A systematic review of the effectiveness of breastfeeding intervention delivery methods

Pate B

CRD summary
This review concluded that breastfeeding promotion programmes delivered via the Internet may form an appealing alternative to time-consuming and expensive provider-based breastfeeding education and support. Differences in included studies and a lack of direct comparison mean that the author's conclusions about the relative effectiveness of these two approaches may not be reliable.

Authors' objectives
To evaluate breastfeeding intervention delivery methods in terms of successful breastfeeding outcomes and compare likelihood of success of e-based interventions to provider-based interventions.

Searching
MEDLINE, CINAHL, EBSCO (Academic Search Elite, Health Source: Nursing/Academic Edition and SOC INDEX), The Cochrane Library and PsycINFO databases were searched from 2004 to 2008. Search terms were reported. Reference lists of retrieved articles were searched for additional relevant studies.

Study selection
Randomised and non-randomised trials with concurrent control groups that evaluated a programme or intervention designed to promote breastfeeding and that used either e-based or provider-based delivery methods were eligible for inclusion in the review. Studies had to report sufficient data to allow calculation of an effect size (frequencies and/or proportions of events) for exclusive or non-exclusive rates of breastfeeding.

The included studies evaluated provider-based support supplied by peers or professionals; interventions included home visits, telephone calls, educational material, workshops and motivational interviewing. Most interventions were delivered either prenatally only or both prenatally and postnatally. Studies reported breastfeeding outcomes at initiation or between two weeks and six months.

One reviewer performed the selection.

Assessment of study quality
Quality of included studies was assessed using the Center for Disease Control Guide to Community Preventative Services: Systematic Reviews and Evidence-Based Recommendations. Data were presented on the suitability of study design (greatest, moderate, least) and quality of execution (good, fair, limited).

One reviewer performed the assessment.

Data extraction
Odds ratios (ORs) with 95% confidence intervals (CIs), as well as Cohen's d effect-size statistic were calculated for the outcome of exclusive/non-exclusive breastfeeding for each included study.

One reviewer performed the extraction.

Methods of synthesis
Pooled odds ratios and 95% CIs were calculated for each intervention delivery type (e-based and provider-based).

Results of the review
Twenty-one studies were included in the review (n=8,976): three studies (n=1,976) evaluated e-based delivery methods and 18 studies (n=7,000) evaluated provider-based methods. Fifteen studies were randomised controlled trials and six
were non-randomised controlled trials. Twenty studies were rated fair quality and one was rated good quality. Completion rates ranged from 60% to 100%

**E-based delivery methods**: OR 2.2 (95% CI 1.9 to 2.7). Cohen's d = 0.50. The authors described this as being a moderate effect.

**Provider-based delivery methods**: OR 1.1 (95% CI 1.0 to 1.2). Cohen's d = 0.03. The authors described this as being little to no effect.

**All studies**: OR 1.4 (95% CI 1.2 to 1.5). Cohen's d = 0.18

**Authors' conclusions**
Breastfeeding promotion programmes delivered via the Internet may be an appealing alternative to time-consuming and expensive provider-based breastfeeding education and support.

**CRD commentary**
The review question was broadly defined in terms of the interventions and study designs of interest. Multiple sources were searched for relevant evidence. It was unclear whether the search was restricted by language or publication status. As only a single reviewer was involved in the selection, extraction and validity assessment of studies, potential for errors and bias in these processes could not be excluded; this weakness was acknowledged by the review author. The pooled studies were clinically heterogeneous and statistical heterogeneity was not assessed, so it was not possible to determine whether studies had sufficiently similar outcomes to be reliably pooled. This and the lack of studies that directly compared e-based with provider-based delivery methods mean that the author's conclusions about the relative effectiveness of these two approaches may not be reliable.

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

**Research**: The author stated that future research should include cost-benefit and cost-effectiveness analyses to evaluate e-based versus provider-based breastfeeding programmes.

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contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on
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