**Is Intensive Cognitive Behavioural Therapy an Efficacious and Acceptable Treatment
Format for Adults with Obsessive Compulsive Disorder? A Systematic Review of
Randomised Controlled Trials**

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Conflict of interest.

None of the authors have any conflict of interest to report.

Abstract

Background: Clinical guidelines recommend the use of an intensive version of cognitive behavioural therapy (iCBT) in obsessive compulsive disorder (OCD) when evidence-based treatment has previously failed. This systematic review aimed to 1) assess the efficacy of iCBT for adults with OCD; 2) assess the acceptability of iCBT for adults with OCD.

Methods: PROSPERO ID: CRD42018106840. We searched the Cochrane Controlled Register of Trials (CENTRAL), Cochrane Library, PubMed, Embase and PsycINFO for articles published between 1966 and November 2018, and reference lists and other sources for registered or ongoing studies.

We included Randomised Controlled Trials (RCTs) of adults with OCD comparing iCBT to active or non-active controls. iCBT was defined as: at least five hours of CBT delivered per week in no more than four weeks for at least 10 CBT hours. The primary outcome was change in OCD symptoms from baseline to follow-up; secondary outcome was attrition; risk of bias was assessed using the Cochrane Tool.

Results: Searches retrieved 5125 records, with only four RCTs with a total of 313 participants meeting inclusion criteria. Large effect sizes in favour of iCBT relative to controls were found, range (1.35 to 3.18). Drop-out rate across studies was low. However, none of the included studies focused on participants with a specific history of treatment failure. Studies were highly heterogeneous, which precluded meta-analysis.

Conclusions: There was evidence that iCBT may be efficacious and acceptable. Further high quality RCTs are required to assess the efficacy and acceptability of iCBT specifically for OCD non-responders.

Background

Obsessive Compulsive Disorder (OCD) is defined by the presence of obsessions (i.e. recurrent and persistent thoughts, images or urges that are intrusive, unwanted and cause significant distress or anxiety) and compulsions (i.e. repetitive behaviours or mental acts that are carried out in response to obsessions) (APA, 2013). OCD has a lifetime prevalence of approximately 1 to 3% (Kessler et al., 2005; Ruscio et al., 2010; Torres et al., 2006). In the absence of appropriate treatment its course is chronic, leading to significant costs for the individual sufferer in terms of significant life impairment and disability (Asnaani et al., 2017; Huppert et al., 2009; Sahoo et al., 2017), as well as significant economic costs (DuPont et al., 1995; Hollander et al., 1997). The World Health Organisation (WHO) includes OCD within the category of disorders ranked sixth globally for largest contributors to “non-fatal health loss” (WHO, 2017).

OCD has moved from a poorly understood and poorly treated disorder to one that can be successfully treated with Cognitive Behavioural Therapy (CBT) which includes Exposure and Response Prevention (ERP)¹ (Öst et al., 2015). Despite the substantial developments in efficacious treatments, a proportion of those affected by OCD (approximately 38%) do not respond to treatment (Öst et al., 2015) and remain severely disabled by their symptoms. Standard CBT generally employs a weekly format delivered over an extended period of weeks (e.g. 12 - 20) (APA, 2013).

CBT for OCD is underpinned by behavioural theory, which posits that compulsive behaviours are essentially a form of learned avoidance of a feared stimulus (obsessions). In this framework, ERP supports the extinction of compulsions through a combination of *exposure* coupled with elimination of avoidant coping behaviours (Rachman, 1971). Building on this, cognitive behavioural theory further highlights the important of *interpretations* that an individual makes about the occurrence or content of obsessional thoughts that mediate the distress they cause. Specifically, intrusive thoughts (obsessions) are interpreted as personally meaningful and threatening, for example meaning that the individual could be responsible for harm and its prevention (Salkovskis, 1985, 1997, Rachman, 1997). Contemporary CBT aims to address problematic appraisals as well as decouple links between obsessions and compulsions that are at the core of OCD.

More recently Craske et al. (2008, 2014) and others (Abramowitz & Arch, 2014) have drawn on the formulation of inhibitory learning theory (based on principles of extinction learning

¹ Cognitive Therapy (CT) (including elements of exposure) and Exposure and Response Prevention (ERP) (a form of behaviour therapy) do not differ significantly in clinical outcome (Öst et al., 2015). Thus, for the purposes of this review they will be referred to synonymously as CBT and for the intensive format as I-CBT.

and memory) to make specific recommendations for optimising CBT's effectiveness. It is suggested that CBT should be delivered in-sessions that are close in proximity and include multiple situations. This will enable the development of new non-threatening associations to be made between stimuli in an individual's memory and will enhance how easily these new associations can be accessed and retrieved (Weisman & Rodebaugh, 2018). It is proposed that *intensive* formats meet this need, as sessions occur closer together and are longer, allowing time within sessions for CBT to take place in multiple settings. Consistent with this, it has been proposed that in treating OCD, *intensive CBT* (I-CBT) formats may be more effective for those with severe difficulties for whom standard treatment has failed (Foa & Steketee, 1987). This proposition is supported by UK guidelines for the treatment of OCD which recommend that an intensive version of treatment be made available to those who have undertaken at least two courses of CBT, augmented with pharmacological interventions (NICE, 2005, 2018).

Although several systematic reviews and meta-analyses have examined and demonstrated the efficacy of CBT for OCD (Abramowitz, 1997; Olatunji et al., 2013; Öst et al., 2015; Rosa-Alcázar et al., 2008) only one review has specifically considered the efficacy of I-CBT. Jónsson et al., (2015) aimed to evaluate the effectiveness of I-CBT for both youth and adults, as delivered in only outpatient (versus inpatient) settings. They were inclusive of all study designs, and the resultant studies were heterogeneous across participants, interventions and comparators, as well as the outcome measures used. A risk of bias tool was included, but the findings of this were not reported in detail. Examination of the subset of OCD patients with a history of treatment failure for whom the NICE guidance is in place was not reported.

In this systematic review we aimed to include randomised controlled trials conducted in both inpatient and outpatient settings. We asked the following questions:

- 1) What is the efficacy of I-CBT for OCD for adults delivered in either outpatient or inpatient settings compared to weekly CBT or other comparator; and
- 2) Is I-CBT acceptable to adults with OCD when delivered in either outpatient or inpatient settings?

