Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD) (Review)

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[Intervention Review]

Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

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ABSTRACT

Background

Obsessive compulsive disorder (OCD) is a chronic anxiety disorder associated with significant morbidity, social impairment and lower quality of life. Psychological treatments are a frequently used approach for OCD.

Objectives

To perform a systematic review of randomised trials of psychological treatments for obsessive compulsive disorder in comparison with treatment as usual.

Search strategy

We conducted an electronic search of CCDANCTR-Studies (31/10/2006), and other databases. We searched reference lists, and contacted experts in the field.

Selection criteria

Published and unpublished randomised trials of psychological treatments versus treatment as usual for adults with a diagnosis of OCD

Data collection and analysis

Two review authors worked independently throughout the selection of trials and data extraction. Findings were compared and disagreements were discussed with a third review author. Full data extraction, using a standardised data extraction sheet, was performed on all studies included in the review. Results were synthesised using Review Manager software. For dichotomous data, odds ratios were calculated. For continuous data, effect sizes were obtained and the standardised mean difference, with 95% confidence intervals, was calculated. Fixed and random effects models were used to pool the data. Reasons for heterogeneity in studies were explored and sensitivity analyses were performed by excluding trials of lower quality.

Main results

Eight studies (11 study comparisons) were identified, all of which compared cognitive and/or behavioural treatments versus treatment as usual control groups. Seven studies (ten comparisons) had usable data for meta-analyses. These studies demonstrated that patients receiving any variant of cognitive behavioural treatment exhibited significantly fewer symptoms post-treatment than those receiving treatment as usual (SMD -1.24, 95% CI -1.61 to -0.87, I^2 test for heterogeneity 33.4%). Different types of cognitive and/or behavioural treatments showed similar differences in effect when compared with treatment as usual. The overall treatment effect appeared to be influenced by differences in baseline severity.

Authors' conclusions

The findings of this review suggest that psychological treatments derived from cognitive behavioural models are an effective treatment for adult patients with obsessive compulsive disorder. Larger high quality randomised controlled trials involving longer follow up periods are needed, to further test cognitive behavioural treatments, and other psychological approaches, in comparison to each other and control conditions. Future trials should examine the predictors of response to each treatment, and also conduct cost-effectiveness evaluations.

PLAIN LANGUAGE SUMMARY

Psychological treatments compared with treatment as usual for obsessive compulsive disorder

Obsessive compulsive disorder (OCD) is a chronic and disabling anxiety disorder characterised by recurrent obsessions, such as persistent thoughts, impulses or mental images, that promote anxiety, together with compulsions, such as repetitive behaviours or mental acts, that are performed in response to the obsessions. Currently the most commonly used therapies for OCD are pharmacological therapies, followed by psychotherapies, particularly cognitive behavioural approaches. We reviewed studies that compared psychological interventions to treatment as usual groups who either received no treatment, or were on a waiting list for treatment or received usual care. We found eight studies, which together suggested that cognitive and/or behavioural treatments were better than treatment as usual conditions at reducing clinical symptoms. Baseline OCD severity and depressive symptom level predicted the degree of response. However, the conclusions were based on a small number of randomised controlled trials with small sample sizes. There were no trials of other forms of psychological treatment such as psychodynamic therapy and client-centred therapy, and a lack of available evidence for the long-term effectiveness of psychological treatments.

BACKGROUND

Obsessive compulsive disorder is a chronic anxiety disorder, with the onset occurring typically in adolescence or early adulthood (Stein 1997), and has an incidence slightly higher in women (Weissman 1994). It is the fourth most prevalent psychiatric disorder, with a high comorbidity with other anxiety and mood disorders (Stein 2002). Epidemiological studies have reported life time prevalence rates ranging approximately from 2% to 3% of the general population (Karno 1988; Saasson 1997). In the last decade the frequency of diagnosis of obsessive compulsive disorder has increased, and at the same time a relevant number of research studies concerning the disorder have been carried out (Stoll 1992). Corresponding to this, there has also been considerable growth in the treatment literature on childhood and adolescent obsessive compulsive disorder, and this is of particular significance as current estimates of the onset of OCD in childhood and adolescence are as high as 80%.

OCD is characterized by recurrent obsessions, such as persistent thoughts, impulses or mental images, that promote anxiety, and uncontrolled compulsions such as repetitive behaviours or mental acts that are performed in response to the obsessions with the intent of reducing anxiety. Obsessions are often related to thoughts about contamination and typical compulsions are cleaning, washing, praying, counting or checking the same things many times in a pathological way (Hawton 2003). OCD is associated with significant morbidity and substantial impairment, including severely affected quality of life (Stein 2000). Obsessions and compulsions are time consuming, cause marked distress and can significantly interfere with normal daily routine and occupational functioning

(Goodman 1999).

Pharmacological and psychological treatments are the two most frequently used treatments approaches. Pharmacological treatment aims to regulate the serotonin transmission based on the neurobiological model of the etiology of OCD (Rauch 1993). Positron emission tomography and functional magnetic resonance imaging have shown increased glucose metabolism in the orbital frontal cortex, caudate nuclei, and anterior cingulate regions of the brain in obsessive-compulsive patients. Empirical research indicates that psychological treatments such as cognitive behavioural therapy are as effective as antidepressants in causing adaptive regional brain metabolic changes correlated with symptomatic improvement in patients with OCD (Baxter 1992).

Antidepressive medications with potent serotonergic properties such as clomipramine and selective serotonin reuptake inhibitors (SSRI) are known to be effective in improving OCD symptoms (Ellingrod 1998; Piccinelli 1995). A separate Cochrane review is examining the effectiveness of SSRIs versus placebo for OCD which is expected to be published in 2007 (Soomro 2006).

In general medical and psychiatric settings, antidepressants are commonly the first line of treatment, nevertheless some patients may not be compliant with medications or may not respond to pharmacological treatment. Of those who do respond to antidepressants, some do not experience complete remission of symptoms (Hollander 2002). Psychoanalytic treatment for obsessive compulsive neurosis, as outlined by Freud, aimed to resolve predominantly subconscious or unconscious conflicts. Traditional psychoanalytic and psychodynamic psychotherapy were for many years the only psychological treatment approach used to treat this problem, but to date there is a dearth of controlled data supporting the use of psychoanalytic treatment in terms of change in the obsessional thoughts or the ritualistic behaviour.

Cognitive behaviour therapy (CBT) was the first psychological treatment for which an empirical support was obtained. According to the cognitive behavioural model, OCD develops as a result of the occurrence of intrusive thoughts, which are experienced as threatening and which involve an exaggerated sense of personal responsibility (Foster 2001). Individuals with OCD use maladaptive strategies such as worry and self-punishment to control their unpleasant thoughts (Abramowitz 2002). They attempt to avoid obsessions by keeping away from situations or objects which trigger them and when, despite avoidance, obsessions occur, they engage in compulsive behaviours which terminate the exposure to the feared thoughts and situations and provide a temporary anxiety relief (Hawton 2003). Based on this theory, the most widely investigated cognitive-behavioural treatment is exposure and response prevention (Deacon 2004). The treatment involves exposing patients to all previously avoided situations and feared stimuli, while encouraging them to block any behaviours which prevent or terminate the exposure. This therapy is collaborative and the treatment plan is negotiated with the patient by agreeing short-, medium-, and long-term targets. Intensive cognitive behaviour therapy models have also been developed and have proved effective in treating pediatric OCD (Storch 2006).

Specific cognitive treatments may also have a role in the treatment of obsessive compulsive disorder. Recent cognitive models of OCD propose that obsessional problems derive from the particular way in which the intrusive thoughts are interpreted (Rachman 1998). When intrusions are interpreted as indicating increased personal responsibility for harm, or more specifically as equivalent to actions, this causes marked distress and the occurrence of neutralising behaviour. The cognitive therapy aims to change important belief domains, such as inflated responsibility for harm, excessive concern about the importance of controlling thoughts, thought-action fusion, overestimation of threat, intolerance of uncertainty, and beliefs about the consequences of anxiety and capacity to cope (Salkovskis 1998; Salkovskis 1999; Steketee 1998).

In practice, it is difficult to differentiate between cognitive, behavioural and "cognitive-behavioural" treatments, and there is much overlap in terms of their procedures. There has been extensive development in cognitive-behavioural approaches, which integrate the cognitive restructuring approach of cognitive therapy with the behavioural modification techniques of behavioural therapy, in various individual and group formats, and in many different contexts, ranging from home computer-aided self-treatment through to treatment in an intensive care unit (Bachofen 1999; Falls-Stewart 1993; Kirkby 2000). Significant literature is developing in intensive CBT which appears to be a very promising mode of psychological treatment for obsessive compulsive disorder. An existing Cochrane review of cognitive-behavioural therapy/behaviour therapy in childhood OCD found that when compared to a wait-list or pill placebo, cognitive-behavioural therapy/behaviour therapy is an effective treatment for reducing OCD symptoms and lowering the risk of having OCD after treatment (O'Kearney 2006). Psychological treatments such as relaxation training or anxiety management are also occasionally used to relieve OCD symptoms, but have not been shown to be effective (Greist 2002; Lindsay 1997).

A systematic review adhering to the Cochrane Collaboration guidelines was undertaken to appraise and summarise evidence examining the effectiveness of psychological treatments compared with treatment as usual in an adult population. This review is one in a series of reviews of psychological treatments for OCD.

OBJECTIVES

To assess the effectiveness of psychological treatments for obsessive compulsive disorder in comparison with treatment as usual (including usual care/management, waiting list, no treatment).

METHODS

Criteria for considering studies for this review

Types of studies

Randomised controlled trials, in any language, both published and unpublished were included.

Types of participants

The participants were males and females, treated in any setting, and diagnosed according to a standardised classification system, such as ICD (WHO 1992) or DSM (APA 1987, APA 1994), as having an obsessive compulsive disorder, either alone or comorbid with another disorder. More than 90% of trial participants were required to be aged between 16 and 65 years. Childhood trials were not included, as these have been examined in a separate review.

Types of interventions

All psychological treatments, grounded within an explicit orientation, structured, delivered on an individual or group basis, and compared with a treatment as usual control.

The following psychological treatments were included:

1. Cognitive behaviour therapy (incorporating both of cognitive and behavioural therapy elements) (Borkovec 1988)
2. Cognitive therapy (including some kind of cognitive restructuring training) (Beck 1979)
3. Behaviour therapy (including exposure or response prevention) (Eysenck 1960)
4. Relaxation therapy (including progressive muscle relaxation and mental relaxation techniques) (Ost 1987)
5. Psychodynamic therapy (insight-oriented therapy exploring unconscious mental processes) (Freud 1949)
6. Any other psychological treatment (interpersonal therapy, gestalt therapy, biofeedback)

Studies where concurrent psychotropic medication was allowed were included, but studies where a combination of psychotropic medication + psychological intervention were examined were excluded.

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The treatment as usual control condition included: no treatment, waiting list and usual care/management.

Planned treatment comparisons:

The following treatment comparisons were made:

1. All variants of psychological treatment versus treatment as usual
2. Cognitive-behaviour therapy versus treatment as usual
3. Cognitive therapy versus treatment as usual
4. Behaviour therapy versus treatment as usual
5. Relaxation therapy versus treatment as usual
6. Psychodynamic therapy versus treatment as usual
7. Any other psychological treatment versus treatment as usual

Types of outcome measures

Primary outcome

The primary outcome measure was obsessive compulsive symptom levels, using validated clinician-rated scales such as the National Institute of Mental Health Obsessive-Compulsive Scale (NIMH-OCS) (CCSG 1991), or self-rating scales such as the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) (Goodman 1989) and the Maudsley Obsessive Compulsive Inventory (MOCI) (Hodgson 1977).

Secondary outcomes

Other outcome measures were as follows:

1. Dropout rates (patient acceptability as evidenced by patient discontinuation rates)
2. Depressive symptoms (using validated scales such as the Hamilton Depression Rating Scale (HAMD) (Hamilton 1969) and the Beck Depression Inventory (BDI) Beck 1961)
3. Anxiety symptoms (using validated scales such as the Hamilton Anxiety Rating Scale (HAMA) (Hamilton 1959), the Stait-Trait Anxiety Inventory (STAI) (Spielberg 1983) and the Beck Anxiety Inventory (BAI) (Beck 1988).
4. Quality of life (using the SF36 (Ware 1993) as a generic HRQoL outcome)
5. Absence of treatment response (score of -not improved or -little improved) or treatment response (score of -very much improved- or -much improved- on all scales)

Post-hoc secondary outcome

1. Adverse effects

Where more than one instrument was used to measure the same outcome in a study, data from the most frequently used instrument were included in the analysis.

Search methods for identification of studies

1. Electronic searches

a) The Cochrane Collaboration Depression, Anxiety & Neurosis Controlled Trials Register (CCDANCTR-Studies) was searched on 31/10/2006 using the following terms:

Diagnosis = Obsess*

and

Intervention = *Therapy

The following additional databases were searched to check the completeness of CCDANCTR-Studies:

1. EMBASE (1980-2006)
2. MEDLINE (1966-2006)
3. CINAHL (1982-2006)
4. PsycINFO (1974-2006)
5. Cochrane Central Register of Controlled Trials (Cochrane Library, 2006, Issue 4)

The optimal sensitive search strategy of the Cochrane Collaboration was used to isolate randomised controlled trials. The following search terms were used to search MEDLINE and were modified as necessary for other databases: "Obsessive-Compulsive Disorder", "Obsessive Behavior" and "Psychotherapy".

b) We searched for ongoing studies at Clinicaltrials.gov and controlled-trials.com.

