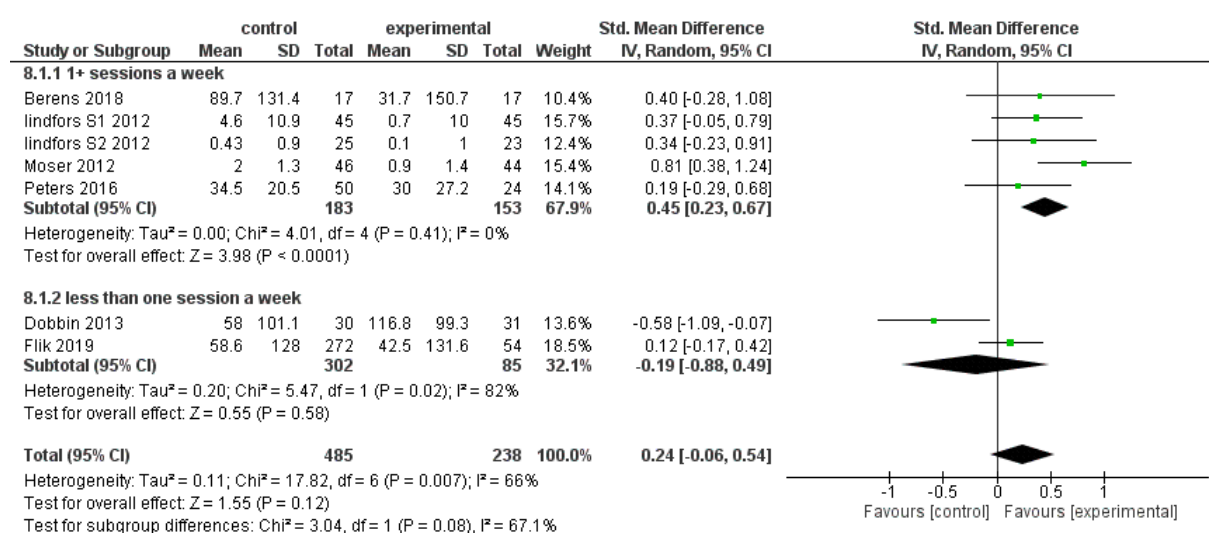


Figure 3: Standardised mean difference in global gastrointestinal symptoms of high frequency GDH (1+sessions per week) interventions vs. low frequency interventions (less than one session a week)

3.3.2.3 Group vs. individual therapy – Global gastrointestinal symptoms

Three studies used a group hypnotherapy approach^{17, 50, 53} and three individual hypnotherapy,^{18, 20} another was a three arm trial, including both group and individual GDH arms.⁴⁷ No significant effect on GGS was seen for the individual therapy approaches (SMD 0.08 [-0.22, 0.39] I^2 57%) (Figure 5) whilst the group intervention did produce significant effects (SMD 0.45 [0.03, 0.88] $p=0.04$; I^2 62%) (Figure 5). However, sub-group analysis showed that the differences in effectiveness between group and individual delivery were not significant ($p=0.16$). On removing the ‘integrated therapy’ trial¹⁷ from the group trials for the sensitivity analysis, the effects of group GGS became non-significant (SMD 0.48 [-0.13, 1.09] $P=0.12$) and the relationship between the two groups remained non-significant ($p=0.25$).

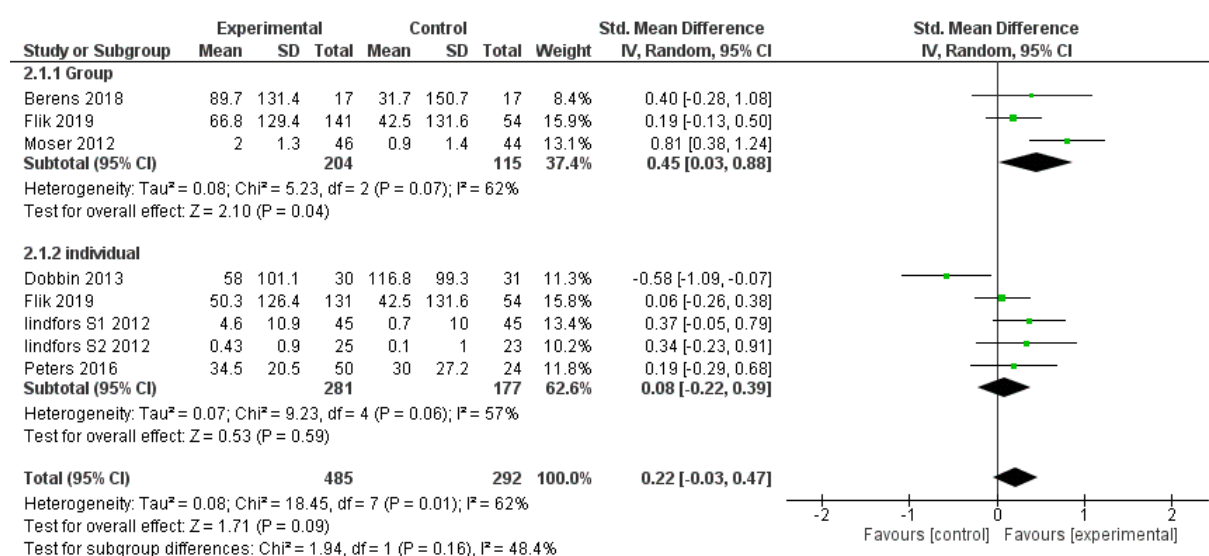


Figure 5: Standardised mean difference in global gastrointestinal symptoms in group and individual hypnotherapy delivery

3.3.2.4 Group vs. individual therapy – Mental health

Three studies reported usable generic mental health measures^{20, 63} two were individual therapy trials²⁰ which produced a non-significant improvement (SMD 0.14 [-0.19, 0.48]) and one group therapy trial⁶³ which produced a significant improvement (SMD 0.72 [0.29, 1.12] $p < 0.001$). Subgroup analysis showed a significant difference between groups ($p = 0.04$).

4.0 Discussion

The objective of this review was to investigate the effects of patient and delivery characteristics upon outcomes of hypnotherapy for IBS, however, as part of this an all-trials meta-analysis was conducted which found non-significant benefits to hypnotherapy for IBS, which conflicts with the findings of previous meta-analyses.^{11, 13} This results from the inclusion of a single study, which had the most infrequent sessions and the lowest volume of intervention¹⁸ of the included studies. A post-hoc sensitivity analysis excluding this study shows a significant (0.35 [0.13, 0.57] $p = 0.002$) beneficial effect of hypnotherapy over comparators. This study¹⁸ has not been present in previous meta-analysis conducted since its publication, possibly because it is comparing two psychological interventions¹³ or because it published only continuous findings, not dichotomous.¹¹ The substantial impact upon the meta-analysis of this one trial,¹⁸ reinforces the need for the kind of subgroup work conducted in this paper, which helps highlight where certain delivery characteristics may fall below an effective level.

Three main insights can be drawn from this review. Firstly, that high volume GDH (≥ 8 sessions with ≥ 6 hours total contact time) are significantly more effective than lower

volume interventions. Secondly, that GDH was found to be effective if delivered at least once a week, whilst lower frequency delivery was less effective than comparators, however the difference between high and low frequency delivery was non-significant. This means that, based on these studies, low frequency GDH appears to be as effective as high frequency GDH. The third was that group GDH was found to have a significant effect on patients' GGS whereas individual GDH did not, although this did not hold true once the sensitivity analysis was performed. The difference between group and individual GDH was non-significant in both the main analysis and the sensitivity analysis, this suggests group is comparable to individual GDH. However, the modest sample sizes involved mean these calculations are likely to be underpowered and as such all these findings suggest trends but are not conclusive. Further, as a meta-regression analysis was not possible, potential confounding factors have not been controlled for.

That high volumes of intervention produce better outcomes than low volume interventions is, as would be expected. However, one study, reported as a conference abstract, concluded GDH beyond six sessions provided no additional benefit;⁷⁴ however, as we lack the details of this study for comparison or pooling with these findings we cannot draw any meaningful conclusions. Disentangling the composite factors of number of sessions and overall contact time may allow for the identification of the active factor. Equally, further subgroup comparisons which examine more specific incremental ranges of intervention may prove insightful. However, larger data sets are required.

As higher frequency interventions had a statistically significant effect on GGS, whilst lower frequency interventions did not, the possibility is raised that high frequency may prove superior to low frequency, even though the difference between the two was non-significant. The small number of studies in the low frequency group, just two,^{18, 47} suggests caution, especially as one of these studies¹⁸ had only three sessions over twelve weeks. Further studies are needed to investigate the potential superiority of a high frequency approach for hypnotherapy.

Finding group GDH was comparable in its effectiveness to individual GDH is consistent with previous trial findings.^{47, 49} This may be counter to expectation as the group situation limits adaptation to individuals, which can effect outcomes.⁷⁵ It is possible that different populations volunteer for group hypnotherapy trials compared to individual ones, however, this would not have been present in trials comparing group to individual,^{47, 49} which find better outcomes for group. A possible mechanism by which group hypnotherapy may be more effective than individual is through mutual support and sharing of effective remedies.⁷⁶ Whatever the cause, based on this evidence it appears that group hypnotherapy is as valid an approach as individual hypnotherapy and is likely to offer substantial cost savings.

Most of the trials provided insufficient information for all the potential subgroup comparisons originally proposed, either because data was not reported or because subgroups data were not reported separately. The use of the TIDieR reporting checklist⁷⁷ would have allowed for more comparisons and as such it is recommended this be used in future trials.

It should be noted that even after subgrouping, heterogeneity remained high for the low frequency (I^2 82%), low volume (I^2 68%), group GDH (I^2 62%) and individual GDH groupings (I^2 57%). This strongly suggests that additional factors, which this study has not been able to investigate, are influencing results, possibly the patient and hypnotherapist's characteristics currently unavailable from the papers.

4.1 Strengths and limitations – The study has maintained a high degree of rigour through the use of established tools, such as the Cochrane risk of bias assessment,⁷⁸ by following established procedures³⁰ and the use of two independent researchers for screening and data extraction. The PRISMA tool⁷⁹ has provided internal consistency and both study registration on Prospero (CRD42018065533) and the publication of a protocol²¹ have ensured a high level of fidelity to the original study goals. The use of English only journals may have limited the evidence base available. The pooling of data available for the meta-analyses was small with only 723 participants over seven trials. The ability to conduct subgroup analysis was severely limited by the breadth of information reported in the studies.

Of the twelve trials identified by this systematic review only three overlap with those of the most recently published meta-analysis,⁸⁰ which identified four papers (reporting 5 trials).^{20, 50, 81, 82} The difference is the result of three factors in this analysis: stricter inclusion criteria, using five more databases and a more recent search. The stricter inclusion criteria resulted in: the inclusion of trials using only identifiable formal diagnostic criteria, which resulted in exclusion of one article,⁸² excluding trials which used only non-symptomatic measures resulted in exclusion of another because it measured changes in artificially induced gastric discomfort rather than natural

discomfort.⁸¹ The publication of papers since the previous analysis resulted in the inclusion of two additional trials.^{17, 47}

5.0 Conclusion

The findings suggest using high frequency, high volume, and group GDH approaches for the treatment of IBS. With high-volume approaches it remains unclear if the number of sessions or total contact time is the active factor. Future studies should provide a greater level of detail regarding the factors of potential effect, such as reporting findings by gender, age and primary symptom type in a way which allows for in-group comparison. Further research is required to assess the possible superiority of group GDH to individual GDH, or high frequency over low, and to establish the relative importance of contact time and number of sessions in the effectiveness of GDH for IBS.

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6.3 Systematic review, meta-analysis and subgroup analysis – Comparison of group size in group GDH

Finding that group GDH produced a significant beneficial outcome resulted in consideration of the effects of group size upon outcomes. This question had not been considered at the protocol stage¹ and as such was not appropriate to include within the paper. However, as this information was potentially useful and had not previously been examined, the subgroup calculation has been conducted in addition to those within the published study (above).

Of the trials identified by the systematic review three used groups of around six participants,^{2,4} and one contained consistently larger groups, stretching to as many as twelve participants.⁵ Of these, one did not publish the data in a format that was usable within the specified approach to the calculations.³ This left two with seven or fewer participants per group^{2,4} and one with between eight and twelve participants per group.⁵ As such, the trials were divided into small groups, those with seven or fewer participants per group, and large groups, those with eight or more participants per group. The Small groups had an SMD of 0.48 [-0.13,1.09] and the large 0.40 [-0.28,1.08]. Neither produced a significant result, and no-significant difference was found between the group sizes. The effect of the number of participants in a group upon outcomes of Group GDH for IBS remains unclear. A comparison of group participant numbers should be included in any future subgroup analysis of GDH trials.

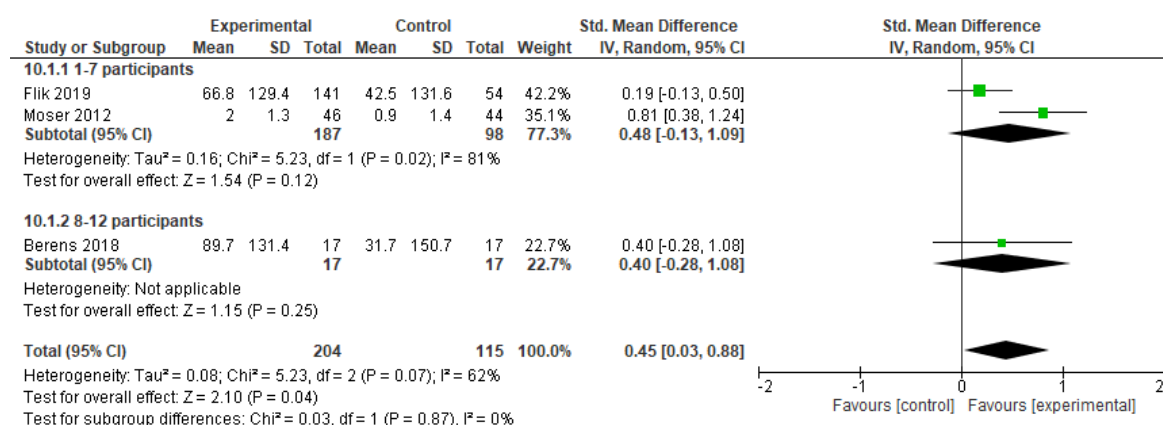


Fig.6 Standardized mean difference in global gastrointestinal symptoms in group gut directed hypnotherapy with small (≤ 7) and large (≥ 8) numbers of participants per group.

6.4 Recent relevant publication

Since this review was completed a study comparing a six session intervention with a twelve session intervention has been published.⁶ This study was the single largest randomised trial of GDH to date and found that the six session intervention was non-inferior to the twelve. This does not match the findings of this analysis and as such requires some discussion. There are some issues with comparing the trial with the subgroup analysis, not least of which is that the trial reported findings using a dichotomous measure, the percentage of participants who achieved a ≥ 50 -point decrease on the IBS-SSS, rather than the continuous measure of mean change of GGS used for the subgroup analysis, which makes comparing them challenging.

The paper's authors suggest that the equivalence between their trial's arms may, in part, be explained by the higher number of participants failing to start or dropping out of the trial in the twelve-session arm. They attribute this to the burden of the additional sessions. This, if the case, would suggest that there was validity to considering the desired number of sessions expressed by potential users of hypnotherapy for IBS, not just in terms of acceptability but as something which subsequently impacts on effectiveness. However, it is also noteworthy that the end point for this study was at the end of the treatment period, which was uneven, being six weeks for one arm and twelve weeks for the other, and as such has the potential to skew the result. Further, as there was no long term follow up there was no assessment of whether the number of sessions impacted upon the stability of changes achieved.

Overall, the implications of this trial are unclear, it may well mean that as few as six sessions are as effective as greater numbers, but this is insufficiently robust data to conclude this yet. Longer term follow-up data would be required to confirm the stability of improvements.

6.5 Chapter summary

This chapter reported the findings of a systematic review, meta-analysis and subgroup analysis of hypnotherapy for IBS. It identified that high volume interventions, weekly interventions and group interventions all showed significant

improvements to symptoms, although only high-volume interventions were to such a level that the difference with the alternate arm, low volume interventions, was significant.

The findings of this section do not fit directly in to Push-pull theory, but rather act as a limitation upon any adjustments to the hypnotherapy for IBS intervention which were designed to increase its external pull. Specifically, as the evidence stands, a minimum of a high-volume intervention, should be considered, and both group and high frequency delivery characteristics would be advisable.

The data identified here is relevant to any protocol designed of hypnotherapy for IBS and will provide important limits to alterations made to that protocol which may be driven by Push-pull theory (Chapter 8).

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**Chapter 7 - Perceptions of hypnotherapy for
IBS and the use of complementary and
alternative medicine (CAM) by people with
refractory IBS - A survey**

7.1 Introduction

This chapter presents, in the form of a manuscript which has been submitted to a journal for consideration, a survey study into the attitudes and opinions of people with IBS towards hypnotherapy for their condition. The paper, as presented, here is identical to the one currently under submission, with three exceptions, citation style, the choice of font and appendix numbers have been adjusted to reflect the thesis format. The material used as the basis of the hypnotherapy questions in the survey predominantly came from the qualitative research conducted for this thesis (see Chapter 5). This survey was conducted with the specific intention of quantifying many of the qualitative findings and works with these to fulfil thesis objective two, to establish the current understanding of hypnotherapy for IBS by people with the condition, and objective four, to establish what inhibits the use of hypnotherapy for IBS by people with the disorder, and their relative importance.

The chapter also includes data collected regarding survey participants' current and previous use of various interventions, including conventional and CAM treatments. This data was collected to provide context.

Following the paper, the findings will be explored from a Push-pull theory perspective.

7.2 An international survey of the use of conventional and complementary and alternative medicine (CAM) by people with irritable bowel syndrome (IBS) and their attitudes towards hypnotherapy

Abstract

Background – Hypnotherapy is an effective intervention for irritable bowel syndrome (IBS) but is used less often than other complementary therapies (CAM). Qualitative research has identified potential reasons for this, but the relative importance of these reasons is unknown. We sought to explore this quantitatively and describe conventional medicine and CAM use by people living with IBS.

Materials and methods – An online survey was conducted amongst adults with IBS. Recruitment was online via IBS support groups in social media platforms.

Results – 109 people completed the survey, 93.6% (102/109) were female.

Participants had tried a mean of 7.26 (SD 3.44) interventions and were using 3.40 (2.42). The most frequently used intervention was 'Diet/food exclusion' (106/109, 97.2%).

55.0% had not previously heard of hypnotherapy for IBS. However, 73.4% (80/109) said they would use it, amongst whom cost was the biggest barrier (86.3%, 69/80). There was an appeal to hypnotherapy in that it might reduce stress (65.0%, 52/80).

Conclusion – People with IBS continue to adopt a pluralistic and integrated approach to the use of conventional medicine and CAM for this chronic condition. There is a low level of awareness amongst adults with IBS that hypnotherapy can be used for their condition, however once aware of it most find the idea acceptable. Cost, the

time required to engage and factors relating to trance are substantial barriers, partially offset by the belief that it may reduce stress or address the psychological cause of IBS.

Background

IBS is a chronic gastro-intestinal disorder, with a global adult prevalence of between 3.8% and 9.2%.¹ The majority of people with IBS are women,² with a ratio of approximately 4 women to every 3 men.¹ IBS is characterised by a high degree of variability in bowel movements and digestive pain,³ and has significant negative impacts on quality of life (QoL).⁴ Studies suggest that negative QoL is driven by pain⁵ and psychological variables, such as anxiety.⁶ IBS has no currently identifiable single cause, rather, research suggests a multifactorial cause, which includes both organic and psychological elements.⁷ This multifactorial cause may be reflected in a diverse number of interventions found in evidence based healthcare guidelines, which include food exclusion, guided exercise, dietary fibre, gastrointestinal motility modifying medications, probiotics and psychotherapy.⁸ Despite this, large numbers of people feel unsatisfied with their medical care for their IBS,⁹⁻¹¹ and many turn to complementary and alternative (CAM) interventions.^{12, 13}

CAM refers to non-mainstream interventions used either as an alternative to mainstream intervention or in addition to them.¹⁴ CAM use is common among people living with IBS,^{12, 15-18} with usage rates ranging from 33.9¹²-51.0%.¹⁵ Herbal interventions are consistently amongst the most popular,^{12, 15, 18} followed by micronutrient supplements.¹⁸ However the use of conventional medicine is even more common,¹⁹⁻²⁴ with 65.4%²⁴-85.0%²² of people with IBS having used over the counter (OTC) medication and between 22.2²⁴-35.0%²² having used prescription

medication for their IBS. Much of the research into conventional medication use is old,²⁰⁻²² and recent work^{19, 23, 24} is focused exclusively upon the USA. The use of multiple CAM interventions simultaneously has been noted,^{25, 26} but no research has examined the simultaneous use of all interventions, conventional and CAM, to understand the scale of this. Equally, no research has attempted to quantify people with IBS's attitude to the use of CAM. Further, research has identified that people with IBS often engage with, and subsequently disengage from, several interventions,²⁷ but the scale of this behaviour is unknown.

Hypnotherapy, the use of the state of hypnosis for medical or psychological recuperation,²⁸ occupies an interesting place in relation to IBS. Hypnotherapy is frequently considered to be a CAM treatment,^{29, 30} but having accrued a body of evidence to demonstrate its effectiveness for IBS,³¹⁻³⁶ and being included in National Institute for Health and Care Excellence (NICE) guidelines for treating IBS,³⁷ it can be seen to be within orthodox management. Additionally, hypnosis has wider associations coming from its use in entertainment and presentation in media which may influence perceptions.³⁸ As a result, perceptions of hypnotherapy by people with IBS may be confused. Further, evidence suggests that hypnotherapy does not appear to be popular with people with IBS. This can be seen when usage rates for hypnotherapy for IBS are compared to the rate for other CAM interventions which require a specialist practitioner to conduct them. For example, one study found only 1.4% of people with IBS had used hypnotherapy, compared to 3.3% for acupuncture, 8.1% for psychotherapy and 12.4% for massage therapy.¹² Similar trends are apparent in other studies.²⁶ This seems at odds with research which suggests that hypnotherapy is acceptable to the general public,³⁹ suggesting that something specifically inhibits people with IBS from using hypnotherapy for their condition.

Previous qualitative research has examined the perceived barriers to the use of hypnotherapy for IBS by people with the condition.^{27, 40} This research found such diverse issues as cost, time, awareness, fear of adverse events, vulnerability in trance²⁷ and conceptual issues over how a psychological intervention might improve a symptom perceived by many as physical in nature.⁴⁰

What is not known is how important each of these issues is, so there is no way to distinguish between issues which have a large impact for most people with IBS and those which have a small impact on a few people with IBS. This means that anyone engaged in developing a trial of hypnotherapy for IBS or the provision of such a service has no guidance as to the relative importance of patient preference.

This study aims to provide data that will help in the design of an intervention and its educational materials. As such its objective is to establish the relative importance of factors which may impact upon the acceptability of hypnotherapy for IBS. Further, the survey aimed to identify the number of current and previous medical and CAM interventions used by people with IBS.

Methods

Ethics and consent

Ethical approval for this survey was granted by the University of Birmingham Science, Technology, Engineering and Mathematics Ethical Review Committee, ERN_20-1095. Informed consent was given at the start of the survey. No identifiable details were taken.

Survey tools

Data was collected through the Jisc software package.

Inclusion criteria

Adults (≥ 18 years of age) who stated they had IBS and possessed sufficient English language to answer the questions. To attain as large and diverse a population as possible no limit was placed on participants' country of residence.

Survey design

The survey comprised twenty-one questions in English, some of which had multiple sub-questions, and used a variety of question styles, such as multiple option lists, single option lists, and open text boxes. Age, gender, location and duration of symptoms were collected on all participants. One question asked about participants' use of interventions, listing seventeen potential interventions for IBS, intended to prompt participants into recalling as many as possible. This list was derived from qualitative research on people with IBS^{40, 41} and medical guidance;³⁷ additional space was provided for the inclusion of any interventions not listed. Ten of the twenty-one questions addressed attitudes, expectation, and awareness of hypnotherapy for IBS.

Push-pull Theory of movement to CAM⁴²

Push-pull theory of movement to CAM postulates that patients are pushed away from conventional medicine by factors such as poor outcomes, adverse events and unpleasant interactions and are drawn to particular types of CAM because of factors relating to that CAM, such as ease of access or a philosophical agreement with the underlying principles of the CAM⁴². Three questions were directly informed by Push-pull theory, these asked about participants' attitudes to CAM.⁴²

Covid-19

Three questions addressed participants' experience of symptom change during the Covid-19 lockdown and are not addressed here.

Data analysis

It is recommended that survey studies have between 100 participants⁴³ and a 1000 participants.⁴⁴ Data was analysed within the Jisc software package and exported into Excel and IBM SPSS statistics 26 for additional analysis. The analysis was descriptive.

Results

The survey was online from 28th April 2020 to 28th November 2020 and was completed by 109 participants (table 1), of whom 93.6% (102) were female. Ages ranged from adult teens (18-19 years old) to people in their seventies, and symptoms had been present for anything from less than a year (1.8%, n=2) to over fifteen years (43.1%, n=47). Most respondents lived in the UK (79.8%, n=87); 12 were from North America, two from Europe and one each from Africa and Asia.

Table 1. Demographic Characteristics of Participants

	Number	Percentage
Gender		
Female	102	93.6
Male	7	6.4
Not given	0	0

Age		
18-19	2	1.8
20-29	24	22.0
30-39	22	20.2
40-49	18	16.5
50-59	21	19.3
60-69	16	14.7
70-79	6	5.5
80+	0	0
Not given	0	0
Duration of symptoms		
Less than a year	2	1.8
1-4	24	22.0
5-9	19	17.4
10-14	16	14.7
15+	47	43.1
Not given	1	0.9
Location		
Africa	1	0.9
Asia	1	0.9
Australia and Oceania	0	0
Europe	89	81.7

UK (subset of Europe)	(87)	(79.8)
North America	12	11.0
South America	0	0
Not given	6	5.5

Attitude to CAM

Table 2 shows the participants' approach to CAM use, based on a series of prompt statements from which they could select one. The most common response was 'I use CAM alongside prescription or over the counter medication' given by 35.8% (39/109). Only 4.6% (n=5) responded 'I do not use CAM because it is unscientific'.

Table 2. Approach to CAM use

	Number	%
Q. Which of these best describes your use of complementary and alternative medicines (CAM) with regard to your IBS? CAM includes such things as yoga, ginger or peppermint tea, massage therapy, aromatherapy, and acupuncture.		
I do not use CAM because it is unscientific	5	4.6
I only use what the doctor recommends.	11	10.1
I have thought about CAM but have not used it.	16	14.7
I started using CAM because nothing else worked.	11	10.1
I use CAM alongside prescription or over the counter medication	39	35.8

I use CAM because it works for me	13	11.9
CAM was the first treatment approach I used as I prefer not to use medicines too often.	12	11.1
Did not answer	2	1.8

Number and frequency of intervention use

The number and frequency with which respondents had used and were still using interventions are reported in table 3. Participants had tried a mean of 7.26 (SD 3.44) different interventions and were currently using a little less than half that number, with a mean of 3.40 (SD 2.42) interventions. When asked about interventions they had experience of but that were not listed, a further 34 interventions were identified, only 4 of these were used by more than one participant and all were less frequently reported than the prompted interventions (see appendix 16). The most frequently used interventions were 'Diet/food exclusion' (97.2%; n=106) and 'Non-prescription or over the counter medicine' (88.1%; n=96). It was generally found that the larger the number of people engaging in an intervention the higher the percentage of those people continued to use it. For example, 'Diet/food exclusion' had been tried by 106 people, 60.3% of whom continued to use it, but 'Digestive clay', which had been tried by only 8 people, had a continued use rate of just 12.5%. The only notable exception to this trend is 'massage therapy', where 13.8% had tried it and 60.0% continued to use it, the second highest continued usage rate of the seventeen prompted interventions.

Table 3: Used and current use of interventions for IBS

Rank order	Intervention	Have tried		Still using		Continued use (% of those who have used still using it)
		n	%	n	%	
	Mean number of interventions per participant (SD)	7.26 (3.44)	--	3.40 (2.42)	--	--
Rank						
1	Diet/food exclusion	106	97.2	64	58.7	60.3
2	Non-prescription or over the counter medicine	96	88.1	52	47.7	54.2
3	Special teas	86	78.9	47	43.1	54.7
4	Prescription medication	86	78.9	40	36.7	46.5
5	Exercise	83	76.1	45	41.2	54.2
6	Relaxation technique	63	57.8	26	23.9	41.3
7	Probiotic	62	56.9	28	25.7	45.1
8	Peppermint oil	58	53.2	26	23.9	44.8
9	Psychological therapy	28	25.7	8	7.3	28.6
10	Acupuncture	23	21.1	5	4.6	21.7
11	Aloe Vera	21	19.3	5	4.6	23.8
12	Aromatherapy	17	15.6	6	5.5	35.3
13	Massage therapy	15	13.8	9	8.3	60.0
14	Reflexology	15	13.8	5	4.6	33.3
15	Chinese herbs	14	12.8	3	2.8	21.4
16	Colon hydrotherapy	11	10.1	2	1.8	18.2
17	Digestive clay	8	7.3	1	0.9	12.5

Hypnotherapy

Of the 109 participants, 55% (n=60) had not previously heard of hypnotherapy being used as an intervention for IBS (Table 4), but the majority (73.4%; n=80) stated they would use it if time and cost were not issues. Most (55.0%; n=60) considered hypnotherapy to be a psychological intervention.

Table 4 - Awareness of and categorisation of hypnotherapy for IBS

	N	%
	(n=109)	
Awareness that hypnotherapy is a management option for IBS		
Had not previously heard of hypnotherapy being used for IBS	60	55.0
Are aware that some people use hypnotherapy for IBS	38	34.9
Have used hypnotherapy for IBS	11	10.1
Hypnotherapy for the treatment of IBS is:		
A psychological treatment	60	55.0
A CAM treatment	39	35.8
A medical treatment	2	1.8
Other	7	6.4
No response	1	0.9
Would respondent try hypnotherapy for IBS if time and cost were not issues		
Yes	80	73.4
No	29	26.6

Table 5 shows the relative values of the characteristics which affect the acceptability of a hypnotherapy intervention for IBS by the 80 participants who said they would try it if time and cost were not barriers. Nearly three quarters (72.3%) of the participants open to trying hypnotherapy would be willing to attend 6 sessions and 48.8% found the idea of a 12-session intervention acceptable. Weekday evenings were the most popular time for sessions (37.5%), although not by a wide margin, with weekday

days being nearly as popular (30.0%). The most desired characteristic for a hypnotherapist to have was experience (53.8%).

The biggest barrier to the use of hypnotherapy for IBS by the 80 participants was cost (86.3%). Hypnotherapy was seen to have appeal in that it might reduce stress (65.0%) and get to the psychological cause of the IBS (58.8%), although a few respondents (6.3%) found nothing particularly appealing in hypnotherapy. Group hypnotherapy was markedly less acceptable, with only 57.5% of those who would engage with hypnotherapy stating that that they would be willing to engage with group hypnotherapy. The barriers to group hypnotherapy most cited were concerns about sharing personal information (52.5%), and social anxiety (45%). However, similar proportions identified with positive factors of being with other people with IBS (47.5%) and the opportunity to swap ideas about what helps (45.0%).

Table 5: Characteristics affecting the acceptability of a hypnotherapy for IBS

	N	%
	(n= 80)	
If your doctor referred you for hypnotherapy for IBS at your nearest major hospital how many sessions would you be willing to attend		
≤4	16	20.0
≤6	19	23.8
≤12	11	13.8
12+	28	35.0
Other	6	7.5
If your doctor referred you for hypnotherapy for IBS at your nearest major hospital how often would you be willing to attend		

More than once a week	14	17.5
Once a week	32	40.0
Every two weeks	19	23.8
Once a month	14	17.5
Other	1	1.3

If you were attending hypnotherapy for IBS, which of these statements best describes your preferred time for sessions

Weekday daytimes	24	30.0
Weekday evening	30	37.5
Weekend daytimes	21	26.3
Weekend evening	3	3.8
Other	2	2.5

If you were to go to a hypnotherapist, what would you consider their most important characteristic (in rank order)

Experience	43	53.8
Formal qualifications (Diploma, Degree, PhD)	22	27.5
People skills	11	13.8
Gender - female	3	3.8
Personal presentation (dress and grooming)	1	1.3
Gender - male	0	0.0
Other	0	0.0

What barriers to using hypnotherapy for IBS would you foresee¹

Cost	69	86.3
Availability	34	42.5
Time	31	38.8
Concerns about how it might affect me	31	38.8
Vulnerability whilst in trance	23	28.8
Difficulty being hypnotised	17	21.3
Travel issues	14	17.5

I don't think it would work for me	8	10.0
I foresee no barriers	6	7.5
Other 'I tried it with three different practitioners and no result'	1	1.3
Other 'Don't need it'	1	1.3
Other 'I used and it didn't work for me'	1	1.3
Is there anything about hypnotherapy which appeals to you?¹		
It could reduce my stress	52	65.0
It gets to the psychological cause of my IBS	47	58.8
It might be very relaxing	36	45.0
It works on a subconscious level	33	41.3
The idea of being hypnotised appeals to me	12	15.0
Nothing is going into my body	12	15.0
Nothing in particular appeals to me about hypnotherapy for IBS	5	6.3
Other 'I am a trained hypnotist - all of the above'	1	1.3
Other 'Anything new to try is worth it'	1	1.3
Would you be willing to try group hypnotherapy for IBS		
Yes	46	57.5
No	34	42.5
Does group hypnotherapy bring with it any particular barriers for you¹		
Concerns about sharing personal information publicly	42	52.5
Social anxiety	36	45.0
Concerns about the availability of toilet facilities	23	28.8
No additional barriers	15	18.8
Other 'Social distancing. Everyone's IBS is different'	1	1.3
Other 'Not interested'	1	1.3
Would group hypnotherapy bring with it any benefits for you¹		
Being with other people who have IBS may be beneficial	38	47.5
We could swap ideas about what helps	36	45.0
I don't know	12	15.0

Group hypnotherapy would feel safer	9	11.3
none	19	11.3
Other 'Easier for provider so more likely to be available'	1	1.3

¹ Participants could mark multiple answers

Discussion

This study has, for the first time, provided data which allows various barriers to, and appeals of hypnotherapy for IBS to be understood in terms of their relative importance, further it has updated data and expanded the understanding of the use of both CAM and conventional interventions by people with IBS. The survey identified that participants had typically used about seven interventions of which they continued to use approximately half and as such were frequently engaged with multiple simultaneous interventions to manage their IBS.

Intervention use and attitude towards CAM use

This was the first time the ideological approach of people with IBS towards the use of CAM (Table 2) had been addressed quantitatively. It was apparent that most participants were pragmatic users, in that they used CAM alongside prescription or OTC medications or used it because it worked for them. This is congruent with earlier findings from a study into people presenting at a gastroenterology clinic, which identified that substantial numbers of people believed that CAM may help.⁴⁵ These findings suggest that for most people living with IBS, the use of CAM is not a rejection of conventional medicine, as has sometimes been proposed,⁴⁶ but rather appears closer to an intelligent engagement with self-care.

