Combined oral contraceptive use among breastfeeding women: a systematic review

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CRD summary
This review concluded that limited evidence demonstrated an inconsistent effect of combined oral contraceptives on breastfeeding duration and success, and that the evidence was inadequate to draw definite conclusions. Aspects of the review process were poorly reported and publication bias was possible, but these conclusions adequately reflect the paucity of evidence and the limited conclusions that can be drawn.

Authors' objectives
To assess the effects of combined oral contraceptive use on breastfeeding practices and infant health, growth and development.

Searching
MEDLINE and the Cochrane Library were searched from inception through May 2009 for published studies in any language. Search terms were reported. Reference lists of retrieved articles and reviews were scanned for further studies. Unpublished studies, abstracts of conference proceedings and dissertations were excluded.

Study selection
Studies with a comparator group that investigated hormonal contraceptive use in breastfeeding women and reported the outcome duration of breastfeeding and the initiation of supplemental feedings or infant health outcomes (such as weight gain or growth) were eligible for inclusion. Studies that examined only milk quality or composition were excluded.

The included studies included a variety of contraceptives and regimens from one to 95 days post partum. The included women were either planning to breastfeed or breastfeeding; they were aged 16 to 44 years (where reported).

The authors did not state how papers were selected for the review.

Assessment of study quality
Methodological quality was assessed using a system developed by the United States Preventative Task Force. It appeared that the quality criteria assessed were randomisation, allocation concealment, blinding, confounders and power calculations, although this was inconsistently reported.

The authors did not state how many reviewers were involved in quality assessment.

Data extraction
Data were extracted to standard forms. Authors were contacted for further information if necessary.

The authors did not state how many reviewers extracted data.

Methods of synthesis
The studies were discussed narratively; the authors stated that summary odds ratios were not calculated due to the heterogeneity between studies.

Results of the review
Eight studies were included in the review (n=2290 women; range 96 to 686). Three were randomised controlled trials (RCTs; n=892 women), one was partially randomised (n=291 women) and four were cohort studies (n=1,107 women). Four studies were classified as poor quality and four as fair quality.

There was an inconsistent effect of combined oral contraceptives on breastfeeding duration and success (eight studies).
There was no effect on the growth of infants and children; only one study reported a significantly lower infant weight with combined oral contraceptives compared with infants of women that did not use hormones at some time-points. No adverse health outcomes in infants were reported.

**Authors' conclusions**
Limited evidence demonstrated an inconsistent effect of combined oral contraceptive on breastfeeding duration and success. The evidence was inadequate to determine whether a mother's use of these drugs affected breastfeeding duration or her infant's health.

**CRD commentary**
The research question was supported by inclusion criteria for participants, intervention, outcomes and study design. Two databases were searched for published studies, but abstracts and unpublished studies were excluded, so publication bias could not be ruled out. All languages were eligible for inclusion, which reduced the possibility of language bias. The review process was not reported, so it was not known whether steps were taken to reduce error and bias.

Study quality was assessed, but the quality assessment criteria and results were poorly reported. A narrative synthesis appeared appropriate given the heterogeneity in interventions and outcomes.

Some aspects of the review process were poorly reported and publication bias may be possible, but the authors' conclusions adequately reflect the paucity of evidence available and the limited conclusions that can be drawn.

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

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