2. Handsearching

The British Library conference proceedings index were searched for conferences specific to OCD or anxiety disorders

The following conference proceedings were handsearched;

28th Annual meeting of the British Association for Behavioural and Cognitive Therapies, 2000

30th Annual meeting of the British Association for Behavioural and Cognitive Therapies, 2001

31st Annual meeting of the British Association for Behavioural and Cognitive Therapies, 2002

32nd Annual meeting of the British Association for Behavioural and Cognitive Therapies, 2003

33rd Annual meeting of the British Association for Behavioural and Cognitive Therapies, 2004

34th Annual meeting of the British Association for Behavioural and Cognitive Therapies, 2005

35th Annual meeting of the British Association for Behavioural and Cognitive Therapies, 2006

3. Experts in the field

Experts in the field were contacted to identify trials, either published or unpublished.

4. Reference lists

Reference lists of retrieved studies and reviews were searched.

Data collection and analysis

Tables were used to display characteristics of eligible trials. Excluded trials were listed with the reasons for exclusion. Outcomes were also presented graphically.

Selection of studies

Two review authors (IG and HM) separately screened the titles and abstracts of all publications obtained by the search strategy. For articles that were possible RCTs within the scope of this review, the full article was obtained and inspected by each review author to assess their relevance to this review based on the criteria for inclusion. Disagreements were discussed and if there were still doubts, a third review author was consulted.

Quality Assessment

The methodological quality of the selected trials was assessed by two review authors (IG and HM) independently. Critical appraisal of the studies combined the standard approach described in the Cochrane Handbook (Higgins 2005) which considers randomisation, allocation concealment and intention to treat, with quality scores from the CCDAN Quality Rating Scale (QRS), which consists of twenty-three items relating to important elements of design and conduct (Moncrieff 2001).

Data Extraction

A standardised data extraction sheet was used by the review authors to collect data on methods, participants, intervention, adherence to treatment, outcome measurements and other relevant results of the studies, to provide a detailed descriptive analysis. The data were then entered using Review Manager software. Data were independently extracted by two review authors (IG and HM). Any disagreement was discussed with a third review author. In cases where inadequate information was available from the papers, the trial authors were contacted and asked for the additional information. Where no further usable data were provided, studies were not included and were listed as excluded due to missing data

Data analysis

Dichotomous and continuous data

Dichotomous outcomes were pooled using odds ratios. Relative risks were also calculated. For continuous outcomes, two methods were used for pooling data. Where all trials measured an outcome using the same scales and where the mean, standard deviation and sample size in each group were known, mean differences (MD) were calculated. Where some of the trials measured outcomes on different scales and it was not considered appropriate to directly combine data from these measures, the standardised mean difference (SMD) was calculated. Both dichotomous and continuous outcomes were presented with 95% confidence intervals.

Results were pooled using both a random effects and fixed effect analysis. Where the estimate of the between-study variance is zero, the two models will provide the same estimates and confidence intervals. Where statistical heterogeneity was observed, the random effects model was used, as it provides a more conservative estimate of treatment effect.

Unit of analysis issues

When dealing with studies with more than one active treatment arm and one control group, the n of the control group was split equally across comparisons, and the same mean and SD were used in each comparison (Hardy, personal communication).

Heterogeneity

Statistical heterogeneity in the results of the trials was assessed both by inspection of graphical presentations and by conducting a formal test for statistical heterogeneity using the chi-square test and the I-squared test. Possible reasons for clinical heterogeneity were:

1. the type of intervention offered (individual or group modality)
2. the severity of symptoms at baseline (Y-BOCS $\leq$ 24 or >24)
3. the number of psychological therapy sessions offered ($\leq$14 or >14)
4. the proportion of participants being on psychotropic medication ($\leq$30% or >30%)

Clinical heterogeneity was explored by looking at separate sub-

groups of trials.

Missing data

For dichotomous outcomes, all exclusions/dropouts were identified. If no information was available (either from the report or the authors), it was assumed that dropout was due to treatment failure in accordance with ITT principles. The sensitivity of the results to this assumption was tested. For studies using continuous outcomes in which SDs were not reported, and no information was available from the study authors, an SD was imputed through obtaining the mean SD across studies for treatment and control groups.

Sensitivity analysis

A sensitivity analysis was also undertaken to examine how robust the results were to the decision to include all studies regardless of quality. Study quality was investigated by categorising QRS scores into three ranges (15-25, 26-30, 31-35).

The impact of including studies of lower quality on the results of the review was examined.

A post-hoc sensitivity analysis was carried out, in which study comparisons where standard deviations had been imputed were removed.

Publication bias

Where sufficient numbers of trials allowed a meaningful presentation, funnel plots were constructed to investigate publication bias, using Review Manager software to organise and analyse the results.

RESULTS

Description of studies

See: Characteristics of included studies; Characteristics of excluded studies; Characteristics of ongoing studies.

Results of the search

18 studies were identified by the CCDANCTR-Studies and CCDANCTR-References searches and are accounted for below.

Excluded studies

Eight studies identified by the search strategy were not relevant and were excluded after reading the full-text.

The reasons for exclusion for each individual study are listed in the 'Characteristics of excluded studies' section, and can be summarised as follows:

- two studies were not RCTs (Taylor 2003; Vonk 1999)
- two did not involve a treatment as usual or waiting list control group (Aigner 2004; Stern 1973)
- two did not include patients with specific diagnosis of obsessive compulsive disorder (Mount 1990; Smith 2001)
- two studies were carried out on patients with anxiety disorders, and the sample was not stratified for obsessive compulsive disorder (White 1995; Ginsberg 1984).

Studies awaiting assessment

One study (Wang 1995) has not yet been assessed in full text.

Ongoing studies

One ongoing study (Steketee 2004) investigating a cognitive behavioural intervention versus waiting list for hoarding behaviour, was relevant but is still recruiting patients.

Included studies

Eight study reports with a total of 11 study comparisons were included (Cordioli 2003; Freeston 1997; Fritzler 1997; Jones 1998; McLean 2001a; McLean 2001b; O'Connor 1997; Van Balkom 1998a; Van Balkom 1998b; Vogel 2004a; Vogel 2004b). McLean 2001a and McLean 2001b came from the single report of the "a priori" pooled analysis of two separate studies conducted simultaneously, and were managed as individual studies. Two studies included two active treatment arms compared with a single treatment as usual arm, enabling four separate study comparisons (Van Balkom 1998a; Van Balkom 1998b; Vogel 2004a; Vogel 2004b).

The 'Characteristics of included studies' table provides details of the included trials in terms of the populations studied, the treatments examined, the outcome measures used, the randomisation procedure, allocation concealment, blinding procedures applied, approaches to statistical analysis, patient follow-up and whether antidepressant medication was used. Key study characteristics are briefly summarised below.

Sample size and sample source

The studies identified were small, all with less than 25 participants per treatment group and two studies with less than ten subjects per group. All participants were recruited through media (advertisements in local newspapers) or referral from other services (e.g. general practice).

Participants

Participants in each included study had been diagnosed with obsessive compulsive disorder according to DSM III-R (APA 1987) or DSM-IV (APA 1994) criteria. Four study comparisons required a duration of symptoms of at least one year (McLean 2001a; McLean 2001b; Van Balkom 1998a; Van Balkom 1998b) and one study required a duration of washing rituals of approximately one hour daily (Jones 1998).

Three studies held the presence of other Axis I or Axis II severe disorders as of primary importance and needing treatment as exclusion criteria (Cordioli 2003; Freeston 1997; O'Connor 1997). Two studies that excluded subjects with other Axis I primary disorders reported all comorbid disorders identified in the sample with the percentage of subjects for each disorder (Vogel 2004a; Vogel 2004b).

Interventions

All included studies examined either cognitive behaviour therapy, cognitive therapy or behaviour therapy, and in each study waiting list was used as the treatment as usual arm. No studies comparing

other psychological interventions with treatment as usual were identified.

In all but one trial (O'Connor 1997), some participants in the waiting list condition and in the psychological treatment group were concurrently receiving pharmacological treatment.

In all trials the duration of treatment was between 6 and 20 weeks. Most trials included a period of follow-up of at least 3 months but reporting of this data was often incomplete. Only Jones 1998 reported the follow-up data related to the waiting list control group

Outcomes

All trials used more than one outcome measure. The Yale Brown Obsessive Compulsive Scale (Y-BOCS) was used in all studies, except for one study that used only the Maudsley Obsessive Compulsive Scale (MOCI) (Jones 1998). Other instruments used were the National Institute of Mental Health Obsessive Compulsive Scale (NIMH-OCS), the Leyton Obsessive Inventory (LOI), the Padua Inventory (PI) and the Padua Inventory Revised (PI-R).

Depressive symptoms were measured in all trials by using the Beck Depression Inventory (BDI), except for one study that used the Hamilton Rating Scale for Depression (HAMD).

Anxiety symptoms were measured in six studies, by using respectively the Hamilton Rating Scale for Anxiety (HAMA), the Beck Anxiety Inventory (BAI), the State Trait Anxiety Inventory (STAI) and the Anxiety Discomfort Scale (ADS).

Quality of life was assessed in only one study (Cordioli 2003) by using the World Health Organisation Quality of Life Assessment (WHOQOL-BREF).

Risk of bias in included studies

Two studies (three study comparisons) were graded as "A" (Cordioli 2003; Vogel 2004a; Vogel 2004b) according to the methodological quality assessment criteria for allocation concealment, and the remaining six study comparisons were graded as "B".

From a possible maximum total score of 46 on the Quality Rating Scale (QRS) (Moncrieff 2001), the mean overall quality score attained by the included studies was 26.6 (range 19-35).

QRS specific items

All studies were described as randomised, though only five study comparisons mentioned the method of randomisation used: computer generation (Cordioli 2003), block randomised assignment (McLean 2001a; McLean 2001b) and sealed envelope randomisation (Vogel 2004a; Vogel 2004b).

Four study comparisons (Cordioli 2003; O'Connor 1997; Vogel 2004a; Vogel 2004b) had a clearly blind outcome evaluation.

Intention to treat (ITT) analyses were carried out in four study comparisons (Cordioli 2003; Freeston 1997; Vogel 2004a; Vogel 2004b).

Only Vogel 2004a and Vogel 2004b reported the execution of a power calculation for a three-armed study.

All trials specified their inclusion and exclusion criteria.

Seven study comparisons (Freeston 1997; McLean 2001a; McLean 2001b; Van Balkom 1998a; Van Balkom 1998b; Vogel 2004a; Vogel 2004b) formally assessed the treatment integrity by supervision, inspection of written protocols of therapy or recording sessions.

Most studies mentioned that the professionals involved had the necessary training and experience to conduct the psychological interventions. Only one trial (O'Connor 1997) did not report on the therapists' qualifications.

All but two studies (Fritzler 1997; O'Connor 1997) gave sufficient information with regard to the comparability of groups after randomisation in terms of socio-demographic and clinical characteristics.

In five study comparisons (Fritzler 1997; McLean 2001a; McLean 2001b; Vogel 2004a; Vogel 2004b) data from immediate and delayed treatment were combined, and no comparative data were presented for active and control group at baseline and after the waiting list period in the published paper.

All the studies used validated outcome instruments.

Effects of interventions

A total of ten study comparisons (seven studies) reported sufficient data to be included in the meta-analysis. One additional study comparison (Fritzler 1997) presented combined data from both the treatment arm and the delayed treatment arm, and did not report the number of subjects in each group or the endpoint analysis of the comparisons. With the exception of Jones 1998, all trials conducted post-treatment assessments only.

No data were available from any study comparison for either the "treatment response" or the "adverse effects" outcomes.

01. All psychological treatments versus treatment as usual

01.01 OCD symptoms

Ten study comparisons were included in this analysis, with a total of 241 subjects.

The overall standardised mean difference (random effects) was in favour of psychological treatments (SMD -1.24, 95% CI -1.61, -0.87). The I^2 test of heterogeneity was not significant at 33.4%.

01.02 Dropout

Ten study comparisons were included in this analysis, with a total of 284 subjects.

The overall odds ratio (fixed effects) favoured control treatment as usual (OR 1.26, 95% CI 0.67, 2.38). The I^2 test of heterogeneity was not significant at 0%.

01.03 Depressive symptoms

Ten study comparisons were included in this analysis with a total of 224 subjects.

The overall standardised mean difference (random effects) was in favour of psychological treatments (SMD -0.30, 95% CI -0.58, -0.03). The I^2 test of heterogeneity was not significant at 0%.

01.04 Anxiety symptoms

Seven study comparisons were included in this analysis with a total of 149 subjects.

The overall standardised mean difference (random effects) was in favour of psychological treatments (SMD -0.52, 95% CI -0.92, -0.11). The I^2 test of heterogeneity was not significant at 22.0%.

01.05 Quality of life symptoms

One study comparison was included in this analysis with a total of 45 subjects.

The mean difference (fixed effects) were in favour of psychological treatments (WMD -10.50, 95% CI -20.74, -0.26). No test of heterogeneity was possible.

2. Cognitive-behaviour therapy versus treatment as usual

02.01 Obsessive compulsive symptoms

Five study comparisons were included in this analysis with a total of 130 subjects.

The overall mean difference (fixed effects) was in favour of psychological treatments (WMD -7.73, 95% CI -9.92, -5.55). The I^2 test of heterogeneity was not significant at 26.5%.

02.02 Dropout

Five study comparisons were included in this analysis with a total of 149 subjects.

The overall odds ratio (fixed effects) favoured control treatment as usual (OR 0.88, 95% CI 0.35, 2.18). The I^2 test of heterogeneity was not significant at 0%.

02.03 Depressive symptoms

Five study comparisons were included in this analysis with a total of 126 subjects.

No significant difference was observed between treatment and control (random effects) (SMD -0.34, 95% CI -0.70, 0.02). The I^2 test of heterogeneity was not significant at 0%.