Where it has been possible to compare respondents' use of specific interventions with previous studies, similarities in rates of use are apparent. For example, one study found 8.1% of their population used psychotherapy during a 6-month period,¹² which appears comparable to the 7.3% identified by this study as 'Still using' psychotherapy. A similar pattern can be seen between the findings of this study and those of previous studies in the areas of massage therapy, acupuncture and aromatherapy.^{12, 45, 47} Additionally, simultaneous engagement with multiple interventions was observed, which has been found before.²⁶ This suggests that the pattern of engagement with interventions has not altered substantially since previous research was undertaken, as such, it is more likely that these findings may be generalisable.

It was noted that the most widely used interventions also tended to have the highest rate of continued use, and vice versa. This suggests that whatever factor promotes initial use is likely to promote continued use. Effectiveness is a factor likely to promote engagement and subsequent continued use, however it is not understood how well people with IBS know what is likely to be beneficial. Knowledge of clinically demonstrable benefit may be less important than belief in an intervention, placebo effect has been seen to have a clinically significant graduated impact upon IBS symptoms⁴⁸, and as such any belief in a treatment is likely to result in improvement, and thus continued use.

Hypnotherapy for IBS

Nearly three-quarters (73.4%) of the participants found the idea of hypnotherapy for IBS an acceptable treatment, which is congruent with previous research.^{27, 39, 40, 49} However, group hypnotherapy was substantially less acceptable, which is similar to

trends observed for group psychotherapy, where many people referred never attend.⁵⁰ This would mean that to access the potential cost benefits of providing group hypnotherapy it is likely that a reduction in numbers attending would have to be accepted and perhaps compensated for with an overbooking policy.⁵¹

With a list of responses which gives a hierarchy of barriers to the use of hypnotherapy (table 5), it becomes apparent that practical issues, cost, time, and availability, are predominant. It is unclear if practical issues are especially important for people with IBS as no evidence exists that, beyond the burdens of the condition itself,¹² they have less time or money than other people.⁵² Therefore, it is currently impossible to say if these barriers are specific to people with IBS. Similarly, the predominance of practical barriers can be inferred from the expressed desire by the participants for fewer and less frequent sessions. There is no universally recognised number of sessions for hypnotherapy for IBS, with studies having used as few as three⁵³ and as many as sixteen.⁵⁴ There is, however, evidence that higher volume interventions and greater frequency of sessions, produce improved outcomes.⁵⁵ However respondents to this questionnaire indicated a preference for briefer interventions and less frequent sessions. These findings suggest anyone looking to maximise the acceptability of hypnotherapy for IBS may have to moderate the number and frequency of sessions to attract the largest number of people. Alternatively, there may be the need to emphasise in patient facing materials the value of more sessions and higher frequencies as factors which enhance the likelihood of positive outcomes.⁵⁵

Lower down the list of barriers to hypnotherapy (Table 5) are some unique to hypnotherapy, specifically, 'Vulnerability whilst in trance' (28.8%) and 'Difficulty being hypnotised' (21.3%). 'Vulnerability whilst in trance' was not defined for participants

so we cannot know how they interpreted this statement, however studies suggest that the intimate nature of hypnosis might lead to inappropriate relationships.^{56, 57} Further, one study of the general public found that 36% of its participants believed that suggestions made whilst in hypnosis were hard to resist.⁵⁸ From this, it seems likely that influence and control are at the base of concerns regarding vulnerability and steps to ameliorate these concerns would be appropriate. 'Difficulty being hypnotised' could be ameliorated through exposure to materials about hypnosis and hypnotherapy, which have been seen to increase hypnotisability⁵⁹ and reduce beliefs which may inhibit this⁶⁰ and as such this should be included in patient facing materials.

Possibly the biggest barrier to the use of hypnotherapy for IBS was a lack of awareness, with 55% of the participants identifying that they had not heard of hypnotherapy being used to treat IBS prior to the survey. It is apparent that there is a substantial awareness issue, which may require considerable promotion to overcome.

Respondents found hypnotherapy appealing as a potential stress reducer, suggesting that large numbers of participants believe that stress was at least a part of their symptomatology.⁶¹ Although stress is rarely reported as a stand-alone measure in trials of hypnotherapy for IBS, related metrics, such as well-being and psychological distress frequently show improvements.^{62, 63} Further, the high agreement with 'it gets to the psychological cause of my IBS', suggests that a substantial proportion accept the psychological components of IBS, be that stress, or the connection with psychological trauma.⁶⁴ This contrasts with previous qualitative research which has found that some people with IBS dislike psychological

explanations of their condition⁶⁵ and that some perceived it to be a physical issue and as such did not understand how a psychological intervention would help.⁴⁰ Only 15% of participants identified 'Nothing is going into my body' as a benefit, which does not appear to agree with the high numbers who express anxiety over taking medication,⁶⁶ however, anxiety over how hypnosis might affect them was noted in an earlier question (Table 5), suggesting that concerns over adverse events are not limited to potential physical triggers of symptoms.

Experience was reported to be the most important characteristic for a hypnotherapist to possess. Therapist experience has been observed in psychotherapy to be a poor predictor of outcomes,^{67, 68} however it is conceivable that participants were referring specifically to experience with treating IBS, as a component of expertise. Expertise is believed to positively impact on outcomes in psychotherapy,⁶⁹ and has been seen to be a preferred characteristic in a therapeutic relationship.⁷⁰ The next most important characteristics which were desired from a hypnotherapist, qualifications and people skills, have also been seen to be popular in other areas,⁷¹ suggesting that the most popular three characteristics may be generalisable to similar professions.

Strengths and limitations

This is the first quantitative survey which has examined the barriers and acceptability of hypnotherapy for IBS by people with the condition. As such, it has identified the relative importance of previously identified factors relating to the acceptability of hypnotherapy, providing valuable information to anyone establishing a hypnotherapy service for IBS. However, there are several limitations coming from the population.

The sample size is modest, and predominantly from the UK, no attempt was made to

confirm diagnosis of IBS or to collect data on comorbidities, meaning that caution should be used in generalising the findings. There was an unusually high proportion of participants with experience of hypnotherapy for IBS (10.1%), which is notably more than previous work has identified (1.4%),¹² this may be due to the ethical imperative to mention hypnotherapy during the promotion of the survey. Further, the low proportion of male participants (6.4%) means that these findings cannot be said to represent men.

Conclusion

According to these findings a substantial proportion of participants found the concept of hypnotherapy for IBS acceptable and more so if the hypnotherapist was experienced and had a recognised qualification, but many did not like the idea of group hypnotherapy. The use of hypnotherapy was substantially inhibited by a lack of awareness that it can be used to treat IBS, and by practical factors of cost, availability, and time. Anyone engaged in establishing or promoting a hypnotherapy for IBS service is advised to focus upon increasing awareness, and beyond this to focus on providing the most convenient service possible. Further, most people with IBS have engaged with multiple interventions, and continue to use a proportion of these, often simultaneously. Anyone working with people who have IBS should remain mindful of this experience in self-care.

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7.3 Push-pull theory

This survey provides insights for each of the four dimensions of Push-pull theory.

Probably the most apparent are the inhibitory factors where we see that 55% of participants had not been aware that hypnotherapy can be used to treat IBS, strongly suggesting that public awareness might be a fundamental issue.

Over a quarter (26.6%) of participants rejected the idea of using hypnotherapy for their IBS, even with the proviso that cost and time were not issues, unfortunately we do not know what their motivation for stating this was. Predictably, as the number of sessions and frequency of hypnotherapy sessions rose so did the inhibitory impact of the burden to attend. Less predictable, was that weekday sessions were more popular than weekend sessions, making the provision of weekend services an inhibitory factor. Issues relating to the burden of treatment dominated the list of explicit barriers to the use of hypnotherapy, with cost, availability and time being the three most substantial inhibitory factors, but factors specific to hypnotherapy such as concerns over how it might affect them, their vulnerability in trance and thinking that they will be difficult to hypnotize, all featuring for a substantial proportion of the population. The thought of group hypnotherapy for IBS, was a particularly powerful inhibitory factor with 42.5% of the participants who stated that they would use hypnotherapy for their IBS saying that they would not attend a group. The inhibitory power of group hypnotherapy appears to have been driven primarily by concerns about sharing personal information and social anxiety.

Offsetting to some degree the inhibitory factors are the external pull factors.

Hypnotherapy was identified to be likely to help with the psychological elements of the IBS, such as stress and psychological causes, as well as being relaxing. Group hypnosis can be seen to have some external appeal for its social elements such as being with other people and being able to swap experience. The hypnotherapist's experience and qualifications may be an external pull factor; however, this is not clear, being conditional upon the practitioner having these and being able to convey that fact to potential patients and it could arguably represent the removal of an implied inhibitory factor of 'inexperienced' or 'unqualified'. As such it is possible to conceive of experience and qualifications as a sliding scale which runs from the inhibitory 'inexperienced and unqualified' at one end to, the external pull of 'highly experienced with IBS and appropriately qualified to work with IBS', at the other.

Little evidence has been gathered regarding internal pull factors, those factors relating to the appeal of a particular CAM because it fits with a personal philosophy. The survey did highlight that a small percentage of participants (11.1%) identified that they actively preferred to use CAM due to a desire not to use medicines too often, in the typology of CAM use questions (Table 5). This may hint at a modest openness to hypnotherapy amongst people with IBS. However, as we do not have figures for the typology of CAM use for other groups, or for the general population, we cannot say if this figure is unusually high.

It has been seen that there are substantial inhibitory factors on the use of hypnotherapy for IBS and especially for group hypnotherapy for IBS. This starts with a low level of awareness that hypnotherapy can be used to treat IBS and is compounded by the potential burden of treatment. Concerns regarding hypnotherapy as a treatment intervention are present but are relatively minor. Hypnotherapy has

external pull for the potential psychological benefits it may bring. Qualified and experienced practitioners are important and may even be an external pull factor unto themselves, but this is not entirely clear.

Chapter 8 Discussion and Conclusions

8.1 Introduction

Having presented and discussed the component studies of this thesis within their individual chapters, this chapter moves on to examine the research objectives of the thesis and evaluates how well they have been met by the individual pieces of work (chapters 2, 4-7). It goes on to summarise the elements as a whole and to critically discuss the overall findings within the context of the larger body of literature.

Strengths and limitations of the thesis are noted, and recommendations are made for future study and practice.

8.2 Summary of findings

This thesis has brought together several novel pieces of work around the acceptability of hypnotherapy for IBS by people with the condition and examined factors which impact the effectiveness of the intervention. It found that people with IBS felt underserved by conventional medicine, as such they often adopted CAM approaches. Further, they are broadly open to hypnotherapy, but they do not think of it as a treatment for IBS, tending more often to adopt dietary and supplement-based approaches. However, practical issues of cost, time and effort were likely to inhibit the use of hypnotherapy. It was found that the delivery characteristics of higher frequency, higher volumes of therapy and group intervention were associated with effectiveness, however the first two delivery characteristics increase the burden of practical issues to the user and the third, group delivery, was found to be unpopular,

as such it has been found that the delivery characteristics associated with effective outcomes are the least acceptable.

8.3 Specific findings - Meeting research objectives

Each of the research chapters looked to contribute to fulfilling elements of the overall thesis research objectives specified in Chapter 1. Each objective is examined individually.

8.3.1 Objective one

To identify what people understand by hypnosis and hypnotherapy.

This thesis is primarily concerned with people who have IBS and hypnotherapy as a potential intervention for that condition. However, as there was a dearth of information specific to people with IBS's attitudes to hypnotherapy, a wider scope was taken to establish an idea of the context in which people with IBS develop their understanding of hypnosis and hypnotherapy. A narrative review of people's understanding of hypnotherapy (Chapter 2) was conducted. This found that most people were open to hypnotherapy, especially if endorsement from conventional medical or psychological sources was present, and that it was perceived to be effective for psychological conditions and effective, in a supporting role, for physical conditions.

Objective one – conclusion

Objective one has been met by the narrative review of people's perceptions of hypnosis and hypnotherapy (Chapter 2).

8.3.2 Objective two.

To establish the current understanding of hypnotherapy for IBS by people with the condition.

The main research addressing this objective was the qualitative research into people's attitudes and opinions of hypnotherapy (Chapter 5) and this was followed up with the survey research (Chapter 7). It was found that people with IBS were unclear as to how hypnotherapy might help with their IBS. Most participants expressed that they would be willing to try hypnotherapy for their IBS, but fewer were willing to try group hypnotherapy. There were high levels of recognition that hypnotherapy might bring psychological benefits.

Objective two conclusion

These findings represent a substantial advancement upon the existing knowledge base regarding people with IBS's opinions and attitudes towards hypnotherapy for their condition. However, it is not exhaustive, and more research is required to understand what motivates the minority who rejected the idea.

8.3.3 Objective three

To establish what factors contribute to people with IBS adopting CAM.

The primary source for information on this area of interest was the qualitative research into living with IBS (Chapter 4), however some of the survey findings (Chapter 7) have been used to provide context. It was identified that people with IBS move towards CAM because of: a perceived poor attitude on the part of clinicians, the shortcomings of medication, a sense that adequate testing had not been undertaken and the onerous nature of some dietary advice. There was also some evidence which found that dietary and oral CAM were preferred. However, some people identified that they actively preferred to use CAM over conventional medicine.

Objective three conclusion

These findings have advanced our understanding of people with IBS's movement towards CAM by identifying the reasons why they move away from conventional medicine and providing some insight as to what affects their choice of CAM. It was found that some people appear to have an active preference for CAM which precedes their engagement with CAM. This research has highlighted this, but does not examine the use of CAM prior to, or instead of, conventional medicine. More research is needed to understand people who may be controlling their IBS without any reference to conventional medicine or to understand what CAM use occurs prior to contact with conventional medical services.

8.3.4 Objective four

To establish what inhibits the use of hypnotherapy for IBS by people with the disorder, and their relative importance.

The qualitative analysis of the semi-structured interviews with people living with IBS regarding their understanding of hypnotherapy (Chapter 5) provides the foundational insights to address this objective, which was followed up in the survey (Chapter 7). It was identified that representations of hypnosis from the media entered people's discourse on the subject in such a way as to potentially be undermining of professional status. Further, there was a lack of awareness that hypnotherapy might benefit someone with IBS, and confusion around its potential mechanism of effect, fear of the unknown, vulnerability whilst in trance and issues of cost and time were also highlighted, as was a dislike of the idea of group hypnosis.

Objective four – conclusion

The research has identified several plausible barriers to the use of hypnotherapy for IBS. However, the relative importance of each of the factors which inhibit adopting hypnotherapy for IBS can only be considered indicative at best, as the sample size is modest. As most of the participants were from the UK the findings may not generalise well to other countries. As such, larger scale, international research would be required to establish if the findings are generalisable.

8.3.5 Objective five

To identify what factors within the GDH protocol result in decreased effectiveness and which improve effectiveness.

The subgroup analysis within the systematic review (Chapter 6) was intended to fulfil this objective. It identified three factors which were significantly associated with effective outcomes over controls: group hypnotherapy, higher volume therapies (8 or more sessions totalling at least 6 hours of contact time) and higher frequency interventions (at least one session a week). Of these only the higher volume interventions proved sufficiently effective to show a significant difference with its comparator (low volume interventions).

Objective five – conclusion

The study has identified three factors which are likely to increase effectiveness. However, as the difference between the factors was significant for only one of these (volume of intervention), these findings can only be considered provisional. Equally, due to limited data, this study was unable to run comparisons on many of the proposed potential factors which might impact upon the effectiveness of hypnotherapy for IBS and as such there may be factors which are currently unidentified. The use of the TIDier reporting framework¹ by trials would mean that a greater number of subgroup comparisons would be possible in the future.

8.4 Discussion of overall findings in context of the literature

The thesis identified several elements which impact upon the acceptability and effectiveness of hypnotherapy for IBS, these consisted of barriers to its use, factors which make hypnotherapy appealing to potential users and delivery characteristics associated with significantly effective outcomes. Many of the factors have been identified and quantified for the first time providing potentially useful insights for those engaged in the promotion and delivery of hypnotherapy for IBS services, this is especially useful in the UK where hypnotherapy is recognised in NICE guidelines as a treatment for IBS which is refractory to other interventions.²

8.4.1 Awareness of hypnotherapy as a potential treatment option

The lack of awareness of hypnotherapy for IBS by people living with the condition was possibly the largest barrier to its use, being identified by 55% of the survey participants (Chapter 7). There are several possible explanations for this. It is possible that hypnotherapists are not promoting IBS services, possibly because they are less confident in their ability to recruit or treat people than with other services they offer, although this is conjecture. Equally, it is unknown if gastroenterology services are promoting or using hypnotherapy beyond the activities of the few specialist centres who provide it. Another possibility comes from the nature of IBS, which tends to promote feelings of embarrassment³ and thus may stifle discussion, preventing advice coming from family and co-workers who have experienced the problem themselves, sometimes referred to as the lay referral network.⁴ As some

people with IBS consider their condition to be primarily physical,⁵ and the prevailing attitude appears to be that hypnotherapy is only beneficial in a supportive role for physical conditions (Chapter 2 - Narrative review), it is possible that a type of confirmation bias⁶ is at work in which information regarding hypnotherapy for IBS is not retained as it does not fit well with the pre-existing conceptualisations of either what hypnosis can do or what IBS is. However, there is an absence of recent data describing the awareness levels of hypnotherapy services for other conditions or prevention, such as smoking cessation and weight loss, with which to draw a comparison. The most relevant comparison point available is a Scottish study from 1983 which identified that 41% of its survey population could not think of a medical condition for which hypnotherapy would be appropriate,⁷ but with the changes to media and the access to information in the 38 years since this study it seem unlikely to still hold true. A more recent study, set in a specialist women's health clinic, found that hypnotherapy came 12th from a list of 20 CAM therapies for participants self-rated knowledge of it, again suggesting modest levels of awareness.⁸

8.4.2 Media depictions of hypnosis

The media's influence on the imagery of hypnosis was identified as a possible barrier to its use. As noted in chapter 1, the distinction between hypnotherapy and stage hypnosis is not always clear, and further, hypnosis can be said to have a high degree of cultural visibility due to presentations in film and television.⁹ Other studies have found that media representation appears to influence people's perception of hypnosis,¹⁰ which presents a challenge for hypnotherapy as a lot of those representations contain images of hypnotic influence being abused.¹¹ Overt expressions of media influence upon the imagery of hypnosis by people with IBS

were identified by the qualitative research into attitudes and opinions of hypnotherapy (Chapter 5) they however did not fit the sinister picture, but rather had a comical feel. However, concerns around vulnerability in trance (Chapters 5 and 7) may represent an internalised acceptance of them. It seems likely that these images are negatively affecting people's perception of hypnotherapy to some extent and when considered in the context of IBS, where the majority of people with the condition are female,¹² and disproportionately have a personal history of traumatic events,¹³ may help explain why hypnotherapy appears to be less popular for IBS than some other CAM.

8.4.3 Potential adverse events

Concerns regarding how hypnotherapy might affect them was a noteworthy potential barrier to the use of hypnotherapy. The fear of side-effects has previously been expressed by participants of research covering a variety of potential treatment modalities.⁵ This is perhaps not surprising as side-effects appear to be a common experience for people with IBS, with one study reporting that for a population who had tried on average 3.9 (± 3.3) different medications, there was an average 3.3 (± 2.7) side effects reported, and further that nearly three-quarters had reported discontinuing treatment because of these.¹⁴ One trial had such a pronounced level of adverse events amongst the active intervention arm that it threatened to effectively unblind the trial.¹⁵ As such it is perhaps natural that the fear of side effects and adverse events would present a barrier for someone with IBS when approaching any new intervention. Hypnotherapy, as a psychological intervention is substantially different to medication, and this was recognised by the idea that it might have a relatively low risk for adverse events (Chapters 5 and 7). Early research into

hypnotherapy for IBS did not provide findings regarding adverse events,¹⁶ however a 2014 meta-analysis identified only one, a panic attack, from its population of 238 people with IBS,¹⁷ a level which was not significantly higher than controls.¹⁸ This rate is similar to that found by a meta-analysis of adverse events for hypnotherapy over a variety of issues which identified two from a population of 429 (0.47%), neither being a serious adverse event. The meta-analysis of IBS trials¹⁷ findings convert into a number needed to harm (NNH) of 238, which is highly favourable when compared to medications commonly used for IBS, such as Alosetron (NNH 20) and tricyclic antidepressants (NNH 19).¹⁹ Ultimately, hypnotherapy for IBS appears to be substantially safer than many of the medications used by or prescribed for experienced by people with IBS, a fact which is likely to allay some concerns regarding potential side-effects and adverse events.

8.4.4 Delivery modes of hypnotherapy for IBS

Despite the barriers, once the concept of hypnotherapy for IBS was introduced to people with IBS they were mostly open to the idea (Chapters 5 and 7), a finding which reflects earlier work, in which it was found that 63.7% of people with IBS found the idea acceptable.⁵ Group hypnotherapy was however substantially less acceptable, which presents an impediment to use of this delivery approach which may be substantially less expensive to the NHS per participant treated. No previous research could be identified regarding the acceptability of group hypnotherapy for IBS, or for group hypnotherapy more generally, to draw comparison. For at least one study of group GHD we know that for some potential participants wanting individual hypnotherapy was their stated reason for not taking part in the trial,²⁰ however, this can be contrasted with the findings of another trial which included a group

intervention arm, this found that only 16.4% (81 of 494) of those invited to enter the study declined.²¹ This suggests that, for this trial at least, the majority found the idea of group acceptable, as does the fact that in the same study, once participants were allocated to groups, only 5 more participants did not start therapy in the group arm over the individual one, of whom only one cited a dislike of group as the cause.²¹ It seems likely that group hypnotherapy will result in some people with IBS not engaging, but this number may be less substantial than the research suggests. As noted in the discussion of the survey findings (Chapter 7) low attendance from group interventions has been observed in group psychotherapy,²² and could be compensated for with an overbooking policy, but this produces administrative issues such as how to adapt when all the participants arrive.²³ Beyond this, group delivery of hypnotherapy presents further administrative issues, as the treatment has variable features which alter according to the patients predominant symptom (IBS-D, IBS-C, IBS-M), and thus each of the groups would need to be composed of members who had the same predominant symptom type, which further complicates booking issues and limits flexibility.

8.4.5 Session frequency

High frequency sessions, weekly or more frequent, were found to be significantly effective. No previous hypnotherapy research into the effect of frequency of sessions exists, however there are psychotherapeutic studies, which similarly find that the higher frequencies of intervention result in improved outcomes over lower frequencies.²⁴⁻²⁸ Some of these psychotherapeutic studies include higher frequencies of intervention than was explored by the subgroup analysis (Chapter 6), with some comparing multiple sessions within a week to weekly sessions and finding

that the higher frequency produced benefit.^{26, 27} This raises the possibility that within the GDH protocol multiple sessions a week could further increase effectiveness. However, only one of these psychotherapy studies directly addresses IBS, which found that a reduced frequency of sessions was associated with increased improvements in daily functioning, the ability to engage in daily activity despite symptoms,²⁸ the opposite of the other psychotherapy studies and the subgroup analysis (Chapter 6). As such we do not currently know if increasing frequency of sessions beyond once a week is likely to increase benefits, but as the survey (Chapter 7) found that only 17.5% of people willing to undertake hypnotherapy for IBS would be willing to attend sessions more than once a week, it seems likely that increasing frequency beyond once a week would result in many people living with IBS either not engaging or disengaging prematurely from such a service.

8.4.6 Volume of interventions

High-volume interventions are recommended, as they are associated with significantly increased positive outcomes over low volume (Chapter 6). The components of the high-volume intervention, number of sessions and contact time, cannot at this time be separated for individual subgroups analysis. Contact time and number of sessions have been explored for psychotherapeutic interventions for IBS, but both delivery characteristics were found to have a non-significant effect,²⁸ equally, no significant difference has been found by number of sessions for hypnotherapy for psychosomatic disorders,²⁹ providing no additional insights. The survey (Chapter 7) identified that the higher the number of sessions the less open potential participants were to hypnotherapy for IBS, with fewer than half (48.8%) of those who said they were open to it finding ≥ 12 sessions of work acceptable. This

finding appears to be confirmed in the results of a recent trial which found an increased drop-out rate on a twelve session intervention compared to a six session intervention.³⁰ This suggests that there may be a point at which additional attendance results in disengagement. It is interesting to note that of the studies which comprise the high-volume intervention subgroup (Chapter 6), the three which used a twelve-session model^{31, 32} produced lower benefits than the one which used only ten sessions²⁰, further suggesting that there may be a point at which any benefit from additional sessions is outweighed by the burden of attendance. Ultimately, based on the current evidence, it would appear that the number of sessions should be the lowest possible number required to be a high-volume intervention. This would fulfil the effectiveness driven need to be a high-volume intervention whilst keeping the burden of sessions upon the patient to a minimum. The lowest number of sessions which can be considered a high-volume intervention was set for the subgroup analysis as eight or more, however the smallest number of sessions actually present in the high-volume groups of studies was ten (Chapter 6).²⁰ This suggests that the minimum number of sessions for effectiveness is currently ten, which should also be the maximum to keep the burden upon the patient down.

8.5 Strengths and limitations

8.5.1 Strengths

This thesis has attempted to explore a novel area using rigorous and replicable methodological processes. A systematic approach can be seen in all areas under

study. Beyond this, the thesis possesses a systematic structure which moves from the broad perceptions of the general public, through the specific opinions of people with IBS, to the quantification of those opinions.

8.5.1.1 Mixed methods design

This study has used a mixed methods design which uses both qualitative and quantitative approaches in a complementary way³³ to access the strengths of each methodology whilst offsetting their limitations. Specifically, it used a predominantly sequential design, which meant that each piece of work could be influenced by the proceeding piece.³⁴ The questions within the survey were influenced by the findings of both the qualitative research into the attitudes and opinions of people with IBS towards hypnotherapy for their condition (Chapter 5) and the findings of the, quantitative, subgroup analysis (Chapter 6). The choice to adopt a mixed methods paradigm (Chapter 1) has allowed for a complex interplay of different types and sources of evidence which ultimately has substantially enhanced the validity of the research.

In addition to the mixed methods, the qualitative research employed a mixed modes approach, using more than one mode of operation towards the same outcome.³⁵ Specifically, some participants were interviewed in-person and some on-line. Only a handful of studies had employed both modes previously³⁶⁻⁴⁰ and as such the thesis has advanced this dual mode approach, and the study had a more varied population because of it. Further the data were used for an analysis of in-person verses remote interviewing and led to an additional publication (Appendix10).⁴¹

8.5.1.2 Theory

Throughout this thesis Push-pull theory (Chapter 1) has been used to highlight and understand the factors driving people with IBS towards CAM use and to understand their choice of CAM, with a specific focus on hypnotherapy. As such the thesis benefits from a consistent theoretical lens throughout. Beyond this, this is the first time that Push-pull theory has been used to understand the movement of people with IBS to using CAM. Further, previous use of Push-pull theory has exclusively provided an explanations of how and why a person used the CAM they did,^{42, 43} but little research has been conducted to explain the CAM choices not taken, the addition to the theory of inhibitory factors, has allowed a more rounded understanding of the process of moving towards CAM than previously existed.

8.5.2 Limitations

8.5.2.1 Sample size

The sample size of the survey population is a limitation. The original desired minimum population of 100 was exceeded, however, the subset of that population which identified that they would be open to the use of hypnotherapy was lower than a hundred. This means that their responses may not generalise well.

8.5.2.2 Gender bias

Throughout the study there has been a consistent gender bias in the samples. This has been apparent in all the areas of study. IBS has a notable gender bias in its presentation, with 64.2% of all adults diagnosed with it being female,¹² however the samples in this thesis frequently have a substantially higher proportion of female participants than this, with the qualitative work having an 88.2% female population, the survey 93.6% and, at point of randomisation, 77.1% for the populations of the systematic review being female. As a result, there is a limit upon how well these findings can be said to generalise to men with IBS.

8.5.2.3 Participant awareness of subject matter

For ethical reasons, the recruitment materials of participants to both the qualitative interviews and the survey research had to highlight that hypnotherapy would be a topic in both studies. It is unclear if, or how much, this may have influenced the self-selection of participants, however it is likely that to some degree the results are more positive towards hypnotherapy than might have been had it not been mentioned in recruitment materials.

8.5.2.4 Limitations brought about by the Covid-19 pandemic

As a result of the Covid-19 pandemic two potential areas of research which were planned have not been conducted, these relate to the attitudes of healthcare providers to hypnotherapy for IBS and the conduct of a feasibility study.

The perspective of conventional healthcare providers

It had been planned that the perspective of healthcare providers would be sought to identify their opinions of hypnotherapy for IBS, but this was not deemed practical under the anticipated workload that healthcare providers were likely to experience during the Covid-19 pandemic. As a result of this an important voice remains absent from our understanding of the potential implementation of hypnotherapy for IBS within conventional healthcare.

The absence of a feasibility study

The original intention of this thesis was to use the findings to design a hypnotherapy for IBS intervention which had the delivery characteristics associated with effective outcomes, whilst being presented in such a way as to maximize its acceptability to people with the refractory form of IBS, and subsequently to run a feasibility study to assess the practicality of the design. The restrictions brought about by the Covid-19 pandemic made the feasibility study impossible, as such it has not been possible to generate new findings in the way originally envisaged.

8.6 Recommendations for practice

8.6.1 Recommendations for delivery characteristics

Within the studies are a substantial number of findings which have implications for how hypnotherapy for IBS is approached. The systematic review subgroup analysis identified three characteristics individually associated with significant benefits (Chapter 6), as these are associated with effectiveness, to delivery an intervention with less than these characteristics would risk delivering an ineffectual intervention. As such a group intervention, of a minimum of ten (as per the volume of therapy discussion 8.4.6) weekly sessions totalling at least 6 hours of contact time is recommended. However, the survey found that practical barriers, such as the time required to attend, were the most important to participants (Chapter 7) which suggests that the more intervention there is the larger the barrier to engagement, as such the minimum intervention specified above should also be the maximum. This means that an intervention consisting of ten weekly group sessions with six hours contact, an average thirty-six minutes a session, is recommended to balance the needs of effectiveness whilst keeping the burden to the service user to a minimum.

A general preference for delivery in a primary care setting was observed in the qualitative research. Primary care may be easier to access for several reasons, such as proximity and familiarity. In order to access the benefits to patients of being in a primary care setting, it may be appropriate to hold IBS hypnotherapy clinics at different practices, this may result in challenges with timetabling and facilities. Where

practical, housing the delivery of hypnotherapy for IBS services in primary care is preferable.

8.6.2 Recommendations for Patient educational materials

To make this intervention as acceptable as it can be, any patient facing materials, be they educational, for study recruitment, or promotion of a service, should look to emphasise certain things. Links with conventional medicine or psychology should be highlighted, this could be as simple as referencing the NICE guidelines.² Equally, the findings of the survey (Chapter 7) suggest emphasis should be placed on providing details of the experience and qualifications of any hypnotherapist involved in a study or service. As people skills were desired by study participants (Chapters 5 & 7) attempting to convey these by humanising a hypnotherapist through photographs and video may be beneficial, as might be conforming to the identified desired model of professional attire, professional but informal (Chapter 5).

The research identified that people had little concept of the mechanism of effect of hypnotherapy for IBS (Chapter 5). As such providing an explanation based on the current best evidence ^{44, 45} may prove reassuring.

As group hypnotherapy was especially unpopular (Chapter 7), efforts to counter this by highlighting that there is no need to share personal information, and that many people find the group environment beneficial, in patient facing materials is recommended. Further, to emphasise that group hypnotherapy has been found to be as effective as individual for IBS may help further offset the barrier that group appears to be.

8.7 Authors reflection upon the thesis

I began this thesis with a statement explain how my professional background as a hypnotherapist led to an interest in treating IBS with hypnotherapy (see introduction 1.1). It would be naïve to think that being a hypnotherapist had not impacted upon the work in some way. It seems likely that in subtle ways I may have exerted unconscious influence, by my choice of questions, the way they are phrased and the assumed level of understanding of the participant, even if efforts have been made to curb this with a multi-disciplinary team (see 3.2.3 reflexivity and trustworthiness). For example, it seems likely that my background was present in the manner of the delivery of the qualitative interviews, some of the participants commenting that the interview felt therapeutic, although this is not an uncommon effect of qualitative interviews.^{46, 47}

Reflection is often prompted when things did not go as expected. One of the most obvious areas where the thesis deviated from the plan was that no feasibility trial was run, but this can be seen as more a regret than an area for reflection as its cancellation was caused by events beyond my control, the Covid-19 pandemic. Equally, it was never intended that people who did not want to use hypnotherapy for their IBS would be largely absent from the research, but this appears to be what has happened and as such is worth examination. Such people were not actively excluded from the qualitative work, but it was always likely that they would self-exclude as the recruitment material specified that the study was about hypnotherapy, a topic which, by definition, they are not interested in. This could have been avoided

by not telling potential participants what the study was primarily about, but such an omission from the recruitment materials may well have been considered, from an ethical stance, to be deceiving the participants, and would have complicated the formal process of ethical approval substantially. In this instance I chose to take the ethically simpler route of disclosure of the topic, but this has come with an obvious cost of a voice lost to the study, and thus it is not clear that this was necessarily the right decision. I am a person with a strong drive towards completing tasks, which may have influenced this decision and as such in any future work I conduct the balance between getting the work done, and getting it done in such a way as to produce the most useful findings possible, should be examined carefully. Further, it was never intended that people not interested in using hypnotherapy for their IBS be excluded from the survey, but those who identified that they would not want hypnotherapy for IBS skipped a section of questions and were not asked about their position. This decision was driven by the belief that making them go through lots of hypnotherapy questions when they were not engaged with the topic could be annoying and result in a lot of them dropping out, but again a potentially valuable voice was lost. The inclusion of a few questions in the survey with open text responses, targeted to this group, could have gathered substantial data. For the future, it is worth considering at decision points like this if there is another way of obtaining at least some of the potential data.

A further area for consideration comes from a decision, made at an early stage in the research, not to volunteer my profession to the participants in the qualitative study, but to disclose this if anyone asked. This decision was taken so that participants would not be influenced by the fear of offending me with negative statements regarding my profession, but this had to be balanced against an ethically driven

impulse not to be deceiving, hence disclosing if asked. None of the participants asked about this, but for those viewing the Facebook recruitment poster, which was attached to my Facebook account it would have been only a few minutes work to establish this fact. As such, we cannot know if anyone was dissuaded from conducting the research by this, equally we do not know who amongst the participants may have known this fact and been influenced by it. Reflecting upon this decision, the author stands by the original choice not to actively disclose but in similar future circumstances would take the time to establish an independent Facebook profile for the study.

As much as there is a question of the influence of the author's professional background upon the thesis, there is the influence of the thesis upon the author. As has been noted (Introduction 1.1) the author has a long personal interest in working with IBS, an area where the hypnotherapeutic intervention is endorsed in medical guidelines.² Despite this, efforts at recruitment of people with IBS as private practice patients had proven challenging. It now seems clear that this was because people with IBS neither think about hypnotherapy for it, nor understand how it might help them. With hindsight it is easy to see why this is, hypnotherapy is perceived as a psychological intervention when IBS is experienced predominantly physically. However, the author having accepted the mind-body connection model⁴⁸ for a variety of illness's many years prior had lost touch with the prevalence of a dualistic concept of body and mind⁴⁹ within prevailing culture, and had not anticipated this. The implication of which is, for the author as a private practitioner of hypnotherapy, that it seems unlikely that hypnotherapy for IBS is going to be a growth area of work in the near future, and neither is it likely to be garnering validity and acceptability for the

work of private hypnotherapists. However, it does seem likely that extending hypnotherapy for IBS services in the NHS would prove popular and that these would have a positive effect upon the image of the hypnotherapist over the longer term.

