School of Psychology
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A Systematic Review of Imagery Rescripting Interventions for OCD, and an Interpretative Phenomenological Analysis of Experiences of Imagery in OCD

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Preface

Mental images are an important part of how we experience the world. Imagery can involve one sense or multiple senses. One good way to explain imagery is to imagine a lemon: you can probably 'see' a picture of the lemon in your mind, with colour, shape, and texture; maybe you can 'smell' the scent of a lemon; maybe you get that salivary response at the bottom of your mouth as you would if you tasted a lemon.

Not only are mental images part of our everyday lives, but they are also a key criterion for the diagnosis of obsessive-compulsive disorder (OCD). People with OCD experience obsessions and/or compulsions; obsessions are recurrent intrusive thoughts, urges or images, and compulsions are repetitive behaviours or mental acts people feel they have to do in response to obsessions.

Due to imagery being an important part of OCD, it is possible that imagery-based interventions may be helpful in reducing OCD symptoms. Imagery rescripting interventions aim to change the content and meaning of distressing mental images. There has been lots of research into these interventions as treatments for post-traumatic stress disorder (PTSD), but not much that looks at whether they are effective interventions for people with OCD. A systematic literature review was conducted in order to summarise and evaluate this research. Seven databases were searched using specific search terms relevant to imagery rescripting and OCD. The search resulted in 395 studies, which were then methodically screened to ascertain whether they met the inclusion criteria for the review. Eight studies were included in the review; five of them looked at eye movement desensitisation and reprocessing (EMDR) and three looked at imagery rescripting (ImRs). Data from these studies was extracted and narrative synthesis was used to examine the results. The results

showed that although there was some limited evidence that both EMDR and ImRs were effective interventions to treat OCD, there were a lot of limitations with the designs, methods, and analyses of the studies. This means that any conclusions about the effectiveness of imagery rescripting interventions should be taken cautiously, and that there is a need for more high-quality research in this area.

There has also been limited research into how people with OCD experience mental imagery. A research study was conducted with the aim of exploring people's experiences of and reactions to imagery in OCD. An expert-by-experience helped to design the study, to make sure that the questions being asked were relevant and appropriate for people with OCD. Eight adults with OCD were interviewed, and their interviews were transcribed. The data was analysed using Interpretative Phenomenological Analysis (IPA). Six main themes were found, which showed that imagery in OCD is vivid and involves multiple senses, that people feel unable to control their OCD imagery, and that they elaborate upon the imagery they experience. The themes also showed that OCD imagery involves both past memories and future fears, that people respond to their OCD imagery as if it is real, and that therapy can help to shift imagery. These are important results which give insight into how people with OCD experience imagery; it can be intense, and it is a significant part of their everyday lives. It will be important for therapists and clinicians to think about and engage with imagery when they are working with people who have OCD.

PAPER 1

Are imagery rescripting interventions effective in the treatment of obsessive-compulsive disorder? A systematic review.

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Abstract

Background

Imagery is a key diagnostic criterion for OCD, and is implicated in the everyday experience of people with OCD. There is, however, limited research into imagery rescripting interventions for the disorder. This review aimed to systematically review the existing literature to determine whether there is evidence that these interventions are effective treatments for OCD.

Methods

Databases were systematically searched, and articles screened on title, abstract, and full-text. Quality rating was conducted on studies deemed eligible for inclusion. Eight full-text articles were included in the review.

Results

Five studies of EMDR and three studies of Imagery Rescripting (ImRs) were included. There was limited evidence that EMDR appeared to be an effective intervention in reducing OCD symptoms, and evidence from case series that ImRs also seemed to be an effective treatment.

Discussion

Due to limitations in study design, methodology, and analysis, only tentative conclusions could be drawn. Some imagery rescripting interventions may not have been captured within the review. Further high-quality research, including RCTs, should be carried out to further investigate the effectiveness of imagery rescripting interventions for OCD.

Registration

Registered on Prospero. ID: CRD42021281974

Highlights

- Eight published studies were included in the final review.
- EMDR and ImRs may be effective interventions for OCD.
- Significant limitations in design, methods, and analysis limit clear conclusions.

Keywords

Obsessive-compulsive disorder; systematic review; imagery rescripting; EMDR.

Introduction

Obsessive-compulsive disorder (OCD) is a common anxiety disorder, with 1% prevalence over 12 months (Kessler et al., 2005). OCD is defined in the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) as the presence of obsessions, compulsions, or both, with obsessions being defined as recurrent or persistent thoughts, images, or urges, which are unwanted and intrusive, and often disturbing, with the person experiencing the obsessions attempting to ignore, suppress or neutralise them (American Psychiatric Association (APA), 2013). Compulsions are defined as repetitive behaviours or "mental acts" which the person feels obligated to do in response to an obsession, but which are either clearly disproportionate or not realistically related to the obsession(s) they aim to prevent or neutralise (APA, 2013). It is clear from the DSM-5 definition that images and mental imagery are a key part of the phenomenology of OCD.

Mental imagery has captured the interest of people for centuries; Aristotle declared that images were essential to thought, and Kant linked imagination to cognition and creativity (MacKisack et al., 2016), whereas Watson dismissed the concept and attributed mental images to "motor habits in the larynx" (MacKisack et al., 2016, p.2). Imagery was put back in the spotlight by Beck's development of cognitive therapy, which centred the role of imagery – primarily in the form of visual mental pictures – in people's experiences of distress (Beck, 1976). The understanding of mental imagery developed further, and more nuanced and scientific understanding came with more widespread use of imaging technology such as functional magnetic resonance imaging (fMRI); allowing scientists to recognise that imagery can take the form of other sensory experiences, not only visual, and that people experience imagery in ways very similar to if the stimulus was physically present

(Kosslyn et al., 2001). Most people experience mental imagery on a daily basis, as part of their everyday lives (Blackwell, 2019). Imagery holds more emotion than a purely verbal interpretation of the same information, summarised by Holmes et al. (2007); "Just to hold an image in mind (e.g., imagining jumping off a cliff), whether it is a memory or a newly constructed image, is a more emotionally charged experience than thinking about the same information verbally" (p.299).

Research into mental imagery has historically focused on 'psychiatric disorders' with traumatic or negative experiences at their core; primarily post-traumatic stress disorder (PTSD) and social phobia (Hackmann & Holmes, 2004; Holmes et al. 2005), however, imagery is implicated in a much wider range of psychological presenting difficulties, including OCD (Brewin et al., 2010). Despite imagery being one of the defining aspects of OCD (APA, 2013), there has been limited research into mental imagery in the disorder. In 1986, De Silva published an account of imagery in OCD using data from his own clinical practice, as well as the research data (De Silva, 1986). De Silva classified different types of OCD imagery; obsessional, compulsive, disaster, and disruptive, stating that these are independent of each other and do not overlap or co-occur. The generalisability of these categories is limited, however, due to De Silva only using data from patients treated by himself, plus a small amount of data from external sources. De Silva suggested that a possible treatment method could involve the patient "gaining mastery or control" (p.347) over the images in order to reduce distress and anxiety, rather than using exposure and response prevention (ERP).

Following De Silva's 1986 paper, however, there was little investigation of OCD-related imagery until after the millennium. Speckens et al. (2007) interviewed 37 people with OCD and found that 81% reported experiencing mental images, mostly memories of or related to previous negative experiences. Imagery was visual in nature for the majority of people (93%), with 97% also reporting physical sensations, but the other senses were also reported in people's experiences of imagery: 36% auditory, 21% smells, and 7% taste. Most people experienced the imagery as either like a snapshot (46%) or like a film (43%). Participants who experienced imagery were more likely to have higher levels of OCD symptoms, anxiety, and responsibility beliefs compared to those who did not experience imagery. To test whether imagery in OCD had distinguishing characteristics compared to imagery in other anxiety disorders (including social anxiety, panic, phobias, and health anxiety), Lipton et al. (2010) interviewed participants with either OCD or other anxiety disorders about intrusive imagery. Although they found no significant differences between groups in prevalence, sensory modality, vividness, or level of distress caused by the images, the authors did find that participants with OCD experienced intrusive imagery significantly more frequently than those with other anxiety disorders, and their imagery had a weaker link with previous memories. Although Speckens et al. (2007) and Lipton et al. (2010) found seemingly contradictory results in terms of OCD imagery being memories of, or associated with, previous adverse experiences, both suggest that rescripting interventions may be more useful than exposure-based interventions in treatment for the disorder; Speckens et al. suggesting this as imagery rescripting is used effectively in PTSD treatment with similar autobiographical memories, and Lipton et al. recommending rescripting instead of exposure as OCD images lacked clear links with memories and were more similar to "elaborative cognitions" (p.821).

In terms of treatment recommendations for OCD, guidelines from the National Institute of Health and Care Excellence (NICE) recommend Cognitive Behavioural Therapy (CBT) including Exposure and Response Prevention (ERP) either in the form of self-help, groups, or individual therapy (NICE, 2005). ERP involves exposure to feared stimuli in a graduated manner, with the person instructed to desist from completing the compulsion(s) or safety behaviour(s) which would usually be triggered by the stimuli and reduce the associated anxiety (McKay et al., 2015). Although CBT and ERP are effective in treating OCD, around 50% of patients who start ERP either do not complete it or do not significantly improve following the intervention (Abramowitz, 2006), and ERP is less successful with patients who do not exhibit overt compulsions (De Silva, 1986).

Psychotherapy has been using 'psychodramatic enactment' as an imagery-based intervention for psychological disorders for many years (e.g. Goulding & Goulding, 1979), but these interventions tended to focus on "curing" the clients (Goulding & Goulding, 1979, p.3) using psychodynamic principles of re-experiencing the self as a child. Cognitive therapy also used imagery as part of therapeutic interventions; Beck et al. (1985) found that changing visual mental images could reduce emotional distress. Edwards (1990) developed these ideas further and described two case studies in which he used a "memory rescripting" (p.45) technique to reduce psychological distress. Arntz and Weertman (1999) developed their own protocol for imagery rescripting (ImRs) for early adverse childhood experiences by adapting earlier imagery-based intervention by Smucker et al. (1995) for PTSD due to childhood sexual abuse, and integrating some principles from Edwards (1990) and the earlier psychodynamic approaches. Their protocol contains three distinct phases, taking the patient through 1) re-imagining the experience from the perspective of the patient as a

child, 2) imagining the same scene again but from the perspective of themselves as an adult intervening in the scene, and 3) imagining the rescripted scene from the perspective of themselves as a child, and asking for any additional needs to be met.

Arntz and Weertman's protocol has been used and adapted in multiple studies; Lee and Kwon (2013) used an adapted version of the protocol in their RCT examining whether ImRs was an effective intervention for people with social phobia. They found that participants in the ImRs group improved significantly on social anxiety measures compared to controls, suggesting that a brief, three-session ImRs treatment is effective. Willson et al. (2016) found that a single session of ImRs improved symptoms and reduced distress for the majority of a small sample of patients with body dysmorphic disorder (BDD). A meta-analysis conducted by Morina et al. (2017) of ImRs interventions for a variety of psychological difficulties associated with aversive memories (including PTSD, social anxiety, BDD, and OCD) found that ImRs was effective in reducing symptoms in all of the disorders, and that generally these reductions were maintained at follow-up. However, the meta-analysis mainly contained studies of PTSD and social anxiety, only including one study on OCD, therefore it is not possible to generalise the effectiveness of ImRs interventions to people with OCD more widely from this study.

Eye movement desensitisation and reprocessing (EMDR) was developed by Francine Shapiro in 1989 as a new and innovative treatment for PTSD (Shapiro, 1989). Patients are asked to focus on the traumatic memory and "isolate a single picture representative of the entire memory" (Shapiro, 1989, p.213), whilst performing bilateral eye movements. This aims to result in a change in the image or picture patients are holding in mind, such that it seems further away or changes to a more positive image, and the level of distress

accompanying the initial image is notably reduced (Shapiro, 1989). EMDR has a strong evidence base, particularly for PTSD; meta-analyses have found that EMDR is better than CBT in alleviating post-traumatic symptoms and anxiety in PTSD and has the same effectiveness as CBT in reducing depression (Khan et al., 2018); that EMDR and trauma-focused CBT were equally effective at treating PTSD symptoms (Seidler & Wagner, 2006); and that EMDR reduced PTSD symptoms in the short term, and was effective in treating phobias (Cuijpers et al., 2020), however many studies did not have low risk of bias. From these results, one could speculate that EMDR may be an effective treatment for other psychological disorders which are effectively treated by CBT (as OCD is), however, there are no systematic reviews examining whether EMDR is an effective treatment for OCD.

Although OCD treatments are well-researched in terms of CBT and ERP, there is little known about whether imagery rescripting interventions are effective treatments. As there is an imagery component to the diagnostic criteria for OCD, and some evidence that imagery is implicated in the everyday experience of people with OCD, it is important to understand whether treatments based on imagery are effective. The aim of the current article is to systematically review studies of imagery rescripting interventions for OCD in adults, to ascertain whether there is evidence that these interventions are effective for treating OCD.

Method

Search Strategy

Literature searches were conducted using SCOPUS, Web of Science, CINAHL, Proquest Dissertations and Theses, Ovid Emcare, APA PsychInfo, and Ovid Medline in week 3 of November 2021. Searches were run from the earliest indexed studies (1872) to

November 2021. The following search terms were used for titles and abstracts: (Obsessive-Compulsive Disorder OR OCD OR obsessive compulsive) AND (imagery OR eye movement desensiti*ation and reprocessing OR EMDR). Mapped terms were used where available. The search was limited to articles in English or with an English translation. In addition, the reference lists of all retained articles (as per inclusion/exclusion criteria below) were searched for any additional articles which could be included. The search was re-run in the first week of May 2022 to check for any relevant newly published studies; none were found.

Inclusion and exclusion criteria are shown in Table 1. Where there was uncertainty on whether to include any of the studies, the articles were discussed with two supervisors (LW and AT) and an agreement reached on whether the study should be included or not.

Table 1.

Inclusion and exclusion criteria

Inclusion Criteria *(If all of the following met)*	**Exclusion Criteria** *(If one or more of the following met)*
Studies published in English or with an English translation	Studies focusing solely on hoarding
Studies of adults over the age of 18	Studies with participants without diagnoses of OCD, e.g. general student populations
Participants with a diagnosis of obsessive-compulsive disorder	
Studies using an imagery rescripting intervention (including EMDR) as the primary treatment for obsessive-compulsive disorder	
Outcome measures are reported pre- and post-treatment on clinician-reported and/or self-reported measures of OCD	

Quality Assessment

Quality of the retrieved articles were assessed using the Quality Assessment Tool for Quantitative Studies (QATQ; Thomas et al., 2004), the JBI Critical Appraisal Checklist for Case Reports (JBICACCR; Moola et al., 2017), and the JBI Critical Appraisal Checklist for Case Series (JBICACCS; Moola et al., 2017); see Appendix B for copies of quality rating tools. The QATQ assesses methodological quality across multiple factors: selection bias, study design, confounders, blinding, data collection, withdrawals and dropouts, intervention integrity, and analysis. It requires users to give ratings for each individual section, as well as an overall rating of methodological quality. The JBICACCR is designed to assess the quality of case reports, and includes eight questions evaluating the quality of description, assessment, and reporting. The JBICACCS is similar to the JBICACCR, but assesses the quality of case series designs. It includes 10 questions to assess the risk of bias and internal validity of case series studies, with questions around clear reporting of information on participants, assessment methods, interventions, and outcomes.

It was decided to exclude studies which did not achieve a quality rating of "Moderate" or higher on the QATQ, or which did not satisfy three or more of the criteria on the JBICACCR and JBICACCS, to ensure findings were not drawn from low quality studies.

Results

The search process is depicted in a PRISMA diagram (Page et al., 2021) in Figure 1. The searches identified 737 records, reduced to 395 after removal of duplicates. Records were then screened by title, and 138 were retained for further screening. Abstracts were screened for relevance and excluded if they did not meet the inclusion criteria, or met any of the exclusion criteria. The full texts of the remaining 20 articles were retrieved and

examined. Eleven articles were excluded after the full text screening (see Figure 1 for reasons). After the full screening process, nine articles were rated for quality. Study characteristics are summarised in Table 2, and study results summarised in Table 3.

Quality Rating

Three studies (Nazari et al., 2011; Marsden et al., 2018; Sarichloo et al., 2020) were quality-rated using the QATQ; all received 'Moderate' quality ratings and were included in the synthesis. Two studies (Marr, 2012; Potik et al., 2020) were quality-rated using the JBICACCR, and both studies were included in the review based on satisfying all the criteria on the checklist. Four studies (Mpavaenda, 2016; Veale et al., 2015; Maloney et al., 2019; Tenore et al., 2020) were quality-rated using the JBICACCS. Three studies (Veale et al., 2015; Maloney et al., 2019; Tenore et al., 2020) were included based on the checklist, and one study (Mpavaenda, 2016) was excluded based on the checklist, as it did not satisfy the following criteria: "Were the outcomes or follow-up results of cases clearly reported?", "Was there clear reporting of the presenting site(s)/clinic(s) demographic information?" and "Was statistical analysis appropriate?" and was therefore deemed low quality. Twenty-five percent of studies were quality-rated by a second independent reviewer. Inter-rater reliability was calculated to be 100%. Overall, eight studies were included in the full synthesis.

Figure 1.