Method

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed in reporting this review (Liberati et al., 2009). A protocol for the review was registered via the International Prospective Register Of Systematic Reviews (PROSPERO) (ID: CRD42018106840). We followed the guidance outlined in the Cochrane Handbook for Systematic Reviews of Interventions (Higgins & Green, 2011).

Study inclusion criteria

Study Design.

Parallel design RCTs were eligible for inclusion. We included studies if they were published or submitted for publication in a peer reviewed journal, submitted as a part of a doctoral theses in the UK, or were presented at a conference (conference abstracts were included if full details of the study could be obtained from the authors).

Participants.

Participants were adults aged ≥ 18 years with a diagnosis of OCD according to the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) (APA, 2013), International Classification of Diseases, 10th revision (ICD 10) (WHO, 1992) or other internationally accepted diagnostic criteria (e.g. DSM-IV, DSM-III-R). We applied no restrictions on gender, ethnicity or use of medication. We did not exclude studies because of comorbidity, provided that the primary intervention was aimed at OCD.

Setting.

We applied no restrictions on the basis of setting in which the treatment was delivered (i.e. inpatient vs outpatient).

Interventions.

We included interventions that met the same criteria as Jónsson et al. (2015):

1. The CBT was delivered over a time period of no more than four weeks in length
2. A minimum total of 10 hours of CBT was delivered
3. At least five hours of CBT was delivered per week
4. The CBT was delivered by one or more therapists

Comparators.

We accepted the following comparator conditions:

1. Weekly delivered CBT
2. Treatment as usual
3. Wait list control
4. Other active psychotherapy intervention
5. Pharmacological interventions

Outcome.

Primary Outcome: Change in OCD Symptoms.

Efficacy was indicated by difference in change from baseline to follow-up, between intervention and control arms. We examined OCD symptoms from pre-to-post treatment, measured using standardised scales, e.g. the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) (Goodman et al., 1989).

Secondary Outcome: Acceptability.

We measured acceptability as the difference in proportion of dropouts between trial arms. We adopted the dose-response criteria for defining attrition (Roseborough et al., 2016) in which dropouts are defined as participants who attended at least the first session of treatment but stopped attending before the end of the treatment period specified for the study. We focused on dropouts versus participants who declined to take part or withdrew following randomisation, as “declining participation” may reflect the acceptability of randomisation rather than treatment acceptability (Öst et al., 2015).

Search Methods for Identification of Studies

Electronic searches.

We conducted an electronic literature search of the Cochrane Controlled Register of Trials (CENTRAL) and the Cochrane Library, PubMed, EMBASE and PsycINFO for articles published between 1966 (when Meyer (1966) first published on Exposure treatment for OCD) and November 2018. Unpublished trials were searched for via the Economic and Social Research Council (ESRC), the National Research Register (NRR), WHO international Clinical Trials Registry Platform and ClinicalTrials.gov. The website theses.com was used to search for PhD theses conducted in the UK and Ireland. We searched reference lists of previous relevant systematic reviews, (Jónsson et al., 2015; McKay et al., 2015; Öst et al., 2015) and reference lists of all included studies for further relevant studies. We contacted authors of included trials seeking their knowledge of any unpublished or ongoing trials.

We used Medical Subject Headings (MeSH) or equivalent terms related to: “obsessive-compulsive disorder”, “cognitive behavioural therapy” and “randomized controlled trial”. An example of the full search strategy is available in the supplementary document.

Data Collection and Analysis

Selection of studies.

Title and abstract screening were conducted by two independent screeners using Covidence. When abstracts were not available electronically, or if insufficient information was included in the abstract to assess inclusion criteria, the full article was sought.

The full-text articles were independently screened by two reviewers using the inclusion criteria. Where full text articles were not available via interlibrary loan the authors were contacted directly. Reasons for exclusions of ineligible studies were recorded (Table 3- see supplementary material). Any conflicts were discussed between the two reviewers until a consensus was achieved, in consultation with a third party when necessary. The selection process was recorded via a PRISMA flow chart (Figure 1) (Moher et al., 2009).

Data Extraction and Management

Two reviewers independently extracted data from the included studies, and a third reviewer checked over the extracted data. The following information was extracted from each study: Method: Study design, publication date, country conducted, single or multi-site, duration of study, setting (outpatient/inpatient), format (group/ individual). Participants: Inclusion and exclusion criteria, mean age, gender, ethnicity, method of diagnosis and comorbidity, OCD symptom severity, and treatment history (previous CBT treatment failure present/absent). Intervention & comparators: Number of trial arms, type of intervention, therapy duration (i.e., session duration, therapy hours per week, total number of therapy hours, total number of weeks). Outcome: Measures used (primary and secondary), change in OCD severity pre- and post-treatment and follow-up scores, time points reported, participant completion versus attrition, and use of intention to treat analysis. Notes: Funding source, notable conflicts of interest.

Assessment of Risk of Bias in Included Studies

Each study was independently rated by two reviewers using the Cochrane Collaboration's tool for assessing risk of bias in randomised trials (Higgins et al., 2011). The authors of the studies were contacted for further information where necessary.

The domains as specified by the Cochrane Collaboration tool were rated and judged to have either a 'low', 'high' or 'unclear' risk of bias in the following bias domains: selection performance, detection, attrition, reporting and other sources of bias: importance of treatment implementation (treating therapist factors and treatment fidelity). Quotations from each study were selected to support the judgement and the justification for each decision was documented (Table

1- see appendix A). Any discrepancies in risk of bias ratings were resolved by discussion between the reviewers and consultation with a third reviewer. Full details of the risk of bias rating domains and how they were applied to the included studies are presented in the supplementary material.

Planned Methods of Analysis

Measure of Treatment Effect.

The primary outcome; the mean difference in change in OCD symptoms from baseline to follow-up between trial arms was measured by the Clinician administered version of the Y-BOCS (Goodman et al., 1989). Computation of effect size was done using Psychometrica software (Lenhard & Lenhard, 2016), applying the guidelines of Morris (2007) for calculating effect sizes for repeated measures designs. The pooled pre-test standard deviation was used for weighting the differences of the pre-post means.

Acceptability.

Acceptability was defined as non-differential attrition, as calculated by the proportion of participants at follow-up minus the proportion of participants at baseline.