Prominent amongst the findings which have provoked a revision in the authors assumptions regarding hypnotherapy itself was the finding that group hypnotherapy appeared to be at least equivocal to individual therapy, which was unexpected. This finding suggests to me that the personalisation of therapy, by employing a patient's own terminology and metaphors, which is, in the author's experience, a fundamental of many schools of hypnotherapy, may not be as important as often believed. There are implications within this for hypnotherapy as a profession and for personal practice, but perhaps of most relevance to the thesis, is that this suggests the possibility for the development of research into group interventions for other areas of potential interest, especially with functional, chronic, and psychosomatic disorders.

8.8 Future research opportunities

Prior to this work there was an almost complete absence of research into the attitudes of people with IBS towards hypnotherapy and understanding of what factors influence the effectiveness of outcomes. This study has advanced these considerably, but there are numerous areas for further work.

The thesis has suggested a protocol for a hypnotherapy for IBS intervention based on a group intervention of ten weekly sessions totalling no less than six hours contact time. As this is a group intervention, a relatively unpopular approach, it is

unclear how many people referred would attend, so a feasibility study to assess this and dropout rates would be advisable. Beyond this, a trial comparing different group sizes, to help establish the maximum effective group size, could provide valuable information.

The systematic review, meta-analysis and subgroup analysis was unable to fulfil many of its aims due to a lack of information and studies. As a result, it would be good practice to return to this at regular intervals to capture the findings of emerging studies which would both add to the existing findings and may allow for more of the proposed subgroup comparisons to be run. The addition of a subgroup calculation to compare the effectiveness of group size upon the outcomes would help to identify the optimal size for group hypnotherapy. Some of the definitions provided in the protocol⁵⁰ for comparison proved too strict and a less rigid definition could be applied in future which may allow for more comparisons.

Two groups are underrepresented in the research, people who reject the concept or use of hypnotherapy for IBS, and men. Research of all the types undertaken in this thesis, which targets men exclusively, is required to redress the gender imbalance. Equally more research into the attitudes of people who reject the idea of hypnotherapy for IBS would prove beneficial, although this has been touched on before,⁵ much more detail is needed and as such qualitative research is recommended. Further, insufficient detail exists to confirm that research has captured as diverse a population as progress-plus guidance suggests,⁵¹ and as such future research should be mindful both of these characteristics and reporting them. Further, clinicians' attitudes are poorly understood and warrant investigation to establish if they would refer or signpost people to hypnotherapy for IBS services.

8.9 Conclusion

The research has highlighted the need amongst people with IBS to pursue CAM interventions. It has gone on to identify the general perception of one such intervention, hypnosis and hypnotherapy, as well as the specific perception amongst people with IBS. From these, barriers to the use of hypnotherapy for IBS have been identified. These include a lack of awareness of its effectiveness for IBS, and how that effectiveness might come about, the comical imagery which comes from the media presentation of hypnosis and concerns expressed regarding ability to enter and vulnerability in trance states. Despite this, most people with IBS were broadly positive towards hypnotherapy for it when the idea was introduced. Further, factors within the delivery characteristics of hypnotherapy for IBS were found to be associated with significant effective outcomes have been identified. All of which suggests that the briefest effective intervention, supported with materials which promote the hypnotherapist experience and training, in combination with an overbooking policy to compensate for under attendance caused by group delivery, be used in future research or clinical settings.

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Appendices

Appendix 1 – Narrative review – Paper as published



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Complementary Therapies in Medicine

journal homepage: www.elsevier.com/locate/ctim

What the public think about hypnosis and hypnotherapy: A narrative review of literature covering opinions and attitudes of the general public 1996–2016

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ABSTRACT

Objectives: To describe the public's understanding of hypnosis and openness to hypnotherapy.**Methods:** A comprehensive search of English language peer reviewed journal articles from 1st January 1996–11th March 2016 was performed over 9 databases (Medline, PubMed, PsycARTICLES, CINAHL, Embase (excerpta medica), PsychInfo, Cochrane, Science citation index-expanded, Conference citation index) and a title-only search of Google scholar. 39 keyword combinations were employed: hypnosis, hypnotherapy, hypnotic, perception, beliefs, knowledge, view, opinion and understanding, in singular and plural where appropriate. A search of the bibliographies of eligible articles was undertaken.**Inclusion criteria** – Articles containing original data regarding the general public's attitudes towards hypnotherapy or hypnosis.**Exclusion criteria** – Non-therapy hypnosis (forensic, entertainment) materials and those concerned with groups likely to possess prior or professional knowledge of hypnosis, (hypnotists, clinicians and psychologists).

Analysis was conducted in line with the questions.

Results: 31 articles were identified, covering diverse populations. Most people believe that: hypnosis is an altered state which requires collaboration to enter; once hypnotized perception changes; hypnotherapy is beneficial for psychological issues and is supportive of medical interventions; hypnosis can also enhance abilities especially memory. People are open to hypnotherapy subject to validation from the psychological or medical establishment. Similarity of opinion is more apparent than difference.**Conclusion:** Most people are positive towards hypnotherapy, and would consider its use under the right circumstances.

1. Introduction

The use of complementary and alternative medicine (CAM) is widespread in the UK with between 21 and 41% of people using some form of CAM every year.¹ Of the CAM approaches hypnotherapy enjoys only moderate popularity.² Hypnotherapy is however one of only a few CAM therapies included in National Institute of Health & Care Excellence (NICE) guidelines^{3,4} and enjoys the support of general practitioners.⁵ The public's lack of enthusiasm may be because they lack an adequate understanding of hypnotherapy, or that they may distrust it due to negative concepts derived from popular culture.^{6,7,8}

Numerous reviews have been conducted on hypnotherapy, covering such topics as: irritable bowel syndrome,⁹ chronic pain,¹⁰ cancer patients' symptoms,¹¹ insomnia,¹² labour pain,¹³ fibromyalgia,¹⁴ migraine,¹⁵ nausea,¹⁶ anxiety,¹⁷ and temporomandibular disorders.¹⁸

However no review covers the public's conception of hypnotherapy, despite nearly 80 years of research.^{19,20} The motivation behind previous public opinion research has varied, exploring how beliefs predict outcomes,^{21–23} how changing attitudes may affect outcomes,^{24,25} how a patient group perceive hypnotherapy²⁶ and gathering data towards a general picture of CAM.²⁷ Some research has tried to get a picture of the beliefs of the general public,^{28,29} but this is inevitably limited to a single population group or culture. A broad understanding of the general public's perception of hypnotherapy would provide valuable information for health practitioners considering referring to or offering hypnotherapeutic services and in particular those considering establishing services, either external to or within an existent healthcare framework.

Therefore the aim of this study is to use existing research to gain an understanding of:

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- What people understand by the concept of 'hypnotizability': the ability to enter trance.
- What people understand by the state of hypnosis and the phenomena associated with it.
- Whether people have preferences and biases with regard to who conducts hypnotherapy and where.
- Whether certain population groups have differing perceptions of hypnotherapy.
- Whether people are open to hypnotherapy.

As hypnosis is currently poorly understood even amongst hypnotists,³⁰ only minimal interpretations of the validity of public opinion will be forwarded. A broad definition can be offered in that 'hypnosis' refers to an interaction between a hypnotist and one or more subjects in which the hypnotist focuses the attention of the subject away from their surroundings towards their inner experience and creates changes of perception and experience through suggestion.³¹ Hypnotherapy is when the suggestions are made towards a specific therapeutic outcome.³²

2. Materials and methods

It was apparent from scoping the literature that several different assessment tools were used in different papers with variable, often uncomparable, outcome measures. In addition, a broad series of aims were proposed for the paper, which would be unachievable in a single systematic review. The narrative review approach, however, can allow the breadth and interpretation required, and was considered appropriate.³³

2.1. Inclusion and exclusion criteria

2.1.1. Types of studies

Studies that included definable cross sectional data, from 1st January 1996 to 11th March 2016, were included. The period was chosen as it covered a sizeable increase in CAM usage.^{34,35}

2.1.2. Type of participant

Adult participants 80% ≥ 18 years.

2.1.3. Inclusion criteria

Articles were included if they contained original data regarding the general public's attitudes, opinions and perceptions of hypnotherapy or hypnosis. This did not extend to the characteristics of hypnotherapy users or non-user. Only English language publications were included, this decision was driven by pragmatic considerations of time and resources.

2.2. Exclusion criteria

Articles were excluded if they were about hypnosis used for non-therapy reasons, such as forensic hypnosis, used predominantly to recover memories in legal proceedings, or for entertainment purposes i.e. stage hypnosis. We excluded articles about groups with participants who predominantly had previous experience of hypnosis. We also excluded groups which were likely to have professionally formed opinions of hypnotherapy, including: hypnotists, who have direct experience; clinicians and post graduate level psychologists who are likely to have encountered hypnosis during training, by being approached by hypnotherapists promoting services or training, or through patient enquiry and as such will have been forced to formulate opinion with a professional slant. No exclusions were made on grounds of quality of study.

2.3. Search strategy

Relevant literature was identified by a systematic review of

computerized databases (Medline, PubMed, PsycARTICLES, CINAHL, Embase (excerpta medica), PsychInfo, Cochrane, Science citation index-expanded, Conference citation index) for English language articles in peer reviewed journals. Several key word combinations were employed (Hypnosis + Perception/s, Hypnosis + attitude/s, Hypnosis + belief/s, Hypnosis + Knowledge, Hypnosis + view/s, Hypnosis + Opinion/s, Hypnosis + understand/ing, Hypnotherapy + perception/s, Hypnotherapy + attitude/s, Hypnotherapy + Belief/s, Hypnotherapy + Knowledge, Hypnotherapy + View/s, Hypnotherapy + Opinion/s, Hypnotherapy + Understand/ing, Hypnotic + Perception/s, Hypnotic + attitude/s, Hypnotic + belief/s, Hypnotic + Knowledge, Hypnotic + view/s, Hypnotic + Opinion/s, Hypnotic + understand/ing.)

A multiple stage process of inclusion/exclusion was undertaken with titles alone examined first, then titles and abstracts or titles and introduction, if no abstract was available, then finally full-text articles. At each stage those articles clearly ineligible were excluded. Additionally, a series of Google Scholar searches were conducted using the same keyword combinations in 'title only'; with citations and patents excluded. This was sorted by the article titles and subsequently by abstract; or introduction if no abstract was available; using the same inclusion/exclusion criteria. Eligible articles' reference lists were searched for further articles that might meet the criteria. Some papers were removed upon close reading of the full article because they failed to meet the criteria. Six articles were unobtainable.

2.4. Data extraction

Data were extracted by one author (MK). A structured quality assessment of studies was not undertaken.

3. Results

3.1. Characteristics of the studies

Thirty-one articles met the inclusion/exclusion criteria. These fell into three broad types: those which directly addressed people's attitudes, opinions and perceptions of the use of hypnosis ($n = 9$); those which gathered attitudinal data for some other purposes, such as assessing the differences hypnotic experience makes ($n = 17$); and those which looked broadly at CAM approaches and included some data on hypnotherapy ($n = 5$). The characteristics of the included studies are in Table 1. The majority of the papers drew exclusively on quantitative data ($n = 30$), specifically survey data with some repetition of standardized tools, such as the Opinions About Hypnosis (OAH) questionnaire³⁶ ($n = 5$), Attitudes Towards Hypnosis (ATH) questionnaire³⁷ ($n = 3$) and variants of the Valencia Scale of Attitudes and Beliefs Towards Hypnosis- Clients Version (VSABTH-C)³⁸ ($N = 2$). A number of studies used both OAH and ATH ($N = 3$).

There was a bias towards undergraduate populations ($n = 15$). This is ameliorated by the remaining studies being sampled from a variety of patient populations ($n = 10$), and studies which made attempts to recruit diverse populations ($n = 6$). The literature has a general bias towards populations with English as a first language, but includes multiple nationalities, including samples from Iran, Germany, Hong Kong and non-English speaking U.S. Latinos. Most of the studies had a gender bias with a larger representation of women.

3.2. Hypnotizability

The concept of hypnotizability, meaning the ability to enter the state of hypnosis can be seen to have two distinct elements: the transition from 'normal' state to 'hypnotized'. No information was found on this topic, other than that most people think it requires relaxation.³⁹

A number of studies have addressed the question of control ($n = 5$ ^{22,28,38,40,41}) within the transition into trance, these have found

Table 1
Studies including data on public opinion and attitudes towards hypnotherapy.

Article	Nation	Population	Process	Type of study and aim	Key relevant findings
Barling and De Lucchi ⁴⁵	Australia	186 Psychology outpatients. 84 with previous hypnotic experience, 102 non-experienced. 38.2% male 55.8% female 5.8% unknown. All adult (≥ 18), mean age male 37.9 (2.2), female 39.5 (2.0).	Self-administered questionnaire in psychologists waiting room.	Cross sectional questionnaire study comparing the understanding of experienced hypnotic subjects and non-experienced hypnotic.	Non-hypnotically experienced participants had poor knowledge of hypnosis but were moderately open to and in favour of it.
Boutin et al. ⁴⁹	USA	567 Outpatients. Included $\leq 5\%$ 18 years. 52% Male, 47% female 1% unknown Multiracial 60% white, 18% Afro-American 2404 Psychology undergraduates. 72.5% female 27.5% male 586.	English language survey distributed over 16 municipal medical centres to outpatients & a postal survey for staff physicians about alternative medicine. (250)	To identify frequency of usage and attitude towards use of CAM.	19% think hypnotherapy should be offered.
Capafons et al. ⁴⁸	Spain, Cuba, Argentina, Honduras.	2404 Psychology undergraduates. 72.5% female 27.5% male 586. Spain 75% Cuba 15% Argentina 3% Chile 3% Honduras 4% Mean age 22.3 (5.2) years. 13.8% had no previous hypnosis experience. 444 Psychology students 172 had experience of hypnosis, 272 had no hypnosis experienced. 21.6% male. 76.8% female. 1.6% unknown	Questionnaire administered to students (circumstances unclear).	Cross sectional, multi-national study of a survey tool Valencia Scale of attitudes and beliefs towards hypnosis. Client version REVISED (VSABTH-C) to run a confirmatory factor analysis	Collective scores of various individual questions suggest a belief that hypnosis is collaborative, is helpful and is of interest. There was low acceptance that it provided a 'magical solution'
Carvalho, et al. ⁴	Portugal	Age 18–54 years, 92% under 26. 350 women ≥ 18 years, attending for first trimester abortions.	Questionnaire administered in class and by e-mail.	Cross sectional Survey (VSABTH-C) comparing attitudes of those with and without hypnosis training.	Collective scores of various individual questions which show that the participants believe that hypnosis requires cooperation, and is helpful. It is unclear if results are out of 5 or 6.
Dufresne et al. ²⁷	Canada	Age 18–54 years, 92% under 26. 350 women ≥ 18 years, attending for first trimester abortions.	Given questionnaire pre-randomization and again post-randomization and post intervention for non-control group. Intervention was a standardized hypnotic analgesia 20 min prior to surgery.	Randomised controlled trial of hypnosis for pain and anxiety during an abortion procedure.	Pre-randomised OAH data collection. The clearest findings are that participants believed hypnosis to be an altered state of consciousness in which subjects responded unconsciously and could experience significant mnemonic and analgesic phenomena. Outpatients expressed positively towards hypnosis, with only 6% rejecting the idea of a referral for hypnosis.
Elkins and Wall. ⁴⁰	USA	191 Outpatients 51% psychiatric, 49% family practice. Mean age 37 years. 65.4% females, 34.6% males. 56 Clinicians Mean age 41 years, 7.1% females, 92.9% males. 341 Public. Demographically stratified to within 5% of the true adult population. 18 \leq years. 432 Public. Demographically stratified to within 10% of the true adult population. All of voting age.	Survey conducted by mail with clinicians and solicited during outpatient visits for the outpatients	Cross sectional survey of clinicians & outpatient's perceptions of hypnotherapy	17% would consider using it and 36.7% thought hypnotherapy should be available on the NHS. 37.7% thought hypnotherapy should be provided on the NHS.
Emslie et al. ⁶⁰	Scotland	341 Public. Demographically stratified to within 5% of the true adult population. 18 \leq years.	Postal survey of Grampian, population identified using the community health index	Cross sectional questionnaire study of CAM use and opinions about CAM use covering 8 different CAM therapies.	17% would consider using it and 36.7% thought hypnotherapy should be available on the NHS.
Emslie et al. ⁶¹	Scotland	432 Public. Demographically stratified to within 10% of the true adult population. All of voting age.	Postal survey of people registered to vote in the Grampian area.	Cross sectional questionnaire study of CAM use and opinions about CAM use covering 8 different CAM therapies. A follow up on Emslie, Campbell & Walker (1996) to assess change.	37.7% thought hypnotherapy should be provided on the NHS.
Gaedek et al. ⁶²	USA	900 Public, identified as 'Head of household' 0.66% female. Age ≥ 21 years.	Respondents identified via random dialer, verbally questioned.	Cross-sectional survey to identify CAM awareness and use.	35% would consider using it and willingness rose with physician's recommendation. (continued on next page)

Table 1 (continued)

Article	Nation	Population	Process	Type of study and aim	Key relevant findings
Glaesmer et al. ⁴³	German.	102 dental patients. Mean age 46.1 years. 50% Female. 50% Male.	Patients attending a dental practice for a tooth extraction were interviewed about attitudes towards medical hypnosis and then alternatively assigned to treatment as usual (TAU) or Hypnosis + TAU. Intervention was delivered by CD and patients avoken by the dentist. HYP + TAU patients were re-interviewed upon exit.	Randomized control trial (not blinded) to assess the effect of hypnosis on dental anxiety upon tooth extraction patients.	36.1% felt it was not beneficial. Over half of respondents expressed that information of efficacy was important. Most had little or no prior experience of hypnosis (68.6%), about twice as many considered hypnosis to be scientifically based (22.5%) as based on 'old traditions' (11.8%), equally about twice as many indicated that 'hypnosis should be used more in medical care' (13.7%) than reported negative attitudes towards it (6.9%). Strong beliefs in hypnosis as an altered state and having mnemonic effects were identified.
Gow et al. ³⁰	Australia	279 Public. 55.9% Female. 44.1% Male. > 18, 55% over 36 years old.	Participants were identified in their place of residence by researchers knocking on doors. The questionnaire was unique but included both ATH & OAH questions.	Cross sectional survey of attitudes which is primarily concerned with establishing factor variance.	
Green ³⁹	USA	276 undergraduates. 37.0% males, 63.0% females. Mean age 19.6 (5.7) years.	In class, all participants were administered a variant of the OAH questionnaire. 146 were then put through the HGSHS. It is unclear how this group was selected. All 276 were reassessed on the OAH after a month had elapsed.	Controlled trial to assess the effect of hypnotic experience upon attitudes and opinions.	Pre-intervention there was a strong endorsement of hypnosis as an altered state of consciousness and for automatic responsiveness amongst the hypnotized.
Green ⁴¹	USA	448 Undergraduates. 50.4% female. 49.6% male Mean age 20.0 (4.6) years.	Participants completed in class VSABTH-C & telegenic absorption scale (TAS), about 7 days later they completed the inventory of childhood memories and imaginings (ICMI) and Harvard group scale of hypnotic susceptibility form A (HGSHS)	Trial to establish the relationship between attitudes and beliefs about hypnosis and hypnotic responsiveness.	Identified a high perception of hypnosis as helpful, having mnemonic effects and low levels of fear of towards it.
Green and Lynn ²⁴	USA	460 Psychology undergraduates. 50.6% female. 49.3% Male. Age not supplied.	In classrooms OAH and telegenic absorption scale (TAS) surveys were administered and then followed up on 7–10 days later. Participants gave 'expectancy statements' about hypnosis. 4 randomised conditions were created by varied 'attitude instruction' then assessed with HGSHS form A.	Randomized control trial to assess the effect of the manipulation of attitude expectation upon hypnotic responsiveness.	Pre – intervention data identified homogeneity in gender attitude towards hypnosis.
Green et al. ⁴⁶	USA, Iran, Australia, Germany.	280 undergraduates, 70 of each nationality 70% female 30% male. Mean age 20.5 years.	A variety of on campus recruitment methods were employed and data collection approaches. The questionnaire combined ATH, OAH, and the Beliefs About Forensic Hypnosis (BAFH) questions.	Cross-sectional survey study to identify cultural difference in attitudes and opinions towards hypnosis.	Attitudes appear broadly similar across different cultures.
Harris and Roberts ²⁷	England	256 IBS suffers. 73.4% female, 26.6% Male. All over 18, mean age 55.9 (14.8) years.	Postal survey of previously identified IBS suffers.	Cross sectional study of Irritable Bowel Syndrome (IBS) patient's views, receptivity and inhibitions towards 9 forms of treatment.	163/256 (63.7%) indicated acceptance of hypnotherapy as a treatment, this was weighted towards the younger (<55), with no significant gender, education or employment status bias. Negative respondents questioned efficacy of hypnotherapy. Hypnotherapy was more acceptable if recommended by a clinician. The non-lecture group, prior to application of HGSHS showed a strong positive view of hypnosis and strong desire to experience it, and modest lack of fear.
Hawkins and Bartsch ⁴²	Australia	77 Psychology Undergraduates. 88% female 12% Male. Mean age 24 years. Only 32 of these provide data which was eligible for this study, of these the same gender ratio was present but the mean age was 22 (6.7).	A lecture was given to 44 students on the subject of hypnosis, 9 months later those 44 students and 32 who did not receive the lecture were given a questionnaire which included the ATH and several bespoke questions. The HGSHS was then applied.	A controlled trial to assess the impact of education about hypnosis on views and responses to hypnosis.	
Hermes et al. ⁴⁸	Germany	310 dental patients. 56.8% female. 43.2% Male. Age ≥ 16.	Patients were questioned at department of oral and maxillofacial surgery on Schleswig-Holstein university hospital using a bespoke 21 question	Survey of dental patient's knowledge, attitudes and acceptance of the use of hypnosis as part of dental procedures.	The majority of respondents were aware of the medical use of hypnosis and positive or conditionally positive, towards it. A small

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Table 1 (continued)

Article	Nation	Population	Process	Type of study and aim	Key relevant findings
Hollingsworth ⁴⁹	Australia. 67% either Australian or New Zealand.	337 pregnant women. All had been recruited for the Hypnosis Antenatal Training for Childbirth (HATCH) program trial. 16–42 years. 59% had tertiary education (high for the demographic).	questionnaire. Expression of interest forms for the HATCH trial were made available in various antenatal settings. A bespoke questionnaire was administered to participants prior to randomization.	A cross sectional survey study to identify pregnant women's understanding of hypnosis in general and specifically for childbirth.	number (6.1%) rejected medical hypnosis entirely. Strong agreement was found for the ideas that hypnosis reduces anxiety and is good for pain control, strong rejection was observed for hypnosis as role-play, getting stuck in trance, decreasing maternal control and the need for a hypnotist (although the context of this is unclear) The study identified strong recognition for hypnosis as a 'different state of consciousness', in trance people have limited awareness, mnemonic effects, that both the skill of the hypnotist and the subject's ability are important, and that hypnotherapists have medical or psychological training. There was low recognition for being hypnotized against your will and being unable to lie in hypnosis.
Johnson and Hauck ²⁹	USA	272 respondents. Varied population. All participants were undergraduate age or older.	A 27 item questionnaire was distributed to 4 groups each with a different demographic composition. Standardized instructions were given by either the author or group leader.	Cross sectional survey to identify beliefs about and sources of information regarding hypnosis.	14.1% of participants expressed entirely favorably (40/40) 31.1% of participants expressed entirely unfavorably (0/40) 54.8% of participants expressed somewhere between (1–39/40) Participants expressed a mild positive attitude towards hypnosis, a strong belief that the hypnotizable were mentally stable and a non-statistically significant difference between fearlessness of hypnosis between the genders (male 4% higher) Pre-training respondents identified 'therapeutic' as the second most frequent adjective with a favorability rating of 4.2. 'Relaxing' and 'useful' also scored well and by counter point so did 'discredited'.
Miller et al. ⁸⁶	USA	213 colonoscopy screening patients. Mean age 58.8 (7.2) years. 72.8% female, 17.2% male. 49.3% African-American, 50.7% Latino. 84.5% low income.	Patients were recruited in a primary care clinic in a large metropolitan hospital and were asked 4 questions each on an 11 point Likert scale.	A cross sectional survey conducted to ascertain the level of positive feeling towards having hypnosis for relaxation prior to colonoscopy.	High numbers of respondents indicated they believed they would be able to experience hypnosis, very small numbers associated hypnosis with gullibility and demonic possession. A marked difference was apparent between the belief in hypnosis's ability to help with psychological (62.5%) and physical illness (15.8%). 196/250 rated the perceived effectiveness of hypnosis as 3.04/5.
Milling ⁴⁸	USA	925 Psychology undergraduates. 68% female 32% male. Mean age 19.3 (3.2).	Recruitment details are absent. Groups were tested in batches of 10–40. Factor analysis was conducted of the cumulative results	A cross sectional survey to gain a large enough pool of data to establish normative values for the Attitudes Towards Hypnosis (ATH) Questionnaire.	Participants expressed a mild positive attitude towards hypnosis, a strong belief that the hypnotizable were mentally stable and a non-statistically significant difference between fearlessness of hypnosis between the genders (male 4% higher) Pre-training respondents identified 'therapeutic' as the second most frequent adjective with a favorability rating of 4.2. 'Relaxing' and 'useful' also scored well and by counter point so did 'discredited'.
Molina and Mendoza ⁶⁴	Spain	80 psychology undergraduates, who signed up for course in hypnosis. 75% female, 25% male. Mean age 24.5 (3.1).	Subjects were given a list of 40 words, half classed favorable, half unfavorable. They identified up to 5 which best described hypnosis and rated from unfavorable (low) to favorable (high). This was repeated after their hypnosis course and responses compared.	Uncontrolled experimental trial to identify stereotype beliefs about hypnosis and the change created by the process of training in hypnosis.	High numbers of respondents indicated they believed they would be able to experience hypnosis, very small numbers associated hypnosis with gullibility and demonic possession. A marked difference was apparent between the belief in hypnosis's ability to help with psychological (62.5%) and physical illness (15.8%). 196/250 rated the perceived effectiveness of hypnosis as 3.04/5.
Page et al. ²⁸	USA	266 Undergraduate psychology students. 54.9% Female, 45.1% male. Mean age 20.7 (5.6) years. 7 participants were dropped from the original due to previous hypnotic experience leaving 259 however age and gender figures are based on the original 266.	Participants completed a hypnosis survey. 3 days later they were given a tape recorded version of the HGSHS: A.	Cross-sectional study assessing the relationship of beliefs about hypnosis with perceived hypnotic responsiveness.	High numbers of respondents indicated they believed they would be able to experience hypnosis, very small numbers associated hypnosis with gullibility and demonic possession. A marked difference was apparent between the belief in hypnosis's ability to help with psychological (62.5%) and physical illness (15.8%). 196/250 rated the perceived effectiveness of hypnosis as 3.04/5.
Pettigrew et al. ⁸⁵	USA	250 women attending a women's health clinic. Mean age 31 (12.3) years.	Women waiting for appointments with physicians & midwives were approached by a registered nurse data collector to complete the questionnaire.	Cross-sectional study to identify women's understanding of, their perceived effectiveness of and sources of information about CAM	High numbers of respondents indicated they believed they would be able to experience hypnosis, very small numbers associated hypnosis with gullibility and demonic possession. A marked difference was apparent between the belief in hypnosis's ability to help with psychological (62.5%) and physical illness (15.8%). 196/250 rated the perceived effectiveness of hypnosis as 3.04/5.
Pires et al. ³²	Portugal	152 students of the faculty of psychology and educational science. Of whom 115 went through the full procedure. No gender or age details supplied.	No details of recruitment methods. In a group session Each participant completed the VSABTH–C questionnaire. In a second session (2–4 weeks later) the participants were assigned to either an imagination condition or a hypnosis condition.	An experimental study attempting to understand the difference in opinions engendered towards hypnosis by experiencing hypnosis or an imaginary equivalent.	'Belief' in the altered state of consciousness.' 30.2/54 (SD 3.54)

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Table 1 (continued)

Article	Nation	Population	Process	Type of study and aim	Key relevant findings
Shimizu ³³	Japan	1104 undergraduates on a psychology course. 49.2% Female, 50.4% Male, 0.4% unspecified. Mean age 19.9 (2.0) years. A subgroup of 180 conducted the full experiment.	Students who were willing completed the BHSQ in class, and a proportion completed a modified ATH, some volunteered to go forward to go through the and SES in groups of 1–5. Exploratory factor variance was then conducted between all four measure	A Cross-sectional study that assess the relationship of beliefs about hypnosis with perceived hypnotic responsiveness.	Strong beliefs in 'loss of control, and "therapeutic expectation" and moderate endorsement of 'Disassociation' and 'arousal of extraordinary abilities'
Shimizu ²¹	Japan	360 undergraduates. 53% Female, 47% Male. Mean age 19.4 (1.5) years. A subgroup volunteered to conduct the full experiment of 106, 66% female 34% Male.	Method of recruitment is unclear. All subjects completed the HGSHS-A and SES in groups of 1–4, in a sound proof environment. Exploratory factor analysis was conducted for the TRS, TRS-BHSQ-variance, and volunteer – non-volunteer variances for TRS and BHSQ were calculated. Questionnaires were distributed to all patients presenting for non-emergency surgery at Yale-New Haven Hospital. The inpatient and outpatient responses were compared.	Cross-sectional study assessing the relationship of beliefs about hypnosis with perceived hypnotic responsiveness.	Strong beliefs in 'loss of control, and "therapeutic expectation" and mild endorsement of 'Disassociation' and 'arousal of extraordinary abilities' very similar findings to Shimizu 2014.
Wang et al. ⁴⁸	USA	1235 respondents from a broad demographic base. 61% female, 39% Male. Mean age 51 range 18–92 years.	Questionnaires were distributed to all patients presenting for non-emergency surgery at Yale-New Haven Hospital. The inpatient and outpatient responses were compared.	Cross-sectional Survey assessing comparative usage and interest in CAM approaches in out and in surgical patients	21% were willing to incorporate hypnosis into anesthesia care.
Yu ⁴⁴	China	457 undergraduates 43.3% psychology majors. 66.5% female, 33.5% male. Mean age 21.3 (2.3) years.	Method of recruitment is unclear, but participants were volunteers. They filled questionnaires out in silence. The questionnaire contains elements of OAH & AST	A cross-sectional survey study of Chinese student's attitudes and beliefs about hypnosis with comparison with western equivalents and internal comparison of psychology and non-psychology students.	No statistically significant difference was observed between the attitudes of the psychology undergraduates and the non-psychology undergraduates regarding the general beliefs about hypnosis. In the AST psychology majors were more positive towards hypnosis than non-majors, this was statistically significant for questions 1,3,4,7, 12.
Yu ⁴⁹	China	120 psychology undergraduates. 74% female, 26% male. Mean age 21.6 (2.8) years.	Subjects were randomly chosen from a pool of psychology majors, then assigned, using a stratified and random allocation method to experimental (75%) or control condition (25%). Both conditions completed a survey based on the AST and OAH prior to the experimental condition subjects receiving the CIS whilst the control subject waited, then both groups were retested with the questionnaire.	Randomized controlled trial to establish the effect of the CIS test on perceptions of hypnosis	Subjects showed a high degree of belief in involuntariness in hypnosis and a high degree of control by the hypnotist over the subject. They also showed a high level of belief in the altered state of consciousness. The lowest expressions of belief were noted for the hypnotic response being mainly about the skill of the hypnotist and the idea that suggestions cannot be rejected when in trance.

Abbreviations: ATH = Attitudes Towards Hypnosis Questionnaire; BHSQ = Beliefs about Hypnotic State Questionnaire- revised; CAM = Complementary and Alternative Medicine; HGSHS-A = Harvard Group Scale of Hypnotic Susceptibility Form A; OAH = Opinions and Attitudes about Hypnosis questionnaire; SES = Subject Experience Scale; TRS = Therapeutic Reactance Scale.

that the majority of people reject the ideas that the hypnotist is in charge⁴⁰ and that people can be hypnotized against their will.^{22,28} Most believe that collaboration is required for hypnosis.^{38,41}

Of those papers which examined respondents' perception of their own, and other people's, hypnotizability ($n = 5$),^{22,28,42–44} the majority reported that most people felt they could enter a hypnotic state.^{22,42} However, one study found that when asked about their hypnotizability the majority stated that they were 'uncertain'.⁴³ Most people appear to believe that the ability to enter hypnosis is variable.^{22,28,44}

Six papers addressed the question of personal characteristics that people associate with hypnotizability.^{44–49} These found that people rejected the idea that hypnotizability was associated with mental instability^{44–49} however a number of the same papers identify modest agreement with the concept that intelligent people are the least likely to get hypnotized, and that those who are hypnotizable are 'weak people'.^{44,46,49}

Overall it can be seen that most people consider that hypnosis is a state which requires collaboration to enter, at the very least the choice not to resist, and one that most people will be able to enter, although the ease with which this happens is inversely related to intellect and strength of mind. There is too little information available about perceptions of the transition from 'normal' to 'hypnotized' to comment.

3.3. Hypnosis and hypnotic phenomena

A major area of investigation has been people's beliefs about being in hypnosis, the state of hypnosis, the nature of hypnotic control and the phenomena hypnosis can produce.

3.3.1. The hypnotic state

One question which has historically taxed researchers is whether or not hypnosis is a special state of consciousness or a socio-cognitive construct.⁵⁰ All of the studies which asked if hypnosis was a special state of consciousness found strong positive agreement for the idea.^{26,28,29,44,46,49,51,52} Those studies which asked about socio-cognitive factors and models have found lower levels of certainty for these.^{26,44,46,49,51} It is safe to conclude that on the evidence found people broadly believe hypnosis to be some form of altered state.

Beliefs about the nature of the hypnotic state have also been investigated. Low acceptance of hypnosis as a 'sleep state' has been observed.^{28,39} and some studies found modest evidence for recognition of concepts of dissociation and depersonalization.^{20,53}

It can be seen that the public perceive hypnosis to be an altered state of consciousness. They are, however unclear as to the nature of that state with most, but not all, rejecting the sleep interpretation and some suggestion that a dissociative interpretation may be predominant.

3.3.2. Hypnotic control

Twelve articles contribute material regarding control when already in a hypnotic state.^{20,26,28,29,38–40,44,46,49,53,54} A number of studies ($n = 11$) found tendencies towards the locus of control being with the hypnotist.^{20,28,29,38–40,44,46,49,53,54} The studies which employed OAH questions^{26,44,46,49} show a mixed picture with ideas about hypnotic responses 'happening automatically' and being irresistible being endorsed, whilst the opposite idea is also supported. A more focused form of the control debate can be seen with those studies ($n = 6$)^{26,28,29,44,46,49} which have explored the phenomenon of compulsive truth-telling in hypnosis. This idea is accepted by the public to varying extents in all of the studies.^{26,28,29,44,46,49} The data explored are not sufficient to say if the public as a whole believe that power lies with the hypnotist or the subject, although there does appear to be a slight tendency towards the hypnotist.

3.3.3. Awareness in hypnosis

Awareness is a subject which seven of the articles touched upon,^{26,28,39,44,46,49,51} five through OAH based questions.^{26,44,46,49,51}

The idea that a hypnotized person has reduced awareness is strongly endorsed^{26,28,40,44,46,49} and there is also acceptance that hypnotic subjects may possess a 'double awareness',^{26,44,46,49} however it is unclear whether this undermines or explains the concept of reduced awareness. Within the literature there is significant evidence that the general public believe that hypnosis results in a reduced or internally focused awareness, it is unclear if this is seen as absolute or partial.

