Sertraline as a treatment for PTSD: a systematic review and meta-analysis

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CRD summary
This review assessed the effectiveness of sertraline for the treatment of post-traumatic stress disorder. The authors concluded that there is evidence to support the use of sertraline, but further research is required. Although there were a number of limitations to this review, the authors' conclusions appear appropriately cautious.

Authors' objectives
To assess the effectiveness of sertraline for the treatment of post-traumatic stress disorder (PTSD).

Searching
PsycINFO, MEDLINE, EMBASE, the National Centre for PTSD and the Cochrane Library were searched using the reported search terms. The references of included and excluded studies were checked for further primary studies.

Study selection

Study designs of evaluations included in the review
No inclusion criteria for the study design were specified.

Specific interventions included in the review
Studies of sertraline were eligible for inclusion. The dosages used in the included studies, where reported, ranged from 50 to 200 mg/day, and the maximum reported treatment period was 36 weeks. Controlled studies compared sertraline with placebo or with other antidepressants, including fluoxetine, paroxetine and venlafaxine.

Participants included in the review
Studies of people with PTSD were eligible for inclusion. Some of the included studies focused on specific groups, such as Bosnian refugees, female rape victims and military veterans. Some studies included participants with co-morbidities, such as psychiatric disorders, alcohol dependence and major depression.

Outcomes assessed in the review
No inclusion criteria for the outcomes were specified. The report stated that there were 32 main outcome measures identified in the included studies, but that only the following appeared in at least three of the studies: IES score, CAPS-2 score, CGI-S score and leaving the study early.

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

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction. Data from randomised controlled trials (RCTs) were extracted to enable the calculation of a weighted mean difference (WMD) for continuous data and an odds ratio (OR) for dichotomous data.

Methods of synthesis
How were the studies combined?
The results of placebo-controlled RCTs reporting adequate and complete statistics were combined in a meta-analysis using a random-effects model. Pooled WMDs with 95% confidence intervals (CIs) were calculated for continuous data, while pooled ORs with 95% CIs were calculated for dichotomous data.

How were differences between studies investigated?
Differences between the studies were not investigated.

Results of the review
The review included 12 studies (n=1,159). There were 5 double-blind RCTs, (n=892), 5 studies described as open-label trials (n=234) some of which had no control group, 1 case series (n=32) and 1 case report (n=1).

Compared with placebo, sertraline significantly reduced symptoms of PTSD, as assessed by three symptom score measures. The WMD was -6.37 (95% CI: -9.65, -3.10; Z score 3.81; P=0.0001) when using the CAPS-2 score (4 studies), -5.48 (95% CI: -6.81, -4.15; Z score 8.08; P=0.00001) when using the IES score (3 studies), and -0.51 (95% CI: -0.81, -0.21; Z score 3.37; P=0.0008) when using the CGI-S score.

The likelihood of participants leaving the study early was not significantly different between sertraline and placebo groups (4 studies); the OR was 0.87 (95% CI: 0.55, 1.35; Z score 0.64; P=0.5).

Cost information
The comparative annual costs of sertraline and of community psychological treatment for 100 patients were reported (£68,926 and £160,800, respectively), but the costs were not investigated as part of the review.

Authors’ conclusions
Although there was evidence to support the use of sertraline for PTSD, further research is required.

CRD commentary
The review was based on a broad review question and inclusion criteria. Several relevant databases were searched for primary studies, although no attempt was made to reduce publication and language bias by searching for unpublished studies or foreign language papers. The report did not provide details of how the review process was carried out, so it was unclear whether any steps were taken to minimise bias and errors during the study selection and data extraction processes. The quality of the included studies was not assessed.

Although only RCTs were included in meta-analyses, statistical heterogeneity was not explored and the authors acknowledged that the study populations showed variation in terms of gender and the nature of the trauma behind the PTSD. This suggests that the reliability of the results is limited by a failure to address differences between the studies in terms of quality and study population. Overall, there were several limitations to this review, but the authors’ conclusion about the effectiveness of sertraline is suitably cautious and the recommendation for further research appears justified.

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

Research: The authors stated that further research is needed to investigate the influence of gender and of the nature of the trauma on response to treatment for PTSD.

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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.