02.04 Anxiety symptoms

Four study comparisons were included in this analysis with a total of 96 subjects.

No significant difference was observed between treatment and control (random effects) (SMD -0.38, 95% CI -0.97, 0.21). The I^2 test of heterogeneity was significant at 41.8%.

02.05 Quality of life symptoms

One study comparison was included in this analysis with a total of 45 subjects.

The mean difference (fixed effects) was in favour of psychological treatments (WMD - 10.50, 95% CI -20.74, -0.26). No test of heterogeneity was possible.

3. Cognitive therapy versus treatment as usual

03.01 Obsessive compulsive symptoms

Two study comparisons were included in this analysis with a total of 39 subjects.

The overall standardised mean difference (random effects) were slightly in favour of psychological treatments (SMD -1.21, 95% CI -2.66, 0.25). The I^2 test of heterogeneity was not significant at 74.2%.

03.02 Dropout

Two study comparisons were included in this analysis with a total of 48 subjects.

The overall odds ratio (fixed effects) favoured control treatment as usual (OR 2.07, 95% CI 0.36, 11.76). The I^2 test of heterogeneity was not significant at 0%.

03.03 Depressive symptoms

Two study comparisons were included in this analysis with a total of 39 subjects.

No significant difference was observed between treatment and control (fixed effects) (SMD -1.77, 95% CI -7.60, 4.06). The I^2 test of heterogeneity was not significant at 0%.

03.04 Anxiety symptoms

One study comparison was included in this analysis with a total of 20 subjects.

No significant difference was observed between treatment and control (fixed effects) (WMD -7.70, 95% CI -15.81, 0.41). No test of heterogeneity was possible.

03.05 Quality of life symptoms

No data were available for this comparison

4. Behaviour therapy versus treatment as usual

04.01 Obsessive compulsive symptoms

Three study comparisons were included in this analysis with a total of 72 subjects.

The overall mean difference (fixed effects) was slightly in favour of psychological treatments (WMD -11.73, 95% CI -14.52, -8.95). The I^2 test of heterogeneity was significant at 51.1%.

04.02 Dropout

Three study comparisons were included in this analysis with a total of 87 subjects.

The overall odds ratio (fixed effects) favoured control treatment as usual (OR 1.66, 95% CI 0.57, 4.86). The I^2 test of heterogeneity was not significant at 0%.

04.03 Depressive symptoms

Three study comparisons were included in this analysis with a total of 59 subjects.

No difference was observed between treatment and control (fixed effects) (WMD -4.14, 95% CI -9.30, 1.02). The I^2 test of heterogeneity was significant at 49.9%.

04.04 Anxiety symptoms

Two study comparisons were included in this analysis with a total of 33 subjects.

No difference was observed between treatment and control (random effects) (SMD -0.78, 95% CI -1.97, 0.40). The I^2 test of heterogeneity was significant at 47.2%.

04.05 Quality of life symptoms

No data were available for this comparison

5. Relaxation therapy versus treatment as usual

No studies were identified for this comparison

6. Psychodynamic therapy versus treatment as usual

No studies were identified for this comparison

7. Any other psychological treatment versus treatment as usual

No studies were identified for this comparison

Follow-up outcomes

Only one study (Jones 1998) reported the mean difference between groups at 3 months follow-up, therefore it was not possible to carry out a meta-analysis for this outcome. The SMD was -0.60 (95% CI -1.52 to 0.33) in favour of psychotherapy, but the result was non-significant (az=1.26, P=0.21).

Subgroup analyses (Graphs 05)

Subgroup analyses were conducted for the first comparison of All psychological treatments versus treatment as usual only.

05.01 OCD symptoms - Therapy format

The SMD (random effects) of both individual therapy (six study comparisons, 109 subjects) and group therapy (four study comparisons, 132 subjects) was in favour of the treatment over control at -1.20 (95% CI - 1.83, -0.57) and -1.30 (95% CI -1.71, -0.83) respectively. However the I^2 test of heterogeneity was approaching significance at 48.6% for the individual therapy studies but was not significant at 12.4% for the group studies.

05.02 OCD symptoms - Number of sessions

The SMD (random effects) of studies with 14 sessions or less (six study comparisons, 161 subjects) and studies with more than 14 sessions (four study comparisons, 80 subjects) were in favour of treatment over control at -1.52 (95% CI - 2.03, -1.02) and -0.85 (95% CI -1.33, -0.37) respectively. However the I^2 test of heterogeneity approached significance, at 42.0% for the "14 or less" studies, but was not significant at 0% for the "more than 14" studies.

05.03 OCD symptoms - Baseline Y-BOCS score

The WMD (fixed effects) of both groups of study comparisons with baseline Y-BOCS scores of "24 or less" (six study comparisons, 134 subjects) and "more than 24" (three study comparisons, 88 subjects) were in favour of the treatment over control at -9.69 (95% CI - 11.68, -7.69) and -7.50 (95% CI -10.59, -4.41) respectively. The I^2 test of heterogeneity was significant at 63.6% for the "24 or less" studies, but was not significant at 0% for the "more than 24" studies.

Jones 1998 did not contribute to this analysis, as it did not use the Y-BOCS scale.

05.04 OCD symptoms - Concurrent psychotropic medication

The SMD (random effects) of both groupings of study comparisons with "30% or less on medication" (four study comparisons, 73 subjects) and "more than 30% on medication" (six study comparisons, 168 subjects) were in favour of the treatment over control at -0.96 (95% CI - 1.60, -0.33) and -1.39 (95% CI -1.84, -0.94) respectively. The I^2 test of heterogeneity approached significance at 32.4% and 34.6 respectively.

05.05 Dropout - Therapy format

Subjects in individual treatment were significantly more likely to drop-out than subjects in treatment as usual (OR 2.66 95% CI 0.93, 7.58). The I^2 test of heterogeneity was not significant at 0%. There was also a smaller significant difference in terms of group treatment versus treatment as usual (OR 0.70 95% CI 0.30, 1.67)

Sensitivity analyses (see Graphs 06)

Sensitivity analyses were conducted for the first comparison of All psychological treatments versus treatment as usual only

06.01 OCD symptoms - Quality score (post-hoc)

The SMD (random effects) of the three QRS groups, 15 - 25, 26 - 30 and 31+, were in favour of the treatment with no real difference between them. One study (19 subjects) contributed to the 15 - 25 analysis (SMD -1.99, 95% CI -3.13, -0.84). Six study comparisons (148 subjects) contributed to the 26 - 30 QRS analysis (SMD -1.01, 95% CI -1.37, -0.65), and three study comparisons (74 subjects) contributed to the 31+ QRS analysis (SMD -1.89, 95% CI -3.00, -0.78). The I^2 test of heterogeneity was not significant for the 26-30 group at 0%, but was significant for the 31+ group at 61.4%. No text of heterogeneity was possible for the 15 - 25 group.

06.02 OCD symptoms - Three-armed studies excluded (post-hoc)

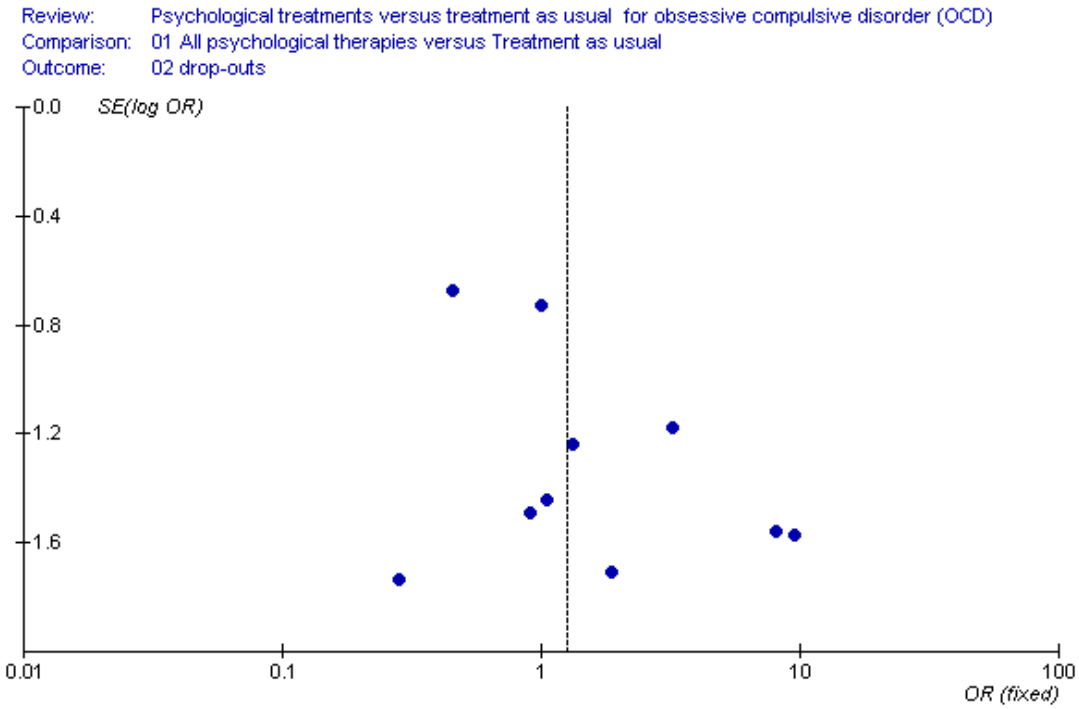
Six study comparisons were included in this analysis with a total of 169 subjects

The SMD (random effects) was in favour of treatment over control (SMD -1.22, 95% CI -1.56, -0.88). The I^2 test of heterogeneity was not significant at 0%.

Publication Bias

We investigated publication bias using a funnel plot (Figure 1). Whilst there was no evidence of an asymmetrical appearance, the number of trials was small, and therefore no conclusions can be drawn on the presence of publication bias.

Figure 1.



DISCUSSION

The primary purpose of this systematic review and meta-analysis was to conduct a comprehensive and rigorous evaluation of the evidence available regarding the effectiveness of psychological treatments versus treatment as usual in patients with obsessive compulsive disorder. Seven trials (ten comparisons) of three different variants of psychological interventions (cognitive behaviour therapy, behaviour therapy and cognitive therapy) were included in the analysis, and statistical heterogeneity was not significant in mean differences data. The results obtained by pooling continuous data suggested that patients attending for psychological treatments, based on a CT, BT or CBT approach, exhibited significantly fewer obsessive compulsive symptoms post-treatment than those receiving treatment as usual. The adoption in the statistical analysis of the random effects model, that is, the more conservative statistical approach, maintained the significance of the results. This finding is consistent with previous research studies in the literature.

The efficacy of psychological treatments in reducing the severity of depressive and anxiety symptoms was also supported by this review. Regarding the dropout rate, it was observed that those in the waiting list groups had a lower dropout rate than those in the experimental groups, but the differences were not significant. A possible explanation might be that people on waiting list are motivated to wait in order to pursue active treatment.

A subgroup analysis suggested that the overall effect of treatment was influenced by differences in baseline severity: trials involving patients with more severe symptomatology demonstrated a less marked difference in favour of psychological treatment.

A subgroup analysis according to the number of sessions offered ($\leq$14 or >14) did not show a significant difference in terms of effect of treatment. Only a slightly greater difference in favour of psychological treatments was observed in those trials involving fewer sessions compared with those with more sessions. This finding, different from any expectation and deriving from too few studies to be regarded as reliable, might be due to the type of model followed in those trials with longest duration (exposure not supervised by the therapist and cognitive treatment according to Beck in Van Balkom 1998a) or to the absence of concomitant drug treatment in one trial (O'Connor 1997).

When the influence of the percentage of participants assuming concomitant drug treatment was examined, it was not observed

to be significant, but trials involving a greater number of subjects taking medications (> 30%) showed a slightly greater difference in favour of psychological treatments than the others. Nevertheless, considering the limited number of studies and the small difference found, it is difficult to draw any conclusions regarding the issue of the independent efficacy of psychological treatments, whether the patients are on medication or not.

No differences between individual and group therapy in terms of improvement in symptomatology compared to control groups were demonstrated in the review, even if the therapist might be expected to be more aware of the patient's dysfunctional beliefs in an individual setting rather than in a group one. Interestingly, the number of dropouts was significantly greater in trials involving individual therapy compared with those involving group therapy. A possible explanation, as argued by some authors (Van Noppen 1998; Yalom 1975), might be that group therapy, with its characteristics such as universality, encouragement, reciprocal support, imitation and interpersonal learning would result in an increased motivation and reduced discontinuation of treatment. Hence, another advantage offered by group therapy seems to be in terms of cost/efficacy since it provides treatment in a shorter period and for a greater number of patients.

Trial QRS scores did not appear to influence significantly the overall effect of treatment, as higher quality studies showed only slightly larger effects than those of lower quality.

By analysing three variants of treatments (cognitive behaviour therapy, behaviour therapy and cognitive therapy) separately, significant statistical heterogeneity was only observed between the trials on behavioural treatments. When the efficacy in improving obsessive compulsive symptoms was examined, the cognitive treatment demonstrated a less marked effect, compared to the other two types of interventions. The effect did not reach significance when the random effect model was adopted. Nevertheless, since there were only two cognitive therapy studies, it is not possible to draw any definitive conclusions regarding a reduced efficacy of cognitive treatment compared with behavioural and cognitive behavioural treatment. Jones 1998, reporting a significant improvement compared to the control group, used a cognitive model conceived by the author and without precedents in the literature, consisting in the combination of different techniques, such as cognitive restructuring according to Ellis, filmed interviews, contamination experiments not involving patients, strategies of attention focusing. Van Balkom 1998a, reporting the lowest effect size in favour of psychotherapy, adopted Beck cognitive models and did not follow recent Salkovskis cognitive models (considered promising in terms of efficacy, and adopted in three of the five studies in which cognitive therapy was combined with behavioural techniques).