3.3.4. Beneficial phenomena

The use of hypnosis in its therapeutic and enhancement capacity is a common theme addressed by fourteen of the studies.^{22,26,28,29,38–40,43,44,46,49,53,55,56} The evidence suggests that hypnosis for psychological problems is strongly endorsed,^{22,44} in particular for anxiety.^{39,40} There is low recognition that hypnotherapy can cure physical illness.^{22,44} There is, however, evidence of a strong endorsement for the use of hypnosis in support of medical treatment.^{43,55} The subject of hypnotic pain control has garnered particular attention, with several studies identifying belief in its efficacy.^{26,38,43,44,46,49} However, a high variance of opinion is apparent in assessment of its usefulness (9%²⁸–90%³⁹). In some sources this appears to be related to severity of pain,⁴³ which may indicate that it is seen as unreliable or only partially effective.

The capacity of hypnosis to enhance abilities, sometimes with implications of the superhuman or esoteric, has been examined in a number of papers, with several finding an endorsement of the concept.^{44,53,56} The strongest endorsements for specific abilities relate to accessing past lives.^{28,44} Memory enhancement attracts particular attention, with six papers reporting an endorsement of the concept.^{26,29,38,44,46,49} Conversely hypnosis's ability to suppress memory is endorsed.^{22,28,40}

The evidence suggests that the general public believe that hypnosis can have psychological, and to a lesser extent, medical benefit, and that hypnosis can enhance human capacity. There is pronounced belief in hypnosis's ability to affect memory and access past life experiences.

3.4. The hypnotist and their setting

Evidence has been gathered regarding the characteristics of the hypnotist (9 articles).^{26,28,39,44,46,49,51,54,57} This is focused upon their individual skill in hypnotism and hypnotists' association with traditional relevant professions. There is good evidence that people prefer the hypnotist to be connected with the medical or psychological establishment, either through qualification²⁸ or via referral.⁵⁷ Additionally, there is a clear perception that the hypnotist's skill is a factor in the success of the hypnosis.^{26,28,44,46,49,51} No evidence addressed place of practice or personal characteristics, leaving these questions open.

3.5. Perceptual differences in populations

A major question is how consistent are people's perceptions of hypnosis, and whether they vary with nationality, socio-economics, age or gender, however a paucity of data in most of these areas has limited any findings.

3.5.1. Nationality

A number of countries have been studied using the same tools, and some of these have used similar populations (students) making it possible to conduct an international analysis. A comparison of OAH scores for a U.S. population⁵¹ and Chinese population⁴⁴ showed more similarity than difference. An analysis of a study covering the U.S., Iran, Germany and Australia found a similar pattern with only 4 statistically significant differences over 35 questions, and none of these so pronounced as to distinguish any one nation from the others.⁴⁶ Internationally the trend appears to favour similarity over difference.

3.5.2. Age

Only one study provided a finding regarding age, which was that more than double the number of students (young) would like to be hypnotized than retirees (older).²⁸

3.5.3. Gender

Evidence for gender difference is limited; one study which supplied a breakdown of findings by gender,²³ showed no significant differences, however an earlier study⁵¹ identified small but statistically significant gender differences in 2 of 21 questions. As with nationality, similarity is far more apparent than difference.

3.5.4. Education

None of the studies conducted comparisons between highly and less educated populations, nor is there data which allows for this with any reliability. One study did compare psychology students with non-psychology peers, finding the psychology students to be more positive about hypnosis.⁴⁴

3.5.5. Morbidity

Despite a number of studies which recruited from patient populations for methodological reasons, little comparison between patient groups and non-patients is possible. What data is available suggests that psychiatric outpatients were less aware of the medical uses of hypnosis⁴⁰ than general outpatients and that women having an abortion²⁶ give lower scores than their closest non-patient comparator (USA population).⁴⁶

Many of the demographic details explored are on small data sets and as such can only be treated as provisional findings, however where larger bodies of data have been available the apparent theme is one of similarity.

3.6. Are people open to hypnotherapy?

One of the most significant questions is 'would people use hypnotherapy?'. The literature contains a multiplicity of sources providing evidence for the acceptability and positive regard for hypnotherapy,^{38,41–44,46,48,49,54} however, a minority ranging from 1%–31%^{40,58} rejected it. There also appears to be conditionality to the acceptance of hypnosis as a treatment, with large numbers of respondents choosing 'more information' when this option is presented,⁴⁰ and the suggestion of an inverse relationship between severity of intervention and willingness to accept hypnotherapy.⁴³ It would appear from the data examined that there is a positive attitude and openness towards hypnotherapy for the majority of people, however, actual use is conditional and there is a minority which rejects it.

4. Discussion

Although a number of areas of investigation (control in trance, hypnotherapist's characteristics and preference of treatment location), yielded unclear findings, it appears that internationally the public conceive hypnosis as an altered state, which can be entered with the subject's consent under the guidance of a skilled practitioner. Once hypnotized it appears the perception is that the subject's awareness is altered to some degree and that some medical and substantial psychological benefits can be obtained. The majority of people appear conditionally open to the idea of hypnotherapy, and a minority reject it.

Of particular interest is the apparent gap between the low acceptance of hypnosis as a medical therapy and its high acceptance as a mental health therapy. This implies that people possess a Cartesian dualism⁵ of body and mind rather than a 'Mind-body' interactive model.⁶⁶ This may present a barrier to the medical use of hypnotherapy which has some of its strongest evidence with pain and gastro-intestinal conditions⁶⁷ both of which are likely to be perceived as bodily conditions. This trend may also apply widely to CAM therapies.

It was apparent that hypnotherapeutic services seem to be more acceptable if referral is made by a clinician. This has implications for increasing usage of hypnotherapy and may provide a counter to the limitation of a perceived psychological treatment being offered for a physical problem. Again this may be generalizable to most CAM therapies.

The resistant minority appear to be problematic for anyone wishing to promote hypnotherapeutic treatments. It may be that this group possesses a negative view of hypnosis derived from media portrayals, however, 3.8% of respondents in one study believed hypnosis could lead to demonic possession,²² suggesting that religious beliefs may be a factor. It is unclear how large this resistant group is and thus how significant a barrier they represent.

4.1. Limitations

The exclusion of non-English language journals will have an effect on the international representativeness of the findings, even though a variety of nationalities have been included. We did not undertake a formal quality assessment of the studies and there were some limitations. For example, a disproportionate number of articles used psychology students as their primary subjects. As there is tentative evidence that psychology students are more positive towards hypnosis than other students, and further that the young may be more positive towards hypnosis than the old, there is a possibility that the overall impression has a stronger positive slant than may be representative. Equally, a bias towards the female population over the male is apparent, although the significance of this is unclear.

4.2. Recommendations

4.2.1. Recommendations for future research

There is a paucity of data in a number of areas particularly regarding how age and education affect people's attitudes towards hypnosis. Pertinent to informing practice would be a deeper understanding of how factors such as location, patient morbidity and therapists' characteristics affect attitudes to hypnosis.

4.2.2. Recommendation for practice

Most people appear to accept that they are hypnotizable, but there is an apparent concern around control in trance, suggesting the hypnotherapist should emphasize the patient's self-efficacy. For the practitioner looking to increase uptake of hypnotherapy it appears that a significant proportion of people are more willing to consider hypnosis if it is associated with the mainstream medical or psychological world, either through referral or qualification.

5. Conclusion

The research looked at all the identifiable peer reviewed journal articles published in English from 1st January 1996 – 11th March 2016, which included primary research into the adult public's perceptions of hypnotherapy. This literature covered multiple nations, ages, patient groups and both sexes. There was a slight over representation of women and psychology students.

Most people considered hypnosis to be an altered state of consciousness which required a skilled practitioner and the subject's consent to enter. It can be seen that people were open to hypnotherapy under the right circumstances, meaning the presenting condition is mental or treatment is supportive of, but not instead of, a medical procedure, and the hypnotist needs to be identified with either the medical or psychological mainstream through qualification or referral. A number of people appeared to reject hypnosis, the significance of this is unclear as the numbers varied widely.

These findings dispel the concept that most people's attitude towards hypnotherapy is affected by negative media representation

and in fact suggest that the public possess a nuanced conceptualization of hypnotherapy. It identifies a possible barrier to hypnotherapy's usage with physical problems which may explain its modest usage.²

Conflict of interest & funding

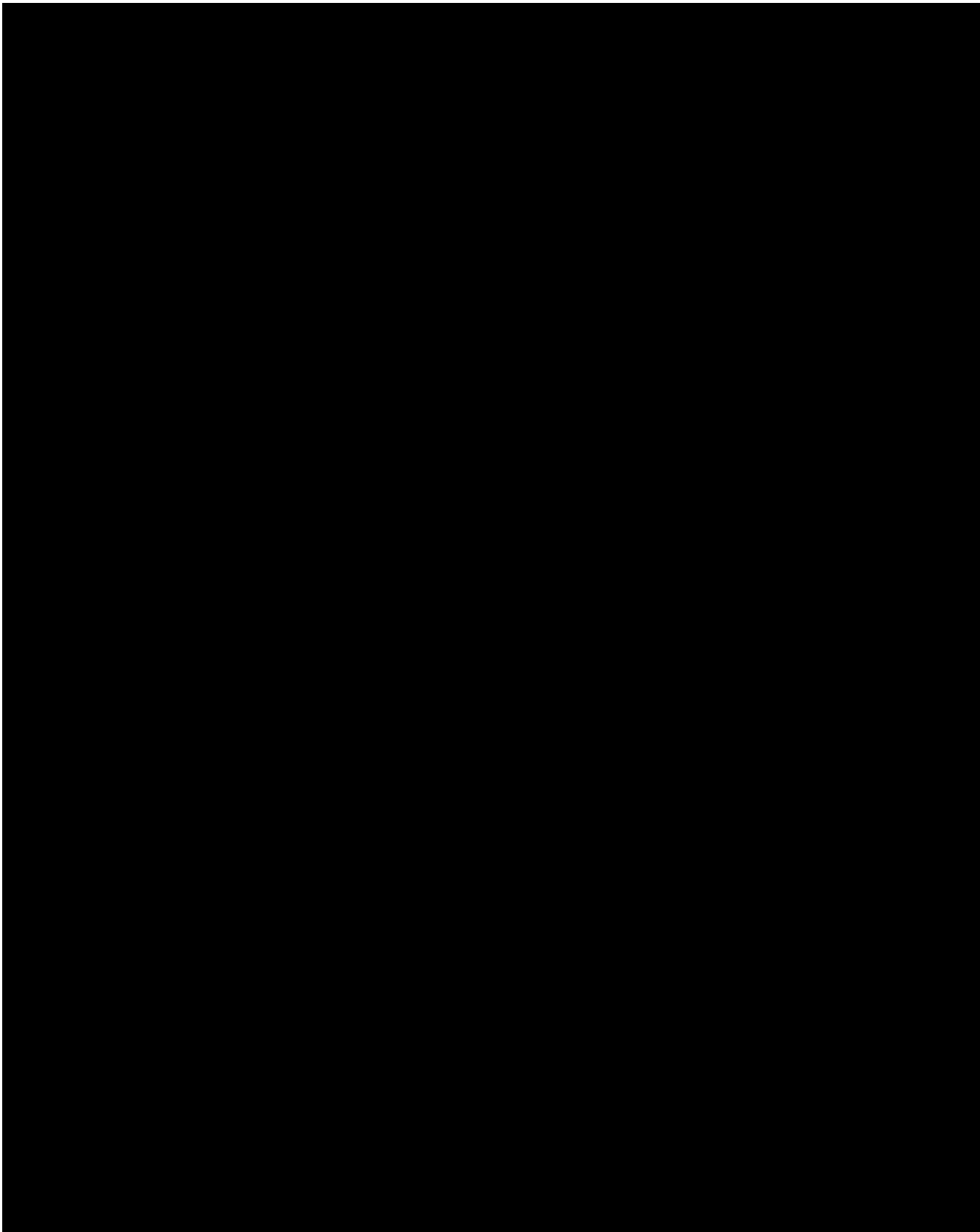
MK is a hypnotherapist and is not receiving any funding and is unaware of any commercial interest in the findings. SG and KJ are part funded by the National Institute for Health Research (NIHR) Collaboration for Leadership in Applied Health Research and Care West Midlands. The views expressed are those of the authors and not necessarily those of the NIHR, the NHS or the Department of Health.

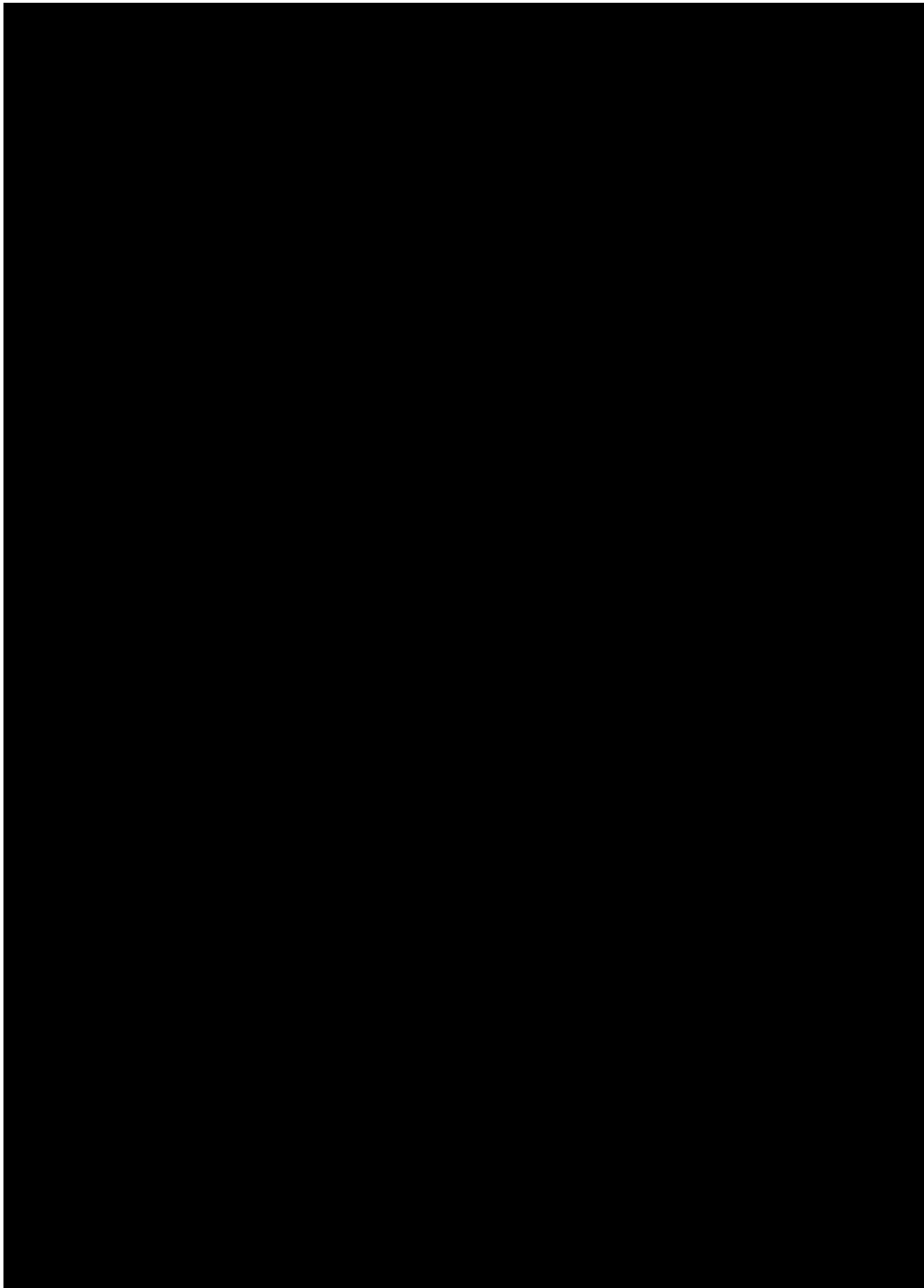
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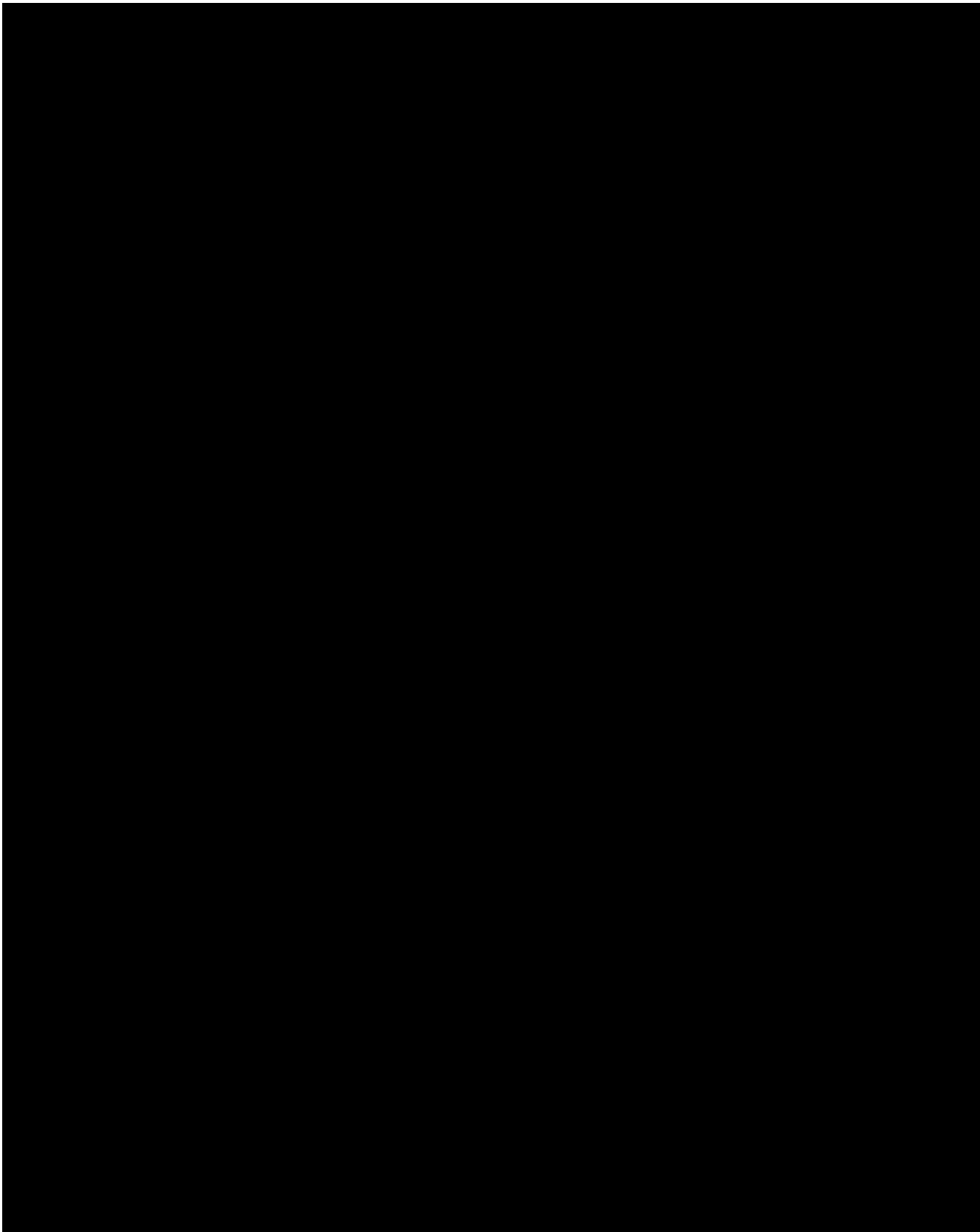
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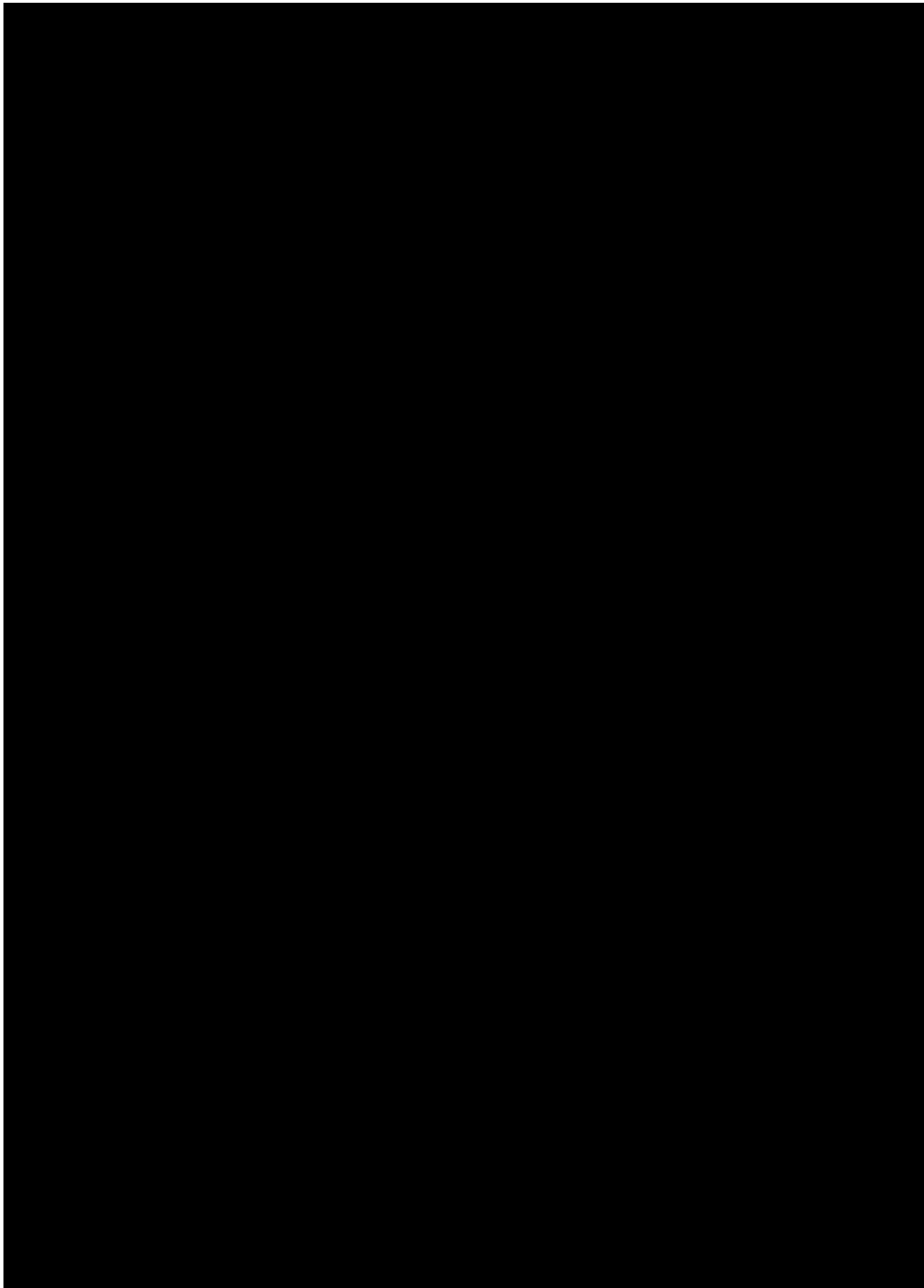
Appendix 2 - Qualitative ethics approval University of Birmingham





Appendix 3 - Qualitative ethics amendment University of Birmingham





Appendix 4 -. How do people with refractory irritable bowel syndrome perceive hypnotherapy: qualitative study protocol



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Protocol

How do people with refractory irritable bowel syndrome perceive hypnotherapy: Qualitative study protocol



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ABSTRACT

Introduction: Irritable bowel syndrome (IBS) is a common condition which has significant impact on quality of life and has proven resistant to treatment. Hypnotherapy was recommended in National Institute of Health and Care Excellence (NICE) guidelines for the treatment of the refractory form of IBS in 2008. There is a dearth of research into the acceptability of hypnotherapy to people with IBS for their condition.

Methods: A qualitative study will be undertaken consisting of semi-structured one-to-one interviews with UK adults who have had a diagnosis of IBS for more than 12 months and continue to experience symptoms despite pharmacological intervention. Recruitment will be via large scale employers and through online IBS support and self-help groups, with snowballing from interviewees. Fifteen to twenty-five interviews will be conducted, both in person and via electronic real-time communications platforms (video calling) such as Skype. Interviews will be analysed using the framework method and will be coded twice. The first time will be inductive open coding for naturally occurring themes and the second will be theory driven deductive coding from a set of codes relating to Max Weber's antagonistic sources of power, 'Bureaucracy' and 'Charisma', which will help to identify people's conceptualisation of hypnosis.

Results: Findings will be disseminated at conferences and through peer-reviewed journals.

Conclusion: The study will aid in identifying possible barriers to the use of hypnotherapy in the treatment of IBS, particularly any which relate to the perceptions of hypnosis and hypnotherapy.

1. Introduction

Irritable Bowel Syndrome (IBS) is a disorder of the gut-brain interaction [1] characterised by abdominal discomfort and a high level of variability in bowel movement frequency and form [2]. No universal prevalence figure can be agreed upon due to historical differences in diagnostic criteria and methodological issues with research [3,4]. However, it appears to be a common condition, with studies in individual countries finding prevalence rates ranging from 1.1% [5] to 30.9% [6] and one study suggesting a potential global prevalence of 11.2% [7]. Although not life threatening, IBS is associated with substantial negative impacts on health related quality of life (HRQOL) [8] and a doubling or greater risk of suicidal behaviours when compared to healthy individuals [9]. Further, IBS is considered a difficult to treat condition [3,10,11] for which pharmacological approaches have limited success [10]. As a result, people with IBS often find it an expensive condition to live with, frequently expending on over the counter (OTC) remedies and complementary and alternative therapies (CAM) [12]. IBS is also expensive for the healthcare sector with one study from 2014

estimating that despite an apparently low cost to treat, IBS has a high prevalence and many costs due to related morbidity, meaning that the UK's National Health Service (NHS) may be spending £250 million a year or more because of IBS [13]. A US study identified an indirect impact cost of IBS, from such factors as lost days of work, of \$791 to \$7547 per person with IBS per annum [14]. The burden of IBS on people with the condition, the healthcare sector and society as a whole is therefore substantial.

Due to issues such as low responsiveness to pharmacological treatment, clinicians and academics have explored novel potential treatment strategies [15–17]. These treatments include psychological approaches, such as mindfulness [18] and CAM therapies such as probiotics, acupuncture, reflexology and Chinese herbs [19]. Amongst these novel treatments a number have been included in the UK's National Institute of Health and Care Excellence (NICE) guidelines, these include cognitive behavioural therapy (CBT), exercise, the FODMAP diet and hypnotherapy [20]. Hypnotherapy was first recommended in the NICE guidelines in 2008, as a psychological treatment approach to be considered for the treatment of refractory IBS [20] a sub category of IBS

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patients for whom it has demonstrable effectiveness [21,22]. Refractory IBS is defined as IBS which has not responded to pharmacological intervention and where a continuous profile of symptoms is present twelve months or more after diagnosis [20].

Hypnotherapy is a broad therapeutic approach which may treat a condition through the use of the state of hypnosis combined with suggestion, in the form of words and metaphor [23], or by the application of adapted techniques from the various schools of psychotherapy, such as CBT [24] or psycho-dynamics [25]. There are two dominant approaches to the hypnotherapeutic treatment of IBS, these are the North Carolina Protocol [26] and the Manchester Model [27], although other variations do exist [28], collectively these are known as Gut Directed Hypnotherapy (GDH). GDH is a multiple session treatment protocol, typically taking between seven [26] and twelve sessions [29] which encourages digestive strength, regularity and calmness through imagery and suggestion [30]. Exactly how hypnotherapy effects change in IBS is unclear [31]: there is evidence which suggests that it may affect digestive motility [32], that it may be due to cognitive alteration [33] or changes in perception of bowel distension [34]. A recent study suggested that hypnotherapy may be broadly moderating the posterior insula region of the brain, an area associated with the processing of signals from the body [35]. This could result in a decrease in the sense of urgency about bowel function as well as decreasing the discomfort and pain [36].

It is unclear how popular hypnotherapy is with people with IBS as very little research has been conducted. Figures regarding the current availability and use of hypnotherapy for IBS in the UK do not seem to exist, and their value would be debatable as it appears that provision of hypnotherapy services for IBS within the UK healthcare system is geographically variable, with a few areas benefiting from centres which treat dozens or even hundreds of patients a year, such as the Hypnosis Unit, Wythenshawe Hospital, Manchester [29,37] or Sandwell's Nurse led Hypnotherapy service [38] but many areas appear to have no NHS services. Private hypnotherapy services appear to be widely available in the UK but there is little evidence that they are being accessed by people with IBS. One UK based study from 2008 found that 63.7% of 256 people with IBS would, in principle, consider hypnotherapy an acceptable treatment [39]. This mirrors the existing quantitative research into the public perception of hypnotherapy which suggests the majority of the public are positive towards it, although this is conditional upon the perceived qualifications of the therapist and their endorsement by the medical establishment, such as through a referral from their doctor [40]. However, this is theoretical data, how many actually use it is unclear. A US study of 419 people with IBS found that just 1.4% had actually used hypnotherapy, whereas more than double the number had been for acupuncture (3.3%), more than five times the number had seen a psychotherapist (8.1%) and nine times the number had been for massage therapy (12.6%) [12]. This suggests that there may be some inhibition, specific to hypnotherapy, between what is theoretically acceptable and actual behaviour. What may cause this is highly speculative, one theory is that hypnosis is surrounded by myths [41] often perpetuated by images in popular media which may be intimidating, controlling or sexualised [42], in particular the hypnotist has a long history of being portrayed as possessing abilities which appear supernatural [43]. As media stereotypes can influence an individual's perceptions [44,45] it is possible that these supernatural qualities are predominant in the public mind and may even be a barrier to hypnotherapy's use. There is evidence that hypnotherapists are conscious of the influence upon the perception of hypnotherapy which at the least stage hypnosis exerts, for example the British Society of Clinical Hypnosis (BSCH) explicitly prohibits members from using hypnosis for entertainment purposes. [46] Conversely it is possible that any perception of hypnotherapy which associates it with glamour or power may enhance its status. To address this issue Max Weber's antagonistic concepts of charismatic and bureaucratic power [47] may prove useful. Weber provides a model of power which conceives of one

extreme as magical and personality driven (charisma) and the other as professional and systemised (bureaucracy), which would appear to encapsulate this tension effectively. However, lack of availability or the costs of treatment may also be at the root of the inhibition, currently we do not know because there is an almost complete absence of research into the views of people with IBS towards hypnotherapy which might help to explain and thus manage this gap. People with IBS's perception of hypnotherapy is likely to be both complex and nuanced, which makes qualitative methods appropriate because of their ability to identify currently unknown factors whilst maintaining the human perspective [48] and they tend to produce more natural answers which are less influenced by factors such as saying the right thing [49] thus allowing the researcher to get closer to the subjective truth.

There already exists a wide body of qualitative research regarding the general subject of IBS, which covers the patient's experience of living with IBS [50–61], their encounters and engagement with the health care system [57,62–64], their perceptions of specific treatment modalities [65–68] and general practitioners' opinions of the condition [60,61,69–71]. This body of research includes samples of both genders [50–56] from a variety of countries, including: Iran [50], China [58], Finland [66], Australia [60], Romania [64], Sweden and Norway [54,56,59,62,63], Canada [55,72,73], the United States of America [51,52] and the UK [39,53,57,61,65,67,68,70,71]. However, some of the literature is not solely focused on IBS, and presents data which includes conditions such as chronic fatigue syndrome [69] and inflammatory bowel disease (IBD) without differentiating the findings by condition [72,73], which limits its value. Some of the literature has a strong theoretical foundation, possibly inspired by the higher number of women with IBS than men [59], gendered perspectives appear to be predominant, such as feminist theory [63] and constructivist gender theory [59]. A major theme which arises from this work is dissatisfaction and disaffection with medical practitioners [51,53,54,57–59,61–63] although a lesser theme is present of encounters with medical practitioners in which the person with IBS felt validated [52,61–63]. The next most substantial topic is that of personal efficacy and resilience in the face of IBS. Within this topic can be seen elements of people with IBS seeing themselves as a hero in battle with IBS [63,69], other psychological coping strategies [50,53,56,62,68], self-instigated behaviour changes [50,52–54,56,57,62], particularly around food and diet [52,56–58], as well as stress management [54,57,58,63,66] and the use of CAM treatments [39,58]. Only two pieces of work directly address the topic of hypnotherapy for IBS, one of which conducts interviews following hypnotherapy [74] and with the other hypnotherapy is only one of a number of topics addressed. This second article does however hint at a possible reason why some people with IBS may reject this potentially effective treatment, this being that hypnotherapy is perceived as more appropriate for mental rather than physical problems [39]. However, this is only one statement, much of the other data is vague, with phrases such as "I just don't fancy it" being recorded, and ultimately the study only recorded five sentences, totalling less than forty words, related to hypnotherapy for IBS from a total study population of 256 [39]. With such a limited understanding of the perceptions of hypnotherapy by people with IBS any healthcare provider considering the provision of such a service is lacking even a rudimentary understanding of the potential patient's perspective and knowledge of possible barriers to use of the service and what educational materials to give patients, both for their general understanding and so that they can give genuinely informed consent. This qualitative study will therefore undertake to identify the attitudes and opinions of people with IBS towards hypnotherapy as a treatment for their condition which will provide valuable information for services and practitioners who are considering the provision of hypnotherapy and thus aid in the development of a more effective service. This study will use one-to-one, face-to-face, semi-structured interviews [75] to explore the views of people with refractory IBS about hypnotherapy and potential factors which may

inhibit its usage.

2. Methods

2.1. Theory

2.1.1. Paradigm position

The authors have adopted an interpretivist stance, this is one which views the world as the construct of individual's interactions. [76] In practice this means that the researchers accept their own influence upon the material generated and that the voice of those speaking is a true and authentic representation of their reality, even if that reality cannot be empirically validated. This has been adopted to reflect Max Weber's stance [77].

2.1.2. Theoretical framework

Max Weber's conceptualisation of the source of authority, leadership and power [47] provides the theoretical basis for the research. Weber conceived two antagonistic concepts of authority in the world, charisma & bureaucracy [47]. A person is imbued with charismatic authority when they are perceived to be exceptional in some way, that they possess some characteristic which sets them above normal people, be this heroism, an exemplary character, or supernatural or super-human abilities [47]. Weber's other conceptualisation of power, bureaucracy, is characterised by structure [47]. Within professions this is identified by the presence of vocational qualifications based on rational thinking within a definable system of knowledge [47]. In addition, other elements which may be present within a fully realised profession are that it is the sole occupation of the practitioner and that it is acknowledged as a specialist role [78]. In this model hypnotherapy in the UK could be argued to be an emerging profession which is building the markers of bureaucratic authority, increasingly having externally validated qualifications and self-regulatory bodies [79]. However, as none of this is either formally or informally universal and a practitioner may have anything from a post graduate qualification to no qualification, it cannot yet be said to be an established profession [79]. In addition, it can be seen from previous quantitative research into public perceptions of hypnotherapy that most people are more open to hypnotherapy if it has an association with the medical or psychological establishment [40] which fits with Weber's concept of bureaucratic authority. Weber's theory has been used to explain and examine diverse environments [80–82] but to date we have been unable to identify its application within a health care setting. The research will attempt to establish whether the hypnotherapist is perceived as a figure of magic (charismatic), or a professional whose abilities are 'normal', learnable, regulated and scientific (bureaucratic).

