Efficacy of drug treatment in obsessive-compulsive disorder: a meta-analytic review

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Authors' objectives
To review the efficacy of antidepressant drug treatment in patients with obsessive-compulsive disorder using a meta-analytic approach.

Searching
Searches of MEDLINE and Excerpta Medica and Psychiatry data bases were made from 1975 to 1994, using the keyword ‘obsessive-compulsive disorder’ matched with any of the following in the title or abstract ‘clinical trial’, ‘double-blind method’ and ‘random allocation’. Psychiatric and psychopharmacological journals were scanned. Recent published reviews and bibliographies were consulted. Contact was made with pharmaceutical companies and references in papers were checked.

Study selection
Study designs of evaluations included in the review
Double-blind randomised controlled trials (RCTs) of at least 4 weeks' duration were included.

Specific interventions included in the review
Clomipramine, selective serotonin reuptake inhibitors (SSRIs) (fluvoxamine, fluoxetine, sertraline), other tricyclic antidepressants (imipramine and nortriptyline).

Participants included in the review
Adult patients suffering from obsessive-compulsive disorder plus 4 studies that looked at adolescents and children suffering from obsessive-compulsive disorder.

Trials of patients refractory to standard treatments as well as those carried out among patients with obsessive-compulsive disorder and co-morbid Tourette's syndrome were excluded.

Outcomes assessed in the review
Obsessive-compulsive symptoms considered together; obsessions; compulsions; depression; anxiety; global clinical improvement; psychosocial adjustment and physical symptoms measured at the conclusion of treatment or at the latest reported point of time during the treatment period.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality
Randomisation used in treatment assignment. Alternative drug treatments were administered under double-blind conditions. Only published or in press data were included in the review. The authors do not state how the papers were assessed for validity, or how many of the authors performed the validity assessment.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the authors performed the data extraction.

Methods of synthesis
How were the studies combined?
For each trial, Hedges’ g (effect size) was computed on the basis of the mean pre/post test changes in the experimental and control groups and corresponding standard deviations, or from statistical test results.

A fixed-effect model was used to combine the effect sizes of independent trials, each weighted by the reciprocal of its estimated variance.

Trials were aggregated into the following groups:

a) Clomipramine versus placebo,
b) SSRIs versus placebo,
c) Other tricyclic antidepressants versus placebo,
d) Clomipramine versus other antidepressant drugs with no selective serotonergic properties,
e) Clomipramine versus SSRIs,
f) SSRIs versus tricyclic antidepressants,
g) Other compounds.

How were differences between studies investigated?
A chi-squared test was applied to test heterogeneity among the trials. A multiple regression analysis was used to examine the association of the effect size with some independent variables (mean age; depression at the outset of the trial; mean duration of obsessive-compulsive symptoms at the outset of the trial; setting; sample size; percentage of males; maximum Clomipramine dose; length of trial).

Results of the review

There were 36 articles that included information on 47 trials.

Clomipramine versus placebo: 11 trials (733 patients);
SSRIs versus placebo: 13 trials (1076 patients);
Other tricyclics (imipramine and nortriptyline) versus placebo: 2 trials (53 patients).

As compared with placebo, clomipramine was effective in reducing both obsessive-compulsive symptoms considered together (g=1.31, 95% CI: 1.15, 1.47) as well as obsessions (g=0.89, 95% CI: 0.36, 1.42) and compulsions (g=0.79, 95% CI: 0.34, 1.24) taken separately.

SSRIs were also superior to placebo, with estimated effect size g=0.47 (95% CI: 0.33, 0.61) for all obsessive-compulsive symptoms, g=0.54 (95% CI: 0.34, 0.74) for obsessions and g=0.52 (95% CI: 0.34, 0.70) for compulsions.

When clomipramine was compared with SSRIs, similar therapeutic efficacy was found for obsessive compulsive symptoms considered together (g=-0.04, 95% CI: -0.43, 0.35), obsessions (g=-0.15, 95% CI: -0.64, 0.34), compulsions (g=-0.07, 95% CI: -0.56, 0.42) and global clinical improvement (g=-0.99, 95% CI: -0.58, 0.40).

Both clomipramine and SSRIs were superior to antidepressant drugs with no selective serotonergic properties.

Authors’ conclusions

The present meta-analysis shows that antidepressant drugs are effective in the short-term treatment of patients suffering from obsessive-compulsive disorder. Clomipramine and fluvoxamine had greater therapeutic efficacy than antidepressant drugs with no selective serotonergic properties.
CRD commentary
Some trials that showed no effect with low-dose fluoxetine and sertraline were excluded from the analysis.

Complicated statistical methods were used in this meta-analysis. The authors did not report how the data were extracted from primary studies.

Bibliographic details

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7795913

Other publications of related interest

Indexing Status
Subject indexing assigned by NLM

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.