With regard to the level of depressive and anxiety symptoms, the results obtained showed that none of the different variants of treatments considered separately caused an improvement that reached significance. Considering the studies individually, the only intervention that showed a slightly significant improvement compared to the control condition was the one consisting of only behavioural techniques combined with relaxation therapy (Vogel 2004b). This finding does not seem to confirm the hypothesis that cognitive therapy alone or associated with a behavioural intervention, by using direct strategies of cognitive challenging shown to be effective in the treatment of depressive disorders (Beck 1979), would have more influence on depressive comorbid symptoms than a behavioural intervention. Alternatively, this finding suggests that by reducing obsessive compulsive symptoms, behavioural interventions may indirectly contribute to improve anxious-depressive symptoms secondary to the obsessive compulsive disorder. Nevertheless, in order to confirm this, we would need more studies of larger size, given the fact that Vogel 2004b is a very small study comparison.

As to the number of dropouts, no significant differences were identified when analysing the three variants of treatment (CT, BT and CBT) separately, but cognitive therapy seemed to have a slightly higher rate of dropout compared to the other two psychological treatments. This finding does not seem to confirm the argument sustained by some authors and shown by results of previous studies (Salkovskis 1998; Steketee 1993) regarding the usefulness of cognitive therapy in improving the acceptability of treatment and the compliance compared to the behavioural intervention. However given the limited number of studies, it is important to interpret these findings with caution.

All trials in this review reported their assignment procedure as being randomised, nevertheless only five study comparisons (Cordioli 2003; McLean 2001a; McLean 2001b; Vogel 2004a; Vogel 2004b) described the randomisation procedure, only three study comparisons (Cordioli 2003; Vogel 2004a; Vogel 2004b) reported on allocation concealment and only one study (Cordioli 2003) reported that the patients were rated by independent assessors blinded for patient group allocation. This suggests the possibility of biases being introduced during the allocation procedure in most of the trials. Furthermore, even if most of the trials reported the use of manuals to standardise psychotherapy interventions and monitored the psychological intervention through weekly supervision discussions with the therapists and recorded sessions, there were some trials (Cordioli 2003; Jones 1998; O'Connor 1997) that did not monitor adherence to the psychotherapy interventions under evaluation. Therefore, it cannot be assumed that the therapists in those trials consistently applied the models as directed, and observable outcomes cannot be attributed with complete certainty to the effects of the models themselves. The primary purpose of this systematic review and meta-analysis was to conduct a comprehensive and rigorous evaluation of the evidence available regarding the effectiveness of psychological treatments versus treatment as usual in patients with obsessive compulsive disorder.

In most of the studies the authors had developed or were closely associated with the therapy under assessment, and this may resulted in potential for investigator bias. The concomitant use of medication in almost all trials limits confidence in the review findings, since it leaves some uncertainty about its role in influencing the overall treatment effect. All trials used a waiting list arm as a control group, and it is possible that this could have influenced the effect size by discouraging symptomatic improvement during the course of the trial in the patients allocated to waiting lists.

Sample sizes contained in all trials were very small, with the majority of the trials having less than 25 participants in each treatment arm and two studies (Fritzler 1997; O'Connor 1997) having less than ten subjects for arm of treatment; and no studies except Vogel 2004a and Vogel 2004b mentioned the execution of a power calculation. Because of the small number and size of trials with considerable potential for bias, conclusions are necessarily cautious and limited. The majority of trials used the Y-BOCS to measure the severity of obsessive compulsive symptoms and the BDI to measure the depressive symptoms; broader measurements such as quality of life scales, including social, physical, psychological functioning, were reported only in one study (Cordioli 2003), despite their potential for detecting change in patients with obsessive compulsive disorder who present disabilities in many areas of functioning

AUTHORS' CONCLUSIONS

Implications for practice

- The findings of this review suggest that psychological treatments derived from cognitive/behavioural models are of benefit in the treatment of people with obsessive compulsive disorder.

- The efficacy of psychological treatments might be influenced by baseline severity and the concomitant presence of depression.

- Given that the presentation of obsessive compulsive disorder varies widely in terms of levels of severity, chronicity, comorbidity, presence of overt rituals, it is likely that psychological treatments are more appropriate for some patients than for others.

Implications for research

- There is a need for further trials to compare the effectiveness of cognitive and/or behavioural treatments and other approaches such as psychodynamic therapy and client-centred therapy, either in individual or in group formats.

- It is important that trials establish the actual degree of improvement that might be expected in patients with different levels of severity and clinical presentation.

- Future research should demonstrate whether psychological treatments are appropriate in all cases and how their effect varies by modifying features such as the duration, the frequency of sessions, the role of the therapist, the setting, the theoretical model.

- In order to be of any assistance in informing policy and practice, future trials should be adequately powered, involve longer follow-up periods, include cost-efficacy evaluations, properly monitor adherence to therapeutic techniques, and where naturalistic concomitant treatments are allowed, record and allow for these in the interpretation of the results.

- Furthermore, it is extremely important to incorporate outcomes that measure the broader impact of psychological treatments, such as quality of life.

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* *Indicates the major publication for the study*

CHARACTERISTICS OF STUDIES

Characteristics of included studies *[ordered by study ID]*

Cordioli 2003

Methods	RCT , randomization by computer generation, duration of treatment 12 weeks, 3 months follow-up. Blinded outcome assessment, ITT included, definition of inclusion and exclusion criteria, recruitment by media. Treatment integrity not formally assessed. 1 Therapist and 1 cotherapist specialized in psychiatry and 10 years CBT experienced Setting: unclear
Participants	DSM IV OCD, Y-BOCS score >=16 N=47 (23 CBGT, 24 WL) Age= 36.5 1 drop out from CBGT group and one from WL group Similarity of groups at baselines on sociodemographic, clinical and outcome variables
Interventions	CBGT (two hours sessions once a week consisting in psychoeducation, ERP techniques, cognitive techniques to change dysfunctional beliefs, group techniques) vs waiting list
Outcomes	Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Yale-Brown Obsessive Compulsive Scale obsessions (Y-BOCS-OBS), Yale-Brown Obsessive Compulsive Scale compulsions (Y-BOCS-CMP), National Institute of Mental Health Obsessive Compulsive Scale (NIMH-OCS), Hamilton Rating Scale for Anxiety (HamA), Hamilton Rating Scale for Depression (HamD), Overvalued Ideas Scale (OVIS), World Health Organization Quality of Life Assessment (WHOQOL-BREF)
Notes	10 patients in the treatment group and 11 in the control group were taking stable doses of medication. HamA and HamD data are not available in the published paper

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Freeston 1997

Methods	RCT, duration of treatment variable on the basis of clinical improvement (average of 19.2 weeks), 6 months follow-up . Non blinding outcome assessment, ITT included, definition of inclusion and exclusion criteria. Recruitment 59% referrals, 41% direct access. Treatment integrity formally assessed by recorded sessions. 4 therapists graduate students trained in CBT and weekly supervised. Setting: outpatient
Participants	DSM III-R OCD, few or no overt compulsions N=29, Age= 38, M/F: 16/13 (CBT n=15; WL: n=14) 3 drops out from the CBT group. Similarity of groups at baselines on sociodemographic, clinical and outcome variables
Interventions	CBT (1.5 hours sessions twice weekly consisting in exposure and response prevention combined with cognitive restructuring) vs WL
Outcomes	Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Current Functioning Assessment (CFA), Padua Inventory (PI), Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI)
Notes	5 patients in the treatment group and 5 in the control group were taking medication in stable dose or being reduced at pre-treatment assessment

Risk of bias

Item	**Authors' judgement**	**Description**
Allocation concealment?	Unclear	B - Unclear

Fritzler 1997

Methods	RCT ,duration of treatment 12 weeks, delayed treatment 6 weeks, no reported follow-up. Blinding outcome assessment not stated, not ITT, definition of inclusion and exclusion criteria, recruitment by media. Treatment integrity not formally assessed. Therapists: 2 advanced graduate student trained and a licensed experienced psychologist weekly supervised. Setting: unclear
Participants	DSM III-R OCD. Y-BOCS score >=16 N=12 Age= 37.17 1 drop out from BT group and 2 from WL group. Similarity of groups at baselines
Interventions	BT (60 minutes 5 therapy sessions consisting in the discussion of a self-help book, with no exposure exercises

Fritzler 1997 (*Continued*)

	during the sessions, mimal therapist contact) vs Delayed treatment
Outcomes	Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Yale-Brown Obsessive Compulsive Scale obsessions (Y-BOCS-OBS), Yale-Brown Obsessive Compulsive Scale compulsions (Y-BOCS-CMP) Maudsley Obsessive Compulsive Scale (MOCI), State Trait Anxiety Inventory (STAI), Beck Depression Inventory (BDI)
Notes	8 patients were taking stable doses of medication and it had not been recently started Data from the two groups are combined in the published paper, data as to the numbers of patients assigned to treatment group and WL are not presented

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Unclear	B - Unclear

Jones 1998

Methods	RCT,duration of treatment 9 weeks, follow-up 3 months. Only self -ratings, not ITT , definition of inclusion and exclusion criteria, recruitment by media. Treatment integrity not formally assessed. Therapist: Director of the Anxiety Disorder Clinic, experienced in CBT and in the administration of DIRT. Setting: unclear
Participants	DSM IV OCD with washing concerns N=23 (DIRT n=12, Age= 39, all females; WL: n=11, Age=38, 8 females) 1 drop out from DIRT group and one from WL group. Similarity of groups at baselines on sociodemographic, clinical variables
Interventions	Danger Ideation Reduction Therapy (DIRT) (8 one-hour sessions in groups consisting in procedures targeting danger relating cognitions without using exposure, or behavioural experiments) vs waiting list
Outcomes	Maudsley Obsessive Compulsive Scale (MOCI), Self Rating of severity (SRS), Leyton Obsessive Inventory (LOI), Beck Depression Inventory (BDI)
Notes	2 patients in the treatment group and 3 in the control group were taking stable doses of medication Sex and mean age of each group presented in the paper don't take in account the drop-outs

Risk of bias

Item	Authors' judgement	Description

Jones 1998 (*Continued*)

Allocation concealment?	Unclear	B - Unclear

McLean 2001a

Methods	RCT, block random assignment, double randomization, duration of treatment 12 weeks, follow-up 3 months. Blinding outcome assessment not stated, not ITT , definition of inclusion and exclusion criteria, recruitment media and referral, Therapists: licensed clinical psychologists experienced in CBT. Treatment integrity was assessed by recording sessions. Setting: unclear
Participants	DSM IV OCD N= (immediate ERP completers n=16, immediate CBT completers n= 18; WL: n=33) Similarity of groups at baselines unclear
Interventions	CBT: cognitive restructuring (Salkovskis model), behavioural experiments (2.5 hours sessions in groups) vs Waiting list
Outcomes	Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Beck Depression Inventory (BDI), Responsability Attitude Scale (R-Scale), Thought Action Fusion Scale (TAF), Inventory of Beliefs Related to Obsessions (IBRO)
Notes	Some patients were taking stable doses of medication Data of treatment outcome from immediate and delayed treatment are combined in the published paper

Risk of bias

Item	**Authors' judgement**	**Description**
Allocation concealment?	Unclear	B - Unclear

McLean 2001b

Methods	RCT, block random assignment, double randomization, duration of treatment 12 weeks, follow-up 3 months. Blinding outcome assessment not stated, not ITT , definition of inclusion and exclusion criteria, recruitment media and referral, Therapists: licensed clinical psychologists experienced in CBT. Treatment integrity was assessed by recording sessions. Setting: unclear
Participants	DSM IV OCD N= 42 (immediate ERP: n=21, WL: n=21) Similarity of groups at baselines

McLean 2001b (*Continued*)

Interventions	ERP: in-session and home-based graduated exposure and response prevention (2.5 hours sessions in groups) vs Waiting list
Outcomes	Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Beck Depression Inventory (BDI), Responsability Attitude Scale (R-Scale), Thought Action Fusion Scale (TAF), Inventory of Beliefs Related to Obsessions (IBRO)
Notes	Some patients were taking stable doses of medication (13 ERP, 14 WL)

Risk of bias

Item	**Authors' judgement**	**Description**
Allocation concealment?	Unclear	B - Unclear

O'Connor 1997

Methods	CCT (partially randomized), duration of treatment 5 months, follow-up 6 months. Blinding outcome assessment, not ITT, definition of inclusion and exclusion critera, drop-outs described, recruitment referral, Treatment integrity was not formally assessed. It is not mentioned who are the therapists. Setting: unclear
Participants	DSM III-R OCD with observable rituals N=29. Completers: -CBT n=6, Age= 33; M/F: 4/2 -CBT+medication n= 9 Age= 34.6; M/F:5/4 -No treatment n=6, Age=41.5; M/F;3/3 -Medication n=5, Age= 36.2: M/F: 4/1 3 drop-outs one from each group. Similarity of groups at baselines on demographic and clinical variables
Interventions	CBT without medication vs CBT with medication (both 60 minutes sessions weekly) vs WL no treatment vs WL with only medication
Outcomes	Yale-Brown Obsessive Compulsive Scale (Y-BOCS), National Institute of Mental Health Obsessive Compulsive Scale (NIMH-OCS), Maudsley Obsessive Compulsive Scale (MOCI), State Trait Anxiety Inventory (STAI), Beck Depression Inventory (BDI), Efficacy Scale, Primary Belief Scale, Secondary Belief Scale, Frost et al. Multidimensional Inventory, Hewit et al.