2.1.3. Reflexivity and trustworthiness

The three researchers all bring different perspectives, within the interpretivist paradigm this means that a reality will be constructed by the three researchers interacting with the participants. MK is a practising hypnotherapist, a career which is likely to affect his perceptions and that of participants, to this end it has been decided to keep his profession undisclosed to participants unless they directly ask. KJ is a clinical academic, and SG is a medical sociologist, it is believed that the interaction of these three professional backgrounds will serve to prevent a single perspective dominating the analysis.

2.2. Recruitment

Recruitment will be aimed directly at people with IBS, rather than through an NHS organisation, as the aim is to recruit people who are not currently engaged in seeking treatment as well as those who are. A convenience sample [83] of people with refractory IBS will be recruited using three main strategies, which in order of preference are:

- 1 Contacting on-line self-help and support groups.
- 2 Contacting local large employers
- 3 Paid on-line advertising

In addition, snowball sampling [84] will be used to maximise recruitment from these sources.

2.3. Sample

As a gender disparity is apparent in IBS, with an approximate ratio of two women having IBS to every man [85], an approximation of this division is aspired to. To this end gender focused versions of the recruitment strategies will be employed should natural recruitment not be sufficient. Although other demographic trends may be present in the IBS population none appear to be as pronounced as the gender division [86] and as such have not been prioritised. Recruitment will be ongoing through these strategies until an adequate sample size is achieved [87]. When informed by data saturation this would be anticipated to be between 15–25 interviews [88,89].

2.4. Interviews

2.4.1. Interview methods

Interviews will be individual, semi-structured and face-to-face. The semi-structured interview is considered to achieve an effective balance between providing topic orientation whilst allowing space for the interviewee to talk broadly [90]. The interview will either be in-person or conducted via a real-time electronic visual communications platform (video call) such as Skype [91]. Interviews via video calling have a number of theoretical advantages including financial savings [92], particularly in travel and related environmental benefits [93]. However, the primary advantage for this study was to capitalise on potential recruitment blooms, in which large numbers of potential candidates all volunteer simultaneously but are at high risk of loss of interest, a phenomenon which internet-based recruitment, with its ability to reach large numbers of people over a wide area, may generate. The choice to conduct interviews in-person or at a distance will be mutually agreed. When interviews are conducted in-person the choice of venue e.g. their home, café or local library, will be made by the interviewee. Both the decision to conduct distance interviews and to allow the interviewee to choose the location of the interview are in part motivated by the knowledge that many people with IBS become uncomfortable when they are unfamiliar with the location of lavatories in the local area [72]. When visiting people's homes or any other locations where the interviewee is likely to be vulnerable, appropriate measures to ameliorate risk will be taken [94].

2.4.2. Topic guide

A topic guide has been devised consisting of eleven primary questions, around the participant's experience of IBS, treatments for it, their perceptions of hypnosis and hypnotherapy, with both covert and overt questions that aim to capture data relating the Weberian conceptualisation of authority and bureaucracy. [47]

2.5. Participants

2.5.1. Inclusion criteria

- a Potential participants have stated that they have a medical diagnosis of IBS.
- b At least 18 years of age.
- c Fulfil, by self-report, the NICE criteria for referral for psychological intervention. This is 'people with IBS who do not respond to pharmacological treatments after 12 months and who develop a continuing symptom profile' [20]. This will be assessed at first contact with the question "Would you say that you have continued to

experience symptoms for 12 months or more following pharmacological treatment?"

2.5.2. Exclusion criteria

- 1) Previous experience of hypnotherapy for IBS. These people are excluded on the grounds that their opinions and attitudes are retrospective rather than prospective.
- 2) Health care professional and allied professions with a specialism in gastrointestinal problems as they are likely to have prior exposure to information and medically orientated opinions and attitudes regarding hypnotherapy for IBS.

2.6. Consent

The interviewer will seek informed consent from potential participants for the interview, its recording and transcription and subsequent use within academic publications. Recording and transcription are preferable to notes alone as they are demonstrably more accurate [95]. Issues of consent will be outlined in all written materials and for in-person interviews final consent will be obtained at the start of the face to face meeting prior to any formal topic related discussion and explained verbally before a signed consent form is completed by both interviewer and interviewee. For distance interviews consent will be first explained and sought off-record and then repeated in the recording once digital recording has been permitted by the interviewee. A consent form with return envelope will be posted to the distance interviewee. At any point up to a month after the interview the consent may be withdrawn without issue, as after the month the data will be integrated into the larger data set and not possible to disentangle.

2.7. Data analysis

Data analysis will be conducted at the first opportunity following each interview by MK, this will allow for a reflection upon the findings and a pause should it be deemed appropriate to make changes. Data will be analysed in two separate ways. The first of these will use thematic analysis [96], the researchers will conduct a process of 'open coding' [97], which consists of searching through the transcripts for all statements relating to IBS, hypnotherapy or any other topic which may be present and give these a code, for example 'IBS symptoms' or 'CAM treatment'. Once all the material has been coded the codes will be examined to amalgamate similar codes and exclude irrelevant data, sometimes referred to as 'dross codes' [97]. This will produce a smaller number of codes and the material can then be coded again under this set of reduced codes. A matrix will be created which will include the codes on one axis and the data source (individual transcripts). This will allow the researchers to examine the data both by code across data sources and to contextualise each code within the wider context of the original transcript [98]. These tables will be examined and it is anticipated that between 5–10 themes will be identified which will be explored and written up [98]. All authors will read a selection of the transcripts to determine emerging themes and these will be discussed, and a selection agreed upon. This inductive coding will allow for a broad and relatively unbiased understanding of the data and provide evidence of data saturation [89].

The second analysis will again use the framework method [98], but this time it will be a deductive approach [99], based upon Weber's conceptualisation of sources of power. Prior to this analysis, codes relating to the theoretical basis will be determined from examination of both Weber's theory and of previous authors' writings about that work. These will be agreed by the authors in the same process as given above for open coding. Likely codes may include such topics as authority, science, magic, legitimacy, and professionalism. The transcripts will then be coded in line with this framework of codes, the codes will then be entered in to a matrix in the same way as for the open coded data

detailed above.

NVivo software will be used for data management. Participants' demographic data will be entered into an excel spreadsheet and imported into NVivo with the appropriate transcripts and audio files linked.

2.8. Data protection and data management

The lead author (MK) will conduct all recruitment, interviews, data entry and transcription. Data collected in the field will remain in the possession of the interviewer at all times until it can be transferred into a lockable filing cabinet. During transcription anonymization will occur by the removal of names and each interviewee will be identified with a specific designation which will be used on paper file records and for electronic file names or transcripts and audio files. Separate and stand-alone documents will be used to identify participants with their file names which will be retained in a lockable metal filing cabinet. Only the lead researcher will have access to the original data. Upon direct and written request, in line with the Data Protection Act [100], interviewees will be able to access their own data records. At the end of the study all electronic data will be transferred to password protected secure servers at the University of Birmingham.

2.9. Ethics and dissemination

The study received ethical approval under the University of Birmingham's ethics procedures (reference ENR_15-1473). The study has no serious anticipated ethical issues; however, it is considered that the interview may touch upon personal issues and as such, efforts will be made to convey the importance placed upon anonymity and confidentiality. In addition, the research will prioritise the safety, well-being and confidentiality of the participants by anticipating and avoiding potential harms, avoiding unnecessary intrusion and respecting participants' right to withdraw at any time up to a month after the interview without the need to give a reason.

3. Results

Once the findings of this study are established a suitable peer reviewed journal/s will be sought for publication. The findings will be shared at an appropriate academic conference and a summary of the findings will be distributed to participants.

4. Discussion

This study will enable further understanding of the perceptions of people with refractory IBS towards hypnotherapy as a treatment for their condition, a topic which is currently almost entirely absent of research. To the best of our knowledge never before have the Weberian concepts of charisma and bureaucracy been used to understand the perception of an emerging medical approach and as such this will help to advance application of these theoretical concepts within a new setting to inform the wider canon of Weberian informed research.

4.1. Conclusion

The understandings gleaned will aid in the identification of possible barriers to the use of hypnotherapy by people with refractory IBS, in particular fears engendered by the perception of the hypnotherapist's source of authority, and as such will inform those considering the delivery of such a service, in particular with the design of patient educational materials.

Authors

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Conflict of interest

None.

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Appendix 5 - Qualitative research recruitment – wording of social media recruitment posts

‘Seeking – Adults with Irritable Bowel Syndrome (IBS)’

I am looking for people who have;

- Received a formal diagnosis of Refractory IBS. Refractory IBS mean that a person has been diagnosed with IBS and received prescribed medication from their doctor but is still suffering with IBS 12 months later.
- And who have **not** seen a hypnotherapist for their IBS.

If you fit this description, or know anyone who does, I would like to invite you to take part in an interview based research study.

What is the purpose of the study?

In 2008 the National Institute for Care Excellence (NICE), who decides on ‘best practice’ for the NHS authorized the use of hypnotherapy to treat refractory IBS. As part of my doctoral research I am interested in finding out sufferer’s attitudes and opinions towards hypnotherapy and its use within the NHS.

What will happen to me if I take part?

If you agree to become involved;

1. I will come to interview you at the location of your choice.
2. I will obtain your written permission to conduct the interview.
3. The interview will last 45-60 minutes.
4. With your permission I will record the interview.
5. I will ask questions around your general experience of IBS and IBS treatment as well as attitudes towards hypnosis and hypnotherapy.
6. After the interview the recording will be transcribed and any identifiable data will be removed.

If you can help please call or text on [REDACTED], or e-mail me at [REDACTED],

Appendix 6 - Qualitative research recruitment poster

IBS



Can you help us?

- * Are you 18 or over?
- * Did you receive a diagnosis of IBS more than 12 months ago?
- * *Are you still experiencing symptoms despite treatment or lifestyle changes?*

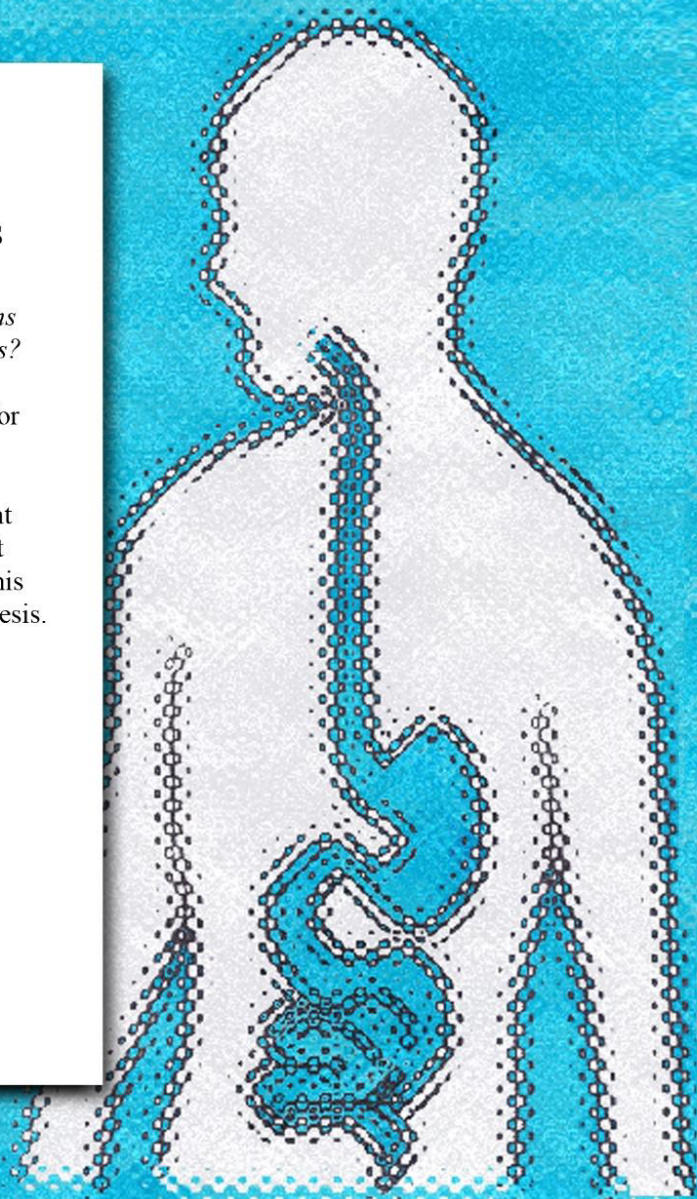
If so I would like to **interview** you for an ongoing study into your attitudes and opinions regarding the use of hypnotherapy as a potential treatment for IBS. I am Matt, a PhD student at the University of Birmingham and this is part of the research towards my thesis.

The interview will be;

- * Conducted on a one-to-one basis.
- * Entirely confidential.
- * At an agreed location.

Can you help?

Please call Matt on



Appendix 7 - Qualitative research- participant information sheet

'I am looking for people who have;

- Received a formal diagnosis of Refractory IBS. Refractory IBS means that a person has been diagnosed with IBS and received prescribed medication from their doctor but is still suffering with IBS symptoms 12 months later.
- Currently live in the UK
- And who have not seen a hypnotherapist for their IBS.

If you fit this description I would like to invite you to take part in an interview based research study. Before committing please take a few moments to read the following and consider if this is something which you feel comfortable to participate in.

What is the purpose of the study?

In 2008 the National Institute for Care Excellence (NICE), who decides on 'best practice' for the NHS authorized the use of hypnotherapy to treat refractory IBS. As part of my doctoral research I am interested in finding out sufferers' attitudes and opinions towards hypnotherapy and its use within the NHS.

Do I have to take part?

Participation is entirely voluntary and much appreciated. Feel free to ask any questions at any time you like. You can withdraw at any time you like without having to explain.

What will happen to me if I take part?

If you agree to become involved;

7. We will arrange a mutually convenient method through which to conduct the interview, Skype or Facebook video chat for example.
8. I will obtain your written permission to conduct the interview.
9. The interview will last 45-60 minutes.
10. With your permission I will record the interview.
11. I will ask questions around your general experience of IBS and IBS treatment as well as attitudes towards hypnosis and hypnotherapy.
12. After the interview the recording will be transcribed and any identifiable data will be removed.
13. If you wish your details can be retained by me so that I can inform you of the findings of the study (this may be several months or more than a year after the initial interview)

Expenses and payments?

If as part of the study you incur any reasonable incidental expenses, such as download charges, then these will be met. Please bring these to my attention prior to our meeting to enable budgeting and please retain any relevant receipts.

What are the possible disadvantages and risks of taking part?

As this research is based on an interview there are no risks to your health, however IBS can be a very personal topic and I you should consider how comfortable you will feel divulging personal experience to a relative stranger.

Is it confidential?

All information is confidential and will only be seen in full by myself and a transcriber who is bound by confidentiality. During the transcription phase identifying details will be removed to maintain your anonymity. Your details will be retained by myself for a period of 10 years in a secure locked file, after which they will be appropriately destroyed. Your data will not be used for any purpose other than those directly related with this study.

What if there is a problem?

In any study there are a number of possible problems which may arise. The most common of which is that you need to cancel or rearrange the appointment for the interview, in this eventuality please contact me (Matt) on [REDACTED].

In the event of a more serious problem or complaint you may contact myself (Matt [REDACTED]) or if you would prefer to speak to someone else then please contact Professor Sheila Greenfield who is supervising this research on [REDACTED].

You are entitled to withdraw from the study at any point up to a month after the interview.

What will happen to the results of the research study?

The research is primarily for academic purposes and as such will be used, in an anonymised form, to help write an article for a peer reviewed journal and be used as part of my PhD thesis. Specifically, verbatim quotes may be used, these will not be identifiable.

Who is organising or sponsoring the research?

The research is being carried out as part of a PhD degree at the University of Birmingham and is receiving no funding from any other sources.

Further information and contact details:

Mobile [REDACTED]

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The Interviewer

Matt Krouwel is a postgraduate research student at the University of Birmingham working towards a PhD in Health and Population Science within the Institute of Applied Health Research.'

Appendix 8 - Topic Guide - IBS Qualitative Research Overview

Overview –

As a postgraduate research student at the University of Birmingham (UoB) I am conducting research into the views and attitudes of sufferers of refractory Irritable Bowel Syndrome (IBS) as part of ongoing research into the topic.

Refractory IBS mean that a person has been diagnosed with IBS and received prescribed medication (usually an anti-spasmodic or laxative drug) but is still suffering with IBS 12 months later. In such cases referral for a psychological intervention is appropriate. Since 2008 hypnotherapy has been included within the recommended care pathway provided by the National Institute of Care Excellence (NICE) (NICE 2008), who decide on best practice in the NHS.

Introduction

“First of all I’d like to thank you for agreeing to take the time to contribute to this study, it really is genuinely appreciated”

“Before we start can I just reminder you that:

- No one will be named in any reporting which comes from these interviews as all efforts will be made to remove any identifiable material from transcripts.
- The interview takes approximately 45 minutes - 1 hour.

For the benefit of the tape can I confirm that you consent to being recorded, having those recordings transcribed, and used within academic research, which may include publication, for the latter we will not report any information that would enable you to be identified, such as your name.”

Explaining the interview

“Today’s discussion is an opportunity for me as a researcher to find out your views, opinions, thoughts and experience in relation to treatments for IBS, with a particular interest in hypnotherapy. It really is your thoughts that we are interested in so there are no right or wrong answers, it really is just what you think. “

“Before we begin is there anything you wish to ask or say?”

Questions

First, would you mind telling me a little about your IBS symptoms?

(Prompt: When did you first start to experience symptoms?)

(Probe; how does it affect your life?)

Can you tell me a little about how you have approached treating or controlling your IBS?

(Prompt: What have you done to try to get better and how well has it worked?)

(Probe: what about the Doctor? Laxatives or diarrhoea medication? Dietary changes? Supplements?)

Are there treatments which you have considered but not used?

(Prompt: have you thought about using: exercise, acupuncture, reflexology?)

(Probe: What is it that has prevented you from using them?)

When I say ‘hypnotherapist’ what comes to mind?

(Prompt: What does a hypnotherapist look like?)

(Probe: How are they dressed, how old are they, etc?)

What does the word hypnosis mean to you?

(Prompt: Do you consider it to be more art or science?)

(Probe: What is it that makes you say that?)

Do you know how hypnotherapy is done?

(Prompt: What a hypnotherapist would do to help you?)

(Probe: Do you see anything which distinguishes hypnosis from other treatments for IBS?)

What are your thoughts about Hypnotherapy to treat IBS?

(**Prompt:** would you consider using hypnotherapy?)

(Probe: What thoughts brought you to that answer, what do you find appealing/unappealing about hypnotherapy as a treatment for IBS.)

Let's say that your doctor has given you a referral for hypnosis for your IBS, how does that feel?

(**Prompt:** Do you have any anxieties about seeing a hypnotherapist?)

(**Prompt:** What are your thoughts about Hypnotherapy being within the NHS?)

How do you feel about hypnosis in a group?

(**Prompt:** usually hypnotherapy is done 1-2-1, but it can be done in groups, would that make a difference for you?)

(Probe: What is it that makes you prefer that option?)

If you were referred for hypnotherapy, where would you like it to take place, what sort of setting?

(**Prompt:** such as doctors surgery, local hospital, community centre, hypnotherapists own practice, library?)

(Probe: What is it about that setting which makes you choose it?)

Do you have any preferences about the therapist themselves?

(**Prompt:** would you prefer them to be male or female?)

(**Prompt:** What qualifications would you like them to have?)

(**Prompt:** Are there any other characteristics which are important to you?)

(probe for all: What is your thinking behind that answer?)

How often would you be willing to attend a group session?

(**Prompt:** every week, every two weeks, once a month?)

(probe: what is the most important factor in that choice?)

(**Prompt:** How many sessions would you commit to?

(probe: 4, 7, 12?)

Timing of sessions?

(probe: what days or times suit you best)

Is there anything to do with Hypnotherapy and IBS that we've not touched on that you would like to say?

References

NICE (2008) Irritable bowel syndrome in adults: diagnosis and management of irritable bowel syndrome in primary care. Accessed via www.nice.org.uk/guidance/cg61/chapter/1-recommendations#clinical-management-of-ibs - accessed - 03.03.15

Appendix 9 – How do people with refractory irritable bowel syndrome perceive hypnotherapy?: Qualitative study – Paper as published



How do people with refractory irritable bowel syndrome perceive hypnotherapy?: Qualitative study

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ABSTRACT

Objectives: Hypnotherapy is recognised in the UK's National Institute for Health and Care Excellence (NICE) guidelines as a potential treatment for Irritable Bowel Syndrome (IBS). However, little is known about the views of people with IBS regarding hypnotherapy. This qualitative study aimed to identify perceptions of and barriers to hypnotherapy for IBS by people with the condition.

Design: One-to-one semi-structured interviews using thematic analysis.

Setting: Convenience sampling in the UK. Participants were recruited by poster advertising and online IBS support groups. Interviews were conducted at the interviewees' preferred location or via video calling.

Participants: 17 people (15 female, 2 male) who self-identified as having refractory IBS according to a provided definition.

Results: Four hypnotherapy related themes arose from the data: conceptualisation of hypnotherapy, hypnotherapy for IBS, barriers to hypnotherapy for IBS, ideal format of hypnotherapy for IBS. Participants saw hypnosis as an altered state in which change was possible, but many had not considered it for IBS. They were broadly open to hypnotherapy for IBS, but a variety of potential barriers were apparent, including cost and therapist validity. Group hypnotherapy was less acceptable than one-to-one treatment. Hypnotherapy via video call was seen as convenient, but there were concerns about its effectiveness.

Conclusion: People with IBS may be put off hypnotherapy by a lack of understanding of how it works for their condition and lack of awareness of it as a therapeutic option. Uptake may be improved through effective promotion of the approach which addresses its mechanisms of effect.

1. Introduction

Irritable bowel syndrome (IBS) is a common condition¹ characterised by abdominal discomfort and a high level of variability in bowel movement frequency and form.² IBS has multiple potential causes for which conventional medicine has had limited success resulting in many people with IBS seeking help through complementary and alternative medicine (CAM).³

Hypnotherapy is an approach which proved sufficiently effective in treating the refractory form of IBS to warrant inclusion in the UK's National Institute of Health and Care Excellence (NICE) guidelines for refractory IBS.⁴ Refractory IBS is defined as IBS which has not responded to pharmacological intervention and where a continuous profile of symptoms is present twelve months or more after diagnosis.⁴ Hypnosis, a state characterised by reduced peripheral awareness and increased responsiveness to suggestion⁵ is the basis of hypnotherapy, a therapeutic approach that combines hypnosis with suggestion and

metaphor.⁶ Gut directed hypnotherapy (GDH) is the main hypnotherapeutic approach to treating IBS.⁷ GDH is a treatment protocol typically taking between seven⁸ and twelve sessions⁹ which uses metaphor, imagery and suggestion to encourage digestive calm and regularity.⁷ Effectiveness has been confirmed in multiple reviews of trial data.^{10–13}

Hypnotherapy appears acceptable to the public, conditional upon its endorsement by the medical or psychological establishment.¹⁴ Only one previous study carried out in the UK in 2008 has looked at the acceptability of GDH for people with IBS.¹⁵ Although hypnotherapy was viewed as acceptable there is however little evidence that acceptability translates into usage, with the only identified study covering the topic, a US study also in 2008, finding only 1.4% of people with IBS had used hypnotherapy for their condition.¹⁶ This suggests a gap between what is theoretically acceptable and what is actively sought. There are many potential reasons for this gap, which could include negative media stereotypes,¹⁷ popular myths and misconceptions¹⁸ or people not feeling they have enough evidence.¹⁹ Equally, lack of awareness,

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resources or opportunities may be factors.

Qualitative interviews, with their ability to capture the nuanced human perspective¹⁹ are the appropriate method to help understand and gain insight into what is causing the gap between the apparent acceptability of hypnotherapy for IBS and actual usage. There already exists a wide body of qualitative research into people with IBS,^{20–24} covering their experience of living with IBS,^{20,24–27,29,30,33,35–37} their encounters with clinicians,^{24–26,31,34–36} and attitudes to specific interventions.^{21–23} Even in the one paper which addresses hypnotherapy, in which people were asked to outline any reasons for the non-acceptability of treatment, hypnotherapy is only one of many treatments touched upon, resulting in, fewer than forty words of speech published regarding non-acceptability of hypnotherapy for IBS. This provides some limited insight into why people may be eschewing hypnotherapy, and included questions of safety, as with one respondent's concerns about the safety of the method "What if hypnotherapy goes wrong?" and not seeing how a psychological approach would benefit a physical disorder.¹³

This study aims to identify factors which may be inhibiting the use of hypnotherapy for IBS by people suffering from it and thus provide useful insights on how to formulate patient education materials, where to locate services and who should deliver them for healthcare providers considering referral to or the provision of GDH services.

2. Methods

This study used one-to-one, face-to-face, semi-structured interviews.³⁸ Age, gender, and self-described ethnicity were collected and a fourteen-question topic guide was used. The first four questions covered the interviewee's experience of IBS and treatment, these were included to get the participants talking before moving into the remaining ten hypnotherapy related questions, this paper is concerned solely with these ten questions. These questions were designed to identify barriers, by asking what anxieties and limitations they were aware of and to explore possible unconscious barriers by asking about their image and understanding of hypnosis. A convenience sample³⁹ of participants was recruited via poster advertising around the campuses of several universities in the West Midlands region (UK), by providing leaflets to IBS groups and via online Facebook IBS support groups. Initial contacts were made through telephone, text, and Facebook, responses to enquiries were made in kind, eligibility criteria confirmed, and interviews conducted as soon after contact as possible. Both in-person and video calling interviews were conducted until data saturation was achieved, judged to be the point three interviews after substantial numbers of new codes have stopped emerging from the analysis of the transcripts.^{40,41} Video calling⁴² was added later in the interview process to take advantage of an influx of recruits from social media who may otherwise have been lost due to the wait between contact and interview that in-person interviews would have required. An additional question regarding the use of video calling for hypnotherapy was therefore added to the topic guide and those participants who had not been asked about it were contacted. Interviews were conducted and transcribed by the lead author (MK), a practicing hypnotherapist. The decision was made to not actively disclose this to prevent it from biasing participants' responses, however if directly asked, MK would disclose, however none of the participants did ask.

2.1. Inclusion and exclusion criteria

2.1.1. Inclusion criteria were

- Potential participants have stated that they have a medical diagnosis of IBS.
- At least 18 years of age.
- Fulfil, by self-report, the NICE criteria⁴³ for referral for psychological intervention: 'people with IBS who do not respond to

pharmacological treatments after 12 months and who develop a continuing symptom profile'.⁴³ This was assessed at first contact with the question "Would you say that you have continued to experience symptoms for 12 months or more following pharmacological treatment?"

2.1.2. Exclusion criteria

- Previous experience of hypnotherapy for IBS.
- Health care and allied professions with a specialism in gastrointestinal problems.

2.2. Consent

Consent was sought by the provision of an information sheet prior to interview and confirmed at multiple points both in writing and verbally. For video-call interviews written consent was obtained by post. Ethical approval was given by the University of Birmingham Science, Technology, Engineering and Mathematics Ethical Review Committee ERN_15-1473.

2.3. Thematic analysis

Thematic analysis was used to analyse the data.⁴⁴ A multiple stage process was undertaken consisting of open coding the transcripts, then reducing the number of codes identified by amalgamating them and removing those irrelevant to the topic, the transcripts were then re-coded using the new codes.⁴⁴ Data analysis was led by MK, SG a medical sociologist and KJ a medical academic, independently read early examples of the transcripts and related coding as a quality measure and monitored the consolidation of codes following the open coding phase.

3. Results

3.1. Participants

Seventeen participants, predominantly female (88%) and mostly white (88%) with a duration since diagnosis ranging from 2 to 40 years (11.2 mean) were interviewed (Table 1). Interviews took place at the participant's home, local library, or on the campus of the University of Birmingham (UoB). Nine in-person interviews were in the Midlands (UK), eight video-call interviews covered other areas of the UK. Interviews lasted an average of 38 min (range 27–55).

3.2. Themes

Four key themes emerged from the interviews: (1) conceptualisation of hypnotherapy; (2) hypnotherapy for IBS; (3) barriers to hypnotherapy for IBS; (4) ideal hypnotherapy for IBS, each with several subthemes. These are explored below with illustrative quotes.

3.2.1. Conceptualisation of hypnotherapy

3.2.1.1. Media influenced imagery. It was apparent that people's perception of hypnosis had been influenced by media presentations, with stage show imagery appearing in their discourse, however many were conscious of this.

"you've seen on TV where you've got people running around like a chicken but I'm sure that's stage presence" (0015)

3.2.1.2. Special state. The idea of hypnosis as a special state was mentioned by several participants.

"I know that you go under some sort of trance" (0001)

An alternative term to trance was sleep, it was noted that this was

Table 1
Participant characteristics.

Interviewee	Age	Gender	Ethnicity (self-identified and in their own words)	In-person	Video interview	Estimated time since diagnosis (years)
1	23	Female	White British	x		5
2	22	Male	British Asian	x		2
3	56	Female	White British	x		10
4	43	Female	White British		x	20
5	32	Female	White Irish		x	2.5
6	26	Female	White British		x	10
7	63	Female	White British	x		40
8	36	Female	White Scottish		x	2
9	36	Female	White European		x	2
10	36	Female	White Irish		x	5
11	42	Female	White British		x	10
12	41	Female	White Irish		x	16
13	41	Female	Eurasian	x		17
14	25	Female	White British	x		25
15	51	Female	White British	x		12
16	24	Male	White British	x		7
17	50	Female	White British	x		5

not true sleep.

"like you're not really asleep but maybe you're in like in bit of a bubble" (0012)

3.2.1.3. Presentation of the hypnotherapist. There appeared to be a dualism in the perception of the hypnotherapist with expressions of associations with popular entertainment sitting alongside more mainstream images.

"if I was to go into a room now to be hypnotised it would automatically have that sort of funfair comedy magician thing at the back of my mind" (0001)

"I'm associating a hypnotherapist with maybe a psychologist?" (0001)

Despite the idea of eccentricity around the hypnotherapist the anticipated presentation was of a professional, smartly dressed, middle aged or older. However, hints at idiosyncrasy remained.

"everyone gets an idea which is a very sort of academic individual and that's a particular look, and maybe a little bit quirky as well," (0003)

3.2.1.4. How hypnotherapy creates change. The main concept expressed was that hypnosis allowed access to the unconscious.

"it's a matter of having my subconscious made available, like really tapping into, it's like tapping in to dream world really for me (laughs), not having the barrier of consciousness" (0009)

The suggestion was that new concepts can be incorporated by the mind in this state.

"you're in a state of mind where you're more susceptible to like positive suggestions" (0013).

Some also referenced memory work and metaphorical approaches.

"talking to you with a story or a scenario to get, the subconscious mind sounds a bit cheesy, but to get you thinking about things that you forget about." (0015)

3.2.2. Hypnotherapy for IBS

3.2.2.1. Mechanism of effect. How hypnotherapy worked for IBS was difficult to conceive for some.

"I actually wouldn't have a baldie to be honest with you, I don't, I wouldn't have a clue how they actually remove the actual physical symptoms," (0005)

It appears that this conceptual difficulty may be due to

hypnotherapy being perceived as a psychological therapy, whereas IBS is seen as a physical problem.

"I don't know I can't picture it full on as an actual medical, cos I can picture it in my mind for more sort of mental disorders like anxiety, depression, even OCD" (0001)

Some thought that hypnotherapy might work by reducing stress, be this specifically in the gut brain or more generally.

"I wonder if it would be possible for someone to tell my gut-brain to stop being so stressed" (0016)

Other elements which participants mentioned as possible ways in which hypnotherapy could address IBS included distraction from symptoms, memory work and promotion of healing.

"I think it could be multifaceted, I think it could be helping a person possibly understand the root causes or possibly the history of what's happened with the gut," (0009)

3.2.2.2. Advantage of hypnotherapy. Hypnotherapy was seen as safer because nothing physical, which may aggravate the IBS, was used.

"you are not putting anything in your body with hypnosis other than thoughts" (0007)

"at the end of the day it's not an intrusive or invasive thing that's gonna hurt" (0011)

3.2.2.3. Willingness to use hypnotherapy for their IBS. All participants indicated that they would use hypnotherapy, the degree of positivity varied from the mild and conditional to enthusiastic and largely appears to be based upon being open to any treatment option.

"I've blimin' tried everything else so I'd be willing to give it a go (laughs)" (0010)

3.2.2.4. Group hypnotherapy for IBS. Most of the participants expressed an openness to group hypnotherapy for IBS, albeit with a degree of reticence.

"I don't think I'd have a problem with that, when you just said that I thought no I would want it one to one, but no why would I want that" (0017)

Some found group hypnotherapy acceptable if everyone had similar symptoms and some expressed a potential social benefit.

"groups are good in the respect that if you all suffer from the same thing"

and understand that it's hard work and you're not on your death bed but it's a chronic thing a chronic nagging miserable condition quite frankly and if you can kind of share that with other people it's quite a positive thing" (0004)

Group hypnotherapy raised the problem of social inhibition, both generally and in the context of discussing symptoms.

"yeah, if you like had to talk about your past and or even saying about your toilet habits like, I've just overcome being able to go to the toilet in public I don't want to start talking in public" (0014)

3.2.2.5. Hypnotherapy via video calling. The initial response to hypnotherapy by video-call for some was one of uncertainty, with concerns about dropped calls and a lack of relationship expressed.

"it's good to kind of feel that you can trust them (the hypnotherapist), so it's good to almost be there with them" (0002)

However, following the initial uncertainty all four who responded to this question were open to the idea to varying degrees, from enthusiastic to reservedly open.

3.2.3. Barriers to hypnotherapy for IBS

3.2.3.1. Lack of awareness. Perhaps the most fundamental barrier was not knowing that hypnotherapy could be used to treat IBS.

"I've never really thought about it before because I've never really come across it before, never thought about linking it (hypnotherapy) to IBS" (0006)

3.2.3.2. Practical barriers. Cost and time were barriers for many, the former highlights the sparsity of NHS services.

"oh god no, if I could get hypnotherapy I would be in there in a minute, but I'm not prepared to pay privatised prices" (0005)
 "for me it was about getting the times to attend and get the treatment because of being a carer and then working full time" (0003)

When questioned as to how much time they could commit, most participants felt that once a week or once every two weeks was manageable.

3.2.3.3. Fear of the unknown. Several participants expressed a fear of the unknown, often with an accompanying desire for explanation.

"I would want someone to literally sit with me and say right you're gonna have this, this, and this like this is what's gonna happen like this is what might happen" (0006)

Further there were questions about the effectiveness and possible side effects.

"because I know so little about it, whether it takes sort of other parts of your mind, whether you can forget other things that you don't want to forget" (0007)

3.2.3.4. Vulnerability. The issue of possible abuse was raised.

"what happens if they put you under hypnosis, how deep they can put you under, and there's nobody around and you're just in that very vulnerable state with a random person that you've only just met, that's quite a vulnerable situation to put yourself into" (0011)

3.2.4. Ideal hypnotherapy for IBS

3.2.4.1. Interpersonal skills and characteristics. Participants identified a raft of desirable characteristics for a hypnotherapist such as understanding, friendliness, kindness and being non-judgemental.

"you'd want them to have a certain demeanour which means that you feel comfortable," (0004)

Some participants identified specific behaviours that they would want to encounter in a hypnotherapist, such as smiling, eye contact, using first names and concise explanations. For some, a flexibility in approach was important.