Results

Searches

Searches of all sources retrieved 5125 records. After duplicates were removed ($n = 128$) we screened 4997 titles and abstracts, 4923 of these were excluded. We screened 75 full texts records, 71 were excluded (Table 3- see supplementary material). We included four studies reported in six published manuscripts that met eligibility criteria (Figure 1). Searches of clinical trial registers identified two ongoing studies (Table 4- see supplementary material). We did not identify any completed, unpublished trials where the results were unavailable.

Participant characteristics

The combined sample size of the four studies was $N = 313$ participants, of which $N = 248$ met the inclusion criteria for this review (e.g. healthy controls arms were ineligible). The age range of participants was 18 to 70 years ($M = 33.3$ years). The mean percentage of women was 57.6% and ranged from 58% to 100%. No studies reported on the employment status of participants. Two studies reported on ethnicity with 84.7% of participants being white/ Caucasian (Challacombe et al., 2017; Foa et al., 2005). Three studies reported education level; however, each reported a different metric as follows: 67.5% of sample has degree level or above (Challacombe et al., 2017);

sample mean of 15.6 years education (Moody et al, 2017); education levels of high = 56%, medium = 22% and low = 22% (Lindsay et al., 1997). Three studies reported relationship status with 61% of participants being married (range 25 - 98%) (Challacombe et al., 2017; Foa et al., 2005; Lindsay et al., 1997).

The mean Y-BOCS score across the four studies was 25.4 ($SD = 0.83$), indicating a severe level of OCD symptoms (Y-BOCS score of 24 - 31 = Severe). Participants' history of previous treatment was not reported in two studies and formed an exclusion criterion in two studies [Foa et al., (2005) excluded participants who were considered to have had prior 'adequate' treatment with intensive ERP; Moody et al. (2017) excluded those with ≥ 30 sessions of prior CBT]. In addition, two studies applied the exclusion of the presence of major depression (Foa et al., 2005; Moody et al., 2017). Two studies reported on comorbidities within their sample, with 17.8% of the sample participants experiencing depression or dysthymia and 55.9% a comorbid anxiety disorder (Challacombe et al., 2017; Moody et al., 2017). For further symptom and demographic information, inclusion and exclusion criteria see the supplementary material.

Study characteristics

All studies were RCTs, with individual-level randomisation. Follow-ups ranged from three weeks (Lindsay et al., 1997) to six months (Challacombe et al., 2017), mean duration 17.7 weeks. Two studies measured final outcomes at immediate completion of the intervention, with no follow-up (Lindsay et al., 1997; Moody et al., 2017).

Samples sizes ranged from $N = 18$ (Lindsay et al., 1997) to $N = 116$ participants (Foa et al., 2005). None of the studies reported using *a priori* power calculations to estimate the number of participants required prior to recruitment. However, Foa et al. (2005) reported that mid-trial preliminary analysis had indicated that a smaller placebo group was required for sufficient power. All studies recruited participants from clinical referrals for treatment of OCD, and three additionally recruited via internet advertisements and self-referral (Challacombe et al., 2017; Foa et al., 2005; Moody et al., 2017). Two trials were conducted in the USA (Foa et al., 2005; Moody et al., 2017), one in the UK (Challacombe et al., 2017) and one in Australia (Lindsay et al., 1997). All of the studies took place in outpatient clinics (Table 1).

Figure 1. PRISMA diagram of study identification and selection.

Interventions

In all studies the intervention was delivered on a one-to-one basis. Three studies reported that the intervention was manualised, all of which described using I-ERP based on the habituation model rationale. The fourth reported using I-CBT, with details on the intervention content not provided (Challacombe et al., 2017). Only one study reported testing treatment fidelity (adherence to manual and overall therapy quality) via video recordings of all consented therapy sessions (61%) which were rated by an independent evaluator (Moody et al., 2017). Lindsay et al. (1997) reported that treatment integrity was maintained by placing emphasis on adhering to the treatment manuals and agreeing what would be included in the treatment prior to its commencement.

Duration of intervention.

The duration of treatment was between two and four weeks. In three studies I-CBT was delivered daily, with sessions ranging in length from one to two hours each (Foa et al., 2005; Lindsay et al., 1997; Moody et al., 2017). Challacombe et al. (2017) delivered two sessions a week of three hours each. Total therapy hours per week ranged from five to ten hours per week. Two studies provided a total of 30 hours of one-to-one therapist to participant intervention hours (Foa et al., 2005; Moody et al., 2017). Challacombe et al. (2017) and Lindsay et al. (1997) provided a total of 12 and 15 hours of one-to-one therapist to participant intervention hours, respectively.

Challacombe et al. (2017) offered participants three booster sessions at monthly intervals post treatment. Foa et al. (2005) provided two home visits and eight consolidation sessions of 45 minutes each on a weekly basis post treatment. Two studies did not report providing any follow-up sessions (Lindsay et al., 1997; Moody et al., 2017). The mean follow-up period was 2.25 months.

Therapist characteristics.

In three studies therapists delivering I-CBT were reported to be qualified or licenced therapists who had extensive training and/or experience in treating OCD and received ongoing supervision throughout the trial (Challacombe et al., 2017; Foa et al., 2005; Moody et al., 2017). In one study therapists were specified as experienced clinical psychologists, there was no report of supervision (Lindsay et al., 1997).

Comparison groups.

Studies included an I-CBT arm and the following comparators: wait list control (Moody et al., 2017); Treatment as Usual (Challacombe et al., 2017); active control (anxiety management, Lindsay et al., 1997); and multiple arms comprised of a) placebo, b) clomipramine, and c) an ineligible arm of clomipramine + intensive ERP (Foa et al., 2005). Two studies also included healthy control groups (Challacombe et al., 2017; Moody et al., 2017) to examine outcomes not relevant to this review.

Outcomes.

OCD symptoms: Three studies utilised the Clinician rated Y-BOCS as the primary outcome measure. One study did not specify a primary outcome measure and conducted a principal components analysis (with varimax rotation) utilising the Y-BOCS, The Maudsley Obsessional-Compulsive Inventory (MOCI) and The Padua Inventory (PADUA) as a combined measure of

OCD symptom severity, reporting the combined and individual outcomes on these measures (Lindsay et al., 1997).

Acceptability: Two studies reported dropout rates during treatment (Challacombe et al., 2017; Moody et al., 2017) and one throughout the duration of the trial including follow-up (Foa et al., 2005). One study reported in the discussion section that there were no dropouts (Lindsay et al., 1997).