PRISMA diagram of screening and selection of articles on imagery rescripting in OCD

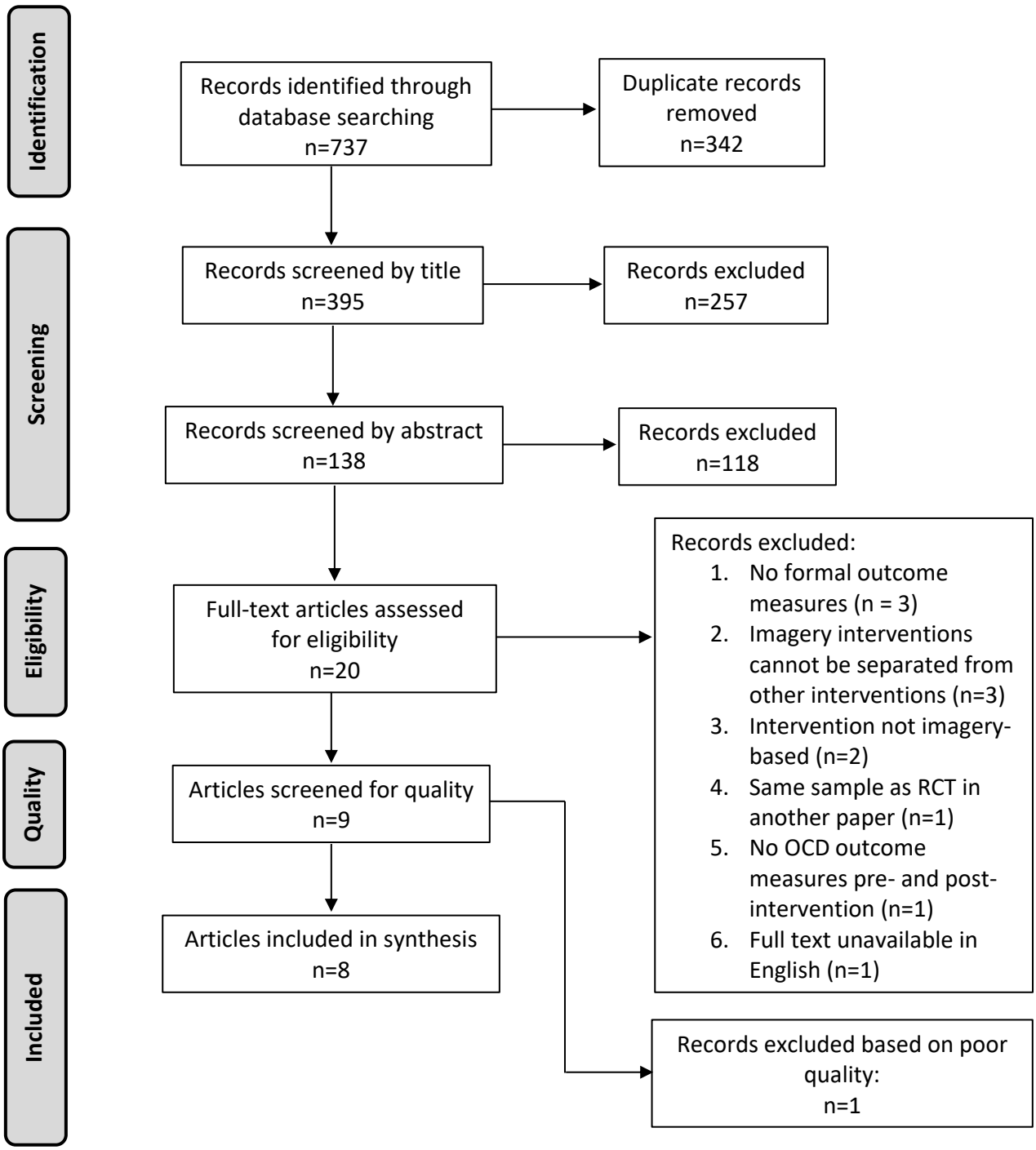

Table 2.

Study Characteristics

Author(s), Year, Country		Design	Intervention	Sample	No. of Participants		Gender (%)	Age	Ethnicity	Comorbidities (n)	Follow-Up
					Completed	Dropouts/ Exclusions					
Maloney et al. (2019), Australia		Case Series	ImRs	Patients diagnosed with OCD based on DSM-5 and MINI, Y-BOCS ≥16	13	1 (at 3-month follow-up)	Female n=7 (53.8) Male n=6 (46.2)	Mean=40.4 SD=15.38[a] Range=23-64	Not reported	MDE (n=2) BDD (n=1) Dysthymia (n=4) GAD (n=2) None (n=4)	Post-control intervention, post-ImRs, 1-month follow-up, 3-month follow-up (n=12)
Marr (2012), UK	**Case 1**	Case Study	EMDR	Patient diagnosed with OCD	1	0	Male	28	Not reported	Not reported	Post-treatment, 4-6 month follow-up
	Case 2	Case Study	EMDR	Patient diagnosed with OCD	1	0	Male	24	Not reported	Not reported	Post-treatment, 4-6 month follow-up
	Case 3	Case Study	EMDR	Patient diagnosed with OCD	1	0	Male	19	Not reported	Not reported	Post-treatment, 4-6 month follow-up
	Case 4	Case Study	EMDR	Patient diagnosed with OCD	1	0	Male	26	Not reported	Not reported	Post-treatment, 4-6 month follow-up
Marsden et al. (2018), UK		RCT	EMDR vs. ERP	Patients with OCD diagnosis based on MINI	34	21	Female n=34 (61.8) Male n=21 (38.2)	Mean=32.04 SD=12.67	White British=47 (90.4%) Other=5 (9.6%)	Not reported	Post-intervention (n=34), 6-month follow-up (n=46)

Nazari et al. (2011), Iran	RCT	EMDR vs. Citalopram	Patients with OCD diagnosis based on DSM-IV and Y-BOCS	60	30	Female n=27 (45) Male n=33 (55)	10-20 = 11; 21-30 = 23; 31-40= 14; 41-50 = 8; >51 = 4	Not reported	None	Post-intervention
Potik et al. (2020), Israel	Case Study	EMDR	Patient with diagnosis of OCD	1	0	Male	28	Eastern European	Schizoaffective disorder	Post-intervention, 6-month follow-up, 1-year follow-up
Sarichloo et al. (2020), Iran	RCT	EMDR+ERP vs. ERP alone	Patients with OCD diagnosis based on SCID-5, YBOCS ≥16	45	15	Female n=26 (57.7) Male n=19 (42.3)	<25 = 16; 25-40 = 23; >40 = 6	Not reported	None	Post-intervention, 3-month follow-up
Tenore et al. (2020), Italy	Case Series	ImRs	Patients diagnosed with OCD based on DSM-5, Y-BOCS>18	18	4	Female n=10 (55.5) Male n=8 (44.5)	Mean=34.3 SD=8.10[a] Range=24-52	Not reported	Not reported	Post-assessment, 7-day follow-up, 30-day follow-up, 60-day follow-up, 90-day follow-up
Veale et al. (2015), UK	Case Series	ImRs	Patients diagnosed with OCD based on SCID	12	1	Female n=5 (41.7) Male n=7 (58.3)	Mean=40 SD=10.76[a] Range=30-65	Not reported	Depression (n=6) None (n=6)	Post-control intervention, post-ImRs, 3-month follow-up

Note. ImRs: Imagery rescripting; *EMDR*: Eye movement desensitisation and reprocessing; *ERP*: Exposure and response prevention; *RCT*: Randomised control trial; *DSM-5/DSM-IV*: Diagnostic and Statistical Manual of Mental Disorders, 5th/4th edition (APA, 2013/1994); *MINI*: the Mini-International Neuropsychiatric Interview (Sheehan et al., 1998); *SCID*: Structured Clinical Interview for the DSM (First & Gibbon, 2004); *Y-BOCS*: Yale-Brown Obsessive-Compulsive Scale (Goodman et al., 1989); *MDE*: Major depressive episode; *BDD*: Body dysmorphic disorder; *GAD*: Generalised anxiety disorder.

[a] Standard deviations and means calculated from raw data provided in paper.

Table 3.

Summary of study results

Author(s), Year, Country	Design	No. of participants	Primary Outcome Measure	Other Outcome Measures	Intervention (no. of sessions)	Results	Statistics
Maloney et al., 2019, Australia	Case series	13	Y-BOCS	OCI BAI BDI OBQ	ImRs (up to 6)	Significant reduction in Y-BOCS and OCI, scores at post-ImRs, 1-month follow-up and 3-month follow-up. 92% of participants achieved a ≥35% improvement on Y-BOCS post-ImRs. Improvement in OCI did not correlate with improvement in Y-BOCS at post-treatment or FU. Subjective measures of imagery accuracy, vividness and distress level (0-100 scale) were all significantly reduced at post-ImRs, more markedly so at 1- and 3-month FU. Change in vividness correlated significantly with change in OCI at 1 month FU. Lower baseline Y-BOCS significantly predicted greater % improvement after single ImRs session.	Pre vs. post: • Y-BOCS p<.001 • OCI p<.001 Pre vs. FU 1: • Y-BOCS p<.001 • OCI p<.001 Pre vs. FU 2: • Y-BOCS p<.001 • OCI p<.001
Marr 2012 – Case 1	Case study	1	Y-BOCS	None	EMDR (10)	Reduction in Y-BOCS score from 36 (pre-intervention) to 11 (post-intervention), maintained at follow-up (Y-BOCS=10).	No statistical analysis carried out.
Marr 2012 – Case 2	Case study	1	Y-BOCS	None	EMDR (16)	Reduction in Y-BOCS score from 35 (pre-intervention) to 10 (post-intervention), maintained at follow-up (Y-BOCS=7).	No statistical analysis carried out.

Marr 2012 – Case 3	Case study	1	Y-BOCS	None	EMDR (14)	Reduction in Y-BOCS score from 33 (pre-intervention) to 6 (post-intervention), maintained at follow-up (Y-BOCS=4).	No statistical analysis carried out.
Marr 2012 – Case 4	Case study	1	Y-BOCS	None	EMDR (14)	Reduction in Y-BOCS score from 37 (pre-intervention) to 7 (post-intervention), slight increase at follow-up (Y-BOCS=9).	No statistical analysis carried out.
Marsden et al., 2018, UK	RCT	34	Y-BOCS	OCI PHQ-9 GAD-7	EMDR (16) vs. ERP (16)	Significant reduction on Y-BOCS scores for both EMDR and ERP groups at post-intervention and 6-month follow-up. No significant differences in Y-BOCS or OCI scores between EMDR and ERP group at post-intervention. No significant difference in Y-BOCS scores between EMDR and ERP at 6-month follow-up. No significant main effects for group*time at post-treatment or follow-up.	Y-BOCS: • EMDR pre vs. post: p<.001 • EMDR pre vs. FU: p<.001 • ERP pre vs. post: p<.001 • ERP pre vs. FU: p<.001 EMDR vs. ERP post: • Y-BOCS p=.38 • OCI p=.66 EMDR vs. ERP FU: p=.90 (Y-BOCS) Group*time at post treatment: p=.16 Group*time at FU: p=.80
Nazari et al., 2011, Iran	RCT	60	Y-BOCS	None	EMDR vs. Citalopram (NR)	Significant reduction in Y-BOCS scores for both Citalopram and EMDR post-intervention. Significantly larger reduction in EMDR group than Citalopram post-intervention.	Y-BOCS: • Citalopram pre vs. post: p<.001 • EMDR pre vs. post: p<.001 Citalopram post vs. EMDR post: p<.001

Potik et al., 2020, Israel	Case study	1	Y-BOCS	IES-R	EMDR (5)	Decrease in Y-BOCS score from 19 (pre-intervention) to 7 (post-intervention), further reduction to 4 at 6-month follow-up, maintained at 1-year follow-up.	No statistical analysis carried out.
Sarichloo et al., 2020, Iran	RCT	45	Y-BOCS	BAI	EMDR+ERP (12) vs. ERP (12)	Significant reduction in Y-BOCS scores for both EMDR+ERP and ERP alone, at both post-intervention and 3-month follow-up. Significantly larger reduction in EMDR+ERP group compared to ERP alone at post-intervention and 3-month follow-up.	Y-BOCS: • EMDR+ERP pre vs. post: p<.001 • EMDR+ERP pre vs. FU: p<.001 • ERP pre vs. post: p<.001 • ERP pre vs. FU: p<.001 • EMDR+ERP vs. ERP post: p<.001 EMDR+ERP vs. ERP FU: p<.001
Tenore et al., 2020, Italy	Case series	18	Y-BOCS	OCI BDI BAI	ImRs (3)	Screening vs. 90-day FU: Significant reduction in Y-BOCS and OCI. Post-assessment vs. 90-day follow-up: Significant reduction in Y-BOCS and OCI. At 90-day follow-up, 72% had reliable improvement on Y-BOCS, 55% had clinically significant improvement on Y-BOCS. At 90-day follow-up, 28% had reliable improvement on OCI, 5.5% clinically significant improvement. Significant negative effect of time on Y-BOCS scores, and significant quadratic effect of time on Y-BOCS scores.	Screening vs. 90-day FU: • Y-BOCS p=.001 • OCI p=.009 Pre-ImRs vs. 90-day FU: • Y-BOCS p=.001 • OCI p=.022

Veale et al., 2015, UK	Case series	12	Y-BOCS	OCI RIQ BAI BDI	ImRs (1)	Post-ImRs, 66.6% had reliable improvement on Y-BOCS, 41.7% had clinically significant improvement. At 1-month follow-up, 75% showed reliable improvement on Y-BOCS, 58.3% had clinically significant improvement, 16.7% reached asymptomatic criterion (≤7 on YBOCS).	No statistical analysis carried out.

Note. ImRs: Imagery rescripting; *EMDR*: Eye movement desensitisation and reprocessing; *ERP*: Exposure and response prevention; *Y-BOCS*: Yale-Brown Obsessive-Compulsive Scale (Goodman et al., 1989); *OCI*: Obsessive-Compulsive Inventory (Foa et al., 1998); *BAI*: Beck Anxiety Inventory (Beck et al., 1988); *BDI*: Beck Depression Inventory (Beck, 1972); *OBQ*: Obsessive Beliefs Questionnaire (Obsessive Compulsive Cognitions Working Group, 2001); *PHQ-9*: Patient Health Questionnaire – 9 (Kroenke et al., 2001); *GAD-7*: General Anxiety Disorder – 7 (Spitzer et al., 2006); *IES-R*: Impact of Events Scale, Revised (Weiss & Marmar, 1996); *RIQ*: Responsibility Interpretations Questionnaire (Salkovskis et al., 2000); *ImRs*: Imagery rescripting; *EMDR*: Eye movement desensitisation and reprocessing; *ERP*: Exposure and response prevention; *FU*: follow-up; *NR*: not reported.

Participant Characteristics

Diagnosis

The eight included studies accounted for 198 participants, all recruited with a diagnosis of OCD. Four studies reported the use of a clinical interview to confirm the diagnosis; either the Structured Clinical Interview for the DSM (SCID: First & Gibbon, 2004; used by Sarichloo et al., 2020 & Veale et al., 2015), or the Mini-International Neuropsychiatric Interview (MINI: Sheehan et al., 1998; used by Maloney et al., 2019 & Marsden et al., 2018). Three studies used DSM criteria (not in a structured interview format) to confirm the diagnoses (Maloney et al., 2019; Nazari et al., 2011; Tenore et al., 2020). Two studies included participants based on a diagnosis of OCD without reporting how the diagnosis was made (Marr, 2012; Potik, 2020). Four studies also included cut-off scores on the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS; Goodman et al., 1989) as inclusion criteria; cut-off scores varied between studies, with two using ≥16 (Maloney et al., 2019; Sarichloo et al., 2020), one using >18 (Tenore et al., 2020), and one not reporting the cut-off used (Nazari et al., 2011).

Comorbidity

Three studies (Marr, 2012; Marsden et al., 2018; Tenore et al., 2020) did not report on whether participants had any comorbid psychiatric diagnoses. Of the five studies which did report on comorbidities, two studies, both RCTs (Nazari et al., 2011; Sarichloo et al., 2020), reported no comorbid mental health problems in participants; both excluded participants from the study if they had a comorbid psychiatric disorder, with Sarichloo et al. also excluding participants with comorbid medical problems. One case study (Potik, 2020) reported comorbid schizoaffective disorder in the single participant. Two studies (Veale et

al., 2015; Maloney et al., 2019) reported comorbid depression (diagnoses included were depression, Major Depressive Episode, and dysthymia), ranging from 46-50% of the sample, which approximately reflects findings from the wider clinical population (La Salle et al., 2004). Maloney et al. (2019) reported additional comorbidities of body dysmorphic disorder in one participant and generalised anxiety disorder in two participants.

Age

Reporting of ages varied between studies; the three case series (Maloney et al., 2019; Tenore et al, 2020; Veale et al., 2015) listed the ages of each participant in their demographics tables, allowing the mean, standard deviation, and range to be calculated from this raw data (see Table 1). Ages were reported in all the case reports. Among the three RCTs, one (Marsden et al., 2018) reported the mean and standard deviation, whereas the other two (Nazari et al., 2011; Sarichloo et al., 2020) reported the number of people in age brackets with no report of the range, mean or other descriptive statistics. This made it difficult to establish whether the mean ages of participants were comparable between studies. It is not clear whether children or older adults were represented; Nazari et al. (2011) use an age bracket “10-20” which raised the question of whether children were involved in the study. Both Nazari et al. (2011) and Sarichloo et al. (2020) had open-ended upper age categories (>51 and >40 respectively) which meant it was unclear what the oldest age of participants was, and whether any older adults (65+) were included in the study.

Gender

All studies reported the gender split in their samples. Overall, the total proportion was 52.4% female, 47.6% male. This roughly reflects the gender split seen in the wider clinical population of OCD (Lochner & Stein, 2001).

Ethnicity and Location of Study

The studies were conducted in a range of countries: Iran, the UK, Australia, Israel, and Italy. Only two studies reported on ethnicity; one case study (Potik et al., 2020) where the participant's ethnicity was reported as 'Eastern European', and one RCT (Marsden et al., 2018) which reported 'White British' as the main ethnic group (90.4%), with the rest of the sample classified as 'Other'. It is hard to draw conclusions on whether the ethnicity of participants in studies was representative of the countries in which they were conducted due to the striking lack of reporting of this characteristic.

OCD Outcome Measures

All studies used the Y-BOCS as the primary outcome measure of OCD. The Y-BOCS (Goodman et al., 1989) is a 10-item clinician-rated scale measuring the severity of OCD symptoms. Marsden et al. (2018) used an adapted self-report version of the Y-BOCS (Baer et al., 1993). Some studies (Maloney et al., 2019; Marsden et al., 2018; Tenore et al., 2020; Veale et al., 2015) also included the Obsessive-Compulsive Inventory (OCI; Foa et al., 1998); a 42-item self-report measure of frequency of OCD symptoms and the distress caused by these.

Study Designs

Three studies were RCTs (Nazari et al., 2011; Sarichloo et al., 2020; Marsden et al., 2018) all examining EMDR; three studies were case series (Maloney et al., 2019; Veale et al., 2015; Tenore et al., 2020) examining ImRs; and two were case reports (Marr, 2012; Potik et al., 2020), both examining EMDR. Marr (2012) describes four different case reports in one paper. Synthesis will be conducted by grouping together studies using the same intervention.

EMDR

Among the five studies which examined EMDR as the intervention of interest, all used standard 8-phase EMDR protocol (Shapiro, 1989), with a varying number of sessions; one study (Nazari et al., 2011) did not report the number of sessions, and of the four studies which reported the number of sessions, the range was 5-16 (see Table 2 for number of sessions). Some studies had additional adaptations/variations to the standard EMDR protocol: two of Marr's (2012) case studies used EMDR with "video playback", where participants were asked to replay a specific memory in their mind. One study (Sarichloo et al., 2020) combined EMDR with ERP for one condition, alternating the intervention used in each session.

ImRs

Three studies, all case series, examined ImRs as the intervention of interest. All used the 3-stage imagery rescripting technique based on Arntz and Weertman's (1999) protocol. Two studies (Veale et al., 2015; Maloney et al., 2019) randomised the number of days participants waited between baseline monitoring or initial interview and control

intervention, and between control intervention and ImRs. Tenore et al. (2020) randomised the number of days participants waited between the memory-identifying interview session and the ImRs intervention. The number of sessions of ImRs varied between studies; Veale et al. (2015) offered participants a single session of ImRs, Tenore et al. (2020) offered three ImRs sessions, and Maloney et al. (2020) offered up to six ImRs sessions to participants, stopping if there was a clinically significant reduction in Y-BOCS scores (reduction of at least 35% and score <7).

Overall Study Findings

Is EMDR an effective intervention for people with OCD?

Three EMDR studies (Nazari et al., 2011; Sarichloo et al., 2020; Marsden et al., 2018) were RCTs of EMDR interventions for people with OCD. Comparison groups varied between studies; Nazari et al. (2011) compared EMDR to the antidepressant Citalopram, Sarichloo et al.'s (2020) comparison group was ERP, and Marsden et al. (2018) also compared EMDR with ERP (as per the protocol by Foa et al., 2012)) but curiously labelled it as CBT ("…we apply the acronym CBT to refer to ERP", p.12); for the purposes of clarity, it shall be referred to as ERP within this review.