"if I said something, I'd like to recognise that they could then, based on something I'd said they could go off on a tangent then deal with that rather than just ignoring it" (0014)

3.2.4.2. Qualifications and experience. Most participants wanted a hypnotherapist to have a formal qualification, however the preferred level of qualification was variable.

"it needs to be someone who has done some sort of training, it doesn't necessarily have to be a PhD" (0003)
 "Masters would be a definite" (0014)

For some experience was more important.

"I don't think it really would maybe matter the standard of the ...the qualification or the level, if they have the experience with regards to treating people with IBS with hypnotherapy" (0010)

As with the accepted level of qualification the acceptable level of experience was variable, but several expressed that specific experience with hypnotherapy for IBS was important, as was experience with a wide variety of people.

"they should at least have practiced it, they've done it on people before" (0002)
 "I don't necessarily mean experience in terms of 20 years' service I think just experience with a variety of people" (0001)

3.2.4.3. Appearance. Although appearance was a minor issue to many, some had strong opinions. Scruffiness and a new age presentation were actively disliked in favour of a casual version of professional attire, consisting of trousers or skirt with shirt or blouse.

"not sort of scruffy, long haired type" (0007)
 "they would have to look I suppose quite professional, not business like because that's not how I, that would make me feel intimidated" (0013)

3.2.4.4. Gender. The few participants who expressed a preference favoured a female hypnotherapist, notably this included both male participants.

"I know it sounds weird but somehow I get on more with females than males" (0002)
 "I would probably for my own historical reasons prefer a female hypnotherapist" (0009)

3.2.4.5. Location of therapy. Most participants expressed a desire for hypnotherapy services to be within the NHS. For some it was likely that this was driven by issues of cost, it was also apparent that it would validate the approach.

"if I could get it on the NHS I would be down, I would be wherever I could get in XXXX in a heartbeat so I would" (0005)
 "if the NHS doctors referred me for it I don't think I'd have any reservations" (0017)

Specifically, there was a desire for services to be provided at their local general practice or a small healthcare centre. Hospitals were more problematic, being the preference of some but actively rejected by others.

"probably not a hospital, I'd find that too clinical just in a building or a like um oh what are they called like a health centre" (0014)

Of greater importance to many of the participants was the therapeutic space, this needed to feel safe and comfortable.

"to me it wouldn't be a specific where the room would have to be as long as I felt comfortable in the room" (O010)

4. Discussion

This qualitative study has identified some key themes in the opinions of people with IBS for hypnotherapy as a potential treatment for their condition. People's ideas about hypnotherapy showed the influence of entertainment,¹⁷ however, a dualism was present with an awareness that these ideas are media generated and for some the image of the hypnotherapist is paralleled with that of the psychotherapist or counsellor. It is possible these media derived images are presenting a barrier to acceptability; however, this is not certain.

Concepts of how hypnosis creates change acknowledged a 'special-state'⁴⁵ but how a psychological therapy might affect a predominantly physical condition was confusing to many. No consistent explanation of mechanisms for change emerged, which reflects the current understanding of researchers,⁴⁶ and may be a block to acceptability. Some participants said they did however find hypnotherapy's lack of a physical aspect refreshing and it was perceived to potentially be relatively safe, which reflects the low level of side effects observed in trials.⁴⁷

Perhaps the most important finding is whilst all participants said they would be open to using hypnotherapy for their IBS, numerous explicit barriers to the use of hypnotherapy for IBS were cited. These can be broadly seen as time, cost, lack of awareness, vulnerability and a fear of the unknown. Awareness is possibly the most fundamental of these barriers. Mechanisms of awareness previously identified for CAM therapies cite word of mouth and active searches as the most important,⁴⁸ however these routes appeared to be ineffective for hypnotherapy amongst the study participants. It is possible that people keep IBS private due to embarrassment⁴⁹ and as such word of mouth is limited; equally, active searching, particularly through the medium of the internet, may only be effective if the appropriate search terms are used, and people may not think to use 'hypnotherapy'. Inclusion within the NHS, which was universally popular among participants, would likely overcome cost issues and for many would validate both the approach and practitioners. Services are likely to be more acceptable if practitioners conform to the expressed preferred stereotypes⁵⁰ of appearance of the practitioner and therapeutic space (primary care facility, comfortable and private).

The idea of group hypnotherapy, which offers comparable effectiveness at a lower cost to individual therapy,⁵¹ was acceptable to most. Some participants predicted a supportive element to this, which matches the findings of other studies into group psychological work,⁵² however, it was clear that social fears over the need to actively participate were present. How much social anxiety would affect uptake is unclear, several anxiety types are more prevalent amongst people with IBS, but social anxiety appears to be no more common than amongst the general population.⁵³ Should such a group programme be implemented appropriate measures should be taken to offset social fears by addressing them in patient literature or in an initial one-to-one meeting.

The idea of hypnotherapy via video-call is relatively new and its unfamiliarity was apparent from some of the participants' responses, however it is being used within NHS IBS services based in Manchester.^{54,55} It holds several potential practical advantages for healthcare providers, such as cost savings, and participants identified several potential benefits to its use. Participants suggested that there may be a loss of therapeutic relationship using the video medium, and current research suggests that it may be a less effective approach⁵⁶

4.1. Strengths and limitations

These data substantially deepen the understanding of what people

with IBS think about hypnotherapy. The requirement to ensure that participants were aware that most of the questions related to hypnotherapy for IBS in the initial advertising and the self-selecting nature of volunteer recruitment may have impacted upon the type of people presenting, however the study encompassed a wide variety of people with IBS, which included people from around the UK, a spread of ages and longevity of symptoms. The inclusion of the alternative interview format of the video call allowed for interviews with people whose movements were potentially limited by their condition but who might not have been comfortable to have a stranger in their home. The study is substantially stronger for the diverse team, including a hypnotherapist (MK), a medical sociologist (SG) and a medical academic (KJ) who were involved in the analysis. The addition towards the end of the study of a question regarding the use of video calls for the delivery of hypnotherapy for IBS meant that most participants had disengaged by the time they were re-contacted with this question and ultimately only four answered it, this means on this specific topic data saturation was not achieved, although it was elsewhere.

5. Conclusion

IBS is a chronic condition for which there is a desire amongst people with the condition for wider treatment options to be explored and as such our participants were open to hypnotherapy. Participants did not immediately think of hypnotherapy in relation to IBS and neither did they automatically see how it could help them, suggesting that the provision of information materials is important. Beyond this there was concern about their vulnerability in the hypnotherapeutic situation as well as experiencing practical barriers of time and cost. It was apparent that many of these barriers would be removed for hypnotherapy for IBS by it being included within the standard healthcare system, which provides payment and validity. Acceptability of services could be further improved by adhering to anticipated norms of professional presentation for the psychological professions and delivering services in the primary care setting. Group hypnotherapy appeared to be acceptable to a smaller number of people because of social anxieties and concerns about a lack of individualisation. Hypnotherapy via video-call was seen to have many practical advantages although concerns were raised around technical issues and the possibility of lost rapport.

This study focused upon the views of people with IBS, other potential causes for the low use of hypnotherapy for IBS may exist. To identify these, further research into doctors' awareness, attitudes and the availability of services is necessary.

Ethical approval and consent to participate

Ethical approval was given by the University of Birmingham Science, Technology, Engineering and Mathematics Ethical Review Committee ERN_15-1473. All participants gave their written consent for inclusion in the study.

Consent to publish

All participants gave consent for their anonymised words to be used in academic publication.

Declaration of interest

MK is a practicing hypnotherapist. SG and KJ are part funded by the National Institute for Health Research (NIHR) Collaboration for Leadership in Applied Health Research and Care West Midlands.

The views expressed in this article are those of the author(s) and not necessarily those of the NHS, the NIHR, or the Department of Health and Social Care.

Disclaimer

The views expressed in this article are those of the author(s) and not necessarily those of the University of Birmingham, National Health Service (NHS), National Institute for Health Research (NIHR) or the Department of Health and Social Care.

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Appendix 10 - Comparing Skype (Video calling and In-person qualitative interview modes in a study of people with irritable bowel syndrome – an exploratory comparative analysis

Comparing Skype (video calling) and in-person qualitative interview modes in a study of people with irritable bowel syndrome – an exploratory comparative analysis



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Abstract

Background: Within qualitative research in-person interviews have the reputation for being the highest standard of interviewer-participant encounter. However, there are other approaches to interviewing such as telephone and e-mail, which may be appropriate for a variety of reasons such as cost, time and privacy. Although there has been much discussion of the relative values of different interview methods, little research has been conducted to assess what differentiates them using quantifiable measures. None of this research has addressed the video call, which is the interview mode most like the in-person interview. This study uses quantifiable measures generated by the interview to explore the relative value of in-person and video call interview modes.

Methods: Interview data gathered by a qualitative research study exploring the views of people with IBS about hypnotherapy for their condition were used. In-person and video call interviews using the same topic guide were compared on measures of length (time and word count), proportion of time the interviewer was dominant, the number of topics generated (codes) and the number of individual statements on which those topics were based.

Results: Both interview methods produced a similar number of words and a similar number of topics (codes) were discussed, however the number of statements upon which the variety of topics was based was notably larger for the in-person interviews.

Conclusion: These findings suggest that in in-person study interviews were marginally superior to video calls in that interviewees said more, although this was on a similar range of topics. However, the difference is sufficiently modest that time and budget constraints may justify the use of some video call interviews within a qualitative research study.

Keywords: Qualitative research, Qualitative methodology, Internet interviews, Skype, Data collection, Mode comparison

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Background

In-person face-to-face interviewing is often believed to be the 'gold standard' [1] in qualitative research, however, recent years have seen the rapid development of technologies which offer alternative interview modes, such as e-mail, instant messaging and video calling, as well as the increased use of older technologies such as the telephone [2]. Each of these has its strengths and limitations, for example, e-mail allows for reflection before response, both by participant and interviewer, but equally this reduces spontaneity, making it appropriate when considered responses are sought but poor for getting the unfiltered truth [3]. By contrast, Instant Messenger (IM) which has a faster, more conversational pace than e-mail [4] is suggested to be good for interviews with groups who are uncomfortable with face-to-face communication, such as people with Autistic Spectrum Disorder (ASD), [5] however with IM there is a lack of body language and facial cues. As can be seen by these two examples, some approaches may be better than others in different circumstances and ultimately, the assumed superiority of the in-person interview is not demonstrably absolute.

One alternative to in-person interviewing is video calling. Video calls are an internet based technology which provides the synchronous experience of seeing and hearing the person at the end of the line, allowing for interviews to take place that are effectively face-to-face [6], arguably this is the closest current widely available technology comes to recreating the in-person experience whilst geographically separate. Skype, with over half a billion users at one time or another, [7] is one of the most well-known of these technologies. Video calling has many advantages as a research tool. It is cheaper and more time efficient than conducting in-person interviews. One study which used Skype to conduct job interviews in the place of in-person interviews estimated an average financial saving of \$566.00 per interview and a total of 7 interviewer days saved over the project [8]. Video call interviewing also means that geographically hard to access participants, who might otherwise prove prohibitively expensive in time and effort to recruit and interview, can be reached [9, 10]. The cost and time savings are mirrored by a saving to the environment in emissions not generated by travel [11]. Further it has been noted that video calls are safer for both interviewer and participant as neither has to go to an otherwise unfamiliar location and some people prefer not to have their space imposed upon [11].

Video calls for qualitative interviewing have drawn consistent criticism for a number of reasons, including technical issues, such as time-lags on video and disconnected calls, [9–13] the need for participants to have the right software [14] and the latest version of that software

[13]. The viewing perspective, referred to by Weller as the 'talking heads' perspective [15] may limit access to body language [16] although it is debatable how substantial this is [17]. It has been noted that video calls may reduce the interviewers ability to reassure and comfort the interviewee when in distress through an inability to conduct such behaviours as passing tissues, or physical contact [18] although how appropriate the latter is may vary considerably with the circumstances. Additionally it has been argued that by having a poor view of the interviewee's home the context of their life is lost, [15] although this may be equally true of in-person interviews conducted away from the home. The camera itself can be inhibiting to users, [9] as can the peculiar nature of making eye contact on most video call software which requires the users to look off centre to appear to be making eye contact, the result of the camera being at the edge of the screen [9]. Further, it is common to have a live image of oneself on the screen, encouraging you to monitor or talk directly to yourself [6]. Video call, by having two separate locations increases the chance of social interruptions from colleagues, family members or pets [9, 19]. It has been noted that certain populations may be excluded by the use of internet based technologies, [20] although this may decrease with time, [19] currently however 9% of the adult population of the UK state that they have never used the internet, most of them are over 55 years old and part of an observably declining trend [21].

The body of literature which compares video calling with in-person interviews is in its infancy. Several works have addressed the use of video calling for qualitative research [6, 9–11, 13, 15, 18, 19, 22]. Of these studies only two come from the healthcare sector, and these are both based on nurses experience, not patients [18, 19] meaning the possible effect of video call interviews upon patients' responses is entirely unexplored. The literature includes assessments of postulated advantages and disadvantages [10, 18, 22] but predominantly consists of reflections upon the author's experience of video calls as a research tool, [13, 15] five of the papers are based on studies in which both in-person and video call interview modes have been used [6, 9, 11, 18, 19]. These five papers focus upon topics such as rapport [9, 18, 19] and the logistical benefits and limits of video calls [6, 9, 11, 18]. As can be seen, theoretical differences have been well explored, but to date no attempt to test or quantify the impact of these differences has been made.

There is an established practice of using quantitative measures to assess differences between qualitative interview modes [23, 24]. Irvine [23] compared qualitative telephone and in-person interviews, using the duration of the interview and 'dominance', a measure of how long either the interviewer or interviewee were the dominant

voice in the interview, as metrics. In-person interviews were found to produce longer interviews with the interviewee being the dominant speaker for more of the time [23]. Some quantitative work has been conducted on video calls as a qualitative interview tool, but thus far this has been limited to one study comparing video calls to telephone interviews amongst young adults, this found a lower take up rate but longer interview times amongst the video call population, [25] these results may be affected by the demographics of the study population and the state of the technology at the time. No research has yet been conducted directly comparing video calls with in-person interviews using quantitative measures. This paper compares the use of video calling and in-person interview modes in a qualitative research study using a variety of metrics, to assess if they produce similar or different volumes of data and topic variety, to provide guidance as to when video calling may be an appropriate approach to take.

Methods

This study uses the transcripts from a study which used in-person and video calls with people who have refractory irritable bowel syndrome (IBS) [26], to identify their opinions of hypnotherapy as a treatment option for their condition. IBS is a functional disorder of the gut and digestion characterised by abdominal pain, constipation and diarrhoea [27]. It frequently leads to a number of behaviour changes, including socially inhibiting responses such as avoiding work situations, social situations and staying away over night for fear of a flare up of symptoms, [28] it is considered refractory if it has not responded to treatment after 12 months and an ongoing profile of symptoms has developed [29]. People with IBS may consider their illness to be an embarrassing topic [30] and as such a sense of safety and privacy with the interviewer and in the location of interview may be important. Hypnotherapy, the use of suggestion, imagery and metaphors in the hypnotic state to create change, has a demonstrable effectiveness in the treatment of refractory IBS [31] which is recognised by its inclusion within the UK's National Institute of Health and Care Excellence (NICE) guidelines [29]. The source interview study received ethical approval under the University of Birmingham's ethics procedures (reference ENR_15-1473).

Methods of source study

A convenience sample [32] of UK resident adults who self-identified as having a formal diagnosis of IBS which had not responded to pharmacological treatments after 12 months and who had developed a continuing symptom profile [29] and who had never received hypnotherapy for their condition were recruited. Recruitment was via a poster campaign and by contacting IBS self-help

groups and Facebook groups. No incentivisation was offered to potential interviewees but compensation for travel costs incurred in attending interviews was available. Both verbal and written consent for the interview were taken, in the case of video interviews verbal consent was obtained prior to the interview and confirmed in writing by post.

Interviews were conducted either in-person or face-to-face via video call. The decision to use mixed interview modes in this piece of research was taken whilst the study was ongoing and was in response to a sudden recruitment influx from internet advertising (Facebook). It was judged important to capitalise upon this influx rapidly due to the possibility of loss of interest by potential interviewees as the result of the time lag.

The transcription started from the point on the interview when the first question was asked by the interviewer. It concluded when the interviewer turned off the recording device, which was done when the answer to the last question was given and the interviewer judged that the interviewee had finished on the topic. Preamble and postamble were unrecorded. The interviewees' perceptions of the interview process were not actively sought. Short pauses in speech were not recorded in the transcript, however if a pause was deemed to be unusually long or to denote a higher than average amount of thought an ellipse was inserted. Laughter and audible sighing were recorded with a single word within the transcript but no notes on body language were included.

A two-stage process of coding was undertaken. This process started with open coding [33]. Open coding involves a close read of the transcript to identify all statements, which are assigned a code. During open coding, codes are generated to fit the statements identified. For example, the statement "it's got to the point that I know that whenever I'm eating out I know that I'm going to swell" might generate the code 'triggers for IBS', and any subsequent statements regarding 'triggers for IBS' would then be assigned to this code. In this way 127 codes were generated. The second stage of the process was to reduce the codes by excluding any not relevant to the topics of interest, for example codes such as 'non-IBS Life story', and then amalgamating similar codes into a single code, so 'massage', 'acupuncture' and 'meditation' may all be combined under 'complementary and alternative medicine (CAM)'. This left 79 codes. These transcripts were then coded again this time using the 79 codes only.

The same topic guide was used for both video call and in-person interviews. The same interviewer (MK) conducted and transcribed all the interviews. The idea to conduct the analysis of the two interview modes did not occur until after the coding had been undertaken. The full protocol of the study is available [26] as is the full source study [34].

Methods of the study

Analysis

Six quantitative measures were used to assess the relative effect upon interviews of the mode of interview, these were: duration of interview in minutes, word count, speech rate, number of codes, number of statements and dominance. These were used to provide quantifiable data over a spread of measures. Two of these measures, duration [23, 25] and dominance, [23] have been used previously to assess the difference between interview modes. The addition of word count provides a balance to any potential biasing effect to the duration caused by the mode of interview, which if present would be highlighted by speech rate, a measure derived from word count and duration. There is no established practice of assessing the comparative depth and breadth of different qualitative methods, to be able to do this would help to identify some possible subtle impacts created by the different interview modes. To this end both the number of statements and the number of codes are used to act as proxy measures of depth and breadth respectively. An examination of the distribution of the word count data showed a skewed distribution and as such data is presented using the median. Excel 365 was used for calculations of totals and averages. Because of the small sample size no attempt to establish statistical significance was made.

Duration

Duration [23, 25] is a measure of the length of the transcribed portion of the interview in minutes, rounded to the nearest full minute. This provides a direct measure to compare the length of in-person and video calling interviews.

Word count

Word count is the total number of words said by both the interviewer and the participant. Word count provides a measure of how much is said in the interview, which may be different from the overall duration of the interview as some people will speak faster and slower or may take longer pauses [35].

Speech rate

Speech rate is a secondary measure calculated by dividing word count by duration to get the average number of words spoken per minute by both interviewer and participant. It is intended to identify whether the use of video calls effect the speed at which people express themselves.

Number of codes

A code is the designation applied to any number of comments in a transcript during the analysis phase which are under the same broad topic. There is a tradition of using

the number of codes as a quantitative measure within content analysis [36] but this has not previously been used to compare modes of interview. The number of codes used on a transcript shows how much variety of discussion is present in that transcript, as such codes can be argued to be a measure of the material's breadth of content, the more codes are present the greater breadth of material. Two levels of coding exist, the initial open coding and the second level of coding which is derived by reducing the initial open codes through removal of topics irrelevant to the aims of the study and by amalgamating similar codes, from here on this second stage of coding will be referred to as the amalgamated codes. The amalgamated codes are applied to the transcripts and will only record material which relates to those codes, meaning that everything recorded should be relevant to the area of interest to the study. This results in a set of codes which represent the range of discussion within the specific area of interest.

Number of statements

This is the number of statements relating to a code, it is a measure intended to give an idea of the depth and variety captured within the interviews. By using the number of statements as an indicator of how many different ideas or how much additional information was provided on a single code in this by the participants. In practice this means the code 'ideal therapist' may encompass multiple statements such as "they'd be able to provide evidence of qualifications" or "someone fairly sort of clean cut".

As the transcriptions were analysed statements were highlighted and either assigned to an existing code or a code was generated for them. This was done within the Nvivo software package so the number of statements was recorded as analysis was conducted. This figure is distinct from the codes as a single code may have multiple statements in support of it e.g. 40 different codes to summarise the topics of 175 separate statements.

Broadly this metric can be said to represent the number of distinct comments made on a single topic. However, it is imperfect, there will be some instances where multiple comments on a point have been captured within a single statement as they are delivered within the same brief statement and conversely the same point having been made by the same participant multiple times at some remove from each other and thus have been recorded as multiple statements. The use of a single researcher for coding of the transcripts (MK) who was at the time of coding unaware of the statements ultimate use for this purpose will have meant a continuity of style across both in-person and video call interviews which is likely to standardise the error rate.

As statements are being used as a proxy for breadth and variety within the findings it is assumed that there will be only a correlation with the trend, rather than an

absolute reflection of it, i.e. higher numbers of statements are likely to suggest more depth and variety but not give a precise indication of how substantial that is, as such small differences in cannot be taken to be meaningful, only large ones. This measure has yet to be validated over multiple studies or in the context of other potential metric or assessments of depth.

Dominance

Dominance is a measure of the percentage of the interview that the interviewer is leading [23], this is a subjective measure but quantifiable none the less. Kvale observed that qualitative interviews are not inherently equitable and that the very dynamic of a researcher posing questions for a participant to answer was indicative of a domination [37]. Transcripts of the interviews were analysed to identify verbal dominance within the interviews. Irvine's definition of 'floor holding' was used to identify when the researcher was dominant, meaning that they were steering the exchange in some way or providing a summary, evaluation or assessment of the participant's speech [23]. The transcript was examined and all sentences by the interviewer which contained an element judged to fit the 'floor holding' criteria were copied to a separate file. Any small utterings, for example an 'ok' or a 'go on' which may have prompted the participant to continue but did not alter the direction of talk have been discounted. The number of words used whilst dominant by the interviewer has then been calculated as a percentage of the total words within the interview, giving a percentage of interviewer's dominance within the exchange [23].

Results

Participants

17 people completed an interview. One was removed from this analysis due to being asked an additional question regarding video call hypnotherapy, this being the question which prompted the idea for this analysis it was deemed inappropriate to include it as the interview and coding were conducted with an awareness of how the data may be used for this interview comparison. Additionally, there were questions of how the addition of a question may affect the character of an interview beyond the words directly attributable to that question. This left 16 interviews based on the original topic guide, 8 interviews were in-person, 8 via video call (Table 1). The average age of the two groups was comparable

however, there were differences in the age range, ethnicity, gender composition and duration since first diagnosis (Table 1). Of the in-person interviews, one opted to do this at their home, five took place in private rooms at a University, two in other indoor public spaces. All the video call interviews appeared to take place in the participants' homes, providing a modest window into their lived context. During the video call interviews two dropped calls occurred and one participant had to upgrade their software. In person interviews cost an average of £6.88 (range £2.50 – £32.30) in travel, video call interviews had no financial cost.

Duration of interview in minutes, word count, speech rate

In-person interviews were 33% longer and used 14.6% more words, (Table 2). The speech rate was 16.2% higher for video calls (Table 2). At some point after transcription one of the recordings (0007) became corrupted and as such it could not be included in calculations of duration of interview, meaning only 15 interviews were used for this part of the analysis, however it was included in all the other analyses.

Number of codes, number of statements

The number of codes was similar for both the open coding group of codes and the amalgamated coding group of codes (Table 3), suggesting a similar breadth of topic was achieved by both approaches. However, the number of statements on which those codes were based for both open coding and amalgamated coding were higher for the in-person interviews (Table 3) suggesting that the in-person interviews generated a greater depth of discussion.

Dominance

The interviewer was dominant for a greater proportion of the interview in the in-person interviews (30.0% by word count, see Table 4). When the interviewer's dominant words were removed the difference between the words said by the interviewees was still higher for the in-person interviews (10.1% difference, see Table 4), however this is substantially lower than the difference in the overall word count (14.6% see Table 2).

Discussion

This comparison of in-person interviews with video call interviews identified that both produced a similar volume of data (words) and a similar breadth of topics (codes). However, in-person interviewees tended to make more individual points (statements) about those topics.

Upon examination of the data it becomes apparent that the full transcript word count and the duration of the interview were of minor importance. Equally interviewer dominance, as a percentage difference of the overall length of the interview, is only 3% and tells us

Table 1 characteristics of study participants

	In-person (range)	Video call
Sex (% Female)	75%	100%
Age in years (mean)	38.3 (22–63)	36.5 (26–43)
Ethnicity (% identify as white)	75%	100%

Table 2 The difference between in-person and video call interviews by number of words, duration and speech rate

	In person interviews	Video calling interviews	Difference	% difference between highest and lowest
Median number of words spoken	5451	4758	693	14.6
Range of words spoken	3825–8414	3879–6914	n/a	
Median interview time (minutes)	40	30	10	33.3
Range of interview time (minutes)	32–55	27–48	n/a	
Median speech rate (words per minute)	136	158	22	16.2
Range of speech rate (words per minute)	126–153	126–157	n/a	

little, however it does allow for us to adjust the overall word count to represent the words said by the interviewee alone. This adjusted figure was slightly higher for the in-person interviews over the video interviews (10.1%) which for a sample of this size is arguably negligible. However, the difference in word count observed after interviewer dominance was removed may be explicable by the relative lengths of time since first diagnosis, which is on average 6.4 years higher for the in-person group. The longer a person's experience of living with IBS the more they are likely to have to say when recounting their experience of being diagnosed, attempting multiple treatments with varying degrees of success, different encounters with and reactions to various clinical situations and how over time it has impacted upon their life. These topics comprised a substantial proportion of the interviews. Either way it should be noted that the 'Gold standard' of interviewing (in-person) [1] did generate more words.

When examining the quality of those words, arguably the most important point, it was apparent that the number of codes used in the open coding and the amalgamated coding was almost identical. This strongly indicates that both methods produced a comparable breadth of understanding. However, the number of statements on which those codes are founded was quite different, being 23.7 and 19.3% higher for the in-person interviews, open coding and amalgamated coding respectively. This appears to suggest that for these interviewees at least there was a greater spread of distinct opinions, insight and viewpoints expressed within the topics by the in-person group, even if they did not move far from the core point of discussion. The greater number of statements will in some way be related to the higher number of words expressed by the in-person group, but as the number of

statements was much higher (23.7 & 19.3%) than the additional number of words (10.1%) exactly what that relationship is remains unclear.

People involved in video call interviews used higher rates of speech (speech rate 16.2%). This was possibly due to some heightened anxiety or pressure brought about by the mode of interview. However, all participants in the video call interviews were calling from their home environments which could be considered innately more relaxing than being in a public or an unfamiliar location, particularly true when the sensitive nature of the topic is considered [30] and potentially the need to be close to lavatory facilities [38]. Another possibility is that it was an effect of the 'forward leaning' position which sitting at a computer at a desk or table promotes, this position is known to induce changes in breath, [39] and thus impact upon speech [40].

Reflections

From a qualitative perspective the researchers neither experienced nor noted any consistent difference between the nature and character of the interviews by mode. Even rapport which some have anticipate as being inhibited by the camera [9] did not appear to be different, it should be noted that the interviewer (MK) is experienced at using skype to conduct patient work and as such entered the interviews comfortable with the mode. There were however a few points not covered by the quantitative analysis which are worthy of discussion.

As noted, video calls have drawn considerable criticism for technical issues [9–13] and a few technical issues occurred during the study, such as dropped calls and frozen screens. However, the interviewer found that rather than being barriers to rapport, sorting these issues out became a bonding exercise possibly due to the

Table 3 The difference between in-person and video call interviews by number of codes generated

	In person interviews	Video calling interviews	Difference	% difference between highest and lowest
Open coding data				
Open coding data Nodes (median)	39	41	2	5.1
Open coding data statements (Median)	107	86.5	20.5	23.7
Secondary coding data nodes (Median)	36	35	1	2.9
Secondary coding data statements (Mean)	105	88	17	19.3

Table 4 The difference between in-person and video call interviews by % of interview dominance

	In person interviews	Video calling interviews	Difference	% difference between highest and lowest
Median interviewer dominance (words)	1390	1069	321	30.0
Median interviewer dominance (%)	25.5	22.5	3	13.3
Median number of words (excluding interviewer dominance)	4061	3689	372	10.1

vulnerability [41] which both parties experienced as they shared their mutual lack of technical expertise.

It has been suggested that because video calls provide only a very limited window into an interviewee's home when compared to a home visit that there may be a loss of contextual understanding of that person's life by the interviewer [15]. However, as all but one of the in-person interviews took place away from the home and all the video call interviews appeared to be from the interviewee's home, ultimately video calls may prove superior to in-person interviews with regard to getting some insight from the interviewee's lived context.

As observed by other users of video call interviews they allow for substantial savings in time and cost [8, 9] and this was the experience on this study. In this study video calls were made using a software package which was already available to the researchers, incurring no additional cost. The cost of the in-person interviews in travel was minimal, but this reflects the limited geographical area of the in-person interviews (Midlands region, UK). However, several of the video interviews involved interviewees who lived hundreds of miles away from the interviewer and would have necessitated air or sea travel to reach in-person. The process of capturing these interviews would have substantial cost implications in travel and accommodation. The primary researcher, a PhD student, was giving their time for free, as such travel time did not impact upon costs and because the researcher travelled to participants chosen location none of the participants requested travel costs. Savings in cost and time would allow for qualitative research to be conducted within quantitative trials without undue pressure upon the overall budget providing greater understanding and context of the quantitative findings [42].

Strengths and limitations

The study was conceived after the initial collection and transcription of the data for the original IBS study from which the data was taken, as such researcher bias, something considered a major potential issue in qualitative interviews, [43] is unlikely to have affected the initial data. However, it is an exploratory study only with a modest population and no randomisation and as such further research is required.

There was heterogeneity between the two groups, with the in-person group containing both male participants

and all the Black, Asian and Minority ethnic (BAME) participants. The age distribution of the participants is noteworthy with all the older (≥ 45 years) and younger (≤ 25 years) interviewees participating in in-person interviews whilst most video call interviews came from those in their 30s and 40s. This could in part be the result of the use of Facebook as part of the recruitment strategy, in the UK Facebook has an average user age of 40, [44] and all the people in their 30s and 40s, including the one in-person interviewee, were recruited via it, whereas the younger and older participants all came through posters and word of mouth. Facebook's average user age is notably older than some other social media [44] which suggests that a variety of social media platforms should be used to recruit a more varied population for any study looking to use the internet as part of its recruitment strategy. Our findings appear to support the notion that older people may be inadvertently under represented when internet recruitment and interview strategies are employed [20] and as such more traditional recruitment methods, such as posters, and in-person interviews should be present when these groups are desired to be a part of a study population.

Conclusion

This study found that in-person interviews were slightly superior to video calls in that they produced more words and substantially more statements in support of a similar number of codes. However, the difference was modest, and video call interviews could offer substantial savings of time and budget. As such the use of video call interviews may be justifiable in situations where otherwise the research would not be possible, for example with rare diseases where the population may be highly dispersed or there are situations which are dangerous to enter. In-person interviews should be preferred where older populations are sought due to relatively low levels of familiarity with the technology. Ultimately a mixed mode of interviewing with some interviews being conducted in-person and the costliest in time or money or potentially danger being conducted by video call may be the most efficient balance.

Abbreviations

ASD: Autistic Spectrum Disorder; CAM: Complementary and Alternative Medicine; IBS: Irritable Bowel Syndrome; IM: Instant messenger; NHS: National Health Service; NICE: National Institute of Health and Care Excellence; NIHR: National Institute for Health Research; UK: United Kingdom

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Disclaimer

The views expressed in this article are those of the author(s) and not necessarily those of the University of Birmingham, National Health Service (NHS), National Institute for Health Research (NIHR) or the Department of Health and Social Care.

Authors' contributions

MK gathered and analysed the data and wrote the manuscript. SG provided advice on structuring the writings, sourced relevant literature and gave detailed feedback and edited the writing of the manuscript. KJ edited and proof read the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Ethics approval and consent to participate

The source interview study received ethical approval under the University of Birmingham's ethics procedures (reference ENR_15-1473). Both verbal and written consent for the interview were taken, in the case of video interviews verbal consent was obtained prior to the interview and confirmed in writing by post.

Consent for publication

All participants gave informed consent, both verbal and written, for the use of their material in academic research and in publication of findings.

Competing interests

The authors declare that they have no competing interests.

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Appendix 11 - Factors which affect the efficacy of hypnotherapy for IBS: Protocol for a systematic review and meta-regression.



Protocol

Factors which affect the efficacy of hypnotherapy for IBS: Protocol for a systematic review and meta-regression

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ABSTRACT

Introduction: Hypnotherapy for the treatment of Irritable Bowel Syndrome (IBS) has accumulated a broad evidence base, resulting in its inclusion in the UK National Institute of Health and Care Excellence (NICE) Guidelines in 2008. Although several high quality systematic reviews and meta-analyses of hypnotherapy's efficacy have been conducted, subgroup analysis of factors which contribute to this are absent. The goal of this systematic review is to evaluate the current literature to identify factors which contribute to its effectiveness. **Methods and analysis:** We will conduct searches in CINAHL, Cochrane library, Conference Citation Index (science & social science), Embase (excerpta medica), PubMed, PsycARTICLES, PsychINFO, Science Citation Index-expanded and Social Science Citation Index. Data will be included from randomised (RCTs) and non-randomised controlled trials with a concurrent comparator of hypnotherapy interventions for IBS, reported in English. Two authors will independently review studies for inclusion, with arbitration by a third reviewer if needed. We will assess for risk of bias using the Cochrane Collaboration's risk of bias tool for RCTs and the Robins-I tool for non-RCTs.

Where appropriate a meta-regression analysis of pre-defined subgroups will be conducted using a random effects model. Where quantitative analysis is not possible a narrative description will be given.

Discussion: These will be disseminated via peer review journals and at appropriate conferences. The results may be of use in establishing the most efficient formulation of services delivering hypnotherapy for IBS.

1. Introduction

Irritable Bowel Syndrome (IBS) is a chronic functional bowel disorder characterised by a high degree of variability in bowel movement frequency and composition accompanied by recurrent abdominal pain [1]. The disorder affects large numbers of people worldwide with prevalence figures around 11% often cited [2–5], however due to substantial variation between studies brought about by differences in who identifies the IBS [6], and the diagnostic criteria used [7] no universal prevalence rate can currently be agreed upon [8].

IBS consumes a substantial amount of primary [9,10] and secondary care time [10,11] and money, with an estimated £70 million being spent by the UK's National Health Service (NHS) on antispasmodics and laxatives specifically for the treatment of IBS [12]. In addition to physical symptoms, sufferers experience negative impacts on quality of life [13], frequently experience anxiety and depression [14] and express higher than average levels of suicidal ideation and behaviour [15].

Historically IBS has had a reputation as difficult to both diagnose

[16,17] and treat [18], with traditional pharmacological approaches such as antispasmodics, anti-motility agents and bulking agents [19] being focused upon symptom control rather than cure. Sufferers sometimes have a low opinion of traditional medicines [20] and commonly turn to complementary and alternative therapies (CAM) for help [21]. The last few decades have seen the exploration of a raft of potential novel treatments, with some proving efficacious, albeit to varying degrees; these include peppermint oil [22], probiotics [23,24] and 5-HT antagonists [25]. Some of these treatments have sufficient evidence of efficacy to warrant inclusion in National Institute for Health and Care Excellence (NICE) guidelines [19], such as exercise [26], antidepressants [27], and the FODMAP diet [28]. One of these novel NICE approved approaches is hypnotherapy, which is specifically recommended for IBS sufferers 'who do not respond to pharmacological treatments after 12 months and who develop a continuing symptom profile', known as 'refractory' [19]. There is evidence that general practitioners may be open to hypnotherapy for IBS [29], although IBS sufferers themselves appear cautious, with one study finding that 36.3% of sufferers consider it an unacceptable treatment option [30].

