Effects of treating postnatal depression on mother-infant interaction and child development: systematic review


CRD summary
The review assessed the effects of treating postnatal depression on the cognitive and psychosocial development of children. The authors concluded that there was insufficient evidence to identify a single effective intervention. Methodological shortcomings of the review meant that the results may have been compromised, but the authors appeared to take the concerns into consideration and their conclusions appear suitably cautious.

Authors' objectives
To assess the effects of treating mothers with postnatal depression on the cognitive and psychosocial development of children.

Searching
MEDLINE, EMBASE, CINAHL, The Cochrane Library, Health Technology Assessment database, EBSCO, Zetoc, Applied Social Science Index and Abstracts, PsycINFO, Social Sciences Citation Index, the British Nursing Index and the Allied and Complementary Medicine database were searched from 1966 to 2005. Search terms were reported. Additional studies were sought through searching reference lists of published reviews and included articles. Unpublished studies and conference proceedings were not sought actively. There was no language restriction.

Study selection
Only one study included follow-up (at 18 months and five years). Eligible studies included randomised controlled trials and controlled clinical trials that evaluated pharmacological and non-pharmacological interventions for mothers diagnosed with post-partum depression and measured outcomes in children aged less than 14 years of age. Studies reporting maternity ‘blues’ or psychosis or preventive interventions during the antenatal or early postnatal period were excluded. The main outcomes of interest included child behaviour, mother-infant interaction or mother-infant relationship and infant or child cognitive development. Included studies were in mothers only and mothers and infants, with outcome measures and interventions varying across studies. The mean age of the children ranged between 40.3 hours to 20.5 months. There were comparison groups of depressed mothers not receiving intervention and non-depressed mothers with no intervention. All studies included non-pharmacologic interventions. Included studies reported cognitive development in children or mother-infant relationships. Where reported, mean ages for mothers ranged between 21.6 to 31.4 years. Two reviewers independently assessed the studies for inclusion in the review. Any disagreements were resolved through referral to a third reviewer.

Assessment of study quality
Validity was assessed using a modified version of the Cochrane Collaboration and Jadad scale for the following criteria: allocation concealment; comparability of groups at baseline; masking of healthcare providers; outcome assessor’s masking to intervention; time of follow-up and percentage followed-up; details of those leaving the trial; and validation of the outcome measures used. Each study was scored out of 20. Studies scoring above 15 were rated as strong quality studies, those rated 10 to 15 rated moderate quality and below 10 rated as poor quality.

The authors did not state how the validity assessment was performed.

Data extraction
Data were extracted in an intention-to-treat format, according to child outcome measures and to calculate treatment effect sizes. It appeared that two reviewers independently assessed the studies for inclusion in the review. Any disagreements were resolved through referral to a third reviewer.

Methods of synthesis
Data were presented as a narrative synthesis by outcome. Tables were used to present summary study characteristics.
Results of the review
Seven randomised controlled trials and one controlled clinical trial were included (n=742, range 20 to 193).

Three studies assessed cognitive development in children (n=419): two were rated as moderate quality and one as strong quality. One study showed short-term beneficial effects on cognitive development in children, but found none for long-term benefit in emotional and behavioural adjustment or cognitive development after five years of follow-up. Results for the remaining study were mixed.

Five studies (six papers) assessed mother-infant interaction or relationship (n=323), all rated as of moderate quality. The five studies reported that an improvement regardless of the intervention or target population, though there are uncertainties surrounding the outcome measures used.

Clinical and methodological heterogeneity were evident with respect to interventions, populations and outcome measures.

Authors' conclusions
Long-term intensive interventions might improve cognitive development in children of depressed mothers and may also yield better mother-infant relationships, although the review was not able to provide strong evidence for a single effective intervention. Potentially effective interventions required further exploration.

CRD commentary
The review addressed a clear question with clearly stated inclusion criteria. The authors undertook a comprehensive search for studies with no restriction placed on language. There was no specific search for unpublished material, thus it was possible that some important data may have been omitted. An appropriate assessment of study validity was performed and was reported in the synthesis. Attempts were made to minimise error and bias in the study selection. Two reviewers independently undertook data extraction and quality assessment. The quality of most included studies was moderate and there was substantial heterogeneity between outcomes assessed in the small number of included studies, thus the use of a narrative synthesis was appropriate. There was uncertainty over the use of some of the outcome measures that did not measure child behaviour directly. In light of some of these shortcomings, the results of the review may have been comprised, however, the authors appeared to have taken these considerations into account and their conclusions appeared suitably cautious.

Implications of the review for practice and research
Practice: Treatment interventions in mothers for postnatal depression appeared to have some benefits for the mother-infant relationship, but there was uncertainty over the long-term sustainability of interventions and that needed to be assessed.

Research: A well conducted, long-term randomised controlled trial was required to compare different and potentially effective interventions to assess the effect of treatment of postnatal depression on children. Treatment combinations for maternal depression (including pharmacological interventions) should be assessed, with therapies focused on the mother-infant relationship and associations between improved maternal depression and infant outcomes worthy of investigation. Studies should also assess the effect of treatment using directly rated child measures instead of reliance upon maternal self-reporting. Future research should also consider interventions in the prenatal stage and interventions directed at mothers who were not clinically depressed.

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