O'Connor 1997 (*Continued*)

	Perfectionism Scale
Notes	It is not clear which are the groups with the drop outs. No comparative data of treatment outcome using BDI, STAI, MOCI, Frost et al. Multidimensional Inventory, Hewit et al. Perfectionism Scale, are presented for active and control group in the published paper

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Unclear	B - Unclear

Van Balkom 1998a

Methods	RCT, duration of treatment 16 weeks. WL 8 weeks. no reported follow-up. Blinding of outcome evaluation not stated, no ITT, definition of inclusion and exclusion criteria. Mixed recruitment media and referral. Treatment integrity done by use of treatment manuals, regular supervisions, recorded sessions.
Participants	DSM III-R OCD with compulsions. Duration at least 1 year CT: N= 19 WL: N=8
Interventions	CT: Cognitive restructuring (Beck model) vs WL
Outcomes	Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Beck Depression Inventory (BDI), Responsability Attitude Scale (R-Scale), Thought Action Fusion Scale (TAF), Inventory of Beliefs Related to Obsessions (IBRO)
Notes	3 patients in CT group, 1 in WL were taking benzodiazepines

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Unclear	B - Unclear

Van Balkom 1998b

Methods	RCT, duration of treatment 16 weeks. WL 8 weeks. no reported follow-up. Blinding of outcome evaluation not stated, no ITT, definition of inclusion and exclusion criteria. Mixed recruitment media and referral. Treatment integrity done by use of treatment manuals, regular supervisions, recorded sessions. Therapists: 5 psychologists and one psychiatrist trained and experienced in CBT. Setting: outpatient
Participants	DSM III-R OCD with compulsions. Duration at least 1 year ERP: N= 19 WL: N=8
Interventions	ERP: gradual self-controlled exposure in vivo and self-imposed response prevention vs WL
Outcomes	Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Beck Depression Inventory (BDI), Anxiety Discomfort Scale (ADS patient/ therapist/ assessor), Padua Inventory Revised (PI-R), Symptom checklist (SCL 90)
Notes	3 patients ERP group were taking benzodiazepines

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Unclear	B - Unclear

Vogel 2004a

Methods	RCT. Double- sealed envelope randomization,duration of treatment was 6 weeks, follow-up 12 months. Blinding outcome assessment, ITT used, definition of inclusion and exclusion critera. Setting outpatient. Recruitment referral. Treatment integrity was done by regular supervision and recorded sessions. Therapists: three therapists experienced in CBT and trained in cognitive therapy.
Participants	DSM III-R: OCD Age=35.7 -ERP+CT N=11, -WL n=6 1 drop out Similarity of groups at baselines on demographic and clinical variables.
Interventions	ERP+CT (exposure prevention therapy + cognitive interventions) (2 hours sessions twice weekly) vs Waiting list
Outcomes	Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Beck Depression Inventory (BDI), Spielberg State Trait Anxiety Inventory (STAI-S)

Vogel 2004a (*Continued*)

Notes	12 patients were taking stable doses of medication It's unclear in which phase the drop-outs discontinued treatment. Baseline data regarding WL are not presented. Delayed treatment data are combined with immediate treatment data.

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Vogel 2004b

Methods	RCT. Double- sealed envelope randomization,duration of treatment was 6 weeks, follow-up 12 months. Blinding outcome assessment, ITT used, definition of inclusion and exclusion critera. Setting outpatient. Recruitment referral. Treatment integrity was done by regular supervision and recorded sessions. Therapists: three therapists experienced in CBT and trained in cognitive therapy.
Participants	DSM III-R: OCD Age=35.7 -ERP+REL N=12 -WL n=6 5 dropouts Similarity of groups at baselines on demographic and clinical variables.
Interventions	ERP+REL (Exposure prevention therapy + relaxation exercises (2 hours sessions twice weekly)
Outcomes	Yale-Brown Obsessive Compulsive Scale (Y-BOCS), Beck Depression Inventory (BDI), Spielberg State Trait Anxiety Inventory (STAI-S)
Notes	5 patients from treatment group and 1 from WL group were taking stable doses of medication It's unclear in which phase the drop-outs discontinued treatment. Baseline data regarding WL are not presented. Delayed treatment data are combined with immediate treatment data.

Risk of bias

Item	Authors' judgement	Description
Allocation concealment?	Yes	A - Adequate

Characteristics of excluded studies *[ordered by study ID]*

Study	Reason for exclusion
Aigner 2004	RCT of behavioural group therapy programme versus drug therapy, no waiting-list/usual care
Ginsberg 1984	RCT of behavioural psychotherapy versus treatment as usual in a sample of patients with anxiety disorders not stratified for obsessive compulsive disorder
Mount 1990	RCT of exposure and response prevention versus stimulus control in adults not diagnosed with Obsessive Compulsive Disorder
Smith 2001	RCT of CBT versus waiting list in adults not diagnosed with Obsessive Compulsive Disorder
Stern 1973	RCT of thought stopping treatment versus a similar technique in which the patient imagined a neutral thought instead of an obsessive one prior to the onset of the stop instruction. The control group isn't either waiting-list or usual care.
Taylor 2003	Controlled trial of telephone-administered cognitive behaviour therapy versus wating list in adults with obsessive compulsive disorder. The study is not randomized.
Vonk 1999	Controlled trial of counseling versus wating- list in university students. The study is not randomized and the diagnosis of obsessive compulsive disorder is not mentioned in the inclusion criteria.
White 1995	RCT of a self-help anxiety management package versus an advice only condition in a sample of patients with anxiety disorders not stratified for obsessive compulsive disorder

Characteristics of ongoing studies *[ordered by study ID]*

Steketee 2004

Trial name or title	Treatment of Compulsive Hoarding
Methods	
Participants	DSM OCD hoarding type
Interventions	CBT (ten or more sessions) versus waiting-list
Outcomes	Compulsive hoarding symptoms improvement
Starting date	September 2003
Contact information	Gail Steketee: steketee@bu.edu
Notes	

DATA AND ANALYSES

Comparison 1. All psychological treatments versus Treatment as usual

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 OCD symptoms	10	241	Std. Mean Difference (IV, Random, 95% CI)	-1.24 [-1.61, -0.87]
2 Dropout	10	284	Odds Ratio (M-H, Fixed, 95% CI)	1.26 [0.67, 2.38]
3 Depressive symptoms	10	224	Std. Mean Difference (IV, Random, 95% CI)	-0.30 [-0.58, -0.03]
4 Anxiety symptoms	7	149	Std. Mean Difference (IV, Random, 95% CI)	-0.52 [-0.92, -0.11]
5 Quality of life	1	45	Mean Difference (IV, Fixed, 95% CI)	-10.5 [-20.74, -0.26]

Comparison 2. Cognitive behaviour therapy versus Treatment as usual

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Obsessive compulsive symptoms	5	130	Mean Difference (IV, Fixed, 95% CI)	-7.73 [-9.92, -5.55]
2 Dropout	5	149	Odds Ratio (M-H, Fixed, 95% CI)	0.88 [0.35, 2.18]
3 Depressive symptoms	5	126	Std. Mean Difference (IV, Random, 95% CI)	-0.34 [-0.70, 0.02]
4 Anxiety symptoms	4	96	Std. Mean Difference (IV, Random, 95% CI)	-0.38 [-0.97, 0.21]
5 Quality of life	1	45	Mean Difference (IV, Fixed, 95% CI)	-10.5 [-20.74, -0.26]

Comparison 3. Cognitive therapy versus Treatment as usual

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Obsessive compulsive symptoms	2	39	Std. Mean Difference (IV, Random, 95% CI)	-1.21 [-2.66, 0.25]
2 Dropout	2	48	Odds Ratio (M-H, Fixed, 95% CI)	2.07 [0.36, 11.76]
3 Depressive symptoms	2	39	Mean Difference (IV, Fixed, 95% CI)	-1.77 [-7.60, 4.06]
4 Anxiety symptoms	1	20	Mean Difference (IV, Fixed, 95% CI)	-7.70 [-15.81, 0.41]

Comparison 4. Behaviour therapy versus Treatment as usual

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Obsessive compulsive symptoms	3	72	Mean Difference (IV, Fixed, 95% CI)	-11.73 [-14.52, -8.95]
2 Dropout	3	87	Odds Ratio (M-H, Fixed, 95% CI)	1.66 [0.57, 4.86]
3 Depressive symptoms	3	59	Mean Difference (IV, Fixed, 95% CI)	-4.14 [-9.30, 1.02]
4 Anxiety symptoms	2	33	Std. Mean Difference (IV, Random, 95% CI)	-0.78 [-1.97, 0.40]

Comparison 5. All psychological treatments versus Treatment as usual: sub-group analyses

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 OCD symptoms - therapy format (individual vs group)	10		Std. Mean Difference (IV, Random, 95% CI)	Subtotals only
1.1 Individual therapy	6	109	Std. Mean Difference (IV, Random, 95% CI)	-1.20 [-1.83, -0.57]
1.2 Group therapy	4	132	Std. Mean Difference (IV, Random, 95% CI)	-1.30 [-1.71, -0.88]
2 OCD symptoms - number of sessions	10		Std. Mean Difference (IV, Random, 95% CI)	Subtotals only
2.1 1-14 sessions	6	161	Std. Mean Difference (IV, Random, 95% CI)	-1.52 [-2.03, -1.02]
2.2 14 sessions +	4	80	Std. Mean Difference (IV, Random, 95% CI)	-0.85 [-1.33, -0.37]
3 OCD symptoms - baseline Y-BOCS score	9		Mean Difference (IV, Fixed, 95% CI)	Subtotals only
3.1 24 or less	6	134	Mean Difference (IV, Fixed, 95% CI)	-9.69 [-11.68, -7.69]
3.2 > 24	3	88	Mean Difference (IV, Fixed, 95% CI)	-7.50 [-10.59, -4.41]
4 OCD symptoms - concurrent psychotropic medication	10		Std. Mean Difference (IV, Random, 95% CI)	Subtotals only
4.1 30% or less on medication	4	73	Std. Mean Difference (IV, Random, 95% CI)	-0.96 [-1.60, -0.33]
4.2 >30% on medication	6	168	Std. Mean Difference (IV, Random, 95% CI)	-1.39 [-1.84, -0.94]
5 Dropout - therapy format (individual vs group)	10		Odds Ratio (M-H, Fixed, 95% CI)	Subtotals only
5.1 Individual	6	130	Odds Ratio (M-H, Fixed, 95% CI)	2.66 [0.93, 7.58]
5.2 Group	4	154	Odds Ratio (M-H, Fixed, 95% CI)	0.70 [0.30, 1.67]

Comparison 6. All psychological treatments versus Treatment as usual: sensitivity analyses

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 OCD symptoms - quality score (post-hoc)	10		Std. Mean Difference (IV, Random, 95% CI)	Subtotals only
1.1 QRS total 15 - 25	1	19	Std. Mean Difference (IV, Random, 95% CI)	-1.99 [-3.13, -0.84]
1.2 QRS total 26 - 30	6	148	Std. Mean Difference (IV, Random, 95% CI)	-1.01 [-1.37, -0.65]
1.3 QRS total - 31 +	3	74	Std. Mean Difference (IV, Random, 95% CI)	-1.89 [-3.00, -0.78]
2 OCD symptoms - three-armed studies excluded	6	169	Std. Mean Difference (IV, Random, 95% CI)	-1.22 [-1.56, -0.88]

Analysis 1.1. Comparison 1 All psychological treatments versus Treatment as usual, Outcome 1 OCD symptoms.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

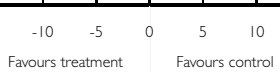
Comparison: 1 All psychological treatments versus Treatment as usual

Outcome: 1 OCD symptoms

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
Cordioli 2003	22	15.1 (7.8)	23	23.2 (5.5)		16.1 %	-1.18 [-1.82, -0.55]
Freeston 1997	12	12.2 (9.6)	14	22 (6)		11.7 %	-1.21 [-2.06, -0.36]
Jones 1998	10	4.14 (7.45)	9	17.7 (5.27)		7.7 %	-1.99 [-3.13, -0.84]
McLean 2001a	19	16.89 (5.64)	13	21.85 (5.67)		13.8 %	-0.86 [-1.60, -0.12]
McLean 2001b	16	12.56 (7.3)	20	22.8 (5.42)		13.3 %	-1.58 [-2.35, -0.82]
O'Connor 1997	6	13.3 (8.6)	5	17.5 (4)		7.0 %	-0.55 [-1.77, 0.67]
Van Balkom 1998a	13	21.5 (10.4)	7	26.4 (6.8)		10.3 %	-0.50 [-1.44, 0.43]
Van Balkom 1998b	16	18.6 (8.5)	7	26.4 (6.8)		10.3 %	-0.93 [-1.87, 0.00]
Vogel 2004a	10	13.6 (6.6)	6	25.2 (3.5)		6.6 %	-1.93 [-3.20, -0.66]
Vogel 2004b	7	10.1 (4.6)	6	25.2 (3.5)		3.3 %	-3.40 [-5.30, -1.49]
Total (95% CI)	**131**		**110**			**100.0 %**	**-1.24 [-1.61, -0.87]**

Heterogeneity: Tau² = 0.11; Chi² = 13.51, df = 9 (P = 0.14); I² =33%

Test for overall effect: Z = 6.62 (P < 0.00001)



Analysis 1.2. Comparison 1 All psychological treatments versus Treatment as usual, Outcome 2 Dropout.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 1 All psychological treatments versus Treatment as usual

