Efficacy of escitalopram compared to citalopram: a meta-analysis

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CRD summary
The review concluded that there was a statistically and clinically significant benefit with escitalopram compared with citalopram in patients with major depressive disorder. The review appeared to have some methodological limitations, and the quality of the included trials is uncertain; hence, caution is warranted when interpreting the authors’ conclusions.

Authors' objectives
To assess the clinical relevance of the relative antidepressant efficacy of escitalopram and citalopram for the treatment of major depressive disorder.

Searching
MEDLINE (1966 to June 2009), EMBASE (1998 to 2009) and The Cochrane Library (1980 to June 2009) were searched for articles in any language. Search terms were reported. Reference lists of retrieved studies were searched. Unpublished studies and unfinished trials were searched for in seven other databases.

Study selection
Studies of escitalopram versus citalopram in adult patients with major depressive disorder were eligible for inclusion. Patients had to meet DSM-IV criteria for major depressive disorder. The primary outcome was the treatment difference in the Montgomery-Asberg Depression Rating Scale (MADRS) total score at eight weeks (or the last assessment where eight-week data were not available). Secondary outcomes were response and remission (definitions provided in review).

The included studies used doses of 5mg to 20mg of escitalopram and 10mg to 40mg doses of citalopram. Some studies also had a placebo arm or another active treatment arm. Studies were conducted in specialist settings or GP (general practitioner) centres. Most studies used the MADRS scale; some studies used only the Hamilton Depression Rating (HAMD) scale. Baseline MADRS scores ranged from 23.7 to 39.6.

The authors did not state how many reviewers independently performed study selection.

Assessment of study quality
The authors did not state that they performed quality assessment; withdrawal rates due to adverse events were reported.

Data extraction
Data were extracted on mean change from baseline, response and remission and used to calculate mean differences or relative risks (RRs), together with 95% confidence intervals (CIs).

The authors did not state how many reviewers performed data extraction.

Methods of synthesis
A fixed-effect meta-analysis was used to calculate pooled mean differences and relative risks, together with 95% CIs. The number needed to treat (NNT) was calculated for response and remission. Sensitivity analysis excluded the single non-RCT and investigated MADRS versus HAMD studies.

Results of the review
Nine studies were included in the review (2,009 patients): eight RCTs and one non-randomised study. Length of study ranged from four to 24 weeks. Reported withdrawals due to adverse events ranged from 1.4% to 10.4%, where reported.

Treatment difference: There was a statistically significantly greater mean treatment difference with escitalopram compared with citalopram in the trials that reported MADRS (mean difference 1.7, 95% CI 0.8 to 2.06; six RCTs).
Sensitivity analysis indicated that the results were still significant when the non-randomised study was included, but results were not significant in the two trials that reported HAMD.

Response and remission: There was a statistically significantly greater response rate of 72.3% with escitalopram compared with 63.9% with citalopram (OR 1.44, 95% CI 1.18 to 1.75, NNT=11.9; eight RCTs). There was also a statistically significantly greater remission rate of 61.6% with escitalopram compared with 44% with citalopram (OR 1.86, 95% CI 1.46 to 2.36, NNT=5.7; four RCTs).

Authors' conclusions
There was a statistically and clinically significant benefit with escitalopram compared with citalopram in patients with major depressive disorder.

CRD commentary
Inclusion criteria for the review were broadly defined. Several relevant data sources were searched without language restrictions. Publication bias was not assessed and could not be ruled out, although the extensive search of non-published sources limited the risk of this. The authors did not report any attempts to reduce reviewer error and bias during study selection and data extraction. The authors did not report that they undertook quality assessment, which made determining the quality of the evidence base difficult. Trials were combined using meta-analysis, but there was no discussion or estimation of statistical heterogeneity and this made it impossible to adequately assess the appropriateness of pooling. One author was an employee of Lundbeck pharmaceutical company.

The review appeared to have some methodological limitations and the quality of the included trials was uncertain, so caution is warranted when interpreting the authors' conclusions.

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

Funding
Not stated.

Bibliographic details

PubMedID
20875220

DOI
10.1017/S146114571000115X

Original Paper URL
http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8024782

Indexing Status
Subject indexing assigned by NLM

MeSH
Adult; Antidepressive Agents /therapeutic use; Citalopram /adverse effects /therapeutic use; Depressive Disorder, Major /drug therapy; Humans; Psychiatric Status Rating Scales; Randomized Controlled Trials as Topic; Sample Size; Treatment Outcome

AccessionNumber
12011002340

Date bibliographic record published
01/06/2011

Date abstract record published
15/02/2012

Record Status
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.