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Hypnotherapy is hypnosis [31] used with the intention of generating a beneficial outcome. The earliest trials of hypnotherapy for the treatment of IBS date back to the early 1980s [32,33] using a package of broadly similar techniques, the most well-known of which are the Manchester Model [18] and the North Carolina Protocol [34] which have been termed gut-directed hypnotherapy (GDH) [35]; these models were quickly adopted as the norm [36,37].

GDH is a multisession approach which combines general relaxation with gut specific suggestions and imagery to promote digestive calm, control and strength [38]. The mechanisms by which GDH improves outcomes are unclear [39,40]. There is evidence that suggests it may normalise rectal sensitivity [41], but this is not a universal finding [42]. Equally, there is evidence to suggest it may have an effect on digestive motility [43], but recent work has failed to confirm this [44]. Other factors which have been implicated as possible mechanisms of action of GDH include changes to bowel distention perception [45], cognitive alteration [46] and moderation of activity in the posterior insula region of the brain [47], an area associated with processing sensations from inside the body, which suggests that hypnotherapy may moderate the signals from the body in some way, although exactly how remains unclear.

Hypnotherapy for IBS has a demonstrable record of effectiveness [48,49], however older reviews lacked sufficient data to conduct meaningful subgroup analysis, [4,39], and those more recent reviews which have carried out subgroup analysis have focused upon symptoms such as pain and constipation [48–50]. One review did examine the difference between refractory sufferers' and non-refractory sufferers' responsiveness [48], however due to substantial heterogeneity in sample populations and symptom measures these findings cannot be considered conclusive. Heterogeneity is a consistent problem as studies do not use consistent interventions or outcome measures [48,49]. Beyond this, concerns exist that outcomes may be subject to a degree of variability dependent upon as yet unexamined factors [51]. Factors that might affect the outcome of hypnotherapy for IBS include the hypnotherapist's skill, training and experience [10,52]; patient demographics [51], with evidence suggesting that gender may be a factor [53,54], but no meta-analysis has assessed the validity of these findings over different populations. The clinical setting may be a factor [48,52] as may the nature of the hypnotherapeutic approach itself [51].

Hypnotherapy for IBS is notably time intensive, currently delivered for up to 12 h contact time per patient on a one-to-one basis [40]. Any findings which help to increase this treatment's efficacy, be that by identifying the most responsive populations, efficient dose, effective type of practitioner or clinical setting, are likely to reduce the costs of this NICE approved therapy [19].

1.1. Objectives

The review aims to assess the impact of different variables within and around the hypnotherapeutic treatment of IBS. Specifically, the review will address the following questions:

Are the outcomes of hypnotherapy for IBS affected by:

- 1 recruitment location: primary and community, secondary and tertiary care
- 2 delivery location: primary and community, secondary and tertiary care
- 3 hypnotherapist's characteristics such as gender, age and duration of training
- 4 number of sessions delivered
- 5 total therapy time
- 6 time between sessions
- 7 mode of delivery: individual or group treatment
- 8 population variables, such as gender, age, educational status
- 9 duration of symptoms
- 10 type of hypnotherapy: GDH approaches versus hypnotherapy with a

distinctly different underlying philosophy such as hypnotherapeutically enhanced Cognitive Behavioural Therapy (CBT) [55]

- 11 Type of IBS: There are three main types of IBS as defined by the main symptom experienced, IBS-D where the person predominantly experiences diarrhoea, IBS-C where constipation is predominant, and IBS-A, the alternating type where both diarrhoea and constipation are frequent [56].

2. Methods

2.1. Study registration

This protocol review has been registered on PROSPERO CRD42018065533

2.2. Eligibility criteria

2.2.1. Type of study

Eligible studies include randomised, quasi-randomised or non-randomised studies comparing an intervention with a definable element of hypnotherapy to an explicit concurrent comparator, such as another treatment, or placebo such as sham therapy. Due to financial constraints only English language journals will be used. No limits will be placed on publication date.

2.2.2. Type of participant

No exclusion will be made on grounds of gender, ethnicity, duration of symptoms or socio-economic status. Studies of children (≤ 17 years of age) will be excluded.

Participants will have received a diagnosis of IBS in line with one of the major criteria, Manning [57], Rome I [58], II [59], III [60] or IV [61]. Although these criteria have been superseded by each other, i.e. Rome I replaced Manning, Rome II replaced Rome I and so on, they were the definable criteria of their time and represent a recognised diagnosis, as such they will be accepted as a valid definition of IBS status which is consistent with previous reviews' practice [50,62].

2.2.3. Type of intervention

The intervention will contain some degree of hypnotherapy for the treatment of IBS. The work will be conducted by an individual identified as possessing hypnotherapeutic skill. To this end, therapy identified as guided imagery, relaxation or any other treatment which is not explicitly defined as hypnosis will be excluded.

2.2.4. Type of comparator

This group will be in receipt of an alternative treatment, which may include another hypnotherapeutic approach, treatment as usual or a placebo intervention.

2.2.5. Type of outcome measure

2.2.5.1. *Primary.* Any continuous measure of global gastrointestinal symptoms. Several of these exist, some of the most commonly used are presented below in preferential order for use if more than one is present in a single study.

- 1) IBS Symptom Severity Scoring System (IBS-SSS) [63].
- 2) The gastrointestinal symptoms rating scale (GRS-IBS) [64].
- 3) Functional Bowel Disorder Severity Index [65]
- 4) IBS Symptom Questionnaire [65]
- 5) Visceral Sensitivity Index (VSI) [66,67].
- 6) Other continuous measure of global gastrointestinal symptoms

2.2.5.2. *Secondary.* These are for specific symptoms, for example physical, mental or quality of life which cannot be combined within the study, as it is unlikely that studies will use more than one measure for these outcomes no preferential order has been specified;

- Mental health, such as the Hospital Anxiety and Depression Scale (HADS) [68, 69]
- Quality of life, such as: The IBS quality of life scale (IBS-QOL) [70] and the SF-36 generic health-related quality of life measure [71].
- Single symptom specific measures of: improvement in abdominal pain, discomfort or distention; stool frequency; bowel transit times and stool consistency
- Adverse events
- Dropout rates
- Failure to respond to referral (DNA rates)

Any of the primary or secondary measures may be clinician or self-assessed.

2.3. Search methods for identification of studies

2.3.1. Electronic searching

The following databases will be searched:

CINAHL, Cochrane library, Conference Citation Index (science & social science), Embase (excerpta medica), PubMed, PsycARTICLES, PsychINFO, Science Citation index-expanded, Social Science Citation Index.

Using the Medical Subject Headings (MeSH) search terms “colonic disease” “colonic diseases, functional” “irritable bowel syndrome” and “hypnosis” and text words: irritable bowel, hypnotherapy\$ or hypnos\$ or auto-hypnos\$ or Self-hypnos\$ or mesmerism\$

2.3.2. Reference search

A hand search will be conducted of the reference lists of included studies to identify any possible studies that may not have otherwise been captured.

2.3.3. Unpublished trials

Contact with lead authors from studies which have been included will be undertaken where possible to see if they are aware of any unpublished trials.

2.4. Data collection and analysis

2.4.1. Selection of studies

Two parties will independently assess titles and abstracts resulting from searches for inclusion and exclusion; their lists will be compared and any disagreements will either be resolved at this stage by the two reviewers or the article will be moved forward to the next stage of selection. The remaining articles will be obtained in full and eligibility assessed independently by both reviewers. Any disagreements will be resolved through consensus between the two parties, should this prove insufficient then adjudication will be made by a third party.

2.4.2. Data extraction

Data extraction will be by two parties working independently, with a third to adjudicate on any disagreements.

Data extraction is intended to identify the nature of the intervention, the comparator used, and the outcome measures employed in the study i.e. GSRS [64], VSI [66] and any evidence of variables of interest to the review questions; i.e. number of sessions, therapist contact time, therapist characteristics, training and experience, setting and format of delivery (individual/group).

The corresponding authors of included studies will be contacted to ask further details about the setting of their intervention (primary/secondary/tertiary) and for details about the demographic characteristics, training and experience of the hypnotherapist. In addition, authors will be contacted for missing data. A data extraction form will be used to both assess quality and capture key information in a standardised way.

2.5. Assessment of risk of bias

All articles included at this point will be independently assessed by two parties for risk of bias, any unresolvable disagreements will again be adjudicated by a third party. There is a growing body of evidence and opinion to suggest that quantitative approaches to risk of bias assessment are unsupported and possibly misleading [72]; therefore a more nuanced model, based on the model used in the 2011 Cochrane collaboration [72] will be used for randomised and quasi-randomised studies and the ROBINS-I [73] tool will be used for the non-randomised studies. Specifically, the following markers, in line with Cochrane risk of bias tool [72] will be recorded in a bespoke extraction sheet, covering the presence of random sequence generation, allocation concealment, blinding and the recording and explanation of exclusions, withdrawals and drop outs. In addition, the recently developed ROBINS-I [73] tool will be used for the non-randomised. ROBINS-I assesses seven key domains; confounding, selection, classification of intervention, measurements, departures from interventions, missing data and reported results.

2.6. Statistical analysis

If possible, data will be quantitatively synthesised using a random effects meta-analysis. Random effects has been chosen as it is anticipated that there will be a high level of clinical heterogeneity (i.e. differences in the population, intervention, comparator) between studies. The decision about whether to proceed to meta-analysis will consider heterogeneity of the intervention, the participants, the follow-up time point and the control conditions. Differences in effect size by study characteristics will be investigated using sub group analyses, unless head to head comparisons are available. If sufficient data is available (10 or more studies per comparison) meta-regression analysis will be performed to investigate subgroup differences whilst holding other study characteristics constant. This will be conducted for all identified studies and where possible separately for the RCTs alone. In the write-up of the systematic review we will discuss the potential bias of synthesising randomised and non-randomised trials. If there is insufficient data for quantitative synthesis, then a narrative review approach will be taken and consideration given to displaying the data visually using Harvest Plots [75]. The following comparisons are proposed, these are based on divisions observed during scoping activities and examination of previous reviews. Where continuous measures are being used dichotomously the mean of the measure will be used as the defining point, for example a patient population may have an age range of 18–51, but if the average is 39 they will be treated in the 40 and under age group.

- Frequency of sessions: < 1 per week compared to ≥ 1 session in a week [34, 76].
- Number of sessions: ≤ 7 sessions compared to > 7 sessions [51].
- Total contact time: ≤ 6 h compared to > 6 h [51].
- Level of hypnotherapy training: short course (≤ 40 h training) compared to long course (> 40 h training) [77].
- Hypnotherapist characteristics: Female compared to male [53]. Up to and including 40 years of age and 41 or older [78].
- Population characteristics: Up to and including 40 years of age and 41 or older [79]. Graduate/college education or higher compared to non-graduate/college education [80]. A population will be classified within a group if it consists of $\geq 80\%$ or more of the intended population.
- Duration of symptoms: ≤ 1 year since first medical identification of symptoms compared to > 1 [50].
- Group hypnotherapy compared to individual hypnotherapy [51,81].
- GDH compared to ‘other’ hypnotherapy approaches [55].
- Recruitment and delivery setting: primary and community compared to secondary and tertiary care [4,52].

- IBS by predominant symptom type– Diarrhoea predominant compared to constipation predominant type, diarrhoea predominant type compared to alternating type, alternating type compared to constipation type.

If there are not enough studies for meta-analysis, the results will be described narratively. Version 5.3 of RevMan will be used for the data analysis.

3. Conclusion

This review of factors affecting the effectiveness of hypnotherapy for IBS will provide valuable insights which may allow for a greater cost effectiveness in hypnotherapy for IBS services by guiding such services to the most efficient type of hypnotherapy, location of recruitment or intervention, population, level of hypnotherapist's training and amount and frequency of contact time required. For an expensive treatment such as hypnotherapy any factor identified which can be reduced without affecting outcomes will save money for healthcare budgets. Equally, any factors which are vital to sustained beneficial outcomes, and need to be retained need to be identified to reduce future relapse of symptoms.

Conflict of interest & funding

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Appendix Hypnotherapy for Irritable Bowel Syndrome (IBS)

Database: PubMed (R) No time limit
 Sample search strategy:
 1.Colonic diseases
 2.Colonic AND diseases
 3.Colonic diseases\$
 4.Colonic diseases, functional
 5.Colonic\$ AND disease\$ AND functional\$
 6.Functional colonic diseases\$
 7.Colonic\$ AND disease\$ AND Functional\$
 8.Irritable bowel syndrome
 9.Irritable\$ AND bowel\$ AND syndrome\$
 10.Irritable bowel syndrome\$
 11. 1–10 OR
 12. Hypnosis
 13. Hypnosi\$
 15. Hypnotherapy\$
 17. Auto-hypnosi\$
 18. self-hypnosi\$
 19. mesmerism\$
 20. 12–19 OR
 15. 11 AND 20

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Appendix 12 - Factors which affect the efficacy of hypnotherapy for IBS: a systematic review and meta-regression.



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Systematic review, meta-analysis with subgroup analysis of hypnotherapy for irritable bowel syndrome, effect of intervention characteristics

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ABSTRACT

Background: Hypnotherapy has been shown to be effective at relieving global gastrointestinal symptoms (GGS) in irritable bowel syndrome (IBS). This study examines the impact of hypnotherapy delivery and participant characteristics on IBS outcomes.

Methods: This systematic review searched CINAHL, Cochrane Library, Conference Citation Index, Embase, PubMed, PsycARTICLES, PsychINFO, Science Citation Index-expanded, Social Science Citation Index. Titles and abstracts, then full-text articles were screened against inclusion criteria: trials with a concurrent comparator of hypnotherapy in adults with IBS diagnosed using Manning or ROME criteria, which provided symptom data. Included studies were extracted and assessed for bias using Cochrane Collaboration 2011 guidance. Random-effects meta-analysis was conducted with sub-group analysis to assess the impact of delivery characteristics on outcomes.

Results: Twelve trials were included, 7 in the meta-analyses. Hypnotherapy reduced the risk of GGS, but this was not statistically significant, (standardised mean difference (SMD) 0.24, [-0.06, 0.54], I^2 66 %). Higher frequency of sessions (≥ 1 /week) reduced GGS (SMD 0.45 [0.23, 0.67] I^2 0 %), as did higher volumes of intervention (≥ 8 sessions with ≥ 6 h of contact) (SMD 0.51 [0.27, 0.76] I^2 0 %) and group interventions (SMD 0.45 [0.03, 0.88] I^2 62 %). Only volume of intervention produced a significant effect between the subgroups.

Conclusion: This review suggests that high volume hypnotherapy is more beneficial than low and should be adopted for GDH. Both high frequency and group interventions are effective in reducing GGS in IBS. However, the sample size is small and more studies are needed to confirm this.

1. Introduction

Irritable bowel syndrome (IBS) is a chronic functional bowel disorder characterised by volatility in bowel movements. It is often accompanied by abdominal pain¹ which significantly impacts quality of life (QoL).^{2,3}

Hypnotherapy, the use of hypnosis⁴ to enhance therapeutic outcomes,⁵ has been used for IBS since the 1980s,^{6,7} with a specific set of techniques, known as Gut Directed Hypnotherapy (GDH) having developed⁸ (see Box 1).

Recent meta-analyses have confirmed hypnotherapy's effectiveness

Abbreviations: GGS, Global gastrointestinal symptoms; IBS, irritable bowel syndrome.

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Box 1

Commonly used content of gut directed hypnotherapy.

Gut Directed hypnotherapy (GDH) typically consists of 6–12 sessions of hypnotherapy which may include: Suggestions for digestive calm, reduced sensitivity, increased comfort and the establishment of healthy digestive rhythm, possibly coupled with calming imagery such as waves lapping on a shore.⁸ align="none" The 'Warm hand visualisation', in which suggestions are used to enable the patient to access the idea of a warm hand, often enhanced by imagining the hand as a warm colour. Patients then learn to transfer this perceived warmth into their gut, mimicking the effect of resting a hot water bottle on their stomach.⁹ align="none" The 'River metaphor', in which the patient is encouraged to imagine a river which may be turbulent or blocked as appropriate to their symptoms and to imagine it calming or unblocking.¹⁰ align="none"

for IBS.^{11–14} However, individual trials have different delivery characteristics.¹ There are variations in the treatment protocol, such as using the GDH model¹⁵ when other approaches combine hypnotherapy with cognitive behavioural therapy (CBT),¹⁶ and others use hypnotherapy as part of a much wider 'integrated therapy'.¹⁷ Further, there are differences in the amount of therapy, with some protocols having just three sessions of hypnotherapy and others sixteen.¹⁶ Equally, overall contact time varies, with some studies having 150 minutes¹⁹ and others 720 min.²⁰ An understanding of the effects of delivery characteristics would inform service commissioning and delivery.

The objective of this review is to investigate the effect of patient and delivery characteristics on outcomes of hypnotherapy for IBS. The aim of this is to identify ways to deliver the most efficient approach to provide hypnotherapy for IBS.

2. Methods**2.1. Study registration**

This review has been registered on PROSPERO CRD42018065533 and methods reported in detail elsewhere.²¹

2.2. Identifying literature

The following electronic databases were searched: CINAHL, Cochrane Library, Conference Citation Index, Embase, PubMed, PsycARTICLES, PsycINFO, Science Citation Index-expanded, Social Science Citation Index.

The search strategies included the Medical Subject Headings (MeSH) "colonic disease" "colonic diseases, functional" "irritable bowel syndrome" and "hypnosis" and text words: irritable bowel, hypnotherapy\$ or hypnos\$ or auto-hypnos\$ or Self-hypnos\$ or mesmerism\$.²¹ Searches were undertaken from inception of the database until 27 April 2020. Two reviewers (MK, AF) independently screened titles and abstracts and subsequently examined full text articles for inclusion. Disagreements were adjudicated by a third reviewer (KJ). Data on trial methods, outcomes, intervention, patient and delivery characteristics were extracted.

2.2.1. Eligibility

Study design - Randomised controlled trials and quasi-randomised studies with a concurrent comparator published in English language journals only.

Type of participant - Adults (≥ 18 years of age). No limitation was placed on gender, location or ethnicity. Diagnosis of IBS using one of the prevailing diagnostic criteria at the time, namely Manning²² or Rome I-IV.^{23–26}

Type of intervention - had to have an element explicitly identified as hypnotherapy.

Type of comparator - Comparator groups had to be in receipt of an alternative treatment, this could include a different hypnotherapeutic

approach, treatment as usual, placebo intervention or waiting list. Waiting list was included on the assumption that participants would receive usual care.^{27,28,29}

Outcome measures - could either be clinician or self-assessed.

The outcomes of interest were any continuous measure of global gastrointestinal symptoms (GGS), QoL, anxiety or depression. Follow-up point was defined as the furthest data point from the start of the study at which relevant data were available.

2.3. Assessment of risk of bias in included studies

Studies were assessed independently by two reviewers (MJ, AF) for risk of bias using the 2011 Cochrane Collaboration³⁰ tool for randomised studies, with differences resolved by a third reviewer (KJ). The overall bias rating was defined by the highest single risk of bias category assessed for the paper. As 'blinding of participants and personnel' is impossible in hypnotherapy trials this category was not assessed.

2.4. Statistical analysis

Inverse variance random effects models were selected due to an anticipated high level of clinical heterogeneity. Studies reported outcomes using different measurement tools and therefore the effect is reported as the standardised mean difference (SMD). Data were analysed using the Cochrane Collaboration's Revman software, version 5.3.³¹

Studies which provided both mean and standard deviation figures, at baseline and follow up or the difference between these two points, were included in the meta-analyses. When the difference between baseline and follow up had not been calculated the standard deviation was calculated using Gaussian error propagation $\sqrt{[(SD_1)^2 + (SD_2)^2]}$. When trials contained multiple hypnosis arms, for example a group hypnotherapy arm, an individual hypnotherapy arm, and a comparator arm, the hypnotherapy arms were combined using Revman's calculator feature for comparisons where the group or individual element was not a factor of interest.³²

An initial pooled SMD was calculated with 95 % CI, with all trials included. Statistical significance was defined as having a 95 % CI that did not include zero. Where data were available, we planned to explore the importance of the multiple patient and delivery characteristics on effectiveness of hypnotherapy, using meta-regression if ten or more studies were available and subgroup analysis where fewer were present.

The proposed comparisons were

- Frequency of sessions: <1 /week / ≥ 1 session/week.^{33,34}
- Number of sessions: ≤ 7 sessions / >7 sessions.³⁵
- Total contact time: ≤ 6 h / >6 h.³⁵
- Level of hypnotherapy training.³⁶
- Hypnotherapist gender³⁷ and age.³⁸
- Population age³⁹ and education level.⁴⁰
- Duration of symptoms.⁴¹

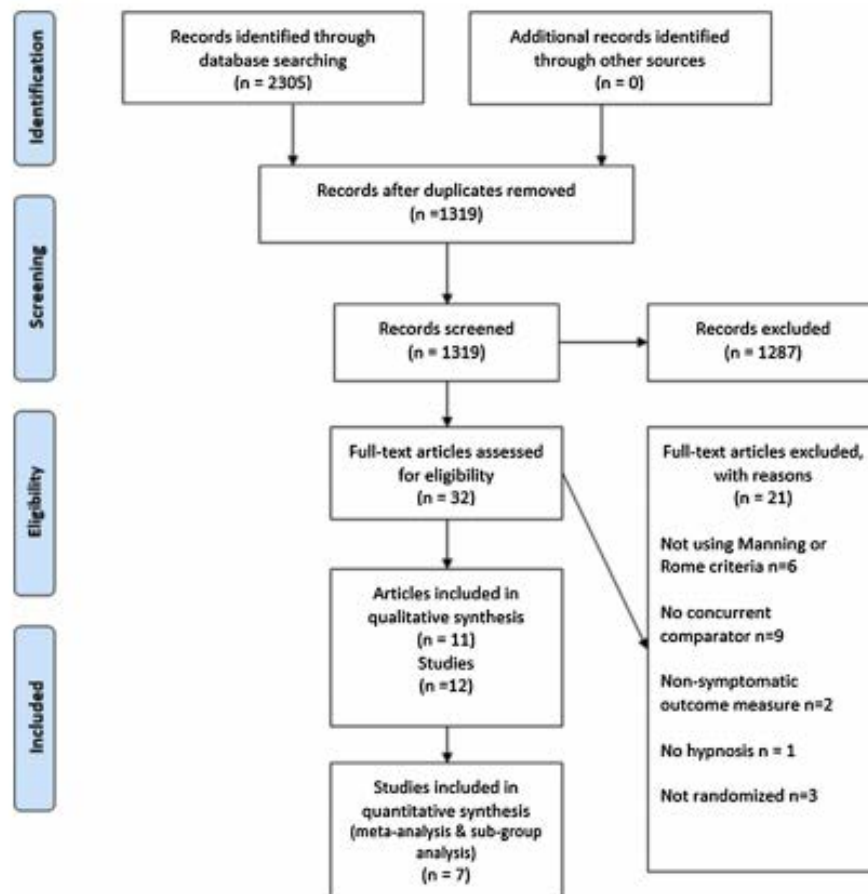


Fig. 1. PRISMA.

- Group / individual hypnotherapy.^{35,42}
- GDH compared to 'other' hypnotherapy approaches.⁴³
- Recruitment and delivery setting.^{44,45}
- IBS by predominant symptom type.⁴⁶

3. Results

3.1. Search results

After the removal of 986 duplicates, 1319 articles were identified, 1287 were excluded on title and abstract, leaving 32 full text articles assessed for eligibility (Fig. 1). Twelve studies²⁰ in eleven papers^{17,18,20,47–54} met the inclusion criteria, seven provided sufficient data for meta-analysis and subgroup analysis.

3.2. Narrative review

3.2.1. Study characteristics

Eight studies were carried out in Europe,^{17,18,20,47–50} two in Australia^{51,53} and one each in North America⁵⁴ and Asia⁵² (Table 1). Seven studies provided sufficient detail for subgroup analysis. The twelve studies included 1030 participants, the seven in the meta-analysis included 723 of these. All trials used some variant of GDH, although one used GDH as the core of a wider therapeutic approach,¹⁷ another had a study arm which received both GDH and low FODMAP advice,⁵³ a third had a GDH arm but also an alternative hypnotherapy approach.⁵¹ Comparators varied substantially and included waiting

lists,²⁰ waiting lists with active medical intervention,^{20,52} enhanced medical care,¹⁹ supportive therapy,^{47,50} progressive relaxation,⁵¹ low FODMAP diet⁵³ and biofeedback.¹⁸ Several studies compared different GDH approaches, such as recorded suggestions versus in-person therapy,⁴⁸ individual versus group,^{47,49} personalised suggestions versus generic⁵¹ and GDH with pain specific suggestion to GDH without pain specific suggestions.⁵⁴ All the non-gender specific studies had predominantly female participants (63.3 %¹⁷–86.3 %).⁵¹ The number of sessions varied from three¹⁸ to twelve,^{17,20} with most of them lasting around an hour, but ranged from thirty⁴⁸ to ninety minutes,¹⁷ delivered weekly,^{17,20,50,53} approximately every other week,^{47–49,51,54} or less frequently.¹⁸

3.2.2. Outcome measures

A wide variety of outcome measures were reported. One study⁴⁷ used the binary 'adequate relief question'⁵⁵ to measure symptoms, however continuous measures of GGS were most common, such as the IBS severity scoring system (IBS-SSS),⁵⁶ used by three studies,^{17,18,47} with another using just the visual analogue scale element of it,⁵³ the Bowel Symptom Scale (BSSI-5) was used by one,⁵¹ and a number of studies used ad hoc measures.^{20,48,49} Several studies reported QoL measures, the IBS QoL (IBS-QoL)⁵⁷ measure was used by four trials,^{20,47,52,53} the SF-36 QoL scale⁵⁸ was used by two,^{48,50} and the Functional Digestive Disorder QoL questionnaire (FDD-QoL)⁵⁹ was used in one.¹⁷ Six studies^{18,20,48,53,60} used the Hospital Anxiety and Depression Scale (HADS).⁶¹

Table 1
Characteristics of trials.

Trial, design	Inclusion	Population	Intervention	Comparator	Outcome Measures and follow-up (FU) point for meta-analysis (FUFM)
Berens et al. ¹⁷ RCT Germany	18–65 yrs. Rome III. Refractory. Abdominal pain of ≥ 3 on an 11-point Likert scale. Exclusion criteria: Psych, taking antidepressants, Lang, Psych Dis and substance abuse	N = 34, 5 lost to FU. Int = 15 (52 %) Con = 14 (48 %)	Integrative therapy including psychodynamics, GDH, and education. 12 Sessions of 90 min. All in Group.	Enhanced medical care and online diary.	IBS – SSS FUFM = End of treatment
Dobbin et al. 2013 ¹⁸ RCT UK	Women. 18–60 yrs. ROME III criteria. Exclusion: Psych Dis, clinical history of cardiovascular, neurological, renal or endocrine disease, or ingestion of prescribed medication known to influence cardiovascular tone. 18–65 yrs. Rome III	N = 97 randomized 36 lost to FU. Int: 30 (49 %) Con: 31 (51 %)	IGDH 3 sessions.	Biofeedback 3 sessions	IBS-SSS HADS FUFM = 12 weeks post treatment
Flik et al 2019 ⁴³ RCT Holland	Exclusion - lang, psych Dis, CCDB, GS, or radiotherapy.	N = 354, 150 GGDH, 150 IGDH, 54 Con.	GGDH: six 60 -minute sessions with 6 patients every two weeks. IGDH was six 45-minute sessions every two weeks.	Six x 60-minute supportive therapy. Group.	AR CF-FBD IBS – QoL IBS-SSS SCL-90 Self-efficacy Scale ⁴⁴ TIC-P FUFM = 12 months for start of treatment
Forbes et al (2000) ⁴⁸ RCT UK	Adults. Rome I. Exclusion for current organic disease and upper GI symptoms if they were predominant over lower GI symptoms.	N = 25 IGDH N = 27 audiotape	IGDH, 6 sessions of 30 min at 2-week intervals delivered in a specialist hospital.	30-minute audiotape to be listened to once a day.	GHQ HADS SF-36
Harvey et al (1989) ⁴⁹ RCT UK	Defined by combined abdominal pain, disordered bowel habit, and abdominal distention. Exclusion, CCBD, abnormality on physical examination by sigmoidoscopy, blood test and barium enema.	N = 36. 3 lost to FU. 17 GGDH, 16 IGDH.	4 x 40 min of IGDH.	4 x 40 min of GGDH.	1-week symptom diary GQH
Lindfors et al (2012) Study 1 ²⁰ RCT Sweden	Adults. ROME II.	N = 90 randomised 45 in each arm.	Treated at private psychological practices. 12 x 60-minute IGDH.	Supportive therapy	GI-SQ HADS IBS-QoL FUFM = 3 months from baseline
Lindfors et al (2012) study 2 ²⁰ RCT Sweden	Rome II criteria and refractory. Exclusion - CCBD	N = 48 3 lost to FU. 22 Int. 23 Con.	12 x 60-minutes IGDH	Waiting list control	GSR-IBS HADS SF-36. FUFM = 3 months from baseline
Moser et al 2013 ⁶³ Austria RCT	Inclusion – 18-70 ys. Rome III and refractory. Exclusion – taking antidepressants, Psych. Dis, pregnancy, bowel surgery, mental retardation,	N=100. 51 Int. 49 Con.	10 x 45-minute GGDH.	Supportive therapy.	IBS-IS SF-36 HADS FUFM = 12 month post treatment
Palsson et al 2002 study1 ⁵⁴ USA RCT	Eligibility – Rome I. Exclusion – CCBD, abdominal surgery, psychotropic medication. Eligibility – Adult. Rome III. coeliac disease excluded.	N=18 9 Int. 9 Con. N=78 enrolled. 4 lost to FU. 25 received IGDH. 24 received the comparator Low (FODMAP). 25 received combined IGDH and low FODMAP	7 x 45 min IGDH with pain specific suggestion. 6 x 60 IGDH.	7 x 45 min IGDH without pain specific suggestion.	diary. Barostat ⁶⁴ BDL SCL-90 100-point VAS HADS IBS-QoL
Peters et al 2016 ⁵³ Australia RCT	Exclusion criteria- CCBD, psych.dis, disorder, excessive alcohol intake, pregnancy. Previous experience with gut directed hypnotherapy or the low FODMAP diet.	25 received IGDH and low FODMAP	The combined intervention group received the same as both the GDH and the low FODMAP group (see comparator)	A single 1 -h session on the low FODMAP diet. Weekly phone contact.	FUFM = 6 months from baseline.
Phillips-Moore et al (2015) ⁵¹ RCT Australia	Eligibility –meeting Rome II. Refractory. 4 days in the 14 following screening in which they had experienced moderate or worse pain. Exclusion –coeliac disease, CCBD. Eligibility –Rome III.	N=51 17 individualised hypnotherapy. 17 IGDH 17 Con. N = 60.	5 x 30 min. Group 1 received ‘individualised’ suggestions and standard imagery. Group 2 received standard IGDH. GDH – 5 x 45–60 min.	5 x 30 min of progressive relaxation.	Bowel Symptom Scale 1–5 ⁴⁵ SCL-90 ⁴⁶ SF-36 QoL IBS-34

(continued on next page)

Table 1 (continued)

Trial, design	Inclusion	Population	Intervention	Comparator	Outcome Measures and follow-up (FU) point for meta-analysis (FUFM)
Shahbazi et al 2016 ⁵² RCT Iran	Exclusion – psychiatric medication taken in the last three months, having had psychological intervention in the last six months.	30 int. 30 Con.		Standard medical treatment	

CCBD: Comorbid Chronic Bowel Disease; CF-FBD – Cognitive Scale for Functional Bowel Disorders⁶⁷; con: control; FUFM: Follow-up used in meta-analysis; GDH – Gut direct hypnotherapy; GHQ – General Health Questionnaire⁶⁸; GI-SQ – GI-symptom questionnaire⁶⁹; GGDH: Group gut direct hypnotherapy; GS: gastrointestinal surgery; GRS-IBS – Gastrointestinal Symptom Rating Scale IBS version⁶⁵; HADS – hospital anxiety and depression scale⁶¹; IBS – QoL – IBS Quality of Life⁷⁰; IBS-IS – IBS Impact scale⁷¹; IBS-SSS – IBS symptom scoring system⁶⁶; IGDH: individual gut directed hypnotherapy; int: intervention; Lang: language skills insufficient for hypnosis work, Psych: recent or on-going psychological intervention; Psych Dis: severe psychiatric disorder; QoL IBS-34 – Quality of Life IBS – 34 question scale⁷²; Rome: meet Rome criteria for IBS; SF-36 – Short Form health survey⁶⁴; SCL-90 – Symptom checklist⁷²; TIC-P – Questionnaire for cost associated with psychiatric illness⁷³; VAS: Visual analogue scale; yrs: years of age;

3.2.3. Risk of bias

All the trials were randomised; seven studies were assessed to have a high risk of bias, four were unclear and only one was at low risk (see Table 2). Of the seven used for the subgroup calculations four were at high risk, two unclear and one at low risk of bias. The main reason for the high risk of bias was incomplete outcome data, predominantly this was the result of inadequate reporting.

3.2.4. Effectiveness of hypnotherapy for IBS

All but one study,¹⁸ found hypnotherapy to be superior to the comparator, three to a statistically significant level.^{20,50,52} The exception was a study in which biofeedback was the intervention of interest and hypnotherapy the comparator,¹⁸ the hypnotherapy element of this study was designed to reflect the level of intervention of the biofeedback arm, a level which was lower in frequency and volume than any of the other studies.

Several studies conducted research into group GDH^{17,47,49,50}; in those studies which compared group GDH to a non-hypnotherapy group based comparator,^{17,47,50} all were superior to the comparator in effect on GGS. However, in one study the comparator was received by the GDH arm in addition to the GDH¹⁷ making it unclear if the intervention or the increased contact time was the active factor, despite this, the results suggest that group GDH is effective. Two studies directly compared group GDH with individual GDH.^{47,49} One reported⁴⁹ that a higher proportion (70.1 %; 12/17) of the group intervention had fewer or no symptoms at follow-up compared to baseline than individual GDH (50 %; 8/16); however, the differences were non-significant. Another⁴⁷ however, found mixed results with individual and group GDH arms being both inferior and superior depending upon the measure, the

follow-up period and method of analysis, all to a non-significant level, presenting no overall dominant pattern but suggesting possible equivalence. Overall, from this data, group GDH appears to be beneficial for IBS and as effective as individual GDH.

Three studies compared different approaches to treating IBS with hypnotherapy. One compared recorded suggestions with in-person, reporting in-person therapy to be substantially better,⁴⁸ suggesting recordings may be useful as part of the approach but in themselves have limited value. Another examined the effects of GDH with specific suggestions to reduce pain compared to GDH without, concluding this made no difference.⁵⁴ The third compared a psychologically holistic hypnotherapy approach to GDH, with a relaxation control, finding the best improvements with the holistic hypnotherapy arm but not significantly different to the others.⁵¹

As has been seen, several studies reported effects of the intervention characteristics, however only one reported the effect of participant characteristics and this in only one area.⁴⁷ A subgroup comparison of the various types of IBS as defined by predominant symptom; diarrhoea, constipation and mixed, found no significant difference between outcomes for these groups.⁴⁷

The narrative overview suggests despite substantial variation with the protocols, hypnotherapy for IBS appears to be consistently effective for IBS, and this holds true when delivered in groups.