All three RCTs found a significant reduction in Y-BOCS scores for EMDR groups and the various comparison groups, and all concluded EMDR was effective in treating OCD. Nazari et al. (2011) found that there was a significantly larger reduction in Y-BOCS scores post-intervention for participants in the EMDR group compared to the Citalopram group. Sarichloo et al. (2020) found that EMDR with ERP conferred additional benefit over ERP alone, leading to greater reductions in Y-BOCS scores both at post-intervention and 3-month

follow-up. This suggests that adding EMDR to ERP leads to a more effective treatment for OCD, compared to ERP alone. By contrast, Marsden et al. (2018) found no significant differences between the EMDR and ERP groups on the self-reported Y-BOCS or other outcome measures (OCI, PHQ-9, GAD-7) at post-intervention or 6-month follow-up.

The two studies which used ERP interventions as the comparison treatment for EMDR found conflicting results: Sarichloo et al. (2020) finding EMDR to be superior and Marsden (2018) finding no difference. Both studies observed a high drop-out rate from ERP: 37% of participants in Sarichloo et al. (2020) and 35% in Marsden et al. (2018) which is in line with the average for ERP intervention studies (25-30%; Abramowitz, 2006). By contrast, Sarichloo et al. (2020) observed a much lower drop-out rate among participants offered alternating ERP and EMDR sessions (13%; $p<.05$) whereas Marsden et al. (2018) found no reduced drop-out rate among participants offered pure EMDR (41%). It is worth noting that Nazari et al. (2011) had a similar drop-out rate to Marsden et al. (2018) for pure EMDR (36%). As neither Nazari et al. (2011) nor Sarichloo et al. (2020) conducted an intention-to-treat (ITT) analysis, dropout rates will not have influenced their findings, but the improved dropout rate from alternating ERP and EMDR sessions in Sarichloo et al. (2020) could suggest this was more acceptable to participants. It could be that the combination of the imagery intervention with the behavioural techniques used in ERP meant that the acceptability and effectiveness of the overall intervention was enhanced.

Two EMDR papers were case studies; Potik et al. (2020) and Marr (2012). Marr's (2012) paper contained four case studies reported separately. All five reported case studies used EMDR to treat participants with OCD, and all reported reductions in Y-BOCS scores between pre- and post-intervention to below the clinical cut-off. Reductions in Y-BOCS

scores were maintained at follow-up for three of Marr's four cases; one of Marr's cases showed a slight increase of two points at follow-up. Potik (2020) found that the Y-BOCS score further reduced at 6-month follow-up, and this reduction was maintained at 1-year follow-up. As these were case reports, no statistical analysis was carried out. Reliable change scores were not reported for either study. Taking the results of the case studies together, they suggest that EMDR is an effective treatment for people with OCD.

Is ImRs an effective intervention for people with OCD?

All three ImRs studies were case series (Maloney et al., 2019; Veale et al., 2015; Tenore et al., 2020). Results were analysed in various ways: all three case series reported reliable and clinically significant change scores for the Y-BOCS, with Veale et al. (2015) also reporting effect sizes for the Y-BOCS and OCI; and the others also reporting statistical analysis (Tenore et al., 2020: paired-samples t-test, Wilcoxon signed-rank test, linear regression, mixed ANOVA, and intercorrelations; Maloney et al., 2019: 2-tailed paired t-test).

Maloney et al. (2019) found that following the ImRs intervention, participants had a significant reduction in their scores on the Y-BOCS and OCI at post-intervention, 1-month follow-up, and 3-month follow-up. They also found that after a single ImRs session, 38% of participants achieved a Y-BOCS score of ≤12, indicating clinical wellness according to their criterion. The authors also used subjective measures of vividness, imagery accuracy, and distress, by asking participants to rate these on 0-100 scales at each time point. It was found that all three measures showed marked reduction post-intervention, which continued to reduce at 1-month and 3-month follow-up.

The structure of Maloney et al.'s (2019) study meant that participants had up to six sessions of ImRs, stopping after their Y-BOCS scores showed a clinically significant reduction of ≥35% and were below 7. They found that 12 out of the 13 participants achieved this following up to six ImRs sessions. These results suggest that ImRs is an effective treatment for OCD, measured both by standardised outcome measures and subjective participant ratings. The authors found that lower baseline Y-BOCS score significantly predicted a greater percentage improvement in the score after a single ImRs session – suggesting that the less severe a person's OCD, the more effective a single treatment session of ImRs was for them.

Veale et al. (2015) used reliable and clinically significant change as their method of reporting results. They found that post-intervention, 66.6.% of participants showed reliable improvement on the Y-BOCS, and 47.1% showed clinically significant improvement. At 1-month follow-up, 75% of participants showed reliable improvement in Y-BOCS scores, 58.3% showed clinically significant improvement, and 16.7% reached their criterion for asymptomatic OCD (Y-BOCS score of ≤7). They also found a large effect size for Y-BOCS scores post-control to 3-month follow-up and for OCI scores across the same time period. These results suggest that a single session of ImRs is an effective treatment for OCD, and there is further improvement one month after the intervention. Although the authors report reliable change and clinically significant change, these are not clearly defined in numerical terms but as one definition (a 10-point reduction in Y-BOCS score), which makes it difficult to fully understand the implications of the results.

The study by Tenore et al. (2020) reported both statistical analysis on the Y-BOCS and OCI, and reliable and clinically significant change on the same measures. Reliable change was defined as a reduction of 10 points on the Y-BOCS, and a clinically significant

change was defined as at least a 10-point reduction plus the score being less than 17. Details for reliable and clinically significant change on the OCI were not reported. Results showed a significant reduction in Y-BOCS and OCI scores from pre-intervention to 90-day follow-up. At 90-day follow-up, 72% of participants showed reliable improvement on the Y-BOCS, and 55% showed a clinically significant improvement. For the OCI, 28% of participants showed a reliable improvement at 90-day follow-up, and 5.5% showed clinically significant improvement. The study also found a significant negative effect of time on Y-BOCS scores, suggesting that Y-BOCS scores decreased across time. There was also a significant negative quadratic effect of time on Y-BOCS scores, suggesting that the larger difference in scores was at the beginning of the intervention, between pre-intervention and 7-day follow-up.

Tenore et al. (2020) reported that the randomisation of number of days participants waited between baseline monitoring and control intervention, and between control intervention and ImRs, had no significant effect on the outcomes, however neither Maloney et al. (2019) nor Veale et al., (2015) reported on whether their randomisation of days waiting for intervention had affected results.

Taking the case series together, all appeared to show that ImRs is an effective intervention for people with OCD, though the possible bias created by mainly reporting on a clinician-completed outcome measure (Y-BOCS) suggests cautious interpretation. The intervention lengths varied from a single session to up to six sessions, so it is hard to conclude how many sessions is optimum for the best outcomes.

Discussion

This systematic review aimed to examine the literature to establish whether imagery rescripting interventions were effective in the treatment of OCD.

This review can tentatively suggest that imagery rescripting interventions, namely EMDR and ImRs, may be useful in the treatment of OCD. Both EMDR and ImRs studies showed reductions in OCD symptoms post-intervention; these conclusions should be held cautiously, however, as there are several limitations to the included studies.

Between studies there was variation in the clinical interview tools used for diagnosis of OCD, as well as the cut-off scores used on other diagnostic measures, with some studies not reporting the tool used to confirm diagnosis or the cut-off scores used. This makes inclusion criteria difficult to compare, and could mean that there was variation across studies which was not able to be captured in this review. Future studies should ensure that tools and measures used to screen participants are fully reported, including cut-off scores if used.

While the gender representation in the included studies reflects the wider clinical population, the inclusion of younger and older age groups and the diversity of ethnicities represented is unclear. Future research could helpfully specify this information to allow conclusions as to generalisability, as recommended by e.g. Roberts et al. (2020). The decision by two studies to exclude participants with comorbidities limits the generalisability of conclusions to the wider population of people with OCD, among whom comorbidities, particularly depression, are more common than not (LaSalle et al., 2004).

EMDR

All studies (RCTs and case studies) investigating EMDR found that it was an effective intervention for treatment of OCD, reducing Y-BOCS scores. It is notable that only one of the EMDR studies used or reported on any participant-rated measures of OCD symptoms; Marsden et al. (2016) used a self-report adaptation of the Y-BOCS (Baer et al., 1993) and did not find any significant differences between groups on this measure, unlike the two studies using the clinician-rated tool. Nazari et al. (2011) did attempt to mitigate possible bias by having a rater blind to group assignment complete the Y-BOCS. It would be beneficial for future studies of EMDR to include at least one self-report and/or blind observer measure of OCD symptoms to reduce the potential bias of clinician-reported measures.

Two RCTs, Sarichloo et al. (2020) and Nazari et al. (2011), claimed that EMDR was significantly more effective than the comparator, but did not carry out an intention-to-treat (ITT) analysis (the absence of which can increase bias; McCoy, 2017). Only one RCT did carry out an ITT analysis; Marsden et al. (2016), and they did not find any superior benefit from EMDR. Dropout rates were comparable between all three studies, which means that there should not be a reason to exclude an ITT analysis. Examining the analysis methods more closely, Nazari et al. (2011) had very minimal description of the analysis they used, stating that it was "…done according to ATP protocol" (p.272) but not describing what this acronym means nor what the analysis protocol involved. This means that this review is unable to comment on the integrity and/or validity of the results of this study. There are also some weaknesses in the analysis carried out by Sarichloo et al. (2020). In the absence of an ITT analysis, the authors concluded that "…the combination of ERP plus EMDR significantly

increases the treatment completion rate and reduces dropout" (p.6), citing the higher effect size of the EMDR+ERP group compared to ERP alone, suggesting that this was a consequence of EMDR's greater focus on emotion compared to ERP. It would be interesting to see whether the significant differences between groups in favour of EMDR for both Sarichloo et al. (2020) and Nazari et al. (2011) would be maintained if an ITT analysis was carried out. Future research should focus on conducting high-quality RCTs, using ITT analyses, to ascertain whether there is a true benefit of EMDR over and above comparators.

Dropout rates were high across the studies and conditions; between 36% and 41% for EMDR, similar (35% and 37%) for ERP, and 30% for Citalopram. The exception to this was the EMDR+ERP condition in Sarichloo et al.'s (2020) study; the dropout rate for this group was 13%, significantly less than their comparator ERP condition, and also less than EMDR dropout rates in the other studies. This seems to suggest that the combination of EMDR and ERP was more acceptable to participants, compared to either intervention on its own. It would be beneficial for future studies to add a qualitative component to enable participants' opinions on the interventions to be captured, and to investigate what it is about the combination of interventions that makes it more acceptable.

ImRs

All of the case series investigating ImRs found that it was an effective treatment for OCD. The number of sessions provided to participants in each study varied, so it is not possible to draw a conclusion on how many sessions of ImRs would be most beneficial; it does appear though that a single session of ImRs was at least somewhat effective for a proportion of participants. There are, however, no published RCTs or studies using

comparison/control groups, so it is not possible to ascertain whether ImRs is differentially effective compared to other therapies or interventions.

All three ImRs studies used both the clinician-reported Y-BOCS and the self-report OCI as outcome measures. The extent to which symptoms were improved was different when measured using the Y-BOCS to when measured using the OCI. Tenore et al. (2020) found that more participants showed a reliable and clinically significant improvement on the Y-BOCS compared to the OCI following ImRs, and that the effect size between pre-ImRs and 90-day follow-up for the Y-BOCS was larger than for the OCI. Veale et al. (2015) found that participants showed reductions in both Y-BOCS and OCI scores after ImRs, but the effect size for the OCI was smaller. Maloney et al. (2019) found that ImRs improved scores on both the Y-BOCS and OCI, but that improvements in OCI scores did not correlate with improvements on Y-BOCS scores at post-intervention or at follow-up. Despite the two measures ostensibly capturing the same or very similar data (severity of OCD symptoms), it is interesting that there is a consistent pattern that the clinician-rated Y-BOCS showed a higher level of improvement when compared to the participant-rated OCI, and that in Maloney et al.'s (2019) study, improvement on the Y-BOCS was not correlated with improvement on the self-report OCI. Treating clinicians completed the Y-BOCS in the studies by Veale et al. (2015) and Tenore et al. (2020); it is important to be aware of the potential bias that this could have caused, as the therapists were not blind to the experiment and may therefore have been at risk of overestimating the improvements shown by participants. Future studies should consider using an blind rater to administer the clinician-rated questionnaires, to reduce this potential bias.

Overall

It is clearly difficult to directly compare the effectiveness of ImRs and EMDR as treatments for OCD, as although both are imagery rescripting interventions, they can be dissimilar in their structure and approach.

One aspect of the interventions which makes them difficult to compare is the differences in reporting of the memories or images they rescripted. All of the ImRs studies clearly stated what images were rescripted for each individual participant, a benefit of the case series approach and small sample sizes. Maloney et al. (2019) and Veale et al. (2015) both identified aversive memories related to OCD using a semi-structured interview (Speckens et al., 2007), whereas Tenore et al. (2020) used their own interview structure to select guilt-inducing memories, which were not necessarily related to people's OCD. This is an interesting and notable difference and is worth holding in mind when examining the results of the studies; it appears that ImRs is effective in reducing OCD symptoms even when the image that is being rescripted is not directly linked to the OCD symptomatology. For the EMDR studies, all four of Marr's (2012) case studies reported the OCD-related memories and triggers which were rescripted, and Potik et al. (2020) also reported the aversive memory which was rescripted, again a benefit of case study design. None of the RCTs reported the individual memories which were rescripted, an understandable omission due to sample size, but Sarichloo et al. (2020) and Marsden et al. (2016) reported that they used the EMDR protocol from Marr's (2012) study, focusing on OCD-related memories and triggers. Nazari et al. (2011) reported the general EMDR protocol they followed, but gave no details on the type of memories rescripted. Future studies would benefit from describing the type of memories which were rescripted, with some examples given.

Limitations

The current review had some limitations. No statistical or meta-analyses were conducted, due to the shortage of RCTs and the differences across the three RCTs which were included in the review (Brown & Richardson, 2017). Methodologically, a limitation may have been having only a single researcher assessing study eligibility (HW), meaning there may have been the possibility of selection bias; preventative measures included clear inclusion and exclusion criteria, and discussion of studies with two supervisors (LW and AT). A proportion of the full-text studies were quality rated by a second independent rater to reduce likelihood of bias.

It is likely that there are other interventions which use imagery rescripting as part of their protocol which have not been captured within this review, either due to being filtered out by the search terms, or by not explicitly reporting the imagery rescripting content of the intervention. In order to allow a wider review of approaches utilising imagery-based interventions in the treatment of OCD, including approaches such as imaginal exposure (e.g. Stopa, 2021), future studies should clearly state any imagery-based aspects of the interventions used.

Conclusions

This review can conclude that the research into EMDR as an intervention for OCD has significant methodological weaknesses, and the research for ImRs is limited to case series designs. This means that although there is some evidence that imagery rescripting interventions could be effective for treating OCD, it is difficult to draw firm conclusions about this effectiveness, and indicates a significant need for more high-quality studies of

EMDR, ImRs, and other imagery-based interventions before any inferences can be drawn about their feasibility as effective treatments for OCD.

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PAPER 2

Experiences of Imagery in Obsessive-Compulsive Disorder: An Interpretative Phenomenological Analysis

Short title: *Experiences of Imagery in OCD*

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Abstract

Objectives

There has been limited research into how people with OCD experience mental imagery, despite imagery being a defining criterion for OCD diagnosis. This study aimed to explore people's experiences of and reactions to imagery in OCD.

Design

This research employed a qualitative, phenomenological design using semi-structured interviews. An expert-by-experience was involved in the study design.

Method

Eight adult participants with OCD diagnoses were purposively sampled from mental health services and interviewed about their experience of imagery. Interviews were transcribed verbatim and analysed using IPA. A reflexive log and audit trail were kept throughout the research process to ensure quality.

Results

Six superordinate themes were found: *OCD imagery is multisensory, detailed, and vivid*; *OCD imagery as uncontrollable and spontaneous*; *OCD imagery is elaborated upon*; *OCD imagery involves past memories and future fears*; *People respond to OCD imagery as if it is real*; *Therapy shifts OCD imagery*.

Conclusions

This study highlights the intensity of OCD-related imagery experienced by people with OCD and the significance of this imagery for their everyday lives. Images relating to past experiences and images of future fears were identified, suggesting a reconciliation of previous findings. Implications for clinicians seeking to understand and work with people with OCD are discussed.

Keywords

Obsessive-compulsive disorder; mental imagery; Interpretative Phenomenological Analysis; qualitative research.

Practitioner Points

- There have been no purely qualitative investigations of people's experiences of imagery in OCD.
- Eight participants with OCD were interviewed about imagery in a study using Interpretative Phenomenological Analysis.
- Participants described OCD images as an intense and significant part of their everyday lives.
- Imagery is a key part of people's OCD experience, which therapists should be aware of and proactively engage with throughout the clinical cycle.

Data availability statement:

The data are not publicly available due to ethical restrictions as they contain information that could compromise the privacy of research participants.

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Introduction

Mental imagery has been a phenomenon of research interest in psychological disorders for many years (e.g. Hackmann et al., 1998; Day et al., 2004), in addition to being studied as a normal cognitive function (Kosslyn et al., 2001) and one of the key manifestations of thoughts in our consciousness (Hackmann et al., 2011; Stopa, 2021). Holmes and Mathews (2010) define mental imagery as "neural representations constructed from more elemental sensory information" (p.350) and add that "imagery can involve multiple sensory modalities, including bodily sensations and feelings" (p.350). It is clear from these definitions that mental imagery is not simply 'pictures in your mind's eye', but is more complex and multi-sensory. Imagery has a strong relationship with emotion (Hackmann et al., 2011), including distress; as such, it is likely to be a feature of many existing categorisations of 'psychological disorder', from post-traumatic stress disorder (PTSD) and anxiety disorders to mood disorders and psychosis (Hackmann & Holmes, 2004).

The Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5; American Psychiatric Association (APA), 2013) includes recurrent and persistent images in the criteria for diagnosis of obsessive-compulsive disorder (OCD); despite this, there has been limited research into imagery in OCD. De Silva (1986) used case studies to classify types of OCD imagery, but commented that there was little in the way of published research around OCD-related imagery. Since then, other than a few case studies looking tangentially at the links between trauma, imagery, and OCD symptoms (De Silva & Marks, 1999; Lipinski & Pope, 1994), there have only been two studies which set out to explore imagery in OCD (Speckens et al., 2007; Lipton et al., 2010).

Speckens et al. (2007) used semi-structured interviews and measures of OCD, depression, and anxiety to explore the prevalence, characteristics, and features of mental images in OCD. They studied a consecutive sample of patients admitted to an inpatient treatment programme for OCD, who had chronic, treatment-resistant OCD, and may therefore not be fully representative of the wider clinical population of people with OCD. They found that 81% of their sample experienced imagery related to their OCD. Imagery was reported to be mostly experienced visually, though it also included all other sensory modalities. Participants who experienced imagery associated with OCD were found to have higher levels of symptomatology compared with people who did not have imagery. The authors found that the majority of images experienced as part of OCD were memories of adverse events, or images associated with these events.