Risk of Bias in Included Studies

A risk of bias summary graph (Figure 2) and summary figure (Figure 3) are presented. For a detailed description of how each study was rated according to the risk of bias tool, see supplementary material. Overall, there was a relatively low risk of bias across studies. The most uncertain risk across studies pertained to selection bias. The only evidence of a high risk of bias pertained to performance bias in one study.

Figure 2. Risk of bias graph: review of authors’ judgements about each risk of bias item presented as percentages across all included studies.

	Random Sequence Generation	Allocation Concealment	Blinding of Participants & Personnel	Blinding of Outcome Assessors	Incomplete Outcome Data	Selective Reporting	Treating Therapist Factors	Treatment Fidelity
Challacombe et al. 2017	+	+	+	+	+	+	+	?
Foa et al. 2005	?	?	+	+	+	+	+	+
Lindsay et al. 1997	?	?	?	+	+	+	+	?
Moody et al. 2017	+	?	+	+	+	+	+	+

Figure 3. Risk of bias summary: review authors' judgements about each risk of bias item for each individual study.

Note: Red = high risk, yellow = unclear, green = low risk. Symbols indicate the level of agreement between the two independent reviewers. The + symbol = low risk, the ? symbol = unclear, the – symbol = high risk. The colour of the circle indicates the final judgement that was made.

Effects of interventions

Primary outcomes.

Table 2 provides a summary of findings for the primary and secondary outcomes. Where effect sizes were not provided by trial authors, they were computed by the review authors.

Comparison 1: I-CBT vs weekly delivered CBT.

None of the included studies compared I-CBT with weekly CBT.

Comparison 2: I-CBT vs Treatment as Usual (TaU).

One study ($N = 42$) contributed data to this outcome (Challacombe et al., 2017). The I-CBT group showed greater improvement when compared with the TaU group, with a large effect size reported ($d = -1.32$). Challacombe et al. (2017) reported a 30% reduction on the Y-BOCS,

which is considered to indicate a response to treatment. This was achieved by 70.5% ($n = 12$) of participants within the I-CBT group and 18.8% ($n = 3$) of the TaU group.

Comparison 3: I-CBT vs Wait list control.

One study ($N = 43$) contributed data to this outcome (Moody et al., 2017). The difference in YBOCS mean scores between the I-CBT group and the wait list control group favoured I-CBT at the end of treatment, with a large effect demonstrated ($d = -1.80$). No measure of clinically significant change was utilised by the trial authors.

Comparison 4: I-CBT vs other active psychotherapy treatment.

One study ($N = 18$) contributed data to this outcome (Lindsay et al., 1997). The difference in Y-BOCS mean scores between the I-CBT group and the Anxiety Management group favoured I-CBT demonstrating a particularly large effect ($d = -3.189$). No measure of clinically significant change was utilised by the trial authors.

Comparison 5: I-CBT vs Pharmaceutical interventions.

One study ($N = 91$) contributed data to this outcome (Foa et al., 2005). I-CBT (I-ERP) was compared to both clomipramine (active pharmacological intervention) and pill placebo. I-CBT outperformed both placebo ($d = -2.42$) and clomipramine ($d = -1.195$), each with large effect sizes for the difference in improvement.

Foa et al. (2005) also examined the number of responders across conditions (defined as ratings of ‘much improved’ or ‘very much improved’ on the Clinical Global Impressions Improvement scale (CGI-I). The I-CBT condition and the clomipramine condition did not differ in the number of responders overall, but the I-CBT group did better when only those who completed treatment were considered. The I-CBT condition had a greater number of excellent responders than the clomipramine condition in both the treated group and the completer group.

Secondary Outcome

Acceptability.

All four trials reported on study dropout. The proportion of eligible participants who declined to take part in the studies ranged from 0% to 63%, with a mean of 22.5%. The proportion of participants who dropped out after being randomised to receive I-CBT was 9.1%, compared to 13% who were randomised to comparator condition. The rate of drop out among the 80 participants who commenced I-CBT was 11.25% (range 0 to 27.5%) in comparison to 16.8% (range 0 to 25%) of the 113 participants in control conditions.

Discussion

Summary of main results

The aim of this systematic review was to assess the efficacy and acceptability of I-CBT for adults with OCD. This review found four RCT's comparing I-CBT for OCD with a control/comparator condition. Each of the studies used a different control/ comparison intervention and some studies had specific populations (i.e. perinatal OCD) and therefore it was not feasible to combine study data in a meaningful way to conduct a meta-analysis. However, this review builds on the only other systematic review examining intensive treatments for OCD (Jónsson et al., 2015) which only included two RCTs of adults with OCD. A summary of the main findings follows. The first research question concerned the effectiveness of I-CBT for OCD. A large effect was found in favour of I-CBT across all of the included studies when compared to the comparator within the trial. However, comparator conditions were extremely variable across studies, and no study compared I-CBT to standard format CBT. As such no definitive conclusions can be drawn regarding the superiority of I-CBT over CBT.

The second question of this review concerned acceptability of I-CBT. The mean rates of drop out were particularly low within the included studies, with no evidence for differential attrition. Only one study had a rate greater than 20% (Foa et al., 2005). However, within this study there were no differences in attrition rates across groups and reasons for attrition were reported in full. We can be confident that the risk of attrition bias was low across the included studies of this review, and that there were not differences between participants who completed versus those who dropped out which could have affected treatment outcomes. Within the literature rates of attrition are cited as between 20% (Schruers et al., 2005) and 25% (Abramowitz et al., 2009). However, some authors cite attrition rates of up to 50% (e.g. Franklin & Foa, 1998 as cited in Abramowitz & Arch, 2014), along with estimates reported by therapists' of up to 40% in clinical practice (Swift & Greenberg, 2012). More recent meta-analysis indicates mean dropout rates of approximately 15% (Ong et al., 2016; Öst et al., 2015) dispelling the idea that CBT is hard to tolerate and often unacceptable to patients.

Rates of refusal to undertake CBT in OCD have been cited to be up to 25% in existing trials for standard format delivery (Schruers et al., 2005). The rate of declining CBT within the included studies compared favourably to this. Although not generalizable, it appears that I-CBT is comparable to standard format CBT in terms of acceptability.

