Cognitive-behavioral therapy for obsessive-compulsive disorder: a meta-analysis of treatment outcome and moderators

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CRD summary
The authors concluded that while cognitive behavioural therapy was efficacious in the treatment of obsessive compulsive disorder, more research was needed to identify processes that may predict more favourable treatment responses. The authors’ conclusion reflects the evidence presented but the lack of quality assessment and significant heterogeneity between studies means the reliability of the conclusions is uncertain.

Authors’ objectives
To assess the effectiveness of cognitive-behavioural therapy (CBT) for obsessive compulsive disorder (OCD).

Searching
PsycINFO, MEDLINE and Scopus were searched to December 2011. Search terms were reported. Citation maps and “cited by” search tools were also used. Reference lists of relevant reviews were searched. Authors of trials were contacted for additional articles.

Study selection
Randomised controlled trials (RCTs) of CBT compared with a control condition (psychological placebo, wait-list control or pill placebo) for patients with OCD were eligible for inclusion. Patients had to meet full Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria for OCD (DSM-III-R, DSM-IV or DSM-IV-TR) and receive more than one session of CBT during an acute phase of treatment. Studies were excluded if they were of augmented psychological treatment or reported insufficient data.

The number of sessions ranged from five to 23. Most studies used waiting list as a control while the remainder used a psychological or pill placebo and one study used a combined waiting list and psychological placebo. Most of the studies included adults only (mean age 30.5 to 39.3 years) but some studies included only children (mean age 11.8 to 13.6 years). In all but one of the studies the primary outcomes were measured using the Yale-Brown Obsessive Compulsive Scale for either adults or children. Outcomes were OCD symptoms and depression post-treatment and follow-up.

The authors did not state how many reviewers selected studies for inclusion.

Assessment of study quality
The authors stated they assessed treatment integrity and blinding of assessors. They did not report how many reviewers conducted the assessment.

Data extraction
Data were extracted for OCD symptoms and depression pre- and post-treatment and at follow-up and used to calculate between group effect sizes using Hedges’s g with 95% confidence intervals. Corrections for small sample size were made using methods by Hedges and Olkin. The authors did not state how many reviewers extracted data.

Methods of synthesis
Overall mean effect sizes were calculated using a random-effects model with 95% confidence intervals and categorised as small (0.2), medium (0.5) and large (0.8). Heterogeneity was assessed using the Q test. Moderator analyses were also conducted to identify potential sources of between study variability and included severity of depression pre-treatment, treatment type, control type, mean age, percentage of females, number of sessions and co-morbidity. Publication bias was assessed using methods by Rosenthal.

Results of the review
Sixteen RCTs (756 participants) were included in the review. Sample sizes ranged from 18 to 108.
Compared with control groups, CBT was significantly more effective at reducing OCD symptoms post-treatment (g 1.39, 95% CI 1.04 to 1.74; 16 RCTs) and at follow-up (g 0.43, 95% CI 0.12 to 0.74; three RCTs). There was significant heterogeneity for this analysis.

CBT was also more effective than control groups at reducing depression symptoms post-treatment (g 0.51, 95% CI 0.21 to 0.82; nine RCTs). Insufficient data was reported to enable analysis at follow-up.

Sub-group analyses reported that studies using waiting list controls had larger effect sizes than studies using placebo controls. Effect sizes were smaller for RCTs including adults than for RCTs including children. No significant differences in effect sizes were reported for a range of other moderator variables. Full details of sub-group analyses were reported in the review.

There was no significant evidence of publication bias.

**Authors' conclusions**
Cognitive behavioural therapy was efficacious in the treatment of obsessive compulsive disorder, but more research was needed to identify processes that may predict more favourable treatment responses.

**CRD commentary**
The review question was clear with broadly defined inclusion criteria. Several relevant sources were searched and attempts were made to reduce publication bias. It was unclear whether methods to reduce reviewer error and bias were used throughout the review process. Some quality items appeared to have been assessed, but few details on this were provided, and no results were reported for individual studies. The lack of reporting of a systematic quality assessment makes it difficult to determine the reliability of the evidence presented.

It appeared that standard meta-analytic techniques were used. However, significant heterogeneity was found in the primary analysis; although subgroup analyses were performed, no associated results for heterogeneity assessments were reported.

The authors' conclusion reflected the evidence presented, but lack of quality assessment and significant heterogeneity between studies means the reliability of the conclusions is uncertain.

**Implications of the review for practice and research**
**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that further robust research with longer follow-up periods was needed to examine the extent to which prognostic and prescriptive moderators of cognitive behavioural therapy vary across symptom dimensions of obsessive compulsive disorder.

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