Comparing a group of participants with OCD with a group of participants with non-OCD anxiety disorders to ascertain whether imagery in OCD was distinguishable from imagery in other anxiety disorders, Lipton et al. (2010) found that there were no significant differences between people with OCD and people with other anxiety disorders in prevalence, vividness, or distress caused by imagery, although they did find that the frequency of intrusive imagery per week was significantly higher for people with OCD than for those with other anxiety disorders. Both groups reported primarily visual imagery, but more people in the OCD group than in the other anxiety disorders group reported that their visual imagery was from a field perspective (from their own point of view), as opposed to an observer perspective (from another's point of view). Contrary to the findings of Speckens et al. (2007), it was found that images in OCD were less likely to be associated with earlier memories than images in other anxiety disorders, but more likely to include future harm and to be drawn from imagination.

It is interesting that Speckens et al. (2007) found that 19% of their sample did not experience imagery; they acknowledged that this might have resulted from the way imagery was measured within the study. They used a binary measure of whether participants experienced mental imagery or thoughts, which may have meant that data was not captured for participants who described their experiences as a combination of thoughts and images. They suggested that it could be useful for future studies to use a more dimensional measure for the nature of intrusions. Lipton et al. (2010) suggested that future studies could also benefit from further investigating how participants distinguish the similarities and differences between images and memories, as there was scope for different interpretations in the way their own questions were phrased.

Investigating the nature of images in OCD is centrally important to understanding the experience of OCD and developing therapeutic interventions that cover all features of OCD. Should people experience images as being linked to adverse memories, therapeutic interventions similar to those used in PTSD treatment, such as imagery modification or imaginal reliving (Ehlers & Clark, 2000), may help to change the meanings and quality of memories associated with images. If images are experienced as being linked to future feared scenarios, therapeutic approaches such as behavioural experiments, reducing cognitive avoidance or rescripting (Arntz & Weertman, 1999) may be more helpful. Clearly, it is currently challenging to draw conclusions on this, as aside from the mixed-methods studies by Speckens et al. (2007) and Lipton et al. (2010), there is little to be found on how people with OCD experience imagery, and no fully qualitative studies. There are also, to date, no studies of people's experiences of imagery in OCD using detailed phenomenological approaches. The use of such approaches as Interpretative Phenomenological Analysis (IPA:

Larkin & Thompson, 2012; Smith el., 2009), may assist in gaining more nuanced "insider perspectives" of this as yet poorly documented phenomenon. Consequently, the current study aims to build on the existing research in order to better understand the experience of OCD-related mental imagery, using IPA to identify and make sense of individuals' experiences in relation to existing psychological theory.

Method

Design

The study used Interpretative Phenomenological Analysis (IPA: Larkin & Thompson, 2012; Smith et al., 2009), a qualitative approach which focuses on investigating people's experiences. IPA is idiographic, such that it focuses on the meaning of a given experience to a participant, and recognises its significance for them, rather than attempting to fit them to pre-defined theories (Larkin & Thompson, 2012). There is a double hermeneutic process in IPA, in which the participant is trying to make sense of their own experiences, and the researcher aims to make sense of that sense-making (Smith, 2011). IPA is well suited to exploring people's experiences of illness, including mental ill health, as it gives voice to the experiences of participants, gives voice to the meaning of these experiences, and does not make initial assumptions (Biggerstaff & Thompson, 2008).

An expert-by-experience collaborated on this project on a paid consultancy basis. They were involved in developing and finalising the interview schedule, as well as providing feedback on the aims and design of the study to ensure that the research is relevant and interesting to participants and the wider community of people with OCD, a significant

benefit of involving experts-by-experience in qualitative research (Faulkner, 2012). The expert-by-experience was recruited by the primary supervisor (LW).

Participants

Participants were eligible if they were over 18, had a diagnosis of OCD and were experiencing imagery as part of this. Current psychosis, drug/alcohol misuse, and hoarding as the primary or only aspect of OCD were exclusion criteria.

Participants were purposively sampled from a specialist NHS OCD service and Psychological Therapies service in South Wales. In addition, the expert-by-experience was invited and agreed to participate in the study. The study was also advertised through OCD Action, a national OCD charity, however no participants were recruited via this method. Eight participants were sought as this was deemed an appropriate sample size that still allows detailed analysis of individual experience to occur and is as such commensurate with the IPA approach (Smith et al., 2009; Smith, 2011). See Table 1 for participant characteristics.

Table 1.

Participant characteristics

Participant [a]	Age	Gender (pronouns [b])	Ethnicity [b]	Time since OCD diagnosis	Comorbidities [b]	Treatment [c]	PHQ-9 Depression Severity	GAD-7 Anxiety Severity	OCI Score [d]	OCI Focus
Dan	34	Male (he/him)	White British	1 year	Generalised Anxiety Disorder	Current: CBT group	Moderate	Severe	82	Checking
Hattie	19	Female (she/her)	White British	4 months	None	Current: CBT group	Severe	Severe	162	Washing, Checking, Obsessions
Rachel	27	Female (she/her)	White British	13 years	None	Previous: CBT group	Mild	Moderate	73	Obsessions
Amiera	26	Female (she/her)	British Pakistani	1 year	None	Previous: CBT group	Severe	Severe	80	Washing
Carys	32	Female (she/her)	White British	2 years	Depression	Current: CBT group	Moderately severe	Severe	47	Washing
Saskia	19	Female (she/her)	White	3 months	None	Current: Individual CBT	Moderate	Moderate	97	Washing, Checking
Natalie	21	Female (she/they)	White	6 months	Depression Anxiety Agoraphobia ADHD Awaiting autism assessment	Current: Group CBT	Severe	Severe	85	Obsessions

Bridget	67	Female (she/her)	British	47 years	Childhood anorexia	Previous: "Flooding" treatment, CBT, CAT, EMDR	Moderately severe	Severe	146	Checking

Note. PHQ-9: Patient Health Questionnaire-9 (Kroenke et al., 2001); GAD-7: Generalised Anxiety Disorder-7 (Spitzer et al., 2006): OCI: Obsessive-Compulsive Inventory (Foa et al., 1998).

[a] Pseudonyms to protect identities

[b] Self-identified pronouns, ethnicity, and comorbidities

[c] CBT: Cognitive Behavioural Therapy; CAT: Cognitive Analytic Therapy; EMDR: Eye Movement Desensitisation and Reprocessing.

[d] OCI range: 0-168; clinical cut-off score: 40 (Foa et al., 1998)

Procedure

NHS ethical approval was granted prior to commencement of the study (IRAS Project ID 295975; Appendix D). The study was shared with potential participants by word of mouth and poster advertisements (Appendix E) in therapy rooms. Therapists shared the information sheets (Appendix F) with individual patients and the researcher (HW) visited group sessions to give a short introduction to the research and answer any questions. Eligibility was confirmed by the researcher via telephone or email and participants were subsequently contacted via email or telephone to arrange the interview. Interviews were held either in person in clinic rooms, or virtually (via a secure University version of Microsoft Teams). All interviews were conducted by the researcher (HW). At the start of the interview, participants were asked to review the information sheet, invited to ask further questions, and asked to provide informed consent for the interview and sign the consent form (Appendix G). Interviews were recorded and transcribed verbatim. Interviews lasted between 41 and 77 minutes.

Data Collection

Demographic information was collected at the beginning of the interview (see Appendix H for interview schedule). Three questionnaires were sent to participants by post or email, in order to provide a more detailed description of the participants (Patient Health Questionnaire 9 (PHQ-9; Kroenke et al., 2001), Generalised Anxiety Disorder 7 (GAD-7; Spitzer et al., 2006) & Obsessive-Compulsive Inventory (OCI; Foa et al., 1998); see Appendix I for copies of the measures)). Participants were asked to complete them prior to the interview. Copies of the questionnaires were available at the interview in case participants had not completed or returned them beforehand. Questionnaires were linked to the

participants' interviews by code number. The descriptive categories for participants' PHQ-9 and GAD-7 scores are shown in Table 1, along with total scores and focus of obsessions from the OCI. Participants' total scores for each of the questionnaires can be found in Appendix J.

Semi-structured interviews were carried out with participants, with the interview questions being based on the aims of the research and including prompting to further investigate accounts of the phenomenon of interest (see Figure 1 for summary of interview questions and Appendix H for the complete interview schedule). The interview schedule was developed with contributions from Consultant Clinical Psychologists with specific Cognitive Behavioural Therapy expertise and experience of working with people with OCD, and the expert-by-experience collaborated with the researchers in developing and finalising the interview schedule.

Figure 1.

Summary of interview questions

Demographic Questions

Interview Questions

- Could you bring to mind a typical recent example of imagery to do with your OCD?
- Can you describe the imagery to me in as much detail as you can?
- What impact does this imagery have on you?
- Does this imagery hold any meaning for you?
- Are there any other forms or types of imagery that you experience related to your OCD?
- Do you experience imagery that is not related to your OCD?

Debrief

Data Analysis

Interviews were analysed using established IPA procedures (Smith et al., 2009). In summary, transcripts were read several times, with initial reflections noted in the reflexive journal. Detailed, line-by-line descriptive coding and interpretative coding was conducted, and initial themes from each transcript collated in a spreadsheet. Superordinate themes were identified, starting with individual interviews and broadening to identify themes across cases. Mind maps were used to aid this process. A more interpretative account of the themes and the meaning behind them was developed through reflection of the researchers on both the data and existing psychological knowledge. Appendix K contains examples from the IPA process.

Quality Control

An audit checklist was created for this study (Appendix L) based on the requirements suggested by Akkerman et al. (2006) and Larkin and Thompson (2012). An audit trail was recorded by keeping all relevant documents, data, and analysis throughout the study. Audit was conducted during regular supervision with LW and AT. Supervision was also used throughout the analysis to ensure adherence to the method. Discussions around themes were had to enable deeper understanding of the data.

Reflexivity

In IPA, transparency and reflection on the experiences, views and preconceptions of the researchers is essential, as well as thinking about how these influences may impact on their interpretations of the data and its themes (Biggerstaff & Thompson, 2008). The researcher (HW) kept a reflexive log throughout the research process, noting down

emerging thoughts, reflections and any links with prior knowledge which came up, and discussing these in supervision (excerpt in Appendix K). For example, following the first and second interviews, the interviewer (HW) was aware of the conflict between her usual position as a clinician and the position of researcher required for these interviews, particularly in regard to refraining from asking follow-up questions which were more clinically relevant than associated with this research. Discussing this in supervision was helpful to give permission to the interviewer to set aside her clinical role and focus solely on the research questions.

Results

The analysis of the data produced six superordinate themes, presented below (see Table 2 for summary). Quotes from participants are included to illustrate each theme. Contributions of participants to each theme is shown in Table 3. Material that has been omitted from quotes is indicated by ellipses '…', and words added to enhance clarity and understanding for the reader are in square brackets '[]'.

Unsurprisingly, the concept of responsibility was evident across all the themes, as would be expected (e.g. Salkovskis, 1999). For all participants, it was clear that living with OCD could be distressing, and had a large impact on many aspects of their lives.

"OCD just robs so much joy…" (Bridget)

The purpose of the current study was to investigate people's experiences of imagery, and so the following themes will explore this in more depth.

Table 2.

Superordinate themes and subthemes

Superordinate Themes	**Subthemes**
OCD imagery is multisensory, detailed, and vivid	
OCD imagery is uncontrollable and spontaneous	Brain vs. self Intentional use of imagery Non-OCD imagery is controllable
OCD imagery is elaborated upon	Content is elaborated Imagery conveys meaning about self Hypervigilance
OCD imagery involves past memories and future fears	Imagery related to traumatic past experiences Imagery related to more general memories Imagery of future harm
People respond to OCD imagery as if it is real	Imagery elicits emotions Imagery prompts compulsions and safety behaviours Responses are seen as irrational
Therapy shifts OCD imagery	

Table 3.

Participant contributions to themes and subthemes

Superordinate and subthemes	Participants							
	Dan	**Hattie**	**Rachel**	**Amiera**	**Carys**	**Saskia**	**Natalie**	**Bridget**
OCD imagery is multisensory, detailed, and vivid	✓	✓	✓	✓	✓	✓	✓	✓
OCD imagery is uncontrollable and spontaneous	✓	✓	✓	✓	✓	✓	✓	✓
Brain vs. self	✓	✓	✓	✓		✓	✓	✓
Intentional use of imagery			✓			✓		
Non-OCD imagery is controllable	✓	✓	✓	✓		✓		
OCD imagery is elaborated upon								
Content is elaborated	✓				✓	✓		✓
Imagery conveys meaning about self	✓	✓	✓	✓	✓	✓	✓	
Hypervigilance	✓	✓		✓		✓	✓	✓
OCD imagery involves past memories and future fears								
Imagery related to traumatic past experiences	✓	✓	✓		✓	✓		✓
Imagery related to more general memories		✓	✓	✓	✓	✓	✓	✓
Imagery of future harm	✓	✓	✓	✓	✓	✓	✓	✓
People respond to OCD imagery as if it is real								
Imagery elicits emotions	✓	✓	✓	✓	✓	✓	✓	✓
Imagery prompts compulsions and safety behaviours	✓	✓	✓	✓	✓	✓	✓	✓
Responses are seen as irrational	✓	✓						✓
Therapy shifts OCD imagery	✓	✓	✓		✓	✓		

Theme 1: OCD Imagery is Multisensory, Detailed, and Vivid

Every person interviewed shared that they experienced imagery in a multisensory way, describing visual, auditory, olfactory, and physiological characteristics of their imagery in varying combinations. All participants described visual images; the content of these visual images varied depending on the person's specific obsessions, but they were always unpleasant:

"…*so I get bodies, images of bodies and murdered people…*" (Bridget)

"…*that person who I feel like I might have offended… them, sort of, not smiling at me or not wanting to engage with me*…" (Rachel)

"*I can see the kitchen, and then just fire and smoke everywhere…*" (Saskia)

As well as purely visual images, participants also described imagery as having an auditory aspect, generally accompanying the visual images and appropriate to the scenario within the image. Vividness of auditory imagery varied from more muted accompaniments of visual images to extremely vivid, purely auditory imagery, as described by Dan:

"*I can almost hear the dynamic [of the water leaking], and not just like a 'sss', like a 'SSSHHHH' sound… the whole dynamic of it and the timbre of it, and I'll get that in detail…*"

Two participants described scent as being part of some of their images. For one, scent was present if the image was similar to a memory that had an olfactory aspect at the time, while for another, scent was an integral component of his whole experience of imagery:

"…*I could smell the sort of environment… if I'd noticed anything at the time…" (Natalie)*

"*I'm picturing everything, I'm seeing it, I'm smelling it*…" (Dan)

Imagery also had tactile and proprioceptive qualities for three of the participants. These qualities were consistent with the feared scenario and experiencing them preceded related compulsions. These feelings also seemed to be similar to a felt metaphor for a sense of threat:

"*…I feel that impact of it, how it would feel, the car hitting into it, and how my body would react to that…*" (Carys)

"*I feel like… sticky, grimy, yucky, all those types of things…*" (Amiera)

"*…I feel very small… I feel like there's something over my head about to drop…*" (Saskia)

Participants used expressive, evocative language to describe their experiences, demonstrating the vividness and detail of their imagery, and indicating that this was a distinct and memorable feature of the imagery. These descriptions tended to embody the unpleasantness of the image, and were sometimes so detailed and vivid that the reader cannot help but conjure up the image in their own mind:

"*Like the most horrible green you could think of. Not like a nice emerald green. I'd describe it as like bogey green, like not very nice. Like the kind of green you'd associate with sickness, with a little bit of, tip of like brown-ish, I guess…"* (Hattie)

"*…my brother made a fire… and all I could see was his body on the floor in flames… and me trying to, like, put the flames out. Like, just, vivid…*" (Carys)

Participants tended to report that their OCD and non-OCD imagery was similar in the high level of vividness and detail, although people's experiences did vary to some degree. The major difference between OCD and non-OCD imagery, however, was that non-OCD imagery

was not unpleasant, and focused more on everyday things. Some participants experienced non-OCD imagery as actively pleasant, describing planning for events such as holidays or what to wear on weekend occasions. Others found it to be neither pleasant nor unpleasant; just neutral. This suggests a clear distinction between OCD imagery and non-OCD imagery in terms of pleasantness.

> "*…if I was going out somewhere, or planning, like, a holiday or going somewhere, it would just be nice thoughts…*" (Amiera)
>
> "*… just like images of like what is going on, and like things that I might do later, so like what I might have for tea, I can picture what is in my fridge and things like that…*" (Hattie)

In summary, all sensory modalities were represented when participants spoke about their imagery. The vividness and detail of the images people experienced were important characteristics, and seemed to emphasise the unpleasantness of the images.

Theme 2: OCD Imagery is Uncontrollable and Spontaneous

This superordinate theme explores the nature of imagery in OCD and participants feeling out of control of their experiences of imagery.

Participants spoke about experiencing OCD imagery as out of their control, and imagery occurring spontaneously without them voluntarily conjuring it up. Imagery was described as appearing immediately after hearing only part of a trigger, or a novel image appearing unexpectedly during a regular compulsion. Imagery was also hard to stop once it had started, with people not feeling in control of this.

"*I drive for 40 minutes to work, there and back, and it's just images of me crashing…*" (Carys)

"*I've only got to hear a syllable [of a trigger word]… It's an automatic response. I'm not thinking 'oh I don't like that word, I think I'll worry about it", it's an instant physiological reaction…*" (Bridget)

"*Yeah, it literally caught me off guard. It just happened…*" (Saskia)

Brain vs. Self

Several participants described feeling as if their brain was acting independently of their 'self' – as if they were not in conscious control of what their brain was doing, or like it was 'playing tricks' on them. Participants seemed to experience this separation from being in conscious control of their minds as understandably unpleasant and frustrating:

"*…my brain will turn on when it wants to almost fool me, trick me into thinking there's something wrong…*" (Dan)

"*…OK, I'm done with it [the intrusive image], my brain's like 'but are you really done with it?' and I'm like oh, for goodness' sake, give me a break, you know…*" (Rachel)

For Amiera, this lack of control permeated into imagery being present within her dreams. No other participants mentioned dreams, but this was not specifically asked about in the interview schedule so it could be that it is more widespread an experience than reported here.

"*Like, my mind automatically thinks of contamination… it just turns the dream into a nightmare…*"

Intentional Use of Imagery

Two participants, however, described using imagery intentionally in order to mentally review events. This appeared to involve replaying or retelling intrusive images as a form of checking:

> *I just remember having the image of the book on the desk and I was like, 'Oh, have I left everything in my room?' So I imagined everything left in my room. So that flashed in, and I was like 'OK, yeah, you did that right. Did you do everything else right?'* (Saskia)

Non-OCD Imagery is Controllable

Participants descriptions of their experiences of non-OCD imagery contrasted with the spontaneous nature of OCD imagery and were described as more controllable. Participants described intentionally conjuring up non-OCD imagery as a helpful strategy, either for work, hobbies, or relaxation. Everyone who spoke about these experiences were clear that whereas OCD imagery was spontaneous and uncontrollable, their experiences of non-OCD imagery included a feeling of control.