3.3. Meta-analysis and subgroup analysis

3.3.1. Overall effectiveness

Six papers, covering seven studies, provided sufficient information for a meta-analysis.^{17,18,20,47,50,53} The SMD for GGS in the hypnotherapy

Table 2
Quality of studies – Cochrane tool for randomised trial.

	Random sequence generation	Allocation concealment	Blinding of outcome assessment	Incomplete outcome data	Selective reporting	Other bias	Overall – defined by highest pre-sent risk factor.
Berens et al ¹⁷	Low	Low	Unclear	Low	Unclear	Low	Unclear
Dobbin et al 2013 ¹⁸	Unclear	Unclear	Unclear	High	Low	Low	High
Flik et al 2019 ⁴⁷	Low	Low	Low	Low	Low	Low	Low
Forbes et al (2000) ⁴⁹	Low	Unclear	Low	High	Low	Low	High
Harvey et al (1989) ⁴⁹	Unclear	Unclear	Unclear	Unclear	Unclear	Low	Unclear
Lindfors et al (2012) study 1 ²⁰	High	Unclear	Unclear	Low	Low	Low	High
Lindfors et al (2012) study 2 ²⁰	Low	Unclear	Unclear	Low	Unclear	Low	Unclear
Moser et al 2013 ⁵³	Low	Low	Unclear	High	Low	Low	High
Palsson et al (2002) study 1 ⁵⁴	Unclear	Unclear	Unclear	Low	Low	Low	Unclear
Peters et al (2016) ⁵³	Low	Unclear	High	High	Unclear	Low	High
Phillips-Moore et al (2015) ⁵¹	Low	High	Unclear	High	Low	Low	High
Shahbazi et al (2016) ⁵²	Unclear	Unclear	Unclear	High	Low	Low	High

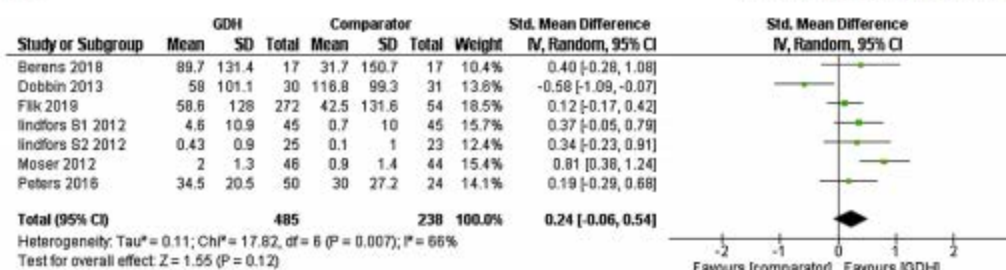


Fig. 2. Standardised mean difference in global gastrointestinal symptoms.

group compared to control was 0.24 (95% CI -0.06, 0.54), but this was not statistically significant ($p = 0.12$) and heterogeneity was high ($I^2 = 66\%$). (Fig. 2)

One study included in the meta-analysis used an 'integrated therapy' approach which had GDH as a component of a broader approach which took in elements of mindfulness, diet and approaches to stress.¹⁷ Although the study met the inclusion requirements it was judged to be sufficiently different that a sensitivity analysis³⁰ would be carried out to assess its impact on the overall findings and in any subgroup analysis in which it appeared. The sensitivity analysis found similar results to the full data analysis with an SMD of 0.22 (95% CI -0.12, 0.55) with the findings remaining non-significant ($p = 0.22$).

3.3.2. Subgroups

Subgroup analyses were not possible for most of the proposed comparisons described in the protocol paper²¹ because the data were not available. The studies with 8 or more sessions were found to be the same ones with more than 6 h contact time so these have been renamed as high-volume interventions (≥ 8 sessions with ≥ 6 h total contact time) and compared to low volume interventions (< 8 sessions with < 6 h contact time).

3.3.2.1. Volume of intervention - global gastrointestinal symptoms. Four studies had higher volumes of intervention, (≥ 8 sessions with ≥ 6 h total contact time),^{17,20,50} and three lower.^{18,47,53} The higher volume produced significant improvements in GGS compared to controls (SMD 0.51 [0.27, 0.76] $p = 0.0001$; $I^2 = 0\%$) (Fig. 4), whereas low volume interventions did not (SMD -0.06 [-0.49, 0.37] $p = 0.79$; $I^2 = 0\%$) (Fig. 4). The difference between the two was significant ($p = 0.02$). Removing the 'integrated therapy' trial¹⁷ from the high volume group did not alter

the pattern of the findings with the high volume group remaining significantly effective (SMD 0.53 [0.22, 0.83] $p = 0.0007$; $I^2 = 23\%$).

3.3.2.2. Frequency of sessions - global gastrointestinal symptoms. Five studies delivered weekly sessions^{17,20,50,53} two with a lower frequency.^{18,47} The SMD in GGS was significantly higher than the comparators (SMD 0.45 [0.23, 0.67] $p < 0.0001$; $I^2 = 0\%$) (Fig. 3) for the studies delivering weekly sessions. There was no significant difference in GGS in the interventions delivered less than once weekly (SMD -0.19 [-0.88, 0.49] $p = 0.58$; $I^2 = 82\%$) (Fig. 3). Removing the 'integrated therapy' trial¹⁷ from the weekly trials in a sensitivity analysis, did not change the nature of the results which remain significant (SMD 0.45 [0.18, 0.72] $p = 0.0001$; $I^2 = 25\%$) (Fig. 3) and the difference between the frequency groups remained non-significant ($p = 0.09$).

3.3.2.3. Group vs. Individual therapy - global gastrointestinal symptoms. Three studies used a group hypnotherapy approach^{17,50,53} and three individual hypnotherapy,^{18,20} another was a three arm trial, including both group and individual GDH arms.⁴⁷ No significant effect on GGS was seen for the individual therapy approaches (SMD 0.08 [-0.22, 0.39] $I^2 = 57\%$) (Fig. 5) whilst the group intervention did produce significant effects (SMD 0.45 [0.03, 0.88] $p = 0.04$; $I^2 = 62\%$) (Fig. 5). However, subgroup analysis showed that the differences in effectiveness between group and individual delivery were not significant ($p = 0.16$). On removing the 'integrated therapy' trial¹⁷ from the group trials for the sensitivity analysis, the effects of group GGS became non-significant (SMD 0.48 [-0.13, 1.09] $P = 0.12$) and the relationship between the two groups remained non-significant ($p = 0.25$).

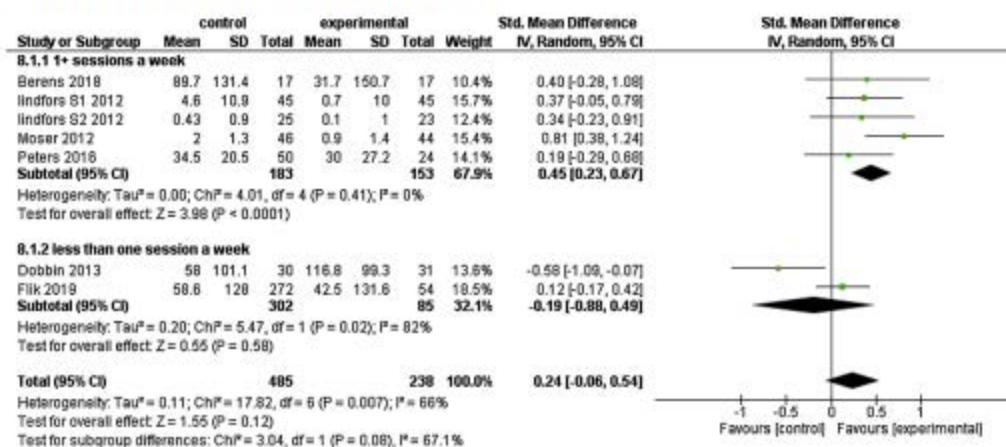


Fig. 3. Standardised mean difference in global gastrointestinal symptoms of high frequency GDH (1+ sessions per week) interventions vs. low frequency interventions (less than one session a week).

b

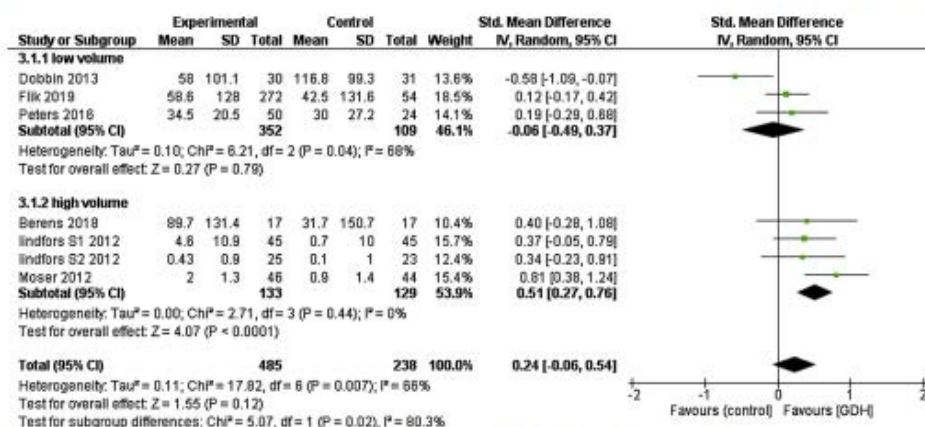


Fig. 4. Standardised mean difference in global gastrointestinal symptoms of high volume GDH interventions vs. low volume interventions.

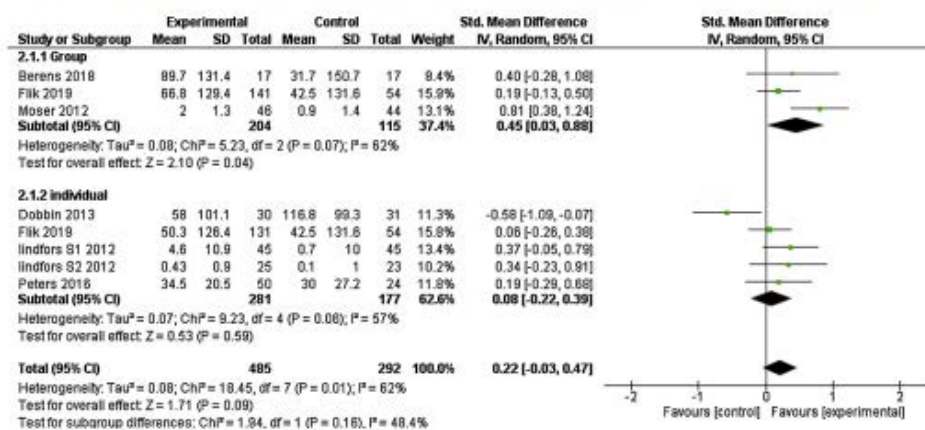


Fig. 5. Standardised mean difference in global gastrointestinal symptoms in group and individual hypnotherapy delivery.

3.3.2.4. Group vs. individual therapy – mental health. Three studies reported usable generic mental health measures^{20,43} two were individual therapy trials²⁰ which produced a non-significant improvement (SMD 0.14 [-0.19, 0.48]) and one group therapy trial⁴³ which produced a significant improvement (SMD 0.72 [0.29, 1.12] $p < 0.001$). Subgroup analysis showed a significant difference between groups ($p = 0.04$).

4. Discussion

The objective of this review was to investigate the effects of patient and delivery characteristics upon outcomes of hypnotherapy for IBS, however, as part of this an all-trials meta-analysis was conducted which found non-significant benefits to hypnotherapy for IBS, which conflicts with the findings of previous meta-analyses.^{11,13} This results from the inclusion of a single study, which had the most infrequent sessions and the lowest volume of intervention¹⁸ of the included studies. A post-hoc sensitivity analysis excluding this study shows a significant (0.35 [0.13, 0.57] $p = 0.002$) beneficial effect of hypnotherapy over comparators. This study¹⁸ has not been present in previous meta-analysis conducted since its publication, possibly because it is comparing two psychological interventions¹³ or because it published only continuous findings, not

dichotomous.¹¹ The substantial impact upon the meta-analysis of this one trial,¹⁸ reinforces the need for the kind of subgroup work conducted in this paper, which helps highlight where certain delivery characteristics may fall below an effective level.

Three main insights can be drawn from this review. Firstly, that high volume GDH (≥ 8 sessions with ≥ 6 h total contact time) are significantly more effective than lower volume interventions. Secondly, that GDH was found to be effective if delivered at least once a week, whilst lower frequency delivery was less effective than comparators, however the difference between high and low frequency delivery was non-significant. This means that, based on these studies, low frequency GDH appears to be as effective as high frequency GDH. The third was that group GDH was found to have a significant effect on patients' GGS whereas individual GDH did not, although this did not hold true once the sensitivity analysis was performed. The difference between group and individual GDH was non-significant in both the main analysis and the sensitivity analysis, this suggests group is comparable to individual GDH. However, the modest sample sizes involved mean these calculations are likely to be underpowered and as such all these findings suggest trends but are not conclusive. Further, as a meta-regression analysis was not possible, potential confounding factors have not been controlled for.

That high volumes of intervention produce better outcomes than low volume interventions is, as would be expected. However, one study, reported as a conference abstract, concluded GDH beyond six sessions provided no additional benefit⁷⁴ however, as we lack the details of this study for comparison or pooling with these findings we cannot draw any meaningful conclusions. Disentangling the composite factors of number of sessions and overall contact time may allow for the identification of the active factor. Equally, further subgroup comparisons which examine more specific incremental ranges of intervention may prove insightful. However, larger data sets are required.

As higher frequency interventions had a statistically significant effect on GGS, whilst lower frequency interventions did not, the possibility is raised that high frequency may prove superior to low frequency, even though the difference between the two was non-significant. The small number of studies in the low frequency group, just two,^{38,47} suggests caution, especially as one of these studies³⁸ had only three sessions over twelve weeks. Further studies are needed to investigate the potential superiority of a high frequency approach for hypnotherapy.

Finding group GDH was comparable in its effectiveness to individual GDH is consistent with previous trial findings.^{47,49} This may be counter to expectation as the group situation limits adaptation to individuals, which can effect outcomes.⁷⁵ It is possible that different populations volunteer for group hypnotherapy trials compared to individual ones, however, this would not have been present in trials comparing group to individual,^{47,49} which find better outcomes for group. A possible mechanism by which group hypnotherapy may be more effective than individual is through mutual support and sharing of effective remedies.⁷⁶ Whatever the cause, based on this evidence it appears that group hypnotherapy is as valid an approach as individual hypnotherapy and is likely to offer substantial cost savings.

Most of the trials provided insufficient information for all the potential subgroup comparisons originally proposed, either because data was not reported or because subgroups data were not reported separately. The use of the TIDieR reporting checklist⁷⁷ would have allowed for more comparisons and as such it is recommended this be used in future trials.

It should be noted that even after subgrouping, heterogeneity remained high for the low frequency (I^2 82 %), low volume (I^2 68 %), group GDH (I^2 62 %) and individual GDH groupings (I^2 57 %). This strongly suggests that additional factors, which this study has not been able to investigate, are influencing results, possibly the patient and hypnotherapist's characteristics currently unavailable from the papers.

4.1. Strengths and limitations

The study has maintained a high degree of rigour through the use of established tools, such as the Cochrane risk of bias assessment,⁷⁸ by following established procedures³⁰ and the use of two independent researchers for screening and data extraction. The PRISMA tool⁷⁹ has provided internal consistency and both study registration on Prospero (CRD42018065533) and the publication of a protocol²¹ have ensured a high level of fidelity to the original study goals. The use of English only journals may have limited the evidence base available. The pooling of data available for the meta-analyses was small with only 723 participants over seven trials. The ability to conduct subgroup analysis was severely limited by the breadth of information reported in the studies.

Of the twelve trials identified by this systematic review only three overlap with those of the most recently published meta-analysis,⁸⁰ which identified four papers (reporting 5 trials).^{20,50,81,82} The difference is the result of three factors in this analysis: stricter inclusion criteria, using five more databases and a more recent search. The stricter inclusion criteria resulted in: the inclusion of trials using only identifiable formal diagnostic criteria, which resulted in exclusion of one article,⁸² excluding trials which used only non-symptomatic measures resulted in exclusion of another because it measured changes in artificially induced gastric discomfort rather than natural discomfort.⁸¹ The publication of

papers since the previous analysis resulted in the inclusion of two additional trials.^{37,47}

5. Conclusion

The findings suggest using high frequency, high volume, and group GDH approaches for the treatment of IBS. With high-volume approaches it remains unclear if the number of sessions or total contact time is the active factor. Future studies should provide a greater level of detail regarding the factors of potential effect, such as reporting findings by gender, age and primary symptom type in a way which allows for in-group comparison. Further research is required to assess the possible superiority of group GDH to individual GDH, or high frequency over low, and to establish the relative importance of contact time and number of sessions in the effectiveness of GDH for IBS.

Disclaimer

The views expressed in this article are those of the author(s) and not necessarily those of the University of Birmingham, National Health Service (NHS), National Institute for Health Research (NIHR) or the Department of Health and Social Care.

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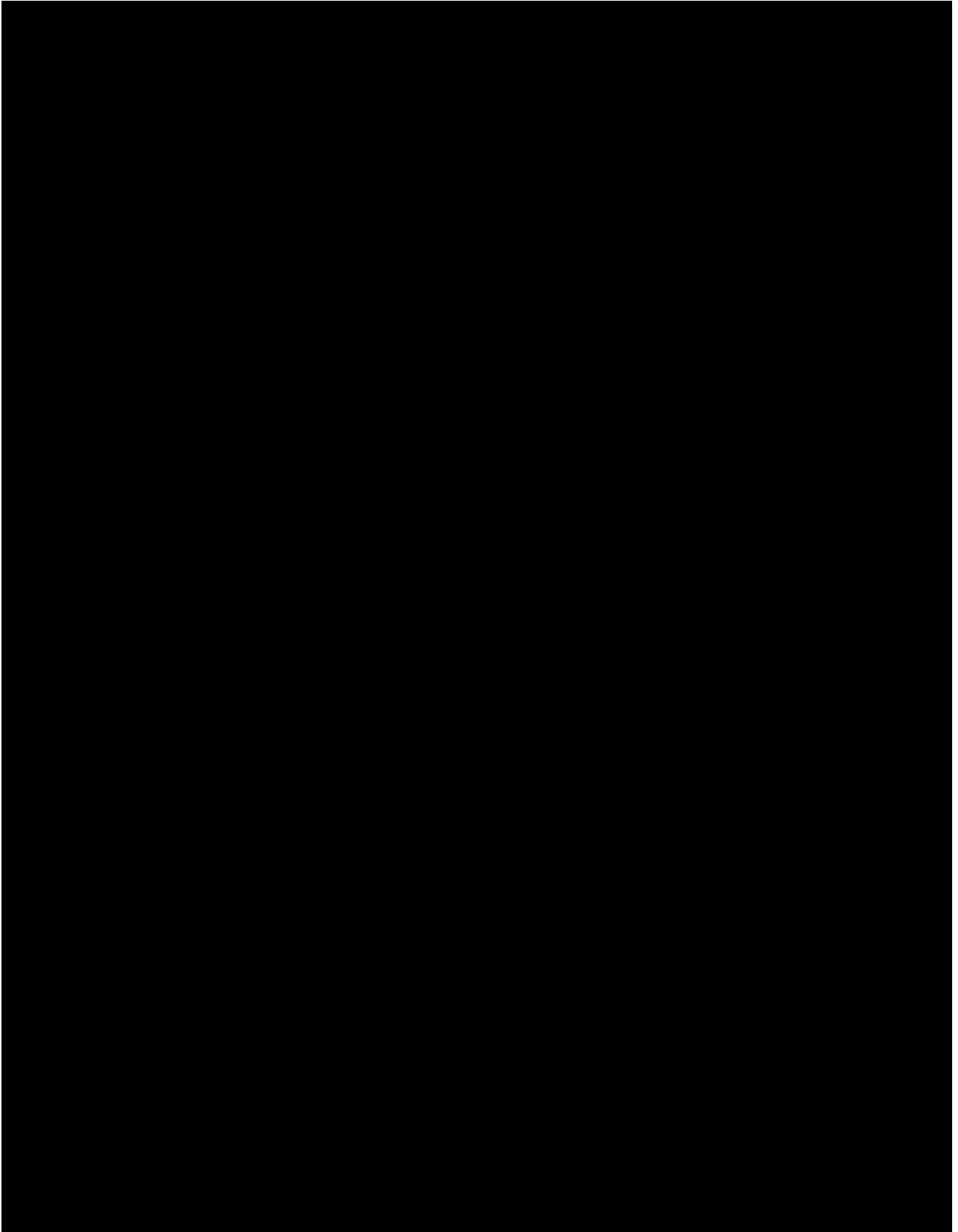
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Appendix 13 - Survey – ethical approval

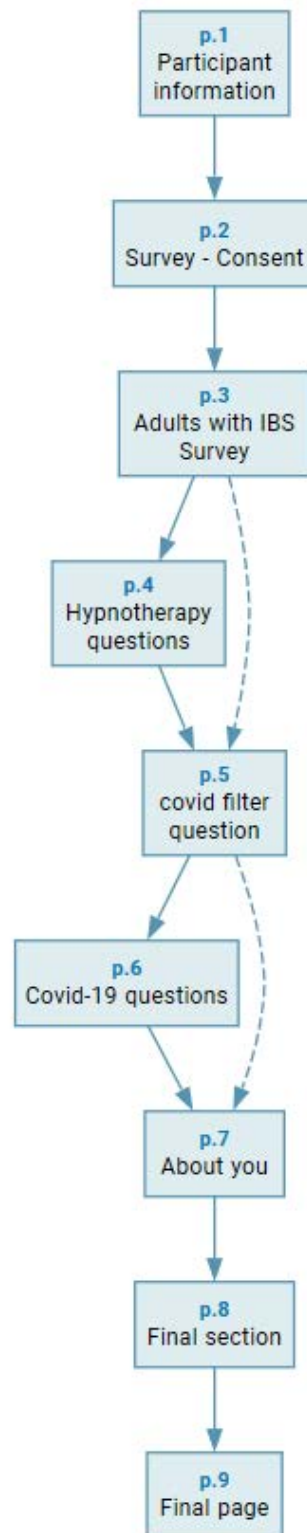
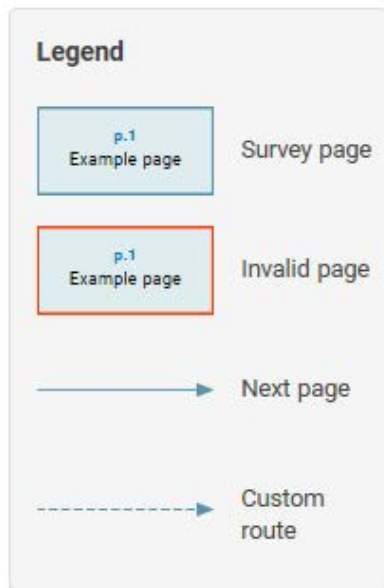




Appendix 14 - Survey – questionnaire flow chart

The flow chart shows the progression of the survey as experienced by a participant and is included to show where jumps occur. Each page (p.1, p.2, p.3 etc) represents a section of questions, the specific page numbers, from within the survey, are given below.

Page	Pages covered
p.1	1-2
p.2	3-4
p.3	5-8
p.4	9-13
p.5	14
p.6	15
p.7	16-18
p.8	19
p.9	20



Appendix 15 - Survey – questionnaire

People living with IBS

Participant information

Privacy statement

This survey has been posted as part of post-graduate research being conducted by members of the Institute of Applied Health Research at the University of Birmingham (UK).

We take privacy seriously and we make every effort to respect it.

Privacy and computerised research

It is our policy to protect your personal information and as such this study will **not** request from you any identifiable details. Specifically, we will **not** ask you for your name, date of birth, home or e-mail address.

The software used is compliant with General Data Protection Regulation (GDPR) guidelines.

What we do with the information that we gather from survey responses

In gaining your participation in this survey we commit to be honest about the nature and use of the information gathered.

Information provided is confidential and will only be used for academic and research purposes. Your data will not be identified or identifiable and will only be analysed as part of a group.

Your data is **not** used for marketing or other non-academic activities

Participation is entirely voluntary.

Web cookies

The online survey tool does **not** use Cookies.

Contacting us

If you have any questions about this survey, please email MJK599@student.bham.ac.uk

Survey - Consent

Key features of this research

- This is an online survey questionnaire.
- The survey is interested in adults (18 years old or more) with irritable bowel syndrome (IBS).
- We want to find out about treatments used, opinions towards treatment options, including some psychological and complementary and alternative medicine (CAM) approaches and peoples experience during the changes casued by the Covid-19 pandemic.
- The questionnaire will take between 5 - 10 minutes.
- No identifying details will be recorded.
- Information in this survey will be used for academic and research purposes only.

I am an adult with IBS who consents to participate in this survey and have my answers used as part of research and academic work. * *Required*

☐ Yes

Adults with IBS Survey

Approximately how long have you had IBS, in years?

- ☐ less than a year
- ☐ 1-4
- ☐ 5-9
- ☐ 10-14
- ☐ 15+

Which of these have you tried to help your IBS? Of those, which are you still using?

	Have tried	Still using
Prescription medication	<input type="radio"/>	<input type="radio"/>
Non-prescription or 'over-the -counter' medication	<input type="radio"/>	<input type="radio"/>
Follow certain diets or exclude specific foods	<input type="radio"/>	<input type="radio"/>
Exercise	<input type="radio"/>	<input type="radio"/>
A relaxation technique (yoga meditation, guided hypnosis recording)	<input type="radio"/>	<input type="radio"/>
A special tea (such as ginger or peppermint)	<input type="radio"/>	<input type="radio"/>
A psychological therapy (such as Cognitive Behavioural therapy (CBT))	<input type="radio"/>	<input type="radio"/>
Aromatherapy	<input type="radio"/>	<input type="radio"/>
Massage therapy	<input type="radio"/>	<input type="radio"/>
Peppermint oil	<input type="radio"/>	<input type="radio"/>
Acupuncture	<input type="radio"/>	<input type="radio"/>
Reflexology	<input type="radio"/>	<input type="radio"/>
A probiotic supplement	<input type="radio"/>	<input type="radio"/>
Chinese herbs	<input type="radio"/>	<input type="radio"/>

5 / 20

Colon hydrotherapy	<input type="radio"/>	<input type="radio"/>
Digestive clay	<input type="radio"/>	<input type="radio"/>
Aloe vera supplement	<input type="radio"/>	<input type="radio"/>

Do you currently use any treatments, interventions or therapies which are not listed in the table above, if so can you tell us what they are?

Are there any treatments, interventions or therapies which you have used in the past but have not yet been mentioned, if so can you tell us what they are?

Which of these **best** describes your use of complementary and alternative medicines (CAM) with regard to your IBS? CAM includes such things as yoga, ginger or peppermint tea, massage therapy, aromatherapy and acupuncture. *(only one response allowed)*

- ☐ I do not use CAM because it is unscientific.
- ☐ I only use what the doctor recommends.
- ☐ I have thought about CAM but have not used it.
- ☐ I started using CAM because nothing else worked.
- ☐ I use CAM alongside prescription or over the counter medication.
- ☐ I use CAM because it works for me.
- ☐ CAM was the first treatment approach I used, because I prefer not to use medicines often.

If a doctor recommended a complementary and alternative medicine (CAM) to you, how would this affect the likelihood that you would use that therapy?

- ☐ More likely
- ☐ The same / no difference
- ☐ Less likely

If a complementary and alternative therapy (CAM) was included in medical guidelines (e.g. NICE), how would this affect the chance that you would use that therapy?

- ☐ More likely
- ☐ The same / no difference
- ☐ Less likely

Hypnotherapy, the use of hypnosis to help someone make a positive change, is used by some people to help their IBS. Please mark which of the below statements best describes your awareness of this?

- ☐ I was aware that some people use hypnotherapy for IBS, but haven't tried it.
- ☐ I have used hypnotherapy for my IBS.
- ☐ I have never heard of hypnotherapy being used for IBS before today.

Do you consider hypnotherapy for IBS to be a ...? (please select the most appropriate)

- ☐ Medical treatment
- ☐ Psychological treatment
- ☐ Complementary and alternative medicine
- ☐ Other

If you selected Other, please specify:

If time and cost were not issues, would you try hypnotherapy for IBS * *Required*

- ☐ Yes
- ☐ No

Hypnotherapy questions

If your doctor referred you for hypnotherapy for IBS at your nearest major hospital, how many 1-hour long sessions would you be willing or able to attend?

- ☐ Up to 4
- ☐ Up to 6
- ☐ Up to 12
- ☐ More than 12
- ☐ Other

If you selected Other, please specify:

If your doctor referred you for hypnotherapy for IBS at your nearest major hospital, how often could you attend?

- ☐ More than once a week
- ☐ Once a week
- ☐ Every two weeks
- ☐ Once a month
- ☐ Other

If you selected Other, please specify:

If you were to attend hypnotherapy for IBS, which of these statements best describes your preferred time for sessions?

- ☐ Weekday daytimes
- ☐ Weekday evenings
- ☐ Weekend daytime
- ☐ Weekend evening
- ☐ Other

If you selected Other, please specify:

If you were to go to a hypnotherapist what would you consider their most important characteristic to be?

- ☐ People skills
- ☐ Formal qualifications (Diploma, Degree, PhD)
- ☐ Experience
- ☐ Personal presentation (Dress and grooming)
- ☐ Gender - Male
- ☐ Gender - Female
- ☐ Other

If you selected Other, please specify:

What barriers to using hypnotherapy for IBS would you foresee? (Please mark all that apply)

- ☐ Cost
- ☐ Time
- ☐ Availability
- ☐ Vulnerability whilst in trance
- ☐ Concerns about how it might affect me
- ☐ Travel issues
- ☐ I don't think it would work for me
- ☐ Difficulty being hypnotised
- ☐ Other
- ☐ I foresee no barriers

If you selected Other, please specify:

Is there anything about hypnotherapy which appeals to you? (please mark all which apply)

- ☐ It gets to the psychological cause of my IBS
- ☐ The idea of being hypnotised appeals to me
- ☐ It might be very relaxing
- ☐ It works on a subconscious level
- ☐ Nothing is going into my body
- ☐ It could reduce my stress
- ☐ Nothing in particular appeals to me about hypnotherapy for IBS
- ☐ Other

If you selected Other, please specify:

Would you be willing to try **group** hypnotherapy for IBS?

- ☐ Yes
- ☐ No

Does group hypnotherapy bring with it any particular barriers for you?

- ☐ Concerns about sharing personal information publicly
- ☐ Social Anxiety
- ☐ Other
- ☐ No additional barriers
- ☐ Concerns about the availability of toilet facilities

If you selected Other, please specify:

Would **group** hypnotherapy bring with it any benefits for you? (please mark all that apply)

- ☐ Being with other people who have IBS may be beneficial
- ☐ We could swap ideas about what helps

- ☐ Group hypnotherapy would feel safer
- ☐ Other
- ☐ None
- ☐ I don't know

If you selected Other, please specify:

covid filter question

Because of the Covid-19 global pandemic many of us have experienced changes in our work patterns and lifestyles, the impacts of which are currently unknown. 'During the period of restriction did you notice any changes in your IBS symptoms

- ☐ Yes
- ☐ No

Covid-19 questions

Please describe those changes

--	--

Do you have any ideas as to what caused those changes'

--	--

About you

What is your age?

- ☐ 18-19
- ☐ 20-29
- ☐ 30-39
- ☐ 40-49
- ☐ 50-59
- ☐ 60-69
- ☐ 70-79
- ☐ 80+
- ☐ prefer not to specify

Where do you currently live?

- ☐ Africa
- ☐ Asia
- ☐ Australia and Oceania
- ☐ Europe
- ☐ North America
- ☐ South America

Do you live in the United Kingdom?

- ☐ Yes
- ☐ No

Which of these best describes your ethnicity?

- ☐ White - English / Welsh / Scottish / Northern Irish / British
- ☐ White - Irish
- ☐ White - Gypsy or Irish Traveller
- ☐ White - other White background
- ☐ Mixed - White and Black Caribbean
- ☐ Mixed - White and Black African
- ☐ Mixed - White and Asian
- ☐ Mixed - Any other Mixed / Multiple ethnic background
- ☐ Asian / Asian British - Indian
- ☐ Asian / Asian British - Pakistani
- ☐ Asian / Asian British - Bangladeshi
- ☐ Asian / Asian British - Chinese
- ☐ Asian / Asian British - Any other Asian background
- ☐ Black/ Black British - African
- ☐ Black/ Black British Caribbean
- ☐ Any other Black / African / Caribbean background
- ☐ Arab
- ☐ Other
- ☐ I prefer not to say

If you selected Other, please specify:

What is your gender?

- ☐ Female
- ☐ Male
- ☐ Non-Binary
- ☐ Other

If you selected Other, please specify:

Final section

Thank you for your time.

The findings of this survey will be used for academic and research purposes only.

If you have any questions please contact Matthew Krouwel at

[REDACTED]

Final page

Thanks once again and if you are willing we would greatly appreciate you supporting our research on social media if you feel comfortable to do so, by 'sharing' the link to this survey and or 'Liking' the source where you originally encountered it.

Thanks very much

Appendix 16 – Supplementary table - Interventions identified by survey participants separately to the interventions prompted for.

	Rhubarb complex	6	5.5	6	5.5	100%
	Low FODMAP Diet	2	1.8	2	1.8	100%
	Imodium	2	1.8	1	0.9	50%
	Magnesium,	2	1.8	1	0.9	50%
	Lactose free diet	1	0.9	1	0.9	100%
	Turmeric	1	0.9	1	0.9	100%
	Digestive enzyme	1	0.9	1	0.9	100%
	Psyllium husk	1	0.9	1	0.9	100%
	Vinegar	1	0.9	1	0.9	100%
	Gaviscon	1	0.9	1	0.9	100%
	Kefir live yoghurt	1	0.9	1	0.9	100%
	Intermittent fasting	1	0.9	1	0.9	100%
	Whey protein	1	0.9	1	0.9	100%
	Milk of magnesia	1	0.9	1	0.9	100%
	Plant based diet	1	0.9	1	0.9	100%
	Walking 5 - 7 miles daily	1	0.9	1	0.9	100%
	Ayurvedic medicine	1	0.9	1	0.9	100%
	Maintain a food routine	1	0.9	1	0.9	100%
	Silicol gel	1	0.9	1	0.9	100%
	CBD oil	1	0.9	1	0.9	100%
	Consulting a Tension Myositis Syndrome specialist	1	0.9	0	0	0%
	Heat to soothe stomach cramps	1	0.9	0	0	0%

	Amino therapy	1	0.9	0	0	0%
	Liquid spore probiotic	1	0.9	0	0	0%
	Colonoscopy	1	0.9	0	0	0%
	Vagal nerve stimulation	1	0.9	0	0	0%
	Biofeedback	1	0.9	0	0	0%
	Parasite testing	1	0.9	0	0	0%
	Metamucil	1	0.9	0	0	0%
	Herbal teas	1	0.9	0	0	0%
	Homeopathic treatments	1	0.9	0	0	0%
	Swimming	1	0.9	0	0	0%
	Prebiotic	1	0.9	0	0	0%
	Antidepressant	1	0.9	0	0	0%