Effective community-based interventions to improve exclusive breast feeding at four to six months in low- and low-middle-income countries: a systematic review of randomised controlled trials

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CRD summary
This review concluded that community-based interventions in low- and low-to-middle income countries substantially increased the rates of exclusive breast feeding, so were a viable option. The author's conclusion reflected the evidence presented but the limitations of the evidence mean that this conclusion should be interpreted with caution.

Authors' objectives
To assess the effectiveness of community-based interventions to improve the rates of exclusive breast feeding at four to six months in infants in low- and low-to-middle income countries compared with standard care.

Searching
MEDLINE, Global Health and CINAHL databases were searched up to March 2010 for articles published in English; search terms were reported.

Study selection
Randomised controlled trials (RCTs) of community-based interventions to improve the rate of exclusive breast feeding in low- and low-to-middle income countries (as defined in the paper) compared with standard care were eligible for inclusion. Eligible trials had to have at least 75% of participants complete follow-up. Interventions could be provided antenatally, postnatally or both, delivered by any trained person (a health professional or a lay person), and provided one to one or in a group. Participants had to be women who were pregnant or currently breast feeding an infant under the age of six months or younger. Trials of interventions aimed at women or babies with specific health-care issues (such as HIV or premature birth) were excluded.

Included trials were conducted in Syria, India, Pakistan and Bangladesh. The interventions varied between trials and included education, support and counselling for women who had recently given birth, home-based peer counselling, and a package of interventions to improve perinatal and new-born care. The number of visits varied. Measurement of exclusive breast feeding varied between trials (four, five or six months).

The author did not state how many reviewers selected studies for inclusion.

Assessment of study quality
Trial quality was assessed using the CASP (Critical Appraisal Skills Programme) framework; the maximum score was 5.

The author did not state how many reviewers conducted the quality assessment.

Data extraction
Data were extracted on exclusive breast feeding at four to six months to calculate odds ratios and 95% confidence intervals.

The author did not state how many reviewers extracted data.

Methods of synthesis
Pooled odd ratios and 95% confidence intervals were calculated using a random-effects model. Statistical heterogeneity was assessed using $\chi^2$ and $I^2$. A sensitivity analysis was conducted on the main outcome measure using both fixed-effect and random-effects meta-analyses, and to determine how an intention-to-treat analysis may have affected the results.

Results of the review
Four RCTs (3,427 women; range 726 to 1,025) were included in the review. Two trials were reported to be of high quality (4.5 and 5 points), one was medium quality (3.5 points), and one was low quality (2). The length of follow-up ranged from four months to 24 months. None of the trials reported using an intention-to-treat analysis.

Compared with standard care, community-based breast-feeding interventions significantly improved the rate of exclusive breast feeding at four to five months (OR 5.63, 95% CI 1.71 to 18.59; four RCTs; data from figure 2). There was evidence of substantial statistical heterogeneity (I²=97.7%). Sensitivity analyses did not significantly alter the results.

**Authors' conclusions**
Community-based interventions in low- and low-to-middle income countries significantly increased the rates of exclusive breast feeding, so were a viable option.

**CRD commentary**
The review question was clear with defined inclusion criteria. Some relevant sources were searched but the limitation to studies published in English meant some data may have been missed. The author did not report whether efforts were used to reduce reviewer error and bias in any of the review process.

Trial quality was assessed and results for individual trials reported. The analysis appeared appropriate, but there was substantial statistical heterogeneity. There was considerable variation between trials for the primary outcome and confidence intervals were wide, which may have overestimated the effects of the intervention. Data from the text and figures varied.

The author's conclusion reflected the evidence presented but the variable trial quality (suggesting potential for bias), the small number of included trials and the variation between trials for the primary outcome mean that the author's conclusion should be interpreted with caution.

**Implications of the review for practice and research**
**Practice:** The author stated that the interventions included varied but recommended that these were used as a starting point from which to design country and context specific interventions.

**Research:** The author stated that further research was required to determine which components of community-based interventions were related to improved rates of breast feeding. Evaluating qualitative data may also be useful. Future research should aim to link the improved rates of breast feeding to lower rates of morbidity and mortality, and cost-benefit analyses should be conducted to assess the overall value of the interventions.

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