Psychological treatment of postpartum depression: a meta-analysis
Cuijpers P, Branemark J G, van Straten A

CRD summary
This review concluded that psychological treatments had moderate beneficial effects in women with postpartum depression (PPD), but longer term data and evidence comparing effects to other treatments were lacking. Given the differences between studies, concerns about their quality and their limited number, the conclusions may not be reliable.

Authors' objectives
To assess the effectiveness of psychological treatments for postpartum depression (PPD).

Searching
MEDLINE, EMBASE, PsychINFO, Digital Dissertations, PubMed and the Cochrane Databases were searched up to March 2006. Search terms were reported. In addition the references of retrieved studies, earlier reviews and meta-analyses were checked for additional studies, and the authors of included studies contacted for information about other relevant published and unpublished studies. No language restrictions were applied.

Study selection
Studies comparing the effects of a psychological intervention to treat postpartum depression (PPD) with a control group or alternative active intervention, in adult females, were eligible for inclusion in the review. Eligible participants had to have a diagnosis of PPD confirmed through clinical interview and/or self-report questionnaire. Outcome criteria were not defined.

Included studies examined cognitive behavioural therapy (CBT), social support interventions and interpersonal psychotherapy. The majority of interventions were delivered to individual participants, but some were delivered in a group format. Control groups mainly included usual care or waiting list controls. Main outcome measures included the Edinburgh Postnatal Depression Scale (EPDS) and the Beck Depression Inventory (BDI). Most included participants were recruited through screening women attending health services and for the remaining cases through referrals and community recruitment. The diagnosis of PPD was most commonly defined according to the EPDS. Studies were mainly conducted in the UK, Australia, Canada and USA.

The authors stated neither how papers were selected for review nor how many reviewers performed the selection.

Assessment of study quality
Study quality was assessed using criteria as recommended in the Cochrane Collaboration Handbook including independent random allocation of participants, adequacy of concealment of allocation, blinding of outcome assessors and completeness of follow-up data. The authors did not state how the validity assessment was performed.

Data extraction
The authors stated neither how data were extracted for the review nor how many reviewers performed the data extraction. An overall effect size (d) for the specific outcome of depression was calculated for each study. Where more than one relevant outcome measure was used, one mean value for all the reported measures was calculated. Where studies had more than one experimental group, the number of participants in the control group was evenly divided between each intervention to avoid duplication of the control data.

Methods of synthesis
Pooled mean effect sizes were calculated using a random-effects analysis with 95% confidence intervals (CIs). Statistical heterogeneity was calculated using the Q and I² statistics. I² values of 25 per cent were considered to show low levels of heterogeneity, 50 per cent as moderate and 75 per cent as high. Publication bias was assessed by inspecting funnel plots of the primary outcome data and by using both the trim and fill and fail-safe N methods. Defined subgroup analyses were conducted according to various intervention and study design characteristics, using fixed-effects models.
methods. Outlying studies were identified and excluded from further analyses.

Results of the review
Seventeen controlled trials (n=1,248) were included in the review. The number of non-randomised trials appeared to be six according to the data extraction tables, but three according to the text. The overall quality of the studies was reported as suboptimal. Only four studies used concealed allocation and only seven reported blinding assessors. Attrition rates ranged from 0 to 40 per cent.

The mean pooled effect size across 19 comparisons (14 studies) was 0.61 (95% CI: 0.37, 0.85) in favour of psychological interventions compared with control, but there was evidence of moderate to high statistical heterogeneity (Q = 51.20, p<0.001; I² = 64.84%). One study was identified as an outlier and found to account for a large proportion of the heterogeneity. This was removed from the analysis resulting in an effect size of 0.51 (95% CI: 0.34, 0.68; Q = 24.81; p not significant, I² = 31.47). Psychotherapy was found to be inferior to other treatments (pharmacological, systematic care and pram walking) with d -0.86 (95% CI: -1.45, -0.28, p<0.01), but only three studies provided data and a relatively high degree of heterogeneity was reported (I² = 55.5%).

Subgroup analyses indicated that studies using a waiting list control had significantly higher effect sizes than studies using a usual care or other control. A trend also suggested that effect sizes were smaller in studies that failed to use random assignment as compared with those that did.

No evidence of significant publication bias was found and 28 studies were reported to be required to reduce the mean effect size to 0.20.

Authors' conclusions
Psychological treatments were found to have moderate beneficial effects on depression in women with postnatal depression, but longer term data and evidence comparing their effects to other treatments was lacking.

CRD commentary
This review answered a clear research question supported by clear inclusion criteria for participants, study design and intervention (criteria were not stated for outcomes). Literature searches covered a number of electronic databases and other sources. Attempts were made to reduce the risk of both language and publication bias. The risk of publication bias was assessed using statistical methods and found to be low, although the reliability of these tests is questionable given the limited number of included studies. The risk of reviewer error and bias was difficult to assess as the authors failed to report their methods. The validity of the included studies was assessed using published criteria and in a number of cases found to be of concern, therefore, the data may not be reliable. Significant statistical heterogeneity was detected in a number of the analyses and attempts were made to investigate this further in subgroup analyses. However, the reliability of these analyses is questionable given the limited number of included studies. In addition an outlier study was removed from the analysis without any discussion as to why this study may differ from the other studies. Overall, given the differences between studies, concerns about their quality and their limited number, the conclusions may not be reliable.

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

Research: The authors stated that more research was needed to investigate whether psychological treatments were less effective in PPD as compared with other depressive disorders, or whether smaller effect sizes are instead due to the use of usual care control groups. Further research was also needed into the long-term effects of psychological treatments and to compare them to other treatments such as pharmacotherapy.

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