Outcome: 2 Dropout

Study or subgroup	Psychol treatments n/N	Treatment as usual n/N	Odds Ratio M-H,Fixed,95% CI	Weight	Odds Ratio M-H,Fixed,95% CI
Cordioli 2003	1/23	1/24		5.5 %	1.05 [0.06, 17.76]
Freeston 1997	3/15	0/14		2.4 %	8.12 [0.38, 172.87]
Jones 1998	1/11	1/10		5.6 %	0.90 [0.05, 16.59]
McLean 2001a	5/23	8/21		38.2 %	0.45 [0.12, 1.70]
McLean 2001b	5/21	5/21		22.3 %	1.00 [0.24, 4.14]
O'Connor 1997	0/6	1/6		8.1 %	0.28 [0.01, 8.42]
Van Balkom 1998a	6/19	1/8		5.6 %	3.23 [0.32, 32.48]
Van Balkom 1998b	3/19	1/8		6.9 %	1.31 [0.12, 14.93]
Vogel 2004a	1/11	0/6		3.2 %	1.86 [0.07, 52.76]
Vogel 2004b	5/12	0/6		2.2 %	9.53 [0.44, 207.37]
Total (95% CI)	**160**	**124**		**100.0 %**	**1.26 [0.67, 2.38]**

Total events: 30 (Psychol treatments), 18 (Treatment as usual)

Heterogeneity: Chi^2 = 6.99, df = 9 (P = 0.64); I^2 =0.0%

Test for overall effect: Z = 0.71 (P = 0.48)

Analysis 1.3. Comparison 1 All psychological treatments versus Treatment as usual, Outcome 3 Depressive symptoms.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 1 All psychological treatments versus Treatment as usual

Outcome: 3 Depressive symptoms

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
Cordioli 2003	22	4 (5)	23	6.3 (4.2)		21.0 %	-0.49 [-1.08, 0.10]
Freeston 1997	12	15.8 (14.3)	14	15.1 (8.4)		12.5 %	0.06 [-0.71, 0.83]
Jones 1998	10	10.09 (9.11)	9	12.7 (9.09)		9.0 %	-0.27 [-1.18, 0.63]
McLean 2001a	17	14.12 (14.9)	13	18.31 (9.12)		14.0 %	-0.32 [-1.05, 0.41]
McLean 2001b	13	11.62 (10.59)	13	11.62 (13.63)		12.5 %	0.0 [-0.77, 0.77]
O'Connor 1997	6	13.4 (5.9)	5	13.4 (5.4)		5.3 %	0.0 [-1.19, 1.19]
Van Balkom 1998a	13	14.5 (8.5)	7	15.4 (9.3)		8.8 %	-0.10 [-1.02, 0.82]
Van Balkom 1998b	16	13.3 (6.5)	7	15.4 (9.3)		9.3 %	-0.27 [-1.17, 0.62]
Vogel 2004a	10	8.4 (7.6)	4	19.3 (9.9)		4.5 %	-1.24 [-2.52, 0.04]
Vogel 2004b	6	5.8 (5.5)	4	19.3 (9.9)		3.0 %	-1.63 [-3.20, -0.07]
Total (95% CI)	**125**		**99**			**100.0 %**	**-0.30 [-0.58, -0.03]**

Heterogeneity: $Tau^2 = 0.0$; $Chi^2 = 7.11$, df = 9 (P = 0.63); $I^2 = 0.0\%$

Test for overall effect: Z = 2.20 (P = 0.028)

Analysis 1.4. Comparison 1 All psychological treatments versus Treatment as usual, Outcome 4 Anxiety symptoms.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 1 All psychological treatments versus Treatment as usual

Outcome: 4 Anxiety symptoms

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
Cordioli 2003	22	7.5 (8)	23	11 (9)		27.4 %	-0.40 [-0.99, 0.19]
Freeston 1997	12	12.8 (7.1)	14	21.6 (12.1)		18.1 %	-0.84 [-1.65, -0.03]
O'Connor 1997	6	47.6 (11.4)	5	39 (5.3)		8.8 %	0.85 [-0.41, 2.12]
Van Balkom 1998a	13	19.1 (9.4)	7	26.8 (8.5)		14.0 %	-0.81 [-1.77, 0.15]
Van Balkom 1998b	16	24.1 (8)	7	26.8 (8.5)		15.7 %	-0.32 [-1.21, 0.57]
Vogel 2004a	10	41.5 (9.7)	4	49.1 (10.8)		9.7 %	-0.71 [-1.91, 0.49]
Vogel 2004b	6	30.3 (10.8)	4	49.1 (10.8)		6.2 %	-1.57 [-3.12, -0.03]
Total (95% CI)	**85**		**64**			**100.0 %**	**-0.52 [-0.92, -0.11]**

Heterogeneity: $Tau^2 = 0.07$; $Chi^2 = 7.70$, df = 6 (P = 0.26); $I^2 = 22\%$

Test for overall effect: Z = 2.51 (P = 0.012)

Analysis 1.5. Comparison 1 All psychological treatments versus Treatment as usual, Outcome 5 Quality of life.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 1 All psychological treatments versus Treatment as usual

Outcome: 5 Quality of life

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
Cordioli 2003	22	-64.3 (19.1)	23	-53.8 (15.7)		100.0 %	-10.50 [-20.74, -0.26]
Total (95% CI)	**22**		**23**			**100.0 %**	**-10.50 [-20.74, -0.26]**

Heterogeneity: not applicable

Test for overall effect: Z = 2.01 (P = 0.044)

Analysis 2.1. Comparison 2 Cognitive behaviour therapy versus Treatment as usual, Outcome 1 Obsessive compulsive symptoms.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 2 Cognitive behaviour therapy versus Treatment as usual

Outcome: 1 Obsessive compulsive symptoms

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
Cordioli 2003	22	15.1 (7.8)	23	23.2 (5.5)		30.5 %	-8.10 [-12.06, -4.14]
Freeston 1997	12	12.2 (9.6)	14	22 (6)		12.1 %	-9.80 [-16.08, -3.52]
McLean 2001a	19	16.89 (5.64)	13	21.85 (5.67)		30.0 %	-4.96 [-8.95, -0.97]
O'Connor 1997	6	13.3 (8.6)	5	17.5 (4)		8.0 %	-4.20 [-11.92, 3.52]
Vogel 2004a	10	13.6 (6.6)	6	25.2 (3.5)		19.4 %	-11.60 [-16.56, -6.64]
Total (95% CI)	**69**		**61**			**100.0 %**	**-7.73 [-9.92, -5.55]**

Heterogeneity: Chi² = 5.45, df = 4 (P = 0.24); I² =27%

Test for overall effect: Z = 6.94 (P < 0.00001)

Analysis 2.2. Comparison 2 Cognitive behaviour therapy versus Treatment as usual, Outcome 2 Dropout.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 2 Cognitive behaviour therapy versus Treatment as usual

Outcome: 2 Dropout

Study or subgroup	Psychol treatments n/N	Treatment as usual n/N	Odds Ratio M-H,Fixed,95% CI	Weight	Odds Ratio M-H,Fixed,95% CI
Cordioli 2003	1/23	1/24		9.5 %	1.05 [0.06, 17.76]
Freeston 1997	3/15	0/14		4.1 %	8.12 [0.38, 172.87]
McLean 2001a	5/23	8/21		66.6 %	0.45 [0.12, 1.70]
O'Connor 1997	0/6	1/6		14.2 %	0.28 [0.01, 8.42]
Vogel 2004a	1/11	0/6		5.6 %	1.86 [0.07, 52.76]
Total (95% CI)	**78**	**71**		**100.0 %**	**0.88 [0.35, 2.18]**

Total events: 10 (Psychol treatments), 10 (Treatment as usual)

Heterogeneity: Chi² = 3.64, df = 4 (P = 0.46); I² =0.0%

Test for overall effect: Z = 0.28 (P = 0.78)

Analysis 2.3. Comparison 2 Cognitive behaviour therapy versus Treatment as usual, Outcome 3 Depressive symptoms.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 2 Cognitive behaviour therapy versus Treatment as usual

Outcome: 3 Depressive symptoms

Study or subgroup	Psychol treatments		Treatment as usual		Std. Mean Difference	Weight	Std. Mean Difference
	N	Mean(SD)	N	Mean(SD)	IV,Random,95% CI		IV,Random,95% CI
Cordioli 2003	22	4 (5)	23	6.3 (4.2)		36.7 %	-0.49 [-1.08, 0.10]
Freeston 1997	12	15.8 (14.3)	14	15.1 (8.4)		21.8 %	0.06 [-0.71, 0.83]
McLean 2001a	17	14.12 (14.9)	13	18.31 (9.12)		24.5 %	-0.32 [-1.05, 0.41]
O'Connor 1997	6	13.4 (5.9)	5	13.4 (5.4)		9.2 %	0.0 [-1.19, 1.19]
Vogel 2004a	10	8.4 (7.6)	4	19.3 (9.9)		7.9 %	-1.24 [-2.52, 0.04]
Total (95% CI)	**67**		**59**			**100.0 %**	**-0.34 [-0.70, 0.02]**

Heterogeneity: $Tau^2 = 0.0$; $Chi^2 = 3.49$, df = 4 (P = 0.48); $I^2 = 0.0\%$

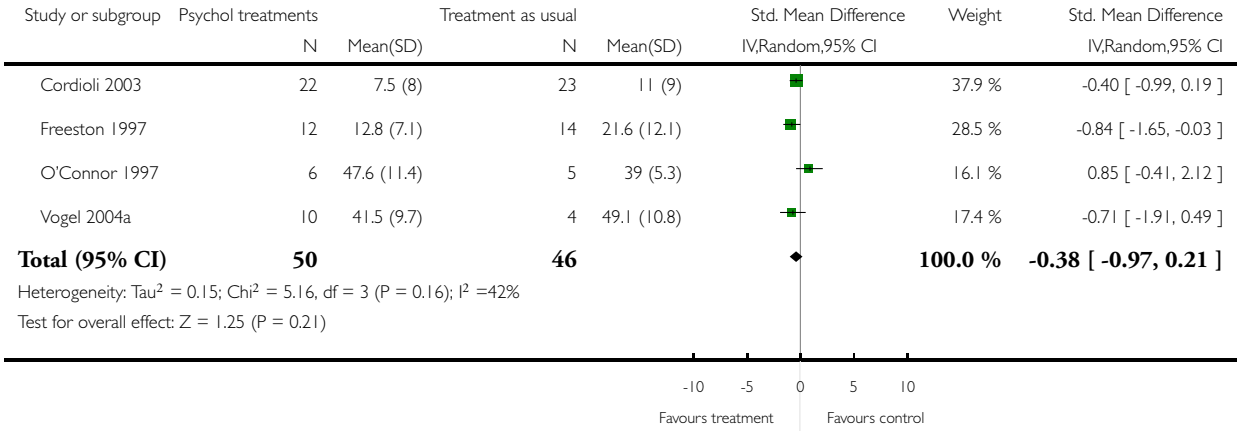
Test for overall effect: Z = 1.87 (P = 0.062)

Analysis 2.4. Comparison 2 Cognitive behaviour therapy versus Treatment as usual, Outcome 4 Anxiety symptoms.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 2 Cognitive behaviour therapy versus Treatment as usual

Outcome: 4 Anxiety symptoms

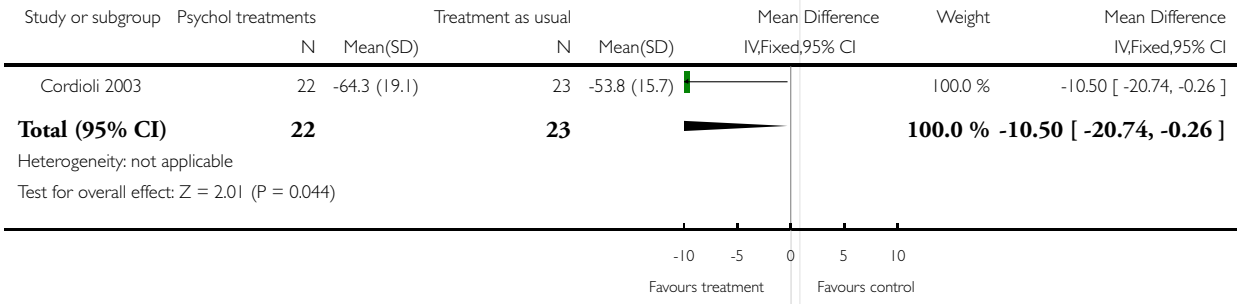


Analysis 2.5. Comparison 2 Cognitive behaviour therapy versus Treatment as usual, Outcome 5 Quality of life.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 2 Cognitive behaviour therapy versus Treatment as usual

Outcome: 5 Quality of life



Analysis 3.1. Comparison 3 Cognitive therapy versus Treatment as usual, Outcome 1 Obsessive compulsive symptoms.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 3 Cognitive therapy versus Treatment as usual

Outcome: 1 Obsessive compulsive symptoms

Study or subgroup	Treatment N	Mean(SD)	Control N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
Jones 1998	10	4.14 (7.45)	9	17.7 (5.27)		47.4 %	-1.99 [-3.13, -0.84]
Van Balkom 1998a	13	21.5 (10.4)	7	26.4 (6.8)		52.6 %	-0.50 [-1.44, 0.43]
Total (95% CI)	**23**		**16**			**100.0 %**	**-1.21 [-2.66, 0.25]**

Heterogeneity: $Tau^2 = 0.82$; $Chi^2 = 3.88$, df = 1 (P = 0.05); $I^2 = 74\%$

Test for overall effect: Z = 1.63 (P = 0.10)

Analysis 3.2. Comparison 3 Cognitive therapy versus Treatment as usual, Outcome 2 Dropout.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 3 Cognitive therapy versus Treatment as usual

Outcome: 2 Dropout

Study or subgroup	Psychol treatments n/N	Treatment as usual n/N	Odds Ratio M-H,Fixed,95% CI	Weight	Odds Ratio M-H,Fixed,95% CI
Jones 1998	1/11	1/10		49.7 %	0.90 [0.05, 16.59]
Van Balkom 1998a	6/19	1/8		50.3 %	3.23 [0.32, 32.48]
Total (95% CI)	**30**	**18**		**100.0 %**	**2.07 [0.36, 11.76]**