Only one previous review has addressed the efficacy of I-CBT (Jónsson et al., 2015). This review examined the evidence for both children and adults and conducted a combined meta-analysis which included 17 studies of which only three were RCTs. Jónsson et al. (2015) reported

effect sizes of between $d = 1.31$ and $d = 5.29$ for I-CBT concluding that there was some support for the superiority of I-CBT over standard CBT. Jónsson et al. (2015) asserted that the results of the review were not reliant on low quality studies due to the non-significant difference between pooled effect sizes of randomised and non-randomised studies. We suggest that the results of this review are interpreted with caution due to the significant limitations of the studies included in the meta-analysis, as noted by Jónsson et al. (2015). Of greatest concern are the threats to validity and risks of bias. For example, the extensive heterogeneity within the studies which were not reduced by sensitivity analysis, the small sample sizes in the majority of included studies, and a reliance on reporting completer data. It is well established that a meta-analysis of results from less rigorous studies varying in validity can be considered to be at greater risk of false positive conclusions if the studies are biased towards overestimating the effect of an intervention (Detsky et al., 1992). There are significant limitations and thus we suggest that caution is applied when drawing any conclusions, further research is required.

There are several gaps within the evidence with regards to the trials that have been conducted to date for I-CBT which are important to consider. Firstly, the treatment history of participants, secondly the settings in which the interventions took place and finally the length of follow-up post intervention.

The participants in the included studies would not meet the NICE criteria for which an intensive version of CBT is currently recommended (NICE, 2005, 2013). Participants who had previously received what was deemed as an adequate amount of previous CBT or pharmacological intervention were excluded from two of the trials (Foa et al., 2005; Moody et al., 2017). However, such exclusion criteria are in fact the criteria for which the NICE (2005) guidance recommends an intensive format. It is therefore not possible to draw any substantial conclusions about the efficacy or the acceptability of this approach for the patient group for whom the NICE recommendation is in place.

It should be noted that Challacombe et al. (2017) did not exclude participants based on treatment history, however the participants within this trial were mothers who had given birth within the previous six months, with a large proportion experiencing OCD specific to the birth. Secondly, all of the studies took place within outpatient settings thus no conclusions can be drawn here about the efficacy of I-CBT delivered in inpatient settings. Thirdly, when considering a format of CBT that is condensed in terms of the number of weeks/ months over which it is delivered, it is important that long term outcomes are considered. The included studies within this review provided minimal follow-up and thus are not sufficient to enable comment on the longevity of reported effects.

Quality of the evidence

The majority of studies failed to describe their randomisation procedures adequately, and thus it was not possible to fully assess the extent to which selection bias may have occurred in the included studies. Blinding of therapists and participants in psychotherapy trials is generally not possible. However, attempts can be made to reduce contamination between groups (see supplementary material), which was not demonstrated within the included trials. By contrast, blinding of assessors in psychotherapy trials is feasible, yet minimal information was provided regarding the blinding of assessors within the information collection process, making the extent to which detection bias was likely to have occurred across the studies unclear.

The risk of reporting bias was generally low across studies, although treatment protocols were not published for most included studies, there was consistency between outcomes in the methods and results. Intention to treat analysis was utilised, although the anomaly was Moody et al. (2017) who only reported complete data.

Although most of the included studies utilised experienced therapists, only one study reported the results of treatment fidelity checks. The extent to which therapists were therefore adhering to the treatment is unclear and thus increases the uncertainty as to whether observed treatment effects can be attributed directly to the components of the intervention.

Heterogeneity of the results of studies can be explained somewhat by differences in risks of bias and considerations of other methodological factors. In a meta-analysis conducted by (Öst, 2014) a significant association was found between low methodological stringency and high effect size. As methodological quality can be split into three main areas (risk of bias, generalisability, precision and other aspects e.g. ethical considerations) whilst a rigorous assessment of risk of bias was undertaken, other aspects of methodological rigour were not systematically evaluated beyond this. Applying a measure of methodological rigour (e.g. the psychotherapy outcome study methodology rating scale (POSMRS), Öst, 2008) may have been useful for further interpreting the validity of individual studies and their findings. For example, the POSMRS specifically reviews aspects including reliability of the diagnosis, power analysis, statistical analyses and presentation of results, clinical significance etc. which were not systematically considered here.

Potential biases in the review process

Strengths.

A strength of this review is the rigorous search strategy that was employed to locate all possible evidence and efforts made to contact trial authors for missing information. Searches of published and unpublished material were made. It is likely that all eligible trials conducted to date

have been included and that the risk of conclusions being skewed by publication bias has been minimised. An additional strength is the transparency of the review methods utilised. Three review authors were independently involved in each phase of the review.

Limitations.

Although extensive efforts were made to obtain missing data and information required, this was not possible in all cases and thus it is acknowledged that included studies may not be represented fully within all aspects of the review.

We acknowledge the limitations of using attrition rates as a measure of acceptability, as there can be other factors that lead to attrition (e.g., demographic variables; including race, cultural background, specifically lower socioeconomic status and lower levels of educational attainment (Roseborough et al., 2016)). Equally, participants may continue with therapy despite low satisfaction.

Clinical implications

The studies that have been conducted to date are inconclusive therefore it is not possible to make specific clinical recommendations in the absence of further well controlled trials. The low dropout rate in I-CBT across studies in this review is consistent with previous meta-analysis (Jónsson et al., 2015; Öst et al., 2015). It is important that the misconception of contemporary CBT for OCD being difficult to tolerate and likely to be unacceptable to a large proportion of patients (e.g. dropout rates of up to 50%) is not perpetuated. Such citations within the literature are outdated and can no longer be substantiated. They are also unhelpful to both therapists delivering CBT and patients seeking or undertaking treatment alike.

Conclusion

Although a meta-analysis was not performed, the effect of I-CBT appears to have evidence of promise for efficacy, and I-CBT appears to be acceptable. Further high quality RCTs are required to conduct a meta-analysis to examine the efficacy and acceptability of I-CBT for the group of OCD sufferers for whom the NICE guidelines recommend an intensive version of CBT.