> "*I made a spreadsheet today [for work]… and I visualised it in my head before it was there…*" (Dan)

> "*…when I can't sleep… I imagine Christmas day, and waking up, and I plan the whole day in my head…*" (Saskia)

> "*I guess it's [non-OCD imagery] different in that it's on my terms, rather than OCD's terms… I feel more in control of that…*" (Rachel)

Overall, participants described feeling out of control of their OCD imagery, as if their brain almost 'had a mind of its own'. Fewer people used imagery voluntarily as a form of checking, but it was an important phenomenon to capture within the theme. Non-OCD imagery was distinct from OCD imagery in that participants felt they had control over it.

Theme 3: OCD Imagery is Elaborated Upon

This superordinate theme explores the common topic for participants that imagery was not a static experience.

Content is Elaborated

Participants described the content of their imagery rapidly progressing from the initial intrusive image to the image of a catastrophic feared future outcome. This generally had several steps of elaboration which happened quickly and without conscious effort. Participants descriptions of the way in which imagery is rapidly elaborated also suggested a level of responsibility for the feared future event.

"*…it probably does make me just go from, OK, blow-out, accident, death*" (Dan)

"*I won't be able to use them [art supplies seen as contaminated] because if somebody bought that painting, it would contaminate them, make them ill, and kill them…*" (Bridget)

"*…if I meet up with my nieces and nephews, I imagine that I am contaminated and that I'm going to contaminate them and make them ill, and make them really ill…*" (Carys)

"*…it's when I'm checking the handle, and if I try to leave and it still doesn't feel right, it will pop in then, and it will be like 'no, you need to check again, because that's [a break-in] going to happen', the re-imagery…*" (Saskia)

Imagery Conveys Meaning About Self

Several participants spoke about how the imagery they experienced was elaborated to the extent that it suggested a deep, negative, meaning about themselves as people, and that they possessed undesirable traits which were opposed to their own values. For one participant, Amiera, imagery linked with her religion, which heightened the negative meaning she attached to herself because of the imagery. Rachel described a tension between logically knowing the imagery is opposite to her morals and values, but feeling like she may be a bad person for having the images. Rachel also described imagery as a "*double-edged sword*" as she felt that the distress her images caused her had positive connotations for herself. This disparity between these two interpretations of the same imagery illustrates the complex and nuanced nature of people's experiences, and highlights that it can be tricky for them to make sense of it themselves.

"*It makes me really nervous that I'm a bad person, or that I'm racist*…" (Natalie)

"*…I try not to associate it with my personality, but you know there is always that 'what if I actually feel like this and I actually want to offend this person', even though it's like the furthest thing from what I want to do*…" (Rachel)

"*…sometimes I worry about getting over the images and the compulsions because I think that's going to make me less of a conscientious person or less of a kind person in other people's eyes…*" (Rachel)

Hypervigilance

Participants described paying close attention to their environment to be on the lookout for potential triggers. For some people this hypervigilance meant that common items they would see on an everyday basis are elaborated upon and interpreted as threats, feeding into the cycle of worsening imagery.

"*…so a lot of the time I'd walk around with a torch… my phone torch, especially if it's night, because I can't see and I walk at a slow pace…*" (Amiera)

"*…if I saw any glass, or… any sharp pointy things, [they] were syringes and needles. So on the pavement, it could be a cotton bud… or anything long… or any glass, to me that becomes a syringe…*" (Bridget)

The experience of hypervigilance and OCD imagery being elaborated upon was contrasted with participants' experiences of non-OCD imagery, which was described as more transient and fleeting:

"I would say the image just passes. It just kind of like – as if it comes in one ear and goes out the other…" (Hattie)

"*…like silly things like 'what am I going to wear this weekend?' and then I'll think about my wardrobe and then I'll go 'oh yeah, OK', and I'll move on…*" (Carys)

This theme highlighted that the content of imagery develops and changes throughout people's experience of it, and that generally OCD imagery implies a negative meaning about the self. Hypervigilance also feeds into the elaboration of imagery.

Theme 4: OCD Imagery Involves Past Memories and Future Fears

Participants described their OCD imagery as being linked with memory as well as feared future harm.

Imagery Related to Traumatic Past Experiences

Traumatic experiences described by participants varied from what psychological literature would call "Big-T traumas" (James & MacKinnon, 2013), such as the death of a family member or abusive exposure treatment, to "small-t traumas" (James & MacKinnon, 2013) which can have a cumulative effect, such as family members being unwell or a neighbour being burgled. Images of these traumatic experiences were described by participants as arising in the context of their OCD either as a direct replication of this traumatic event, or as an imaginary scenario related to these experiences.

"*I lost my cousin in a car accident…*" (Dan)

"*…barbaric flooding treatment…which the psychologists have acknowledged was abuse…*" (Bridget)

"*…my stepdad had Covid, and he got it really, really bad…*" (Saskia)

"*…I remember when I was 14 or 15… two houses up from us, they were robbed…*" (Saskia)

"*…similar to the hospital situations I've been in before, like exactly the same, like literally exactly the same…*" (Hattie)

"…it is sort of lifted from an experience or an image that I know, but applied to me…" (Rachel)

Imagery Related to More General Memories

Some participants described aspects of their OCD imagery as being influenced by memories of things they have seen on television or in films. This highlights that it is not only personal memories of difficult or traumatic incidents which are involved in imagery, but that memories of things people have seen which relate to their OCD are also integrated into people's imagery experiences.

"*It's like, you know like when you watch the criminal programmes and… there's like a handprint on it… it's like black…*" (Hattie)

"*…it's never happened to me so it's just something that I've probably seen on TV and stuff…*" (Carys)

"*I would say a lot of the time they're green because that's what I see from the film, Gremlins…*" (Amiera)

"…it's just an absolute mess, as you see in films, it's just everywhere…" (Saskia)

Imagery of Future Harm

In addition to OCD imagery being related to memories, the majority of participants described their imagery having a focus on feared future harm. Participants described both specific feared future events in which they would be responsible for causing harm or upset to others or in which harm would come to themselves, as well as more abstract imagery of future threats.

"*…the visualisation of coming home to see it, and that was what was making me anxious…*" (Dan)

"…because your mind has shown you doing it [stabbing someone], you're like, thinking 'oh well, I've got to do this to stop that', and if I don't do that, then I'm gonna do it…" (Hattie)

"*What if I've picked up a virus from them [unwell children at work] and then I'll make them [young relatives] ill? And then I can see them like being poorly in bed…*" (Carys)

"*…the monster, it's something that I wouldn't want to be around, I have to run away from, then it's threatening for me, for what is to come…*" (Amiera)

Overall, this theme indicated that participants experienced their OCD imagery as related to memories, both traumatic and more general, and that imagery of future harm was a consistent experience across participants.

Theme 5: People Respond to OCD Imagery As If It Is Real

A theme that was common across participants was that they responded to their OCD imagery as if it were real, in terms of emotional responses, behavioural responses, and obsessive or compulsive responses, including safety behaviours.

Imagery Elicits Emotions

Every participant spoke about the emotional reaction to imagery, showing that it is a key feature of their experiences. For many, anxiety or panic was the primary emotional response, but people also reported that their imagery elicited low mood. Imagery could also lead to feelings of frustration, and concentration was impaired for some participants as a result of the emotional responses to imagery.

"*I think it's just that feeling of anxiety really… it can sort of affect my concentration*" (Rachel)

"*…I get a feeling of dread, or I get really anxious…*" (Natalie)

"*…that felt really frustrating for me and I was very anxious…*" (Amiera)

"*It definitely doesn't help my mood. Yeah, it usually kind of leaves me feeling a bit shit…*" (Natalie)

Imagery Prompts Compulsions and Safety Behaviours

All of the participants talked about having behavioural responses to their OCD imagery. Often imagery would prompt actions which would be described as compulsions or safety behaviours, such as repeated checking, reassurance-seeking, and neutralising. One participant, Dan, shared that he had made a significant financial investment (buying a new car) in response to his imagery and as an attempt to prevent future imagery occurring.

"*…it [imagery] does lead me to doing… reassurance-seeking and a lot of checking…*" (Rachel)

"*…I've asked people serving me [in a supermarket] 'oh is that a water bottle [as opposed to a feared item]? Can you convince me? Can you write down that that's a water bottle?'*" (Bridget)

Responses Are Seen as Irrational

Some participants mentioned feeling that their responses to imagery were irrational or illogical, but that they could find it hard to hold on to the rational perspective. For Dan, the dichotomy between his logical knowledge about what he was experiencing and the

irrationality of the responses his imagery elicited seemed to be something he found particularly frustrating and upsetting.

> "*…it's ridiculous, you know, when you think about it rationally, why? But that's how it is."* (Dan)
>
> "*…the worst thing about it is I **know** it doesn't need to be checked, I **know** it's a problem up here [gesturing to head] but I can't help it, and that's the worst thing about it…*" (Dan)

By contrast with their response to OCD imagery, participants tended not to respond to non-OCD imagery. Consistent with their description of non-OCD imagery as more fleeting than OCD imagery in Theme 3, participants did not report any urges to act or respond to their non-OCD imagery.

> "*You wouldn't get like the panic or the guilt, or like the stress. Like there's no stress behind it, or like 'Oh why have I thought that? I must do this to get rid of that image' – there's none of that…*" (Hattie).

This theme highlighted that responses to OCD imagery are similar to responses to perceived stimuli, in both emotional and behavioural reactions, and that responses could be seen as irrational and frustrating.

Theme 6: Therapy Shifts Imagery

Therapy was helpful for some participants in shifting their understanding of imagery or improving their imagery. Saskia had not realised that her experiences could be described as imagery until she spoke about them with her psychologist; this then helped her to

understand imagery as part of her OCD. Other participants spoke about how doing behavioural experiments as part of their CBT had actively shifted the content and impact of their imagery, meaning they were more able to do everyday things such as go outside or have drinks made for them.

> "*I didn't think it [imagery] meant a lot until [psychologist] had said this to me, and then I was like 'Oh, OK, actually I do get quite a lot…*" (Saskia)

> "*It probably helps actually because for the last week I've asked someone to make me a cup of tea every day… and the week before I was proper panicking like 'I'm going to get ill in the next 12 hours… get a stomach bug, vomiting bug'. Whereas towards the end of this week… I wasn't spiralling…*" (Carys)

Also captured within this theme is that some participants reported that the research interviews themselves, with discussion around imagery and what it means and involves, was helpful in bringing imagery to their awareness and shifting their relationship to it.

> "*…an observation from reading your leaflet and the correspondence we've had is that I never really thought about it as sort of imagery… I've always just thought of it as intrusive thoughts… but in a way… it's absolutely imagery as you've sort of gone through that, and it's just a helpful perspective… a thought is just a thought and an image is just an image, so I think it will also just help with the separation a little bit more, so definitely have a positive way of thinking of it…"* (Rachel)

> "*…I picked up on things talking today to you that maybe I've not noticed before…*" (Dan)

In summary, this theme indicated that therapy that is not specifically imagery related can still have a positive impact on people's experience of imagery. It also suggests that

simply speaking to someone about their experiences of imagery was a helpful experience for participants.

Discussion

This study aimed to investigate people's experiences of mental imagery in OCD through semi-structured interviews and Interpretative Phenomenological Analysis. The analysis revealed six superordinate themes: *OCD imagery is multisensory, detailed, and vivid*; *OCD imagery is uncontrollable and spontaneous*; *OCD imagery is elaborated upon*; *OCD imagery involves past memories and future fears*; *People respond to OCD imagery as if it is real*; *Therapy shifts OCD imagery*.

The current study found that participants described their OCD images as vivid and detailed, primarily visual but incorporating other sensory modalities, and often distressing, consistent with previous research (Rachman, 2007; Speckens et al., 2007). The theme of OCD images being elaborated upon, however, is at odds with Rachman's (2007) claim that "…images change very little from occasion to occasion. They display remarkable stability and consistency…" (p.405), and indicates that previous conceptualisations may not have captured people's full experiences of OCD imagery.

All participants shared that their imagery was based on past memories, which could be traumatic and/or more everyday memories. The findings of the current study are consistent with Speckens et al. (2007), who found that images were memories of, or associated with, earlier negative events for two-thirds of participants, and also align with

Miller and Brock's (2017) meta-analytic findings of a significant relationship between past trauma and OCD symptoms. In slight contrast, Lipton et al. (2010) found that only 15% of OCD participants said their image was directly connected to a memory, and 55% said it was associated with an earlier event, leading the authors to conclude that imagery in OCD is "derived more from fantasy and imagination" (p.821). Taking all of this together, there seems to be a consistent finding across studies, including the current study, that OCD imagery is often associated with earlier memories or events, but can also include elements of elaboration and imagination, which is corroborated by the findings from the current study.

For all the people who participated in this study, it was evidenced that both memories of past events and fears about future incidents were implicated in their experiences of imagery. Consequently, this supports the Salkovskis (1999) cognitive model of OCD, which states that obsessional intrusions often focus on future fears, and Rachman's (2007) description of OCD imagery encompassing past events but also including anticipatory future-focused images. This finding also suggests that solely addressing past traumas in the treatment of OCD is unlikely to be sufficient, and there is a need to integrate this with examining feared future events, for example as in the CBT treatment model for OCD (Bream et al., 2017).

The findings from this study could inform many aspects of clinical practice with people who have OCD. It is clear that imagery is a very significant part of people's experiences of OCD; images are very vivid and have a big impact on people's everyday lives, and this needs to be held in mind by clinicians throughout the clinical cycle. Assessment will

be a key point at which clinicians should be explicitly asking about imagery, as people may then feel empowered to share their experiences of imagery which may have otherwise been missed in a standard assessment process.

The findings from the current study make suggestions as to how imagery could be integrated into formulation. Thinking about the commonly used CBT model of OCD (Salkovskis, 1999), the findings of this study suggest that imagery is present in all parts of this process. This will be important for therapists to hold in mind when formulating using this model, for example identifying intrusive images as well as thoughts, considering whether images act as triggers for obsessions and compulsions, and whether the person may intentionally use imagery as a response (i.e. replaying images as a form of checking). Imagery of past experiences may also contribute to responsibility beliefs and intolerance of uncertainty, which are thought to be present among many people with OCD (O'Leary et al., 2009; Pinciotti et al., 2021). To further inform formulation, people with OCD could be encouraged by their therapist to create and engage with an image of their feared stimuli, to help them think about how they think, feel, and behave when exposed to these stimuli. This could also act as a first step towards behavioural experiments or in vivo exposure.

People responding to OCD imagery as if it is real will be a particularly important concept to consider when working therapeutically with people with OCD. This finding suggests that responses to the presentation of feared stimuli through approaches such as virtual reality (VR), a technique which has already been found to prompt anxiety and an increase in OCD symptoms (Dehghan et al., 2022), may be reflective of the responses to in vivo feared stimuli, and so could be a more practical way of carrying out behavioural experiments.

The findings of the current study indicate that alterations in imagery or responses to imagery link with reduced OCD symptoms and impact; it could therefore be helpful to consider asking about any changes or reductions in imagery, or responses to imagery, as part of the evaluation of the therapeutic process.

Limitations

There were some limitations in this study. Participants were predominantly female, white and in their mid-late twenties. This is not reflective of the clinical population of people with OCD, and may mean that the experiences shared by many of the participants in this study may differ from those of people who are of different genders, ethnicities, and ages, and means the voices of these people are underrepresented in this study, and that the findings may lack transferability – a risk in all qualitative research (Spencer & Ritchie, 2012). It will be important to capture the experiences of people from a wide variety of backgrounds, to see where their experiences of imagery are similar and different to those captured here.

It is important to acknowledge the perspectives brought by the authors as clinicians working within a framework based largely upon CBT, and with extensive knowledge and experience of this model. Whilst this may have aided a nuanced understanding as to how the phenomenon of OCD imagery mapped on to existing conceptualisations and knowledge, it also means there may have been a risk of novel material being missed. That being said, our careful approach to considering reflexivity and the detailed analytical approach means that this risk was small.

In summary, imagery is a key aspect of OCD, and should be taken into consideration by therapists, and integrated in an experiential manner (e.g. Hackmann et al., 2011; Stopa, 2021) throughout all aspects of therapy.

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Appendix A

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Appendix B

Quality Rating Tools

JBI Critical Appraisal Checklist for Case Reports

JBI Critical Appraisal Checklist for Case Reports

Reviewer_____Date_____

Author _____Year_____Record Number_____.

	Yes	No	Unclear	Not applicable
1. Were patient's demographic characteristics clearly described?	☐	☐	☐	☐
2. Was the patient's history clearly described and presented as a timeline?	☐	☐	☐	☐
3. Was the current clinical condition of the patient on presentation clearly described?	☐	☐	☐	☐
4. Were diagnostic tests or assessment methods and the results clearly described?	☐	☐	☐	☐
5. Was the intervention(s) or treatment procedure(s) clearly described?	☐	☐	☐	☐
6. Was the post-intervention clinical condition clearly described?	☐	☐	☐	☐
7. Were adverse events (harms) or unanticipated events identified and described?	☐	☐	☐	☐
8. Does the case report provide takeaway lessons?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)

_____

_____

_____

JBI Critical Appraisal Checklist for Case Series

JBI Critical Appraisal Checklist for Case Series

Reviewer_____Date_____

Author _____Year_____Record Number_____

	Yes	No	Unclear	Not applicable
1. Were there clear criteria for inclusion in the case series?	☐	☐	☐	☐
2. Was the condition measured in a standard, reliable way for all participants included in the case series?	☐	☐	☐	☐
3. Were valid methods used for identification of the condition for all participants included in the case series?	☐	☐	☐	☐
4. Did the case series have consecutive inclusion of participants?	☐	☐	☐	☐
5. Did the case series have complete inclusion of participants?	☐	☐	☐	☐
6. Was there clear reporting of the demographics of the participants in the study?	☐	☐	☐	☐
7. Was there clear reporting of clinical information of the participants?	☐	☐	☐	☐
8. Were the outcomes or follow up results of cases clearly reported?	☐	☐	☐	☐
9. Was there clear reporting of the presenting site(s)/clinic(s) demographic information?	☐	☐	☐	☐
10. Was statistical analysis appropriate?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)

_____

_____

_____

Quality Assessment Tool for Quantitative Studies

QUALITY ASSESSMENT TOOL FOR QUANTITATIVE STUDIES

EPHPP
Effective Public Health Practice Project

COMPONENT RATINGS

A) SELECTION BIAS

(Q1) Are the individuals selected to participate in the study likely to be representative of the target population?

1 Very likely
2 Somewhat likely
3 Not likely
4 Can't tell

(Q2) What percentage of selected individuals agreed to participate?

1 80 - 100% agreement
2 60 – 79% agreement
3 less than 60% agreement
4 Not applicable
5 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

B) STUDY DESIGN

Indicate the study design

1 Randomized controlled trial
2 Controlled clinical trial
3 Cohort analytic (two group pre + post)
4 Case-control
5 Cohort (one group pre + post (before and after))
6 Interrupted time series
7 Other specify _____
8 Can't tell

Was the study described as randomized? If NO, go to Component C.