Total events: 7 (Psychol treatments), 2 (Treatment as usual)

Heterogeneity: $Chi^2 = 0.46$, df = 1 (P = 0.50); $I^2 = 0.0\%$

Test for overall effect: Z = 0.82 (P = 0.41)

Analysis 3.3. Comparison 3 Cognitive therapy versus Treatment as usual, Outcome 3 Depressive symptoms.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

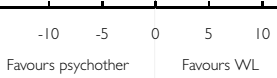
Comparison: 3 Cognitive therapy versus Treatment as usual

Outcome: 3 Depressive symptoms

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
Jones 1998	10	10.09 (9.11)	9	12.7 (9.09)		50.6 %	-2.61 [-10.80, 5.58]
Van Balkom 1998a	13	14.5 (8.5)	7	15.4 (9.3)		49.4 %	-0.90 [-9.20, 7.40]
Total (95% CI)	**23**		**16**			**100.0 %**	**-1.77 [-7.60, 4.06]**

Heterogeneity: $Chi^2 = 0.08$, df = 1 (P = 0.77); $I^2 = 0.0\%$

Test for overall effect: Z = 0.59 (P = 0.55)



Analysis 3.4. Comparison 3 Cognitive therapy versus Treatment as usual, Outcome 4 Anxiety symptoms.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 3 Cognitive therapy versus Treatment as usual

Outcome: 4 Anxiety symptoms

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
Van Balkom 1998a	13	19.1 (9.4)	7	26.8 (8.5)		100.0 %	-7.70 [-15.81, 0.41]
Total (95% CI)	**13**		**7**			**100.0 %**	**-7.70 [-15.81, 0.41]**

Heterogeneity: not applicable

Test for overall effect: Z = 1.86 (P = 0.063)

Analysis 4.1. Comparison 4 Behaviour therapy versus Treatment as usual, Outcome 1 Obsessive compulsive symptoms.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

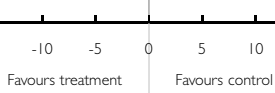
Comparison: 4 Behaviour therapy versus Treatment as usual

Outcome: 1 Obsessive compulsive symptoms

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
McLean 2001b	16	12.56 (7.3)	20	22.8 (5.42)		42.0 %	-10.24 [-14.53, -5.95]
Van Balkom 1998b	16	18.6 (8.5)	7	26.4 (6.8)		18.1 %	-7.80 [-14.34, -1.26]
Vogel 2004b	7	10.1 (4.6)	6	25.2 (3.5)		39.8 %	-15.10 [-19.51, -10.69]
Total (95% CI)	**39**		**33**			**100.0 %**	**-11.73 [-14.52, -8.95]**

Heterogeneity: Chi^2 = 4.09, df = 2 (P = 0.13); I^2 =51%

Test for overall effect: Z = 8.26 (P < 0.00001)



Analysis 4.2. Comparison 4 Behaviour therapy versus Treatment as usual, Outcome 2 Dropout.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 4 Behaviour therapy versus Treatment as usual

Outcome: 2 Dropout

Study or subgroup	Psychol treatments n/N	Treatment as usual n/N	Odds Ratio M-H,Fixed,95% CI	Weight	Odds Ratio M-H,Fixed,95% CI
McLean 2001b	5/21	5/21		70.9 %	1.00 [0.24, 4.14]
Van Balkom 1998b	3/19	1/8		22.1 %	1.31 [0.12, 14.93]
Vogel 2004b	5/12	0/6		7.0 %	9.53 [0.44, 207.37]
Total (95% CI)	**52**	**35**		**100.0 %**	**1.66 [0.57, 4.86]**

Total events: 13 (Psychol treatments), 6 (Treatment as usual)

Heterogeneity: Chi^2 = 1.77, df = 2 (P = 0.41); I^2 =0.0%

Test for overall effect: Z = 0.93 (P = 0.35)

Analysis 4.3. Comparison 4 Behaviour therapy versus Treatment as usual, Outcome 3 Depressive symptoms.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 4 Behaviour therapy versus Treatment as usual

Outcome: 3 Depressive symptoms

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
McLean 2001b	13	11.62 (10.59)	13	11.62 (13.63)		30.3 %	0.0 [-9.38, 9.38]
Van Balkom 1998b	16	13.3 (6.5)	7	15.4 (9.3)		46.3 %	-2.10 [-9.69, 5.49]
Vogel 2004b	6	5.8 (5.5)	4	19.3 (9.9)		23.5 %	-13.50 [-24.15, -2.85]
Total (95% CI)	**35**		**24**			**100.0 %**	**-4.14 [-9.30, 1.02]**

Heterogeneity: Chi^2 = 3.99, df = 2 (P = 0.14); I^2 =50%

Test for overall effect: Z = 1.57 (P = 0.12)

Analysis 4.4. Comparison 4 Behaviour therapy versus Treatment as usual, Outcome 4 Anxiety symptoms.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 4 Behaviour therapy versus Treatment as usual

Outcome: 4 Anxiety symptoms

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
Van Balkom 1998b	16	24.1 (8)	7	26.8 (8.5)		63.1 %	-0.32 [-1.21, 0.57]
Vogel 2004b	6	30.3 (10.8)	4	49.1 (10.8)		36.9 %	-1.57 [-3.12, -0.03]
Total (95% CI)	**22**		**11**			**100.0 %**	**-0.78 [-1.97, 0.40]**

Heterogeneity: Tau^2 = 0.37; Chi^2 = 1.89, df = 1 (P = 0.17); I^2 =47%

Test for overall effect: Z = 1.29 (P = 0.20)

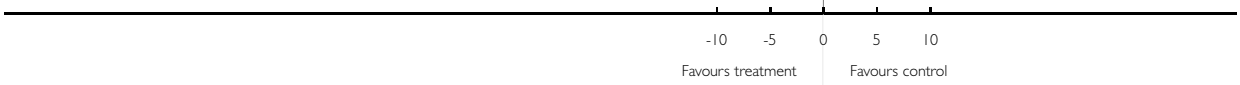
Analysis 5.1. Comparison 5 All psychological treatments versus Treatment as usual: sub-group analyses, Outcome 1 OCD symptoms - therapy format (individual vs group).

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 5 All psychological treatments versus Treatment as usual: sub-group analyses

Outcome: 1 OCD symptoms - therapy format (individual vs group)

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
1 Individual therapy							
Freeston 1997	12	12.2 (9.6)	14	22 (6)		23.8 %	-1.21 [-2.06, -0.36]
O'Connor 1997	6	13.3 (8.6)	5	17.5 (4)		14.2 %	-0.55 [-1.77, 0.67]
Van Balkom 1998a	13	21.5 (10.4)	7	26.4 (6.8)		21.0 %	-0.50 [-1.44, 0.43]
Van Balkom 1998b	16	18.6 (8.5)	7	26.4 (6.8)		20.9 %	-0.93 [-1.87, 0.00]
Vogel 2004a	10	13.6 (6.6)	6	25.2 (3.5)		13.4 %	-1.93 [-3.20, -0.66]
Vogel 2004b	7	10.1 (4.6)	6	25.2 (3.5)		6.7 %	-3.40 [-5.30, -1.49]
Subtotal (95% CI)	**64**		**45**			**100.0 %**	**-1.20 [-1.83, -0.57]**
Heterogeneity: Tau² = 0.29; Chi² = 9.72, df = 5 (P = 0.08); I² =49%							
Test for overall effect: Z = 3.72 (P = 0.00020)							
2 Group therapy							
Cordioli 2003	22	15.1 (7.8)	23	23.2 (5.5)		31.6 %	-1.18 [-1.82, -0.55]
Jones 1998	10	4.14 (7.45)	9	17.7 (5.27)		15.2 %	-1.99 [-3.13, -0.84]
McLean 2001a	19	16.89 (5.64)	13	21.85 (5.67)		27.1 %	-0.86 [-1.60, -0.12]
McLean 2001b	16	12.56 (7.3)	20	22.8 (5.42)		26.1 %	-1.58 [-2.35, -0.82]
Subtotal (95% CI)	**67**		**65**			**100.0 %**	**-1.30 [-1.71, -0.88]**
Heterogeneity: Tau² = 0.02; Chi² = 3.43, df = 3 (P = 0.33); I² =12%							
Test for overall effect: Z = 6.12 (P < 0.00001)							



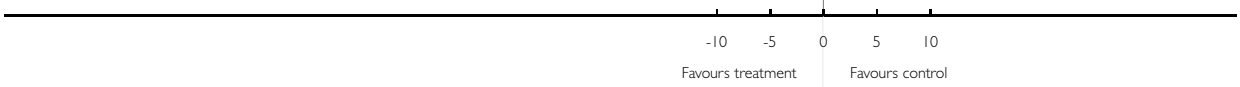
Analysis 5.2. Comparison 5 All psychological treatments versus Treatment as usual: sub-group analyses, Outcome 2 OCD symptoms - number of sessions.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 5 All psychological treatments versus Treatment as usual: sub-group analyses

Outcome: 2 OCD symptoms - number of sessions

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
1 1-14 sessions							
Cordioli 2003	22	15.1 (7.8)	23	23.2 (5.5)		26.5 %	-1.18 [-1.82, -0.55]
Jones 1998	10	4.14 (7.45)	9	17.7 (5.27)		12.7 %	-1.99 [-3.13, -0.84]
McLean 2001a	19	16.89 (5.64)	13	21.85 (5.67)		22.7 %	-0.86 [-1.60, -0.12]
McLean 2001b	16	12.56 (7.3)	20	22.8 (5.42)		21.9 %	-1.58 [-2.35, -0.82]
Vogel 2004a	10	13.6 (6.6)	6	25.2 (3.5)		10.8 %	-1.93 [-3.20, -0.66]
Vogel 2004b	7	10.1 (4.6)	6	25.2 (3.5)		5.5 %	-3.40 [-5.30, -1.49]
Subtotal (95% CI)	**84**		**77**			**100.0 %**	**-1.52 [-2.03, -1.02]**
Heterogeneity: Tau² = 0.16; Chi² = 8.62, df = 5 (P = 0.13); I² =42%							
Test for overall effect: Z = 5.89 (P < 0.00001)							
2 14 sessions +							
Freeston 1997	12	12.2 (9.6)	14	22 (6)		29.7 %	-1.21 [-2.06, -0.36]
O'Connor 1997	6	13.3 (8.6)	5	17.5 (4)		17.8 %	-0.55 [-1.77, 0.67]
Van Balkom 1998a	13	21.5 (10.4)	7	26.4 (6.8)		26.2 %	-0.50 [-1.44, 0.43]
Van Balkom 1998b	16	18.6 (8.5)	7	26.4 (6.8)		26.2 %	-0.93 [-1.87, 0.00]
Subtotal (95% CI)	**47**		**33**			**100.0 %**	**-0.85 [-1.33, -0.37]**
Heterogeneity: Tau² = 0.0; Chi² = 1.47, df = 3 (P = 0.69); I² =0.0%							
Test for overall effect: Z = 3.47 (P = 0.00053)							

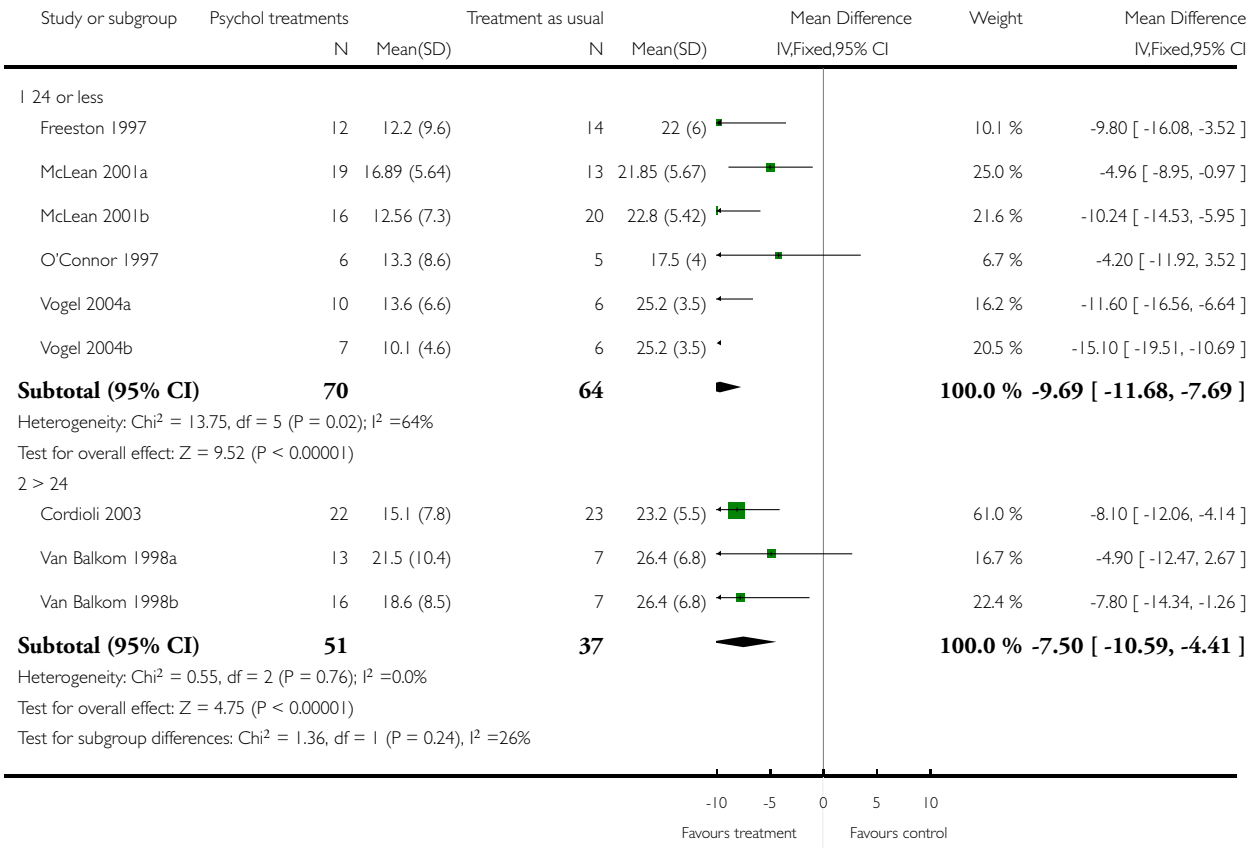


Analysis 5.3. Comparison 5 All psychological treatments versus Treatment as usual: sub-group analyses, Outcome 3 OCD symptoms - baseline Y-BOCS score.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 5 All psychological treatments versus Treatment as usual: sub-group analyses