Table 2: Summary of findings: Y-BOCS pre and post mean scores effect size, clinically significant change and Drop out

Challacombe et al. (2017)	Time point	I-CBT		Treatment as Usual (TaU)			I-CBT		TaU	I-CBT		TaU
		N	Mean (SD)	N	Mean (SD)	Effect size	Clinically Significant Change			Drop Out		
	Pre: Baseline	17	24.82 (5.19)	17	24.47 (5.81)		30% Y-BOCS	N (%)	N (%)	N (%)	N (%)	
	Post: 6mths	17	13.71 (8.95)	16	20.88 (6.34)	$d = -1.352$	reduction	12 (70.5)	3 (17.6)	1 (5.8)	0 (0)	
	Mean difference		11.11		3.59		Mean Y-BOCS	M (SD)	M (SD)			
							gp reduction	48.4% (25.2)	12.8% (22.6)			
Lindsay et al. (1997)	Time point	I-ERP		Anxiety Management (AM)			I-ERP		AM	I-ERP		AM
		N	Mean (SD)	N	Mean (SD)	Effect size	Clinically Significant Change			Drop Out		
	Pre: Week 0	9	28.70 (4.56)	9	24.44 (6.98)		-	-	-	N (%)	N (%)	
	Post: Week 4	9	11.00 (3.81)	9	25.89 (5.80)	$d = -3.189$				0 (0)	0 (0)	
	Mean difference		17.7		-1.45		Mean Y-BOCS	M (SD)	M (SD)			
							gp reduction	61.7% (NR)	-			
Moody et al. (2017)	Time point	I-CBT/ERP		Waitlist Control (WC)			I-CBT/ERP		WC	I-CBT/ERP		WC
		N	Mean (SD)	N	Mean (SD)	Effect size	Clinically Significant Change			Drop Out		
	Pre: Week 0	43*	24.5 (4.7)	21	25.6 (4.9)		-	-	-	N (%)	N (%)	
	Post: Week 3	43*	15.0 (5.2)	21	24.7 (5.4)	$d = -1.797$	Mean Y-BOCS	M (SD)	M (SD)	0 (0)	4 (16.6)	
	Mean difference		9.7 (5.8)		0.90 (3.1)		gp reduction	39.6% NR	3.5% NR			
Foa et al. (2005)	Time point	I-ERP		Clomipramine (C)			I-ERP		C	I-ERP		C
		N	Mean (SD)	N	Mean (SD)	Effect size	Clinically Significant Change			Drop Out		
I-ERP vs C	Pre: Week 0	29	24.6 (4.8)	36	26.3 (4.4)		Response**	N (%)	N (%)	N (%)	N (%)	
	Post: Week 12	21	11.0 (7.9)	27	18.2 (7.8)	$d = -1.195$	1	12 (41)	5 (14)	8 (27.5)	9 (25)	
	Mean difference		13.6		8.1		2	6 (21)	10 (28)			
							>2	11 (38)	21 (58)			
							Mean Y-BOCS	M (SD)	M (SD)			
							gp reduction	55.3% (NR)	30.8% (NR)			
Foa et al. (2005)	Time point	I-ERP		Placebo (P)			I-ERP		P	I-ERP		P
		N	Mean (SD)	N	Mean (SD)	Effect size	Clinically Significant Change			Drop Out		
I-ERP vs P	Pre: Week 0	29	24.6 (4.8)	26	25.0 (4.0)		Response**	N (%)	N (%)	N (%)	N (%)	
	Post: Week 12	21	11.0 (7.9)	20	22.2 (6.4)	$d = -2.42$	1	12 (41)	0 (0)	8 (27.5)	6 (23.1)	
	Mean difference		13.6		2.8		2	6 (21)	2 (8)			
							>2	11 (38)	24 (92)			
							Mean Y-BOCS	M (SD)	M (SD)			
							gp reduction	55.3% (NR)	11.2% (NR)			

AM: Anxiety Management; C: Clomipramine; gp: group; I-CBT: Intensive Cognitive Behavioural Therapy; I-ERP: Intensive Exposure and Response Prevention; P: Placebo; SD: standard deviation; Y-BOCS: Yale-Brown Obsessive Compulsive Scale.

*Moody et al., (2017) reports combined number of final OCD participants treated, thus combining the 21 participants who comprised the wait list control group for 4 weeks before receiving I-CBT. **Response is defined by a rating of ≤ 2 improvement on the Clinical Global Impression Scale, data reported is for 'treated' participants as opposed to 'completer' participants

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Appendix A

Table 1.

Characteristics of included studies

Challacombe et al., 2017

Methods	Study design: RCT Duration of study: Not reported Study dates: Not reported
Participants	Setting: Single site, outpatient (UK) Sample population: Recruited via advertisements on UK-based OCD service user networks, parenting websites and within local clinical services Participants randomised: $N = 43$ Sample size: $N = 43$ OCD, ($N = 37$ Healthy Control) Inclusion criteria: Diagnosis of OCD (DSM-IV), Mother of a baby < 6 months old Exclusion criteria: OCD not primary diagnosis, psychosis, alcohol or substance abuse, twins, refusal to be videotaped
Intervention	1. I-CBT: 2 weeks, 4 sessions, 3 hrs each (6hrs/w). Total CBT hours: 12 hours. 2. Treatment as Usual (i.e. some CBT ($N = 6$); mindfulness ($N = 3$); Counselling ($N = 2$); No treatment ($N = 2$). 3. Healthy Controls (not included in this review).
Outcomes	Measures relevant to review: Clinician-rated Y-BOCS All other measures: The Ainsworth sensitivity scale, Strange Situation Procedure, Obsessive Compulsive Inventory, Ainsworth cooperation–intrusiveness scale, maternal warmth, vocalizations and over conscientious behaviours (M Ainsworth, unpublished scales), Self-Efficacy Scale, GRIMS and DASS. Follow-up times: 6 and 12 months of babies age.

Notes

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Trial authors declaration of interest: None.

Risk of Bias

Bias	Author's judgement	Support for judgement
Selection Bias		
Random sequence allocation	Low risk	Quote: "A random sequence of the two treatment categories was generated in blocks of six (www.randomization.com)".
Allocation concealment	Low risk	Quote: "A person unconnected with the study sealed cards with each category in numbered individual envelopes". "The researchers and participants were blind to group allocation until the envelope was opened at the end of the baseline assessment". Quote: "The TAU group was significantly higher in dimensionally measured anxiety on the DASS scale. Otherwise, the two clinical groups were well matched". Quote: (from correspondence) "envelopes were opaque".
Performance Bias		
Blinding of participants and personnel	Low risk	Comment: The study did not address this outcome. However, due to the design of CBT Vs TaU, it is not possible to blind participants or personnel to the intervention during the study.
Detection Bias		
Blinding of outcome assessors	Low risk	Quote: "The outcome/12-month assessment was conducted by a researcher who was blind to group

allocation and was not in any way involved in the therapy”.

