Systematic review