No Yes

If Yes, was the method of randomization described? (See dictionary)

No Yes

If Yes, was the method appropriate? (See dictionary)

No Yes

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

C) CONFOUNDERS

(Q1) Were there important differences between groups prior to the intervention?

1 Yes
2 No
3 Can't tell

The following are examples of confounders:

1 Race
2 Sex
3 Marital status/family
4 Age
5 SES (income or class)
6 Education
7 Health status
8 Pre-intervention score on outcome measure

(Q2) If yes, indicate the percentage of relevant confounders that were controlled (either in the design (e.g. stratification, matching) or analysis)?

1 80 – 100% (most)
2 60 – 79% (some)
3 Less than 60% (few or none)
4 Can't Tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

D) BLINDING

(Q1) Was (were) the outcome assessor(s) aware of the intervention or exposure status of participants?

1 Yes
2 No
3 Can't tell

(Q2) Were the study participants aware of the research question?

1 Yes
2 No
3 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

E) DATA COLLECTION METHODS

(Q1) Were data collection tools shown to be valid?

1 Yes
2 No
3 Can't tell

(Q2) Were data collection tools shown to be reliable?

1 Yes
2 No
3 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

F) WITHDRAWALS AND DROP-OUTS

(Q1) Were withdrawals and drop-outs reported in terms of numbers and/or reasons per group?

1 Yes
2 No
3 Can't tell
4 Not Applicable (i.e. one time surveys or interviews)

(Q2) Indicate the percentage of participants completing the study. (If the percentage differs by groups, record the lowest).

1 80 -100%
2 60 - 79%
3 less than 60%
4 Can't tell
5 Not Applicable (i.e. Retrospective case-control)

RATE THIS SECTION	STRONG	MODERATE	WEAK	
See dictionary	1	2	3	Not Applicable

G) INTERVENTION INTEGRITY

(Q1) What percentage of participants received the allocated intervention or exposure of interest?

1 80 -100%
2 60 - 79%
3 less than 60%
4 Can't tell

(Q2) Was the consistency of the intervention measured?

1 Yes
2 No
3 Can't tell

(Q3) Is it likely that subjects received an unintended intervention (contamination or co-intervention) that may influence the results?

4 Yes
5 No
6 Can't tell

H) ANALYSES

(Q1) Indicate the unit of allocation (circle one)

community organization/institution practice/office individual

(Q2) Indicate the unit of analysis (circle one)

community organization/institution practice/office individual

(Q3) Are the statistical methods appropriate for the study design?

1 Yes
2 No
3 Can't tell

(Q4) Is the analysis performed by intervention allocation status (i.e. intention to treat) rather than the actual intervention received?

1 Yes
2 No
3 Can't tell

GLOBAL RATING

COMPONENT RATINGS

Please transcribe the information from the gray boxes on pages 1-4 onto this page. See dictionary on how to rate this section.

A	**SELECTION BIAS**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
B	**STUDY DESIGN**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
C	**CONFOUNDERS**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
D	**BLINDING**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
E	**DATA COLLECTION METHOD**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
F	**WITHDRAWALS AND DROPOUTS**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	Not Applicable

GLOBAL RATING FOR THIS PAPER (circle one):

1	STRONG	(no WEAK ratings)
2	MODERATE	(one WEAK rating)
3	WEAK	(two or more WEAK ratings)

With both reviewers discussing the ratings:

Is there a discrepancy between the two reviewers with respect to the component (A-F) ratings?

No Yes

If yes, indicate the reason for the discrepancy

1 Oversight
2 Differences in interpretation of criteria
3 Differences in interpretation of study

Final decision of both reviewers (circle one):

1 STRONG
2 MODERATE
3 WEAK

Appendix C

Psychology and Psychotherapy: Theory, Research and Practice - Author Guidelines

PAPTRAP AUTHOR GUIDELINES

Sections

1. SUBMISSION

Authors should kindly note that submission implies that the content has not been published or submitted for publication elsewhere except as a brief abstract in the proceedings of a scientific meeting or symposium.

Once the submission materials have been prepared in accordance with the Author Guidelines, manuscripts should be submitted online at http://www.editorialmanager.com/paptrap
Click here for more details on how to use **Editorial Manager**.
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Psychology and Psychotherapy: Theory Research and Practice is an international scientific journal with a focus on the psychological aspects of mental health difficulties and well-being; and psychological problems and their psychological treatments. We welcome submissions from mental health professionals and researchers from all relevant professional backgrounds. The Journal welcomes submissions of original high quality empirical research and rigorous theoretical papers of any theoretical provenance provided they have a bearing upon vulnerability to, adjustment to, assessment of, and recovery (assisted or otherwise) from psychological disorders. Submission of systematic reviews and other research reports which support evidence-based practice are also welcomed, as are relevant high quality analogue studies and Registered Reports. The Journal thus aims to promote theoretical and research developments in the understanding of cognitive and emotional factors in psychological disorders, interpersonal attitudes, behaviour and relationships, and psychological therapies (including both process and outcome research) where mental health is concerned. Clinical or case studies will not normally be considered except where they illustrate particularly unusual forms of psychopathology or innovative forms of therapy and meet scientific criteria through appropriate use of single case experimental designs.

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Word limits for specific article types are as follows:

- Research articles: 5000 words
- Qualitative papers: 6000 words
- Review papers: 6000 words
- Special Issue papers: 5000 words

In exceptional cases the Editor retains discretion to publish papers beyond this length where the clear and concise expression of the scientific content requires greater length (e.g., explanation of a new theory or a substantially new method). Authors must contact the Editor prior to submission in such a case.

Please refer to the separate guidelines for **Registered Reports**.

All systematic reviews must be pre-registered.

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For a limited time, the *Psychology and Psychotherapy: Theory, Research and Practice* are accepting brief-reports on the topic of Novel Coronavirus (COVID-19) in line with the journal's main aims and scope (outlined above). Brief reports should not exceed 2000 words and should have no more than two tables or figures. Abstracts can be either structured (according to standard journal guidance) or unstructured but should not exceed 200 words. Any papers that are over the word limits will be returned to the authors. Appendices are included in the word limit; however online supporting information is not included.

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Keywords

Please provide appropriate keywords.

Acknowledgments

Contributions from anyone who does not meet the criteria for authorship should be listed, with permission from the contributor, in an Acknowledgments section. Financial and material support should also be mentioned. Thanks to anonymous reviewers are not appropriate.

Practitioner Points

All articles must include Practitioner Points – these are 2-4 bullet point with the heading 'Practitioner Points'. They should briefly and clearly outline the relevance of your research to professional practice. (The Practitioner Points should be submitted in a separate file.)

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As papers are double-blind peer reviewed, the main text file should not include any information that might identify the authors.

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- Main text
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- The author receives an email alert (if requested).
- The link to the published article can be shared through social media.
- The author will have free access to the paper (after accepting the Terms & Conditions of use, they can view the article).
- For non-open access articles, the corresponding author and co-authors can nominate up to ten colleagues to receive a publication alert and free online access to the article.

Promoting the Article

To find out how to best promote an article, click **here**.

Wiley Editing Services offers professional video, design, and writing services to create shareable video abstracts, infographics, conference posters, lay summaries, and research news stories for your research – so you can help your research get the attention it deserves.

Measuring the Impact of an Article

Wiley also helps authors measure the impact of their research through specialist partnerships with **Kudos** and **Altmetric**.

9. EDITORIAL OFFICE CONTACT DETAILS

For help with submissions, please contact: Hannah Wakley, Associate Managing Editor (**papt@wiley.com**) or phone +44 (0) 116 252 9504.

Author Guidelines updated 28th August 2019

Appendix D

Proof of NHS Ethical Approval

Ymchwil Iechyd a Gofal Cymru
Health and Care Research Wales

Ariennir gan Lywodraeth Cymru
Funded by Welsh Government

Wales Research Ethics Committee 7
Carmarthen

Mailing address:
Health and Care Research Wales
Castlebridge 4
15-19 Cowbridge Road East
Cardiff, CF11 9AB

email: Wales.REC7@wales.nhs.uk
website: www.hra.nhs.uk

Please note: This is the favourable opinion of the REC only and does not allow you to start your study at NHS sites in England or Wales until you receive HRA/HCRW Approval

02 November 2021

Dr Louise Waddington
Doctoral Programme in Clinical Psychology, Cardiff University
11th Floor, Tower Building, 70 Park Place
Cardiff
CF10 3AT

Dear Dr Waddington

Study title:	**Experiences of Imagery in Obsessive-Compulsive Disorder: An Interpretative Phenomenological Analysis**
REC reference:	**21/WA/0336**
Protocol number:	**SPON1864-21**
IRAS project ID:	**295975**

The Research Ethics Committee (REC) reviewed the above application at the meeting held on 28 October 2021. Thank you for attending to discuss the application.

Ethical opinion
The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below.

Good practice principles and responsibilities
The UK Policy Framework for Health and Social Care Research sets out principles of good practice in the management and conduct of health and social care research. It also outlines the responsibilities of individuals and organisations, including those related to the four elements of research transparency:

1. registering research studies
2. reporting results
3. informing participants
4. sharing study data and tissue

Conditions of the favourable opinion
The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

Number	Condition
1	The Committee highlighted that the protocol stated that three questionnaires would be sent to the participants before the interview and they would be asked to complete them prior to the interview, however there was no mention of this in the information sheet. Please ensure that this is made clear in the information sheet.
2	Please include a disclosure statement in the information sheet to make participants aware that if something was disclosed during the interviews then confidentiality would be breached, if necessary, to ensure participant safety.
3	The study number should be included on the consent form to allow it to be linked to the anonymised data.
4	When reviewing the poster the Committee asked for the sentence, 'if you are interested or would like further information', to be included in the section headed 'How do I get involved'.

You should notify the REC once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. Revised documents should be submitted to the REC electronically from IRAS. The REC will acknowledge receipt and provide a final list of the approved documentation for the study, which you can make available to host organisations to facilitate their permission for the study. Failure to provide the final versions to the REC may cause delay in obtaining permissions.

Confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or NHS management permission (in Scotland) should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements. Each NHS organisation must confirm through the signing of agreements and/or other documents that it has given permission for the research to proceed (except where explicitly specified otherwise).

Guidance on applying for HRA and HCRW Approval (England and Wales)/ NHS permission for research is available in the Integrated Research Application System.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of management permissions from host organisations.

Registration of Clinical Trials
All research should be registered in a publicly accessible database and we expect all researchers, research sponsors and others to meet this fundamental best practice standard.

It is a condition of the REC favourable opinion that **all clinical trials are registered** on a publicly accessible database within six weeks of recruiting the first research participant. For this purpose, 'clinical trials' are defined as the first four project categories in IRAS project filter question 2. Failure to register is a breach of these approval conditions, unless a deferral has been agreed by or on behalf of the Research Ethics Committee (see here for more information on requesting a deferral: https://www.hra.nhs.uk/planning-and-improving-research/research-planning/research-registration-research-project-identifiers/

If you have not already included registration details in your IRAS application form, you should notify the REC of the registration details as soon as possible.

Further guidance on registration is available at: https://www.hra.nhs.uk/planning-and-improving-research/research-planning/transparency-responsibilities/

Publication of Your Research Summary
We will publish your research summary for the above study on the research summaries section of our website, together with your contact details, no earlier than three months from the date of this favourable opinion letter.

Should you wish to provide a substitute contact point, make a request to defer, or require further information, please visit: https://www.hra.nhs.uk/planning-and-improving-research/application-summaries/research-summaries/

N.B. If your study is related to COVID-19 we will aim to publish your research summary within 3 days rather than three months.

During this public health emergency, it is vital that everyone can promptly identify all relevant research related to COVID-19 that is taking place globally. If you haven't already done so, please register your study on a public registry as soon as possible and provide the REC with the registration detail, which will be posted alongside other information relating to your project. We are also asking sponsors not to request deferral of publication of research summary for any projects relating to COVID-19. In addition, to facilitate finding and extracting studies related to COVID-19 from public databases, please enter the WHO official acronym for the coronavirus disease (COVID-19) in the full title of your study. Approved COVID-19 studies can be found at: https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

After ethical review: Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study, including early termination of the study
- Final report
- Reporting results

The latest guidance on these topics can be found at https://www.hra.nhs.uk/approvals-amendments/managing-your-approval/.

Ethical review of research sites

NHS/HSC Sites
The favourable opinion applies to all NHS sites taking part in the study, subject to confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or NHS management permission (in Scotland)being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non-NHS/HSC sites
I am pleased to confirm that the favourable opinion applies to any non-NHS/HSC sites listed in the application, subject to site management permission being obtained prior to the start of the study at the site.

Approved documents

The documents reviewed and approved at the meeting were:

Document	*Version*	*Date*
Copies of materials calling attention of potential participants to the research [Recruitment Poster v1.0]	1.0	23 September 2021

Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Evidence of Sponsor Insurance]		01 August 2021
IRAS Application Form [IRAS_Form_24092021]		24 September 2021
Letter from sponsor [Sponsorship Letter Cardiff University]		03 September 2021
Participant consent form [Participant Consent Form]		17 September 2021
Participant information sheet (PIS) [Participant Information Sheet]		17 September 2021
Referee's report or other scientific critique report [Review Report 10 Aug 2020]		10 August 2020
Research protocol or project proposal [Protocol V4.0]	4.0	17 September 2021
Summary CV for Chief Investigator (CI) [Louise Waddington CV]		
Summary CV for student [Hannah Wedge CV]		
Summary CV for supervisor (student research) [Andrew Thompson CV]		
Validated questionnaire [GAD 7]		
Validated questionnaire [OCI]		
Validated questionnaire [PHQ 9]		

Membership of the Committee
The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

User Feedback
The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: http://www.hra.nhs.uk/about-the-hra/governance/quality-

HRA Learning
We are pleased to welcome researchers and research staff to our HRA Learning Events and online learning opportunities– see details at: https://www.hra.nhs.uk/planning-and-improving-research/learning/

IRAS project ID: 295975	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project.

Yours sincerely

[redacted]

pp
Dr John Buchan
Chair – Wales REC 7

E-mail: Wales.REC7@wales.nhs.uk

Enclosures:	List of names and professions of members who were present at the meeting and those who submitted written comments "After ethical review – guidance for researchers"
Copy to:	Chris Shaw HCRW.approvals@wales.nhs.uk

Ymchwil Iechyd a Gofal Cymru
Health and Care Research Wales

Gwasanaeth Moeseg Ymchwil
Research Ethics Service

Ariennir gan Lywodraeth Cymru
Funded by Welsh Government

Wales REC 7
Carmarthen
E-mail : Wales.REC7@wales.nhs.uk
Website : www.hra.nhs.uk

08 November 2021

Dr Louise Waddington Doctoral Programme in Clinical Psychology,
Cardiff University
11th Floor, Tower Building,
70 Park Place
Cardiff
CF10 3AT

Dear Dr Waddington

Study title: **Experiences of Imagery in Obsessive-Compulsive Disorder: An Interpretative Phenomenological Analysis**
REC reference: **21/WA/0336**
Protocol number: **SPON1864-21**
IRAS project ID: **295975**

Thank you for your letter of 5 November 2021. I can confirm the REC has received the documents listed below and that these comply with the approval conditions detailed in our letter dated 02 November 2021

Documents received

The documents received were as follows:

Document	*Version*	*Date*
Copies of materials calling attention of potential participants to the research [Recruitment Poster v1.0]	2.0	02 November 2021
Other [Response to Additional Conditions]	1.0	05 November 2021
Participant consent form [Participant Consent Form]	4.0	03 November 2021
Participant information sheet (PIS) [Participant Information Sheet]	5.0	03 November 2021

Approved documents

The final list of approved documentation for the study is therefore as follows:

Document	*Version*	*Date*
Copies of materials calling attention of potential participants to the research [Recruitment Poster v1.0]	2.0	02 November 2021
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Evidence of Sponsor Insurance]		01 August 2021
IRAS Application Form [IRAS_Form_24092021]		24 September 2021
Letter from sponsor [Sponsorship Letter Cardiff University]		03 September 2021
Other [Response to Additional Conditions]	1.0	05 November 2021
Participant consent form [Participant Consent Form]	4.0	03 November 2021
Participant information sheet (PIS) [Participant Information Sheet]	5.0	03 November 2021

Referee's report or other scientific critique report [Review Report 10 Aug 2020]		10 August 2020
Research protocol or project proposal	4.0	17 September 2021
Summary CV for Chief Investigator (CI) [Louise Waddington CV]		
Summary CV for student [Hannah Wedge CV]		
Summary CV for supervisor (student research) [Andrew Thompson CV]		
Validated questionnaire [GAD 7]		
Validated questionnaire [OCI]		
Validated questionnaire [PHQ 9]		

You should ensure that the sponsor has a copy of the final documentation for the study. It is the sponsor's responsibility to ensure that the documentation is made available to R&D offices at all participating sites.

IRAS Project ID: 295975	**Please quote this number on all correspondence**

Yours sincerely

[redacted]

Sue Byng
Approvals Specialist

E-mail: Wales.REC7@wales.nhs.uk

Copy to: Miss Hannah EF Wedge

Lead Nation
Wales: research.permissions@wales.nhs.uk

Ymchwil Iechyd a Gofal Cymru
Health and Care Research Wales

NHS
Health Research Authority

Dr Louise Waddington
Doctoral Programme in Clinical Psychology, Cardiff University
11th Floor, Tower Building, 70 Park Place
Cardiff
CF10 3AT

Email:
HCRW.approvals@wales.nhs.uk

08 November 2021

Dear Dr Waddington

HRA and Health and Care Research Wales (HCRW) Approval Letter

Study title:	**Experiences of Imagery in Obsessive-Compulsive Disorder: An Interpretative Phenomenological Analysis**
IRAS project ID:	**295975**
Protocol number:	**SPON1864-21**
REC reference:	**21/WA/0336**
Sponsor	**Cardiff University**

I am pleased to confirm that **HRA and Health and Care Research Wales (HCRW) Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, in line with the instructions provided in the "Information to support study set up" section towards the end of this letter.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?
HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.

Please see IRAS Help for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?
HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to obtain local agreement in accordance with their procedures.

What are my notification responsibilities during the study?

The standard conditions document "*After Ethical Review – guidance for sponsors and investigators*", issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including:

- Registration of research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics, and is updated in the light of changes in reporting expectations or procedures.

Who should I contact for further information?
Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **295975**. Please quote this on all correspondence.

Yours sincerely,
Sue Byng

Approvals Specialist

Email: HCRW.approvals@wales.nhs.uk

Copy to: *Chris Shaw*

List of Documents

The final document set assessed and approved by HRA and HCRW Approval is listed below.