Attrition bias

Incomplete outcome data Low risk

Quote: “One mother in the I-CBT group did not complete treatment but did complete assessments and was included in all analyses”.

Reporting Bias

Selective reporting Low risk

Comment: The study protocol is not available; however, the published report includes all expected outcomes apart from the outcomes of the 'perceived social support scale' which are not relevant to this review.

Other Bias

Treating therapist factors Low

Quote: “I-CBT was predominantly delivered by the first author (F.L.C.) who is a qualified clinician, who received ongoing supervision in CBT for OCD for the duration of the study.... were treated by two other qualified experienced therapists specializing in OCD...”.

Treatment fidelity Unclear

Foa et al., 2005

Methods

Study design: RCT

Duration of study: 10 years

Study dates: 1990–2000.

Participants

Setting: Three sites, outpatient (Philadelphia, New York, Winnipeg, USA).

Sample population: recruited through self-referrals, professional referrals, and media advertisements and needed to live within a commutable distance from their study site.

Participant screened: $N = 833$

Participants not eligible: $N = 312$

Participants declined participation: $N = 372$

Participants randomised: $N = 149$

DROP OUT: during treatment

I-ERP: $N = 8$ (*withdrew after learned condition*)

C: $N = 11$ (*withdrew after learned condition*)

I-ERP + C: $N = 2$ (*withdrew after learned condition*)

P: $N = 6$ (*withdrew after learned condition*)

Sample size: $N = 122$

Inclusion criteria: Age 18–70 years, diagnosis of OCD (DSM-III-R/ DSM-IV), OCD is primary problem, Y-BOCS total score ≥ 16 , Illness duration ≥ 1 year.

Exclusion criteria: Other primary or co-primary psychiatric disorder. Current Major Depression: HDRS >18 , prominent suicidal ideation, alcohol or substance dependence in past 6 months, current schizotypal or borderline personality disorder, Past adequate treatment with clomipramine (≥ 150 mg/day for more than 4 weeks), Prior adequate treatment with intensive ERP (>3 visits per week for more than 2 weeks), significant abnormalities in ECG.

Intervention

1. Intensive Exposure and Response Prevention (I-ERP): 3 weeks, daily sessions, 2 hrs each (10hrs/w) plus Home work of 2 hours per day. Total therapy hours: 15 sessions (30 hours).

2. I-ERP + Clomipramine: both treatments undertaken simultaneously (not eligible for this review).

3. Clomipramine: weekly 30min session for medication review.

4. Placebo: weekly 30min session for medication review.

Outcomes

Measures relevant to review: Clinician-rated Y-BOCS.

All other measures: Clinical Global Impression-Improvement scale (CGI-I), Clinical Global Impression-Severity scale (CGI-S), Hamilton Depression Rating Scale.

Notes

Funding: NIMH grants MH-45404 and MH-45436

Trial authors declaration of interest: Not reported

Risk of Bias

Bias	Author's judgement	Support for judgement
Selection Bias		
Random sequence allocation	Unclear risk	<p>Quote: "Treatment assignment was done randomly within blocks of four".</p> <p>Comment: Insufficient information about the random component of the sequence generation process.</p>
Allocation concealment	Unclear risk	<p>Quote: "The only pre-treatment difference between patients at the three sites was in the NIMH Global Obsessive-Compulsive Scale score (the mean score for the Philadelphia site was higher than that for the New York site, $F = 4.93$, $df = 1, 105$, $p < 0.05$). There were no other differences among conditions or sites on demographic variables nor in pre-treatment scores on the Yale-Brown Obsessive-Compulsive Scale"</p> <p>Comment: Method of concealment is not described.</p>
Performance Bias		
Blinding of participants and personnel	Low risk	<p>Quote: "Psychiatrists were blind to patients' medication assignment and therapy status. The therapists who provided exposure and ritual prevention were blind to patients' medication status".</p>
Detection Bias		
Blinding of outcome assessors	Unclear	<p>Quote: "Independent evaluators, who remained blind to treatment assignment, conducted the assessments".</p>

Comment: The relationship of the independent evaluator to the study is not specified.

Attrition bias

Incomplete outcome data Low risk

Quote: “The overall dropout rate of those entering treatment was 29%. There were no differences in rates across conditions ($\chi^2 = 1.9$, $df = 3$, $p = 0.58$), and patients dropped for various reasons.”; “Patients who dropped out of the study did not differ from completers on demographic or clinical characteristics, including OCD severity. The majority (82%) of dropouts occurred within the first 4 weeks, with no differences in the number of weeks completed before dropout across conditions or sites. However, New York had significantly more dropouts than Philadelphia (26 (43%) versus 10 (16%); $\chi^2 = 10.4$, $df = 1$, $p = 0.001$)”.

Quote: “...data were not collected on patients who dropped out of treatment after randomization but before treatment, and they could not be included in last-observation-carried-forward analyses”.

Comment: Reasons are unlikely to be related to true outcome; balanced in numbers across intervention groups.

Reporting Bias

Selective reporting Low risk

Comment: The study protocol is not available, but the published report includes all expected outcomes.

Other Bias

Treating therapist factors Low risk

Quote: “...we used a manual-based, empirically validated version of exposure and ritual prevention”.

Treatment fidelity Low risk

Quote: “ERP therapists received training and ongoing weekly supervision. Training included observing experts who conducted exposure and

ritual prevention and completing at least one training case of exposure and ritual prevention”.

Quote: “Independent evaluators received training and ongoing supervision from Philadelphia faculty and performed practice ratings of taped interviews intermittently during the study”.

Quote: “each site conducted all treatments after extensive training and with ongoing supervision of research staff, we sought to ensure that treatments were consistently administered in an expert fashion across sites”.

Quote: “Throughout, independent evaluators from New York and Philadelphia met to discuss assessment issues and rated specific assessments together to ensure interrater reliability. Before each assessment by the independent evaluator, patients were reminded not to discuss their treatment in order to maintain the blind”.