Outcome: 3 OCD symptoms - baseline Y-BOCS score



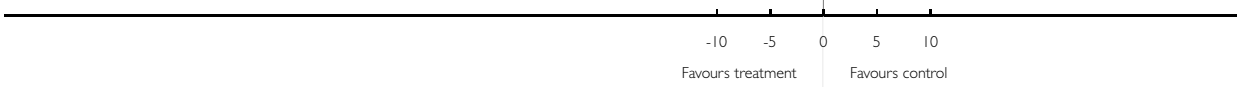
Analysis 5.4. Comparison 5 All psychological treatments versus Treatment as usual: sub-group analyses, Outcome 4 OCD symptoms - concurrent psychotropic medication.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 5 All psychological treatments versus Treatment as usual: sub-group analyses

Outcome: 4 OCD symptoms - concurrent psychotropic medication

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
1 30% or less on medication							
Jones 1998	10	4.14 (7.45)	9	17.7 (5.27)		21.8 %	-1.99 [-3.13, -0.84]
O'Connor 1997	6	13.3 (8.6)	5	17.5 (4)		19.8 %	-0.55 [-1.77, 0.67]
Van Balkom 1998a	13	21.5 (10.4)	7	26.4 (6.8)		29.2 %	-0.50 [-1.44, 0.43]
Van Balkom 1998b	16	18.6 (8.5)	7	26.4 (6.8)		29.1 %	-0.93 [-1.87, 0.00]
Subtotal (95% CI)	**45**		**28**			**100.0 %**	**-0.96 [-1.60, -0.33]**
Heterogeneity: $Tau^2 = 0.14$; $Chi^2 = 4.44$, df = 3 (P = 0.22); $I^2 = 32\%$							
Test for overall effect: Z = 2.97 (P = 0.0030)							
2 >30% on medication							
Cordioli 2003	22	15.1 (7.8)	23	23.2 (5.5)		24.8 %	-1.18 [-1.82, -0.55]
Freeston 1997	12	12.2 (9.6)	14	22 (6)		18.1 %	-1.21 [-2.06, -0.36]
McLean 2001a	19	16.89 (5.64)	13	21.85 (5.67)		21.3 %	-0.86 [-1.60, -0.12]
McLean 2001b	16	12.56 (7.3)	20	22.8 (5.42)		20.5 %	-1.58 [-2.35, -0.82]
Vogel 2004a	10	13.6 (6.6)	6	25.2 (3.5)		10.2 %	-1.93 [-3.20, -0.66]
Vogel 2004b	7	10.1 (4.6)	6	25.2 (3.5)		5.1 %	-3.40 [-5.30, -1.49]
Subtotal (95% CI)	**86**		**82**			**100.0 %**	**-1.39 [-1.84, -0.94]**
Heterogeneity: $Tau^2 = 0.11$; $Chi^2 = 7.65$, df = 5 (P = 0.18); $I^2 = 35\%$							
Test for overall effect: Z = 6.02 (P < 0.00001)							

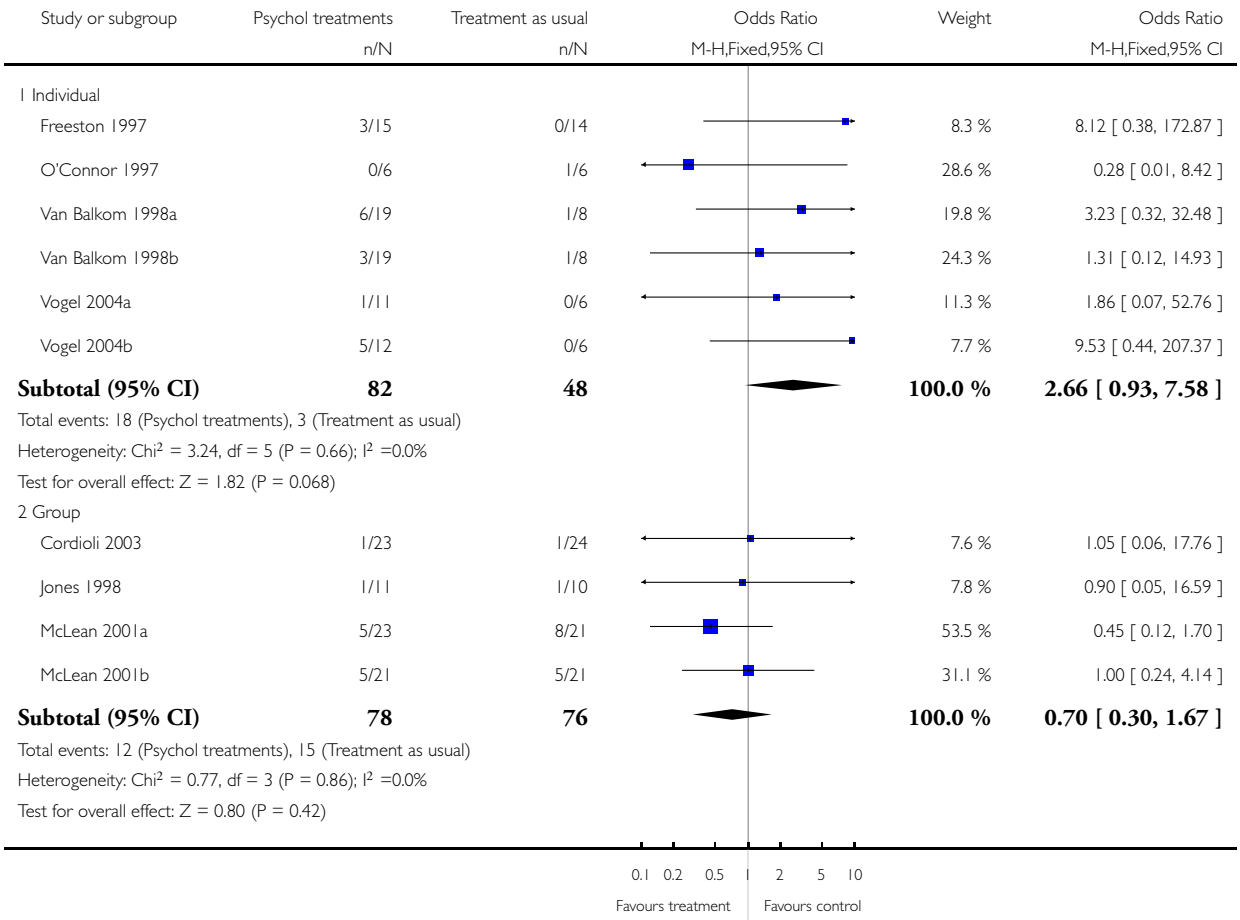


Analysis 5.5. Comparison 5 All psychological treatments versus Treatment as usual: sub-group analyses, Outcome 5 Dropout - therapy format (individual vs group).

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 5 All psychological treatments versus Treatment as usual: sub-group analyses

Outcome: 5 Dropout - therapy format (individual vs group)



Analysis 6.1. Comparison 6 All psychological treatments versus Treatment as usual: sensitivity analyses, Outcome 1 OCD symptoms - quality score (post-hoc).

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 6 All psychological treatments versus Treatment as usual: sensitivity analyses

Outcome: 1 OCD symptoms - quality score (post-hoc)

Study or subgroup	Psychol treatments N	Mean(SD)	Treatment as usual N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
1 QRS total 15 - 25							
Jones 1998	10	4.14 (7.45)	9	17.7 (5.27)		100.0 %	-1.99 [-3.13, -0.84]
Subtotal (95% CI)	**10**		**9**			**100.0 %**	**-1.99 [-3.13, -0.84]**
Heterogeneity: not applicable							
Test for overall effect: Z = 3.40 (P = 0.00068)							
2 QRS total 26 - 30							
Freeston 1997	12	12.2 (9.6)	14	22 (6)		17.6 %	-1.21 [-2.06, -0.36]
McLean 2001a	19	16.89 (5.64)	13	21.85 (5.67)		20.7 %	-0.86 [-1.60, -0.12]
McLean 2001b	16	12.56 (7.3)	20	22.8 (5.42)		20.0 %	-1.58 [-2.35, -0.82]
O'Connor 1997	6	13.3 (8.6)	5	17.5 (4)		10.6 %	-0.55 [-1.77, 0.67]
Van Balkom 1998a	13	21.5 (10.4)	7	26.4 (6.8)		15.5 %	-0.50 [-1.44, 0.43]
Van Balkom 1998b	16	18.6 (8.5)	7	26.4 (6.8)		15.5 %	-0.93 [-1.87, 0.00]
Subtotal (95% CI)	**82**		**66**			**100.0 %**	**-1.01 [-1.37, -0.65]**
Heterogeneity: $Tau^2 = 0.0$; $Chi^2 = 4.25$, df = 5 (P = 0.51); $I^2 = 0.0\%$							
Test for overall effect: Z = 5.56 (P < 0.00001)							
3 QRS total - 31 +							
Cordioli 2003	22	15.1 (7.8)	23	23.2 (5.5)		61.9 %	-1.18 [-1.82, -0.55]
Vogel 2004a	10	13.6 (6.6)	6	25.2 (3.5)		25.3 %	-1.93 [-3.20, -0.66]
Vogel 2004b	7	10.1 (4.6)	6	25.2 (3.5)		12.8 %	-3.40 [-5.30, -1.49]
Subtotal (95% CI)	**39**		**35**			**100.0 %**	**-1.89 [-3.00, -0.78]**
Heterogeneity: $Tau^2 = 0.59$; $Chi^2 = 5.18$, df = 2 (P = 0.08); $I^2 = 61\%$							
Test for overall effect: Z = 3.32 (P = 0.00089)							

Analysis 6.2. Comparison 6 All psychological treatments versus Treatment as usual: sensitivity analyses, Outcome 2 OCD symptoms - three-armed studies excluded.

Review: Psychological treatments versus treatment as usual for obsessive compulsive disorder (OCD)

Comparison: 6 All psychological treatments versus Treatment as usual: sensitivity analyses

Outcome: 2 OCD symptoms - three-armed studies excluded

Study or subgroup	Psychol treatments		Treatment as usual		Std. Mean Difference	Weight	Std. Mean Difference
	N	Mean(SD)	N	Mean(SD)	IV,Random,95% CI		IV,Random,95% CI
Cordioli 2003	22	15.1 (7.8)	23	23.2 (5.5)		27.9 %	-1.18 [-1.82, -0.55]
Freeston 1997	12	12.2 (9.6)	14	22 (6)		15.7 %	-1.21 [-2.06, -0.36]
Jones 1998	10	4.14 (7.45)	9	17.7 (5.27)		8.6 %	-1.99 [-3.13, -0.84]
McLean 2001a	19	16.89 (5.64)	13	21.85 (5.67)		20.7 %	-0.86 [-1.60, -0.12]
McLean 2001b	16	12.56 (7.3)	20	22.8 (5.42)		19.5 %	-1.58 [-2.35, -0.82]
O'Connor 1997	6	13.3 (8.6)	5	17.5 (4)		7.6 %	-0.55 [-1.77, 0.67]
Total (95% CI)	**85**		**84**			**100.0 %**	**-1.22 [-1.56, -0.88]**

Heterogeneity: $Tau^2 = 0.0$; $Chi^2 = 4.69$, df = 5 (P = 0.45); $I^2 = 0.0\%$

Test for overall effect: Z = 7.09 (P < 0.00001)

WHAT'S NEW

Last assessed as up-to-date: 1 February 2007.

Date	Event	Description
5 November 2008	Amended	Converted to new review format.

HISTORY

Protocol first published: Issue 2, 2005

Review first published: Issue 2, 2007

Date	Event	Description
2 February 2007	New citation required and conclusions have changed	Substantive amendment

CONTRIBUTIONS OF AUTHORS

IG: writing the protocol and the review

HMG: data searches and together with IG data selection and extraction

CB: providing advice and support for statistical analysis and commentary on the findings

RC: conceptualised question, advised on protocol development and methodology, commented on findings and conclusions

EA: commentary on the findings and conclusions

DC: responsible for quality checking of data selection

MDV: responsible for quality checking of data extraction and commentary on the findings and conclusions

DECLARATIONS OF INTEREST

None known

SOURCES OF SUPPORT

Internal sources

- Institute of Psychiatry, UK.
- University of Verona, Italy.
- University of Trieste, Italy.

External sources

- No sources of support supplied

INDEX TERMS

Medical Subject Headings (MeSH)

Behavior Therapy [*methods]; Cognitive Therapy [methods]; Obsessive-Compulsive Disorder [*therapy]

MeSH check words

Adult; Humans