Document	*Version*	*Date*
Contract/Study Agreement template [Participant Identification Centre Agreement v1.0]		23 September 2021
Copies of materials calling attention of potential participants to the research [Recruitment Poster v1.0]	2.0	02 November 2021
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Evidence of Sponsor Insurance]		01 August 2021
IRAS Application Form [IRAS_Form_24092021]		24 September 2021
Letter from sponsor [Sponsorship Letter Cardiff University]		03 September 2021
Organisation Information Document		
Other [Response to Additional Conditions]	1.0	05 November 2021
Participant consent form [Participant Consent Form]	4.0	03 November 2021
Participant information sheet (PIS) [Participant Information Sheet]	5.0	03 November 2021
Referee's report or other scientific critique report [Review Report 10 Aug 2020]		10 August 2020
Research protocol or project proposal [Protocol V4.0]	4.0	17 September 2021
Schedule of Events or SoECAT [Schedule of Events 23 Sep 2021 V1.0]	1.0	23 September 2021
Summary CV for Chief Investigator (CI) [Louise Waddington CV]		
Summary CV for student [Hannah Wedge CV]		
Summary CV for supervisor (student research) [Andrew Thompson CV]		
Validated questionnaire [GAD 7]		
Validated questionnaire [OCI]		
Validated questionnaire [PHQ 9]		

Appendix E

Poster Advertisement

GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol Caerdydd a'r Fro
Cardiff and Vale University Health Board

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

How do people with OCD experience mental imagery?

We're looking for people with OCD to take part in a study looking at how they experience mental imagery.

What is mental imagery?

Mental imagery means pictures, smells, sounds, sensations or tastes which you experience in your mind, without any stimulus.

Can I take part?

If you are over 18, have a diagnosis of OCD and are receiving or awaiting treatment from the specialist OCD service or the Psychological Therapies Hub in Cardiff and Vale University Health Board, and experience imagery as part of your OCD, then yes!

How do I get involved?

If you are interested in taking part in this study or would like further information, please email Hannah Wedge (Trainee Clinical Psychologist) on wedgehe@cardiff.ac.uk to express your interest.

2nd November 2021 IRAS No. 295975 Version 2.0

Appendix F

Information Sheet

Cardiff University
Experiences of Imagery in Obsessive-Compulsive Disorder (OCD)
Participant Information Sheet

You have been invited to take part in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what participating will involve. If there is anything that is unclear, or if you would like more information, please ask. Take time to decide whether or not you wish to take part. Thank you.

The interviews will be conducted in English. If you would like the study information in Welsh, please let us know.

Who will conduct the research?
My name is Hannah Wedge. I am a Trainee Clinical Psychologist conducting this research as part of my Doctorate in Clinical Psychology, under the supervision of Dr Louise Waddington and Professor Andrew Thompson at Cardiff University, and Dr William Hallam at Cardiff and Vale University Health Board.

What is the aim of the research?
This research aims to better understand how people with Obsessive-Compulsive Disorder (OCD) experience imagery. Imagery may include pictures, sounds, sensations or experiences which we imagine inside our heads. There has not been much research in this area, so capturing people's experiences will help to further our understanding of OCD and may contribute to developments in therapeutic interventions.

Why have I been chosen?
You have been invited to participate in this study because you are receiving or awaiting therapy for OCD from the Specialist OCD Service or the Psychological Therapies Hub in Cardiff and Vale UHB. We are interested in your thoughts and experiences of imagery in OCD.

What would I be asked to do if I took part?
If you choose to take part in the study, you will be asked to provide your telephone number and an email and/or postal address for study documentation to be sent to. This will include a consent form for you to sign. You will also be sent three questionnaires to complete before the interview; the GAD-7 (a measure of anxiety), the PHQ-9 (a measure of low mood/depression) and the Obsessive Compulsive

Inventory (OCI; a measure of OCD symptoms). These questionnaires will be used to help us understand more about you and your experiences of OCD. If you are unable to complete the questionnaires prior to the interview, or if you have any questions about them, there will be time at the beginning of the interview for this.

I will then be in touch to arrange an interview with you at a convenient time; where possible the interview will be conducted virtually over Microsoft Teams. If you would prefer the interview to be conducted face-to-face, this can be considered depending on Covid-19 restrictions in place at the time. During the interview you will be asked about your experiences of imagery in relation to your OCD. We will ask you to go into some detail about recent examples. The interview will be recorded, either within Microsoft Teams or with a Dictaphone if it is a face-to-face interview. The interviews will last approximately an hour to an hour and a half.
You will receive a £10 voucher as an expression of gratitude for your participation. This will be sent out either electronically via email or by post within 2 weeks of your interview. Should you decide you no longer want to take part, or you change your mind, you will not receive the voucher.

What are the possible benefits of taking part?
There are no direct benefits of taking part in this research. However, research shows that participants have generally positive experiences of taking part in studies. Your participation may also contribute to helping us understand more about people's experiences of OCD, and may contribute to developments in therapeutic interventions.

What are the possible disadvantages and risks of taking part?
The interview topic, and discussing personal experiences in detail, may potentially become upsetting or distressing for you. You are not required to share experiences which are upsetting or distressing, and you are able to pause or stop the interview at any time. The researcher will give you debriefing information signposting sources of support available to you, including your care team, OCD-UK, Samaritans, and Mind.

How is confidentiality maintained?
Recordings of interviews will be stored on the University's secure Research Data Store, and kept for 5 years, in line with the Cardiff University Records Retention Policy. Consent forms and anonymous transcriptions of interviews will be also kept on the University's secure Research Data Store, and destroyed after five years.

The limits of confidentiality will be explained to you at the beginning of the interview. If you disclose a risk to yourself or others, the researchers have a duty of care to share this information with your care team at the Specialist OCD Service or the Psychological Therapies Hub in Cardiff and Vale UHB.

What happens if I do not want to take part or if I change my mind?
It is up to you to decide whether or not to take part in this study. If you decided to take part, you are free to withdraw at any time, without having to give a reason. Your decision to take part in this study will not affect your care at the Specialist OCD Service or the Psychological Therapies Hub in Cardiff and Vale UHB, or elsewhere, in any way.

You can also decide that you do not want your interview data to be included in the study after the interview has taken place. If you do wish to withdraw from the study after the interview, you will need to let the researcher know within two weeks of the interview; after two weeks your information will be anonymous, and we won't be able to identify it to remove it.

What happens to the data collected?
The interview recordings will be transcribed and analysed in a way which will help us to better understand people's experiences of imagery in OCD.

How will we use information about you?
We will need to use information from you for this research project. This information will include your name and contact details. People will use this information to do the research or to check your records to make sure that the research is being done properly. People who do not need to know who you are will not be able to see your name or contact details. Your data will have a code number instead. We will keep all information about you safe and secure.
Once we have finished the study, we will keep some of the data so we can check the results. We will write our reports in a way that no-one can work out that you took part in the study.

What are your choices about how your information is used?
You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have.
We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

Where can you find out more about how your information is used?
You can find out more about how we use your information:

- By asking one of the research team (contact details on p.3)
- By viewing the Cardiff University Data Protection Policy and Privacy Notices: https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection
- By contacting the Cardiff University Data Protection Officer by email: inforequest@cardiff.ac.uk or in writing to: Assurance Services, Cardiff University, Friary House, Greyfriars Road, Cardiff CF10 3AE

Who can I contact to complain, or if something goes wrong?
In the unlikely event that something goes wrong, or if you want to complain, you can contact:
Dr Cerith Waters (Senior Research Tutor, Doctoral Programme in Clinical Psychology): waterscs@cardiff.ac.uk
Professor Andrew Thompson (Programme Director, Doctoral Programme in Clinical Psychology): ThompsonA18@cardiff.ac.uk

Will the outcomes of the research be published?
This study will be written up as part of my Doctorate in Clinical Psychology thesis. It will also be submitted to an academic journal for publication. Written reports of the research may include verbatim quotes from interviews; however, these quotes will be

anonymous and carefully chosen so that nobody reading will know who took part. At the end of the interview, you will be asked if you would like a summary of the research findings sent to you when the study has finished in September 2022.

Who has reviewed the research project?
This project has been reviewed by the National Research Ethics Service, and gained NHS ethical approval.

Contact for further information:
If you have any questions about the research, or would like to discuss it further before deciding whether or not to take part, please get in touch using the details below:

Hannah Wedge - WedgeHE@cardiff.ac.uk

Dr Louise Waddington – WaddingtonL1@cardiff.ac.uk

Professor Andrew Thompson – ThompsonA18@cardiff.ac.uk

Doctoral Programme in Clinical Psychology
Cardiff University
11th Floor, Tower Building
70 Park Place
Cardiff
CF10 3AT

Appendix G

Consent Form

Cardiff University
Experiences of Imagery in Obsessive-Compulsive Disorder (OCD)
Participant Consent Form

If you are happy to participate in this study, please read each part of this consent form and initial in the box to indicate you agree. **Initials**

1. I confirm that I have read the attached information sheet (v5.0, 3rd November 2021) on the above project and I have had the opportunity to consider the information and ask questions. ☐
2. Any questions have been answered satisfactorily. ☐
3. I understand that my participation in in this study is voluntary and I am free to withdraw at any time without giving a reason and without detriment to my treatment and care at Cardiff and Vale University Health Board, or elsewhere. ☐
4. I understand that the interviews will be recorded, and the recordings will be transcribed anonymously. ☐
5. I understand that the recordings and anonymised transcripts will be kept securely for up to 5 years. ☐
6. I understand that anonymous verbatim quotes may be used when writing up this research. ☐

I agree to take part in the above research:

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Name of person taking consent	Date	Signature

[Office use only] Participant ID Number: _____

I would like to receive a letter summarising the research findings. Yes/No

Please complete the section below only if you answered 'yes' to the above question.

Name: _____

Telephone number: _____

Email address: _____

Address: _____

_____

One copy to file, one copy to participant

Appendix H

Interview Schedule

Introduction

- Before we begin, are you in a quiet, private space where you will not be interrupted?
- My name is Hannah and I'm a Trainee Clinical Psychologist at Cardiff University.
- Have you had time to read the information sheet? If not, we can go through it together now.
- If you are willing to take part in this study, please sign this consent form. You are under no obligation to do so. Do you have any questions?
- There will be three questionnaires for you to complete before the interview, if you haven't brought them with you today. Please ask if you need help or explanations for any of these.
- You are able to ask me questions at any time during the interview.
- You can pause the interview for a break if you need or want to. You can also stop the interview completely at any time, for any reason.
- You may find that some of the things we are going to talk about today in relation to your OCD might be upsetting for you. Please let me know if you would like to pause or stop the interview.
- If you share something that makes me worried about your safety or the safety of other people, I have a duty of care to share that with the team responsible for your care.
- The final report I write may use some quotes from your interview. These will be anonymous and will not contain any details which could be used to identify you.

Demographic Questions

Before we begin the main interview, I'd like to get some background information which I will use anonymously when presenting the results. I'll only need brief answers to these questions.

- What gender do you identify as?
- What are your preferred pronouns? (How do you like to be referred to – he/she/they/another term?)
- What is your age?
- How would you describe your ethnicity?
- When were you diagnosed with OCD?
- Have you received any psychological treatment or therapy for your OCD, and if so, what?
- Do you have any other psychological conditions and/or diagnoses that you think it would be useful for me to be aware of? If yes, what?

Interview Schedule

We are now starting the interview itself. I would like to ask you about your experiences of imagery in relation to your OCD. Imagery has been described as like having a sensory experience without the physical stimulus or object. Although it is often visual, imagery can involve any of the five senses – sensations, sounds, smells and tastes, as well as images/pictures.

1) With this in mind, could you please bring to mind a **typical recent example** of imagery you experience to do with your OCD.
2) Can you **describe the imagery** to me in as much detail as you can?
   a) *P: Can you tell me if there were any other senses involved in this imagery?*
   b) *P: Can you walk me through what happened, starting just before the imagery came to mind?*

3) What impact does this imagery have on you?

   a) *P: Another way of putting this might be what effect does it have on you? Your mood, body, daily activities, etc.*
   b) *P: Could you tell me a bit more about if the imagery has any effect on what you think or do afterwards?*

4) Does this imagery hold any meaning for you?
   a) *P: Another way of thinking about this is whether you feel the imagery suggests anything about you, other people, the world around you, the future, etc.*
   b) *P: Does this meaning link to anything that has happened before or might happen in the future?*

5) Are there any other forms or types of imagery that you experience related to your OCD? If so, what is that/are they like?
   a) *P: Another way to think about this could be whether imagery makes up a large part of your experience of OCD, or if it is a smaller aspect of it.*

6) Do you experience imagery that is **not** related to your OCD? If you do, can you tell me about it?
   a) *P: How does this compare to when imagery is related to your OCD?*

7) Is there anything else you would like to add that we haven't spoken about already?

Debrief

- Now that we have finished the interview, is there anything that you feel concerned or worried about?
- If, after you leave, you feel like you need some support around the things we have spoken about today, you can contact your clinician at the specialist OCD service or the Psychological Therapies Hub in Cardiff and Vale University Health Board.
- You are also able to contact support services such as OCD-UK, Samaritans or Mind, should you feel that you need additional support (provide participants with list of services and contact information).

Appendix I

Questionnaires

Patient Health Questionnaire-9 (PHQ-9)

PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? *(Use "✔" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

FOR OFFICE CODING 0 + _____ + _____ + _____

=Total Score: _____

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
☐	☐	☐	☐

Generalised Anxiety Disorder-7 (GAD-7)

GAD-7 Anxiety

Over the last 2 weeks, how often have you been bothered by the following problems? *(Use "✔" to indicate your answer"*	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

Column totals: ___ + ___ + ___ + ___

= *Total Score* _____

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
☐	☐	☐	☐

Obsessive-Compulsive Inventory (OCI)

OCI

Name..... Date.....

The following statements refer to experiences which many people have in their everyday lives. In the column labelled DISTRESS, please CIRCLE the number that best describes **HOW MUCH** that experience has **DISTRESSED** or **BOTHERED YOU DURING THE PAST MONTH**. The numbers in this column refer to the following labels: 0 = Not at all 1 = A little 2 = Moderately 3 = A lot 4 = Extremely

		DISTRESS				
1.	Unpleasant thoughts come into my mind against my will and I cannot get rid of them	0	1	2	3	4
2.	I think contact with bodily secretions (perspiration, saliva, blood, urine, etc) may contaminate my clothes or somehow harm me.	0	1	2	3	4
3.	I ask people to repeat things to me several times, even though I understood them the first time.	0	1	2	3	4
4.	I wash and clean obsessively.	0	1	2	3	4
5.	I have to review mentally past events, conversations and actions to make sure that I didn't do something wrong.	0	1	2	3	4
6.	I have saved up so many things that they get in the way.	0	1	2	3	4
7.	I check things more often than necessary	0	1	2	3	4
8.	I avoid using public toilets because I am afraid of disease or contamination.	0	1	2	3	4
9.	I repeatedly check doors, windows, drawers etc.	0	1	2	3	4
10.	I repeatedly check gas and water taps and light switches after turning them off.	0	1	2	3	4
11.	I collect things I don't need.	0	1	2	3	4
12.	I have thoughts of having hurt someone without knowing it.	0	1	2	3	4
13.	I have thoughts that I might want to harm myself or others.	0	1	2	3	4
14.	I get upset if objects are not arranged properly.	0	1	2	3	4
15.	I feel obliged to follow a particular order in dressing, undressing and washing myself.	0	1	2	3	4
16.	I feel compelled to count while I am doing things	0	1	2	3	4
17.	I am afraid of impulsively doing embarrassing or harmful things.	0	1	2	3	4
18.	I need to pray to cancel bad thoughts or feelings.	0	1	2	3	4
19.	I keep on checking forms or other things I have written.	0	1	2	3	4

20.	I get upset at the sight of knives, scissors and other sharp objects in case I lose control with them.	0	1	2	3	4
21.	I am excessively concerned about cleanliness.	0	1	2	3	4
22.	I find it difficult to touch an object when I know it has been touched by strangers or certain people.	0	1	2	3	4
23.	I need things to be arranged in a particular order	0	1	2	3	4
24.	I get behind in my work because I repeat things over and over again.	0	1	2	3	4
25.	I feel I have to repeat certain numbers.	0	1	2	3	4
26.	After doing something carefully, I still have the impression I have not finished it.	0	1	2	3	4
27.	I find it difficult to touch garbage or dirty things.	0	1	2	3	4
28.	I find it difficult to control my own thoughts.	0	1	2	3	4
29.	I have to do things over and over again until it feels right.	0	1	2	3	4
30.	I am upset by unpleasant thoughts that come into my mind against my will.	0	1	2	3	4
31.	Before going to sleep I have to do certain things in a certain way.	0	1	2	3	4
32.	I go back to places to make sure that I have not harmed anyone.	0	1	2	3	4
33.	I frequently get nasty thoughts and have difficulty in getting rid of them.	0	1	2	3	4
34.	I avoid throwing things away because I am afraid I might need them later.	0	1	2	3	4
35.	I get upset if others change the way I have arranged my things.	0	1	2	3	4
36.	I feel that I must repeat certain words or phrases in my mind in order to wipe out bad thoughts, feelings or actions.	0	1	2	3	4
37.	After I have done things, I have persistent doubts about whether I really did them.	0	1	2	3	4
38.	I sometimes have to wash or clean myself simply because I feel contaminated.	0	1	2	3	4
39.	I feel that there are good and bad numbers.	0	1	2	3	4
40.	I repeatedly check anything which might cause a fire.	0	1	2	3	4
41.	Even when I do something very carefully I feel that it is not quite right.	0	1	2	3	4
42.	I wash my hands more often or longer than necessary.	0	1	2	3	4

Appendix J

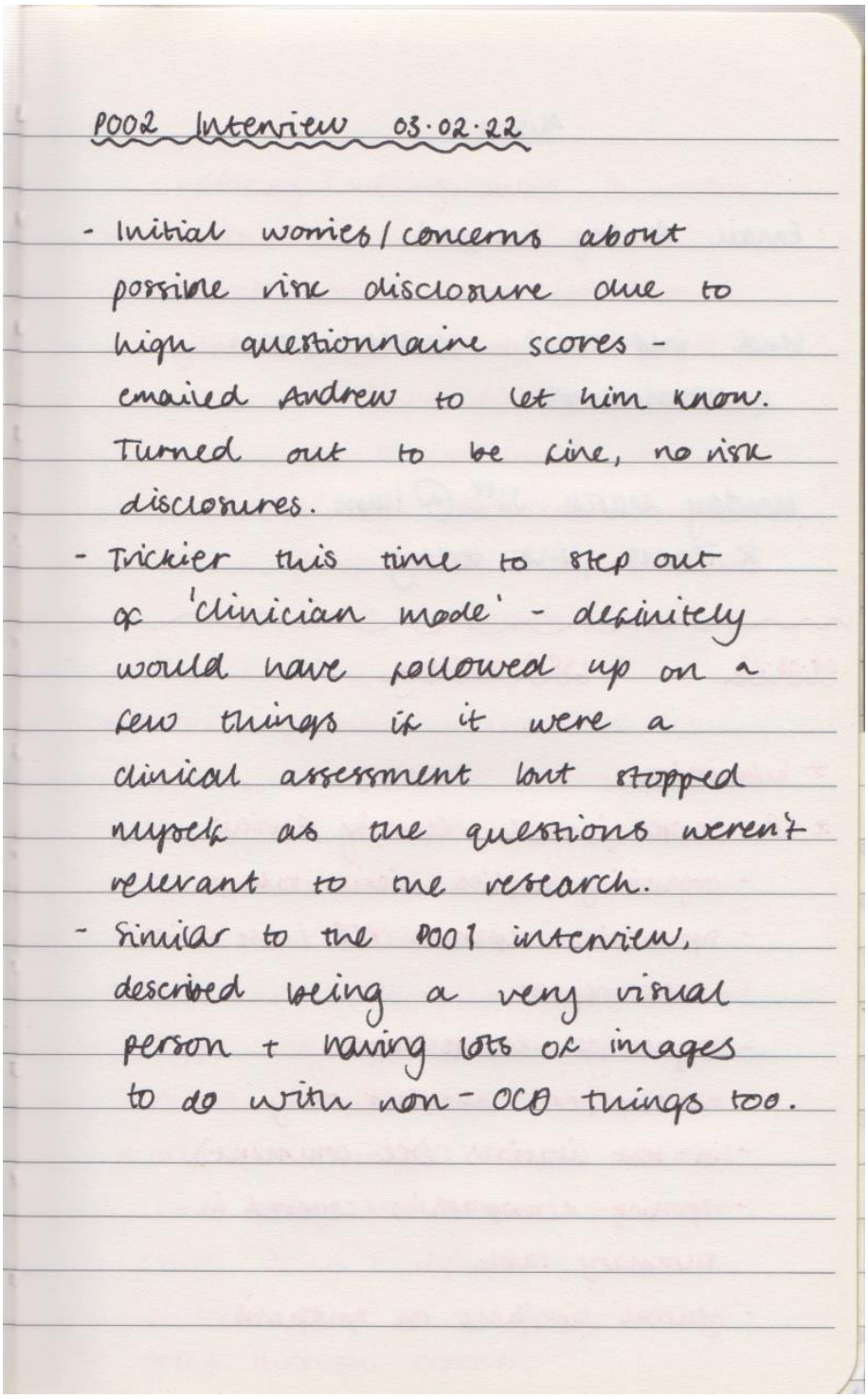
Participants' Questionnaire Results

		Dan	Hattie	Rachel	Amiera	Carys	Saskia	Natalie	Bridget
PHQ-9		12	26	9	20	19	15	24	17
GAD-7		18	21	11	15	18	12	21	18
OCI	**Total**	82	162	73	80	47	97	85	146
	Washing	3	32	10	27	20	22	18	30
	Checking	27	32	16	20	20	22	13	34
	Doubting	12	12	9	6	0	10	8	11
	Obsessions	13	32	23	15	17	20	25	26
	Hoarding	5	12	2	2	0	4	1	12
	Neutralising	12	24	10	11	0	8	11	15

Appendix K

Examples from the IPA process

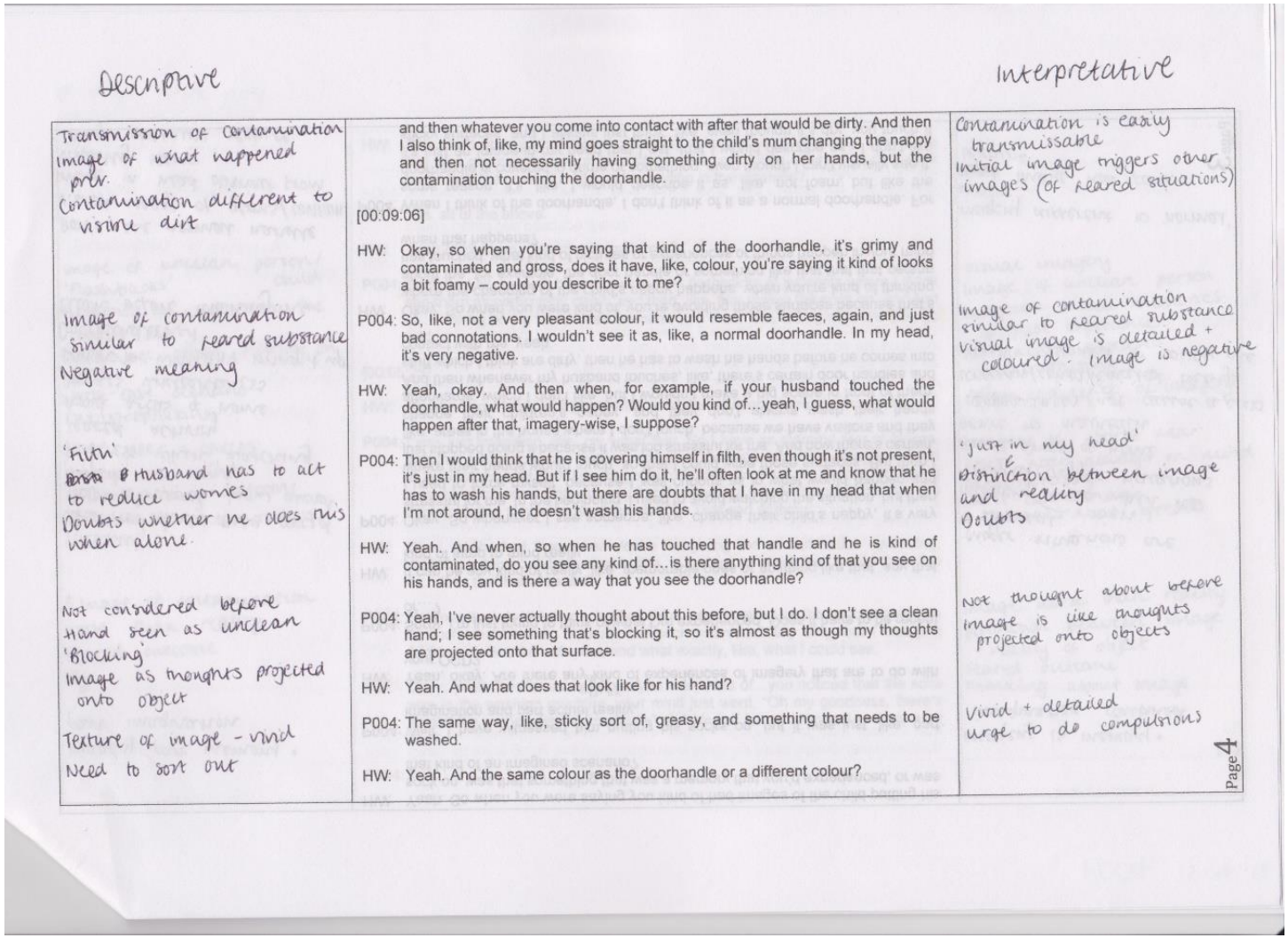
Excerpt from Reflexive Log:



P002 Interview 03.02.22

- Initial worries / concerns about possible risk disclosure due to high questionnaire scores - emailed Andrew to let him know. Turned out to be fine, no risk disclosures.
- Trickier this time to step out of 'clinician mode' - definitely would have followed up on a few things if it were a clinical assessment but stopped myself as the questions weren't relevant to the research.
- Similar to the P001 interview, described being a very visual person + having lots of images to do with non-OCD things too.

Excerpt from coding:



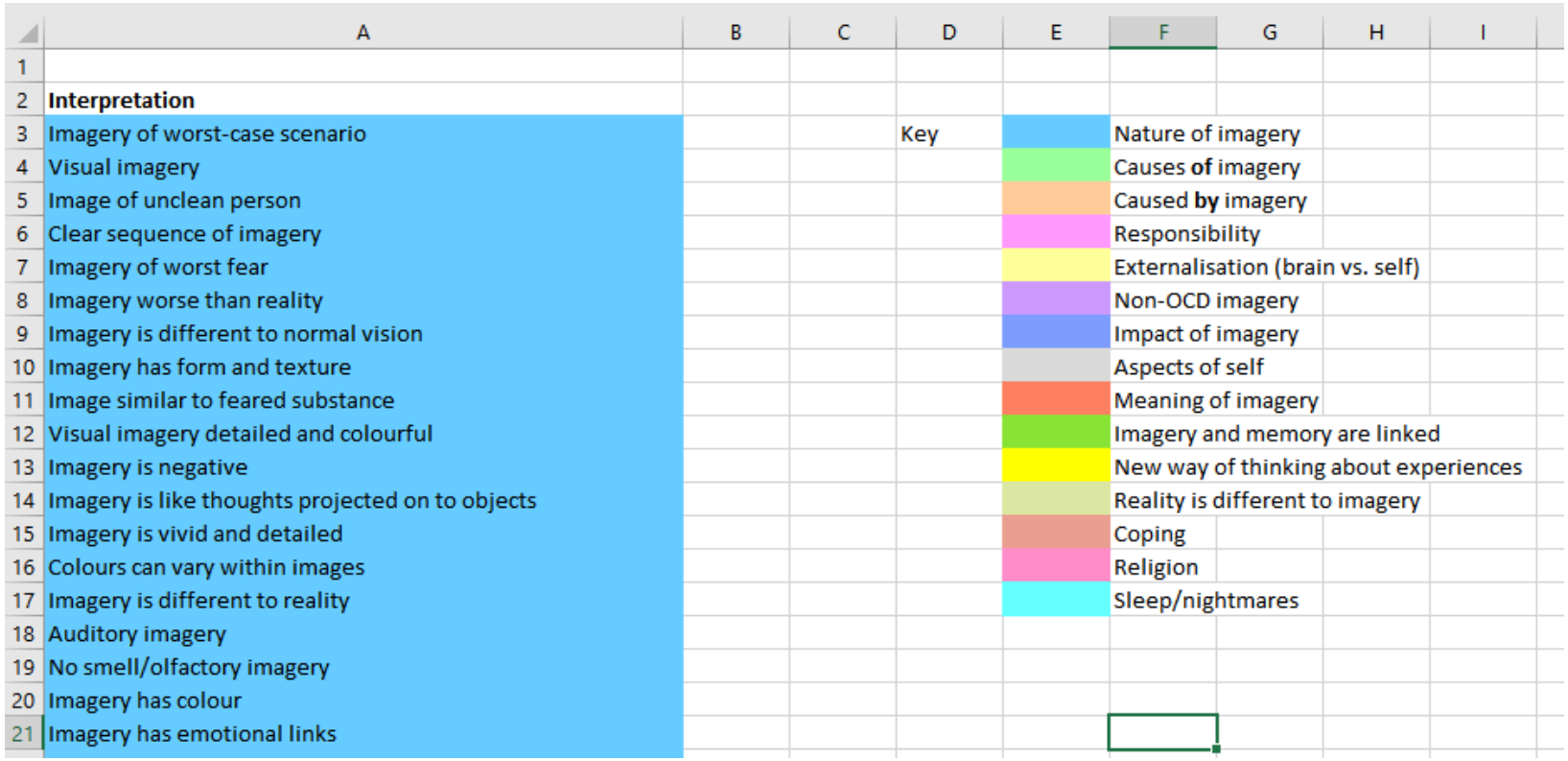
Descriptive

Interpretative

Transmission of contamination Image of what happened prev. Contamination different to visible dirt	and then whatever you come into contact with after that would be dirty. And then I also think of, like, my mind goes straight to the child's mum changing the nappy and then not necessarily having something dirty on her hands, but the contamination touching the doorhandle.	Contamination is easily transmissable Initial image triggers other images (of feared situations)
	[00:09:06]	
	HW: Okay, so when you're saying that kind of the doorhandle, it's grimy and contaminated and gross, does it have, like, colour, you're saying it kind of looks a bit foamy – could you describe it to me?	
Image of contamination similar to feared substance Negative meaning	P004: So, like, not a very pleasant colour, it would resemble faeces, again, and just bad connotations. I wouldn't see it as, like, a normal doorhandle. In my head, it's very negative.	Image of contamination similar to feared substance Visual image is detailed + coloured. Image is negative
	HW: Yeah, okay. And then when, for example, if your husband touched the doorhandle, what would happen? Would you kind of... yeah, I guess, what would happen after that, imagery-wise, I suppose?	
'Filth' ~~Boss~~ Husband has to act to reduce worries Doubts whether he does this when alone	P004: Then I would think that he is covering himself in filth, even though it's not present, it's just in my head. But if I see him do it, he'll often look at me and know that he has to wash his hands, but there are doubts that I have in my head that when I'm not around, he doesn't wash his hands.	'just in my head' Distinction between image and reality Doubts
	HW: Yeah. And when, so when he has touched that handle and he is kind of contaminated, do you see any kind of... is there anything kind of that you see on his hands, and is there a way that you see the doorhandle?	
Not considered before Hand seen as unclean 'Blocking' Image as thoughts projected onto object	P004: Yeah, I've never actually thought about this before, but I do. I don't see a clean hand; I see something that's blocking it, so it's almost as though my thoughts are projected onto that surface.	Not thought about before Image is like thoughts projected onto objects
	HW: Yeah. And what does that look like for his hand?	
Texture of image - vivid Need to sort out	P004: The same way, like, sticky sort of, greasy, and something that needs to be washed.	Vivid + detailed urge to do compulsions
	HW: Yeah. And the same colour as the doorhandle or a different colour?	

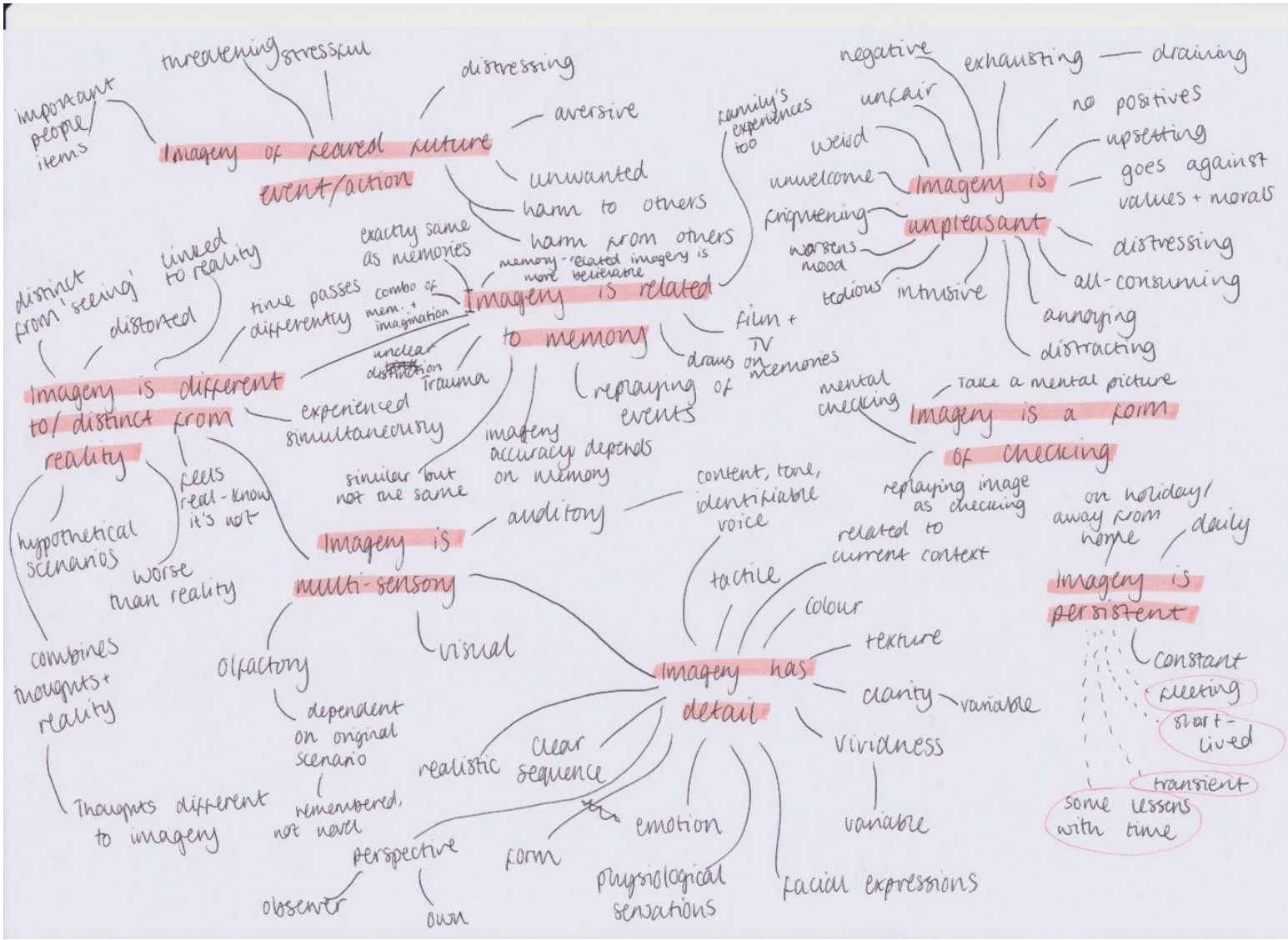
Page 4

Excerpt from spreadsheet of initial themes



	A	B	C	D	E	F	G	H	I
1									
2	**Interpretation**								
3	Imagery of worst-case scenario			Key		Nature of imagery			
4	Visual imagery					Causes **of** imagery			
5	Image of unclean person					Caused **by** imagery			
6	Clear sequence of imagery					Responsibility			
7	Imagery of worst fear					Externalisation (brain vs. self)			
8	Imagery worse than reality					Non-OCD imagery			
9	Imagery is different to normal vision					Impact of imagery			
10	Imagery has form and texture					Aspects of self			
11	Image similar to feared substance					Meaning of imagery			
12	Visual imagery detailed and colourful					Imagery and memory are linked			
13	Imagery is negative					New way of thinking about experiences			
14	Imagery is like thoughts projected on to objects					Reality is different to imagery			
15	Imagery is vivid and detailed					Coping			
16	Colours can vary within images					Religion			
17	Imagery is different to reality					Sleep/nightmares			
18	Auditory imagery								
19	No smell/olfactory imagery								
20	Imagery has colour								
21	Imagery has emotional links								

Example of Mind Map:



Appendix L

Audit Checklist

Data Collection

1. Is there evidence that raw data was collected and is appropriate for the research aims? (As evidenced by anonymised transcripts/data etc.)
   Yes/Partially/No
2. Has relevant demographic and background information been collected to contextualise the sample (e.g. gender, age, interview location/time)?
   Yes/Partially/No
3. Are there reflections/notes/summaries on the data collection process?
   Yes/Partially/No

Research/Analysis Process

4. Has the researcher engaged appropriately in supervision as part of the research process?
   Yes/Partially/No
5. Has the data been sufficiently coded? (e.g. is all the relevant data coded?)
   Yes/Partially/No
6. Has the data been systematically coded?
   Yes/Partially/No
7. Is it clear that the researcher has engaged in a process of refining and redefining the themes and subthemes and are these processes justified? (This may be evidenced by looking at different versions of the NVivo documents and notes, and changes to coding/themes should be justified).
   Yes/Partially/No

Cross-Checks

8. Crosschecking randomly selected excerpts from the interviews against the corresponding coding and themes recorded on NVivo. Are these consistent?
   Yes/Partially/No
9. Vice-versa crosschecking randomly selected themes and subthemes from NVivo against the corresponding data. Are these consistent?
   Yes/Partially/No

Study Write-Up/Results

10. Are quotes sufficient to provide evidence of the themes and subthemes?
    Yes/Partially/No
11. Does the results/write-up sufficiently address the aims of the study?
    Yes/Partially/No

Researcher:

_____	_____	_____
(Print name)	**(Signature)**	**(Date)**

Auditor:

_____	_____	_____
(Print name)	**(Signature)**	**(Date)**