Lindsay et al., 1997

Methods	<p>Study design: RCT</p> <p>Duration of study: Not reported</p> <p>Study dates: Not reported</p>
Participants	<p>Setting: Single site, outpatient (Australia)</p> <p>Sample population: Not specified</p> <p>Participants randomised: $N = 18$</p> <p>Sample size: $N = 18$</p> <p>Inclusion criteria: Diagnosis of OCD DSM-IV (no specific inclusion criteria specified apart from diagnosis of OCD)</p> <p>Exclusion criteria: None specified</p>

Intervention	<p>I-ERP: 3 weeks, daily sessions, 1hr each (5hrs/w) Total I-ERP hours: 15 hours (15 sessions)</p> <p>Anxiety Management: 3 weeks, daily sessions, 1hr each (5hrs/w)</p>
Outcomes	<p>Measures relevant to review: Clinician-rated Y-BOCS</p> <p>All other measures: The Padua Inventory (PADUA), The Maudsley Obsessional-Compulsive Inventory (MOCI), The State Trait Anxiety Inventory, Beck Depression Inventory.</p>
Notes	<p>Funding: Not reported</p> <p>Trial authors declaration of interest: Not reported</p>

Risk of Bias

Bias	Author's judgement	Support for judgement
Selection Bias		
Random sequence allocation	Unclear risk	<p>Quote: "Subjects were randomly assigned to one of two treatment conditions".</p> <p>Comment: Insufficient information about the random component of the sequence generation process.</p>
Allocation concealment	Unclear risk	<p>Quote "There was no significant difference between the groups on any of these measures".</p> <p>Comment: Method of concealment is not described.</p>
Performance Bias		
Blinding of participants and personnel	High risk	<p>Quote: "... to rule out the possibility that any observed differences in treatment outcome were due to differences in therapist variables, patients were contacted following treatment and asked to rate their therapist for two qualities: supportiveness and understanding. These interviews were conducted over the phone by an independent assessor".</p>

Comment: It is not stated if the independent assessor was involved in the study in other ways.

Comment: The study did not address this outcome.

Detection Bias

Blinding of outcome assessors Unclear risk

Comment: The study did not directly address outcome assessors.

Attrition bias

Incomplete outcome data Low risk

Quote: “No patients dropped out of treatment”.

Comment: This was stated in the discussion.

Reporting Bias

Selective reporting Low risk

Comment: The study protocol is not available, but the published report includes all expected outcomes.

Other Bias

Treating therapist factors Unclear risk

Quote: “...with experienced Clinical psychologists”.

Treatment fidelity Unclear

Quote: “All subjects received a treatment manual which outlined in detail a rationale for treatment and treatment guidelines”. OCD treatment manual: “Andrews et al., 1994”, Anxiety management “manual was derived from the GAD manual in Andrews et al., 1994”.

Quote: “Treatment integrity was maintained by emphasising close adherence to the treatment guidelines provided in the treatment manuals. In addition, the structure and content of therapy sessions for both groups were agreed upon by all clinicians before the study began”.

Comment: Supervision of therapists was not specified.

Moody et al., 2017

Methods	<p>Study design: RCT</p> <p>Duration of study: Not reported</p> <p>Study dates: Not reported</p>
Participants	<p>Setting: Single site, Outpatient.</p> <p>Sample population: Recruited participants through UCLA clinics, flyers, and internet advertisements.</p> <p>Participants randomised: $N = 51$</p> <p>Sample size: $N = 239$ OCD screened for eligibility, $N = 71$ assessed by physician ($N = 18$ did not meet inclusion, $N = 2$ declined to participate)</p> <p>Inclusion criteria: Diagnosis of OCD (DSM-IV), Y-BOCS total score ≥ 16, age of onset before age 18.</p> <p>Exclusion criteria: Psychotic disorders, Bipolar disorder, Lifetime substance dependence, ADHD, severe depression: ADIS-IV ≥ 6 No changes in SSRI medication within 12 weeks prior to enrolment, ≥ 30 sessions of prior CBT.</p>
Intervention	<p>1. I-CBT: 4 weeks, daily sessions, 1.5hrs each (7.5hrs/w). Total Intervention hours: 30 hours within 20 sessions.</p> <p>2. Wait list control: 4-week wait before I-CBT.</p> <p>3. Healthy control (not relevant to this review).</p>
Outcomes	<p>Measures relevant to review: Clinician-rated Y-BOCS.</p> <p>All other measures: OCI-R, Hamilton Anxiety Scale (HAMA), Montgomery-Åsberg Depression Rating Scale (MADRS), Global Assessment Scale (GAS)</p>
Notes	<p>Funding: National Institute of Mental Health R01MH058900</p> <p>Trial authors declaration of interest: None.</p>

Risk of Bias

Bias	Author's judgement	Support for judgement
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Selection Bias

Random sequence allocation	Unclear risk	<p>Quote: “We used randomized permuted blocking with blocks size of 4 and covariate-adaptive randomization for medication status, gender and age”</p> <p>Comment: Insufficient information about the random component of the sequence generation process.</p>
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Allocation concealment	Unclear risk	<p>Comment: Method of concealment is not described.</p>
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Performance Bias

Blinding of participants and personnel	Low risk	<p>Comment: The study did not address this outcome. However, due to design of CBT Vs waitlist control, it is not possible to blind participants or personnel to the intervention during the study.</p>
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Detection Bias

Blinding of outcome assessors	Low risk	<p>Quote: “Independent evaluators not involved in treatment or assessments administered psychometric instruments”.</p> <p>Comment: “Outcome” assessors are not directly specified.</p> <p>Comment: The blinding and relationship of the independent evaluator to the study is not specified.</p>
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Attrition bias

Incomplete outcome data	Low risk	<p>Quote: “Four waitlist-first participants elected to withdraw before finishing waitlist and 1 was withdrawn due to medication protocol violation. The study physician withdrew 2 treatment-first participants, and 1 completed the study but had inadequate data due to head motion”.</p>
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Comment: Only participant completer data was used in analysis.

Reporting Bias

Selective reporting Low risk

Comment: The published study is in line with the study protocol.

Other Bias

Treating therapist factors Low risk

Quote: “All OCD participants underwent manualized exposure and response prevention (ERP)-based I-CBT”.

Treatment fidelity Low risk

Quote: “Two licensed therapists with extensive training in CBT for OCD conducted treatment. Both had 6 or more years of specialty training in intensive and outpatient CBT for OCD”.

Quote: “Therapy sessions of consenting participants (61%) were videotaped, and an independent evaluator (also a trained CBT therapist with 8 years’ experience) rated all sessions for quality assurance, including adherence to the manual and overall quality of the session. Average treatment adherence was 97.7% and average quality of sessions was 9.96 (0 – 10 scale)”.

Comment: Supervision of therapists not specified, however probable, given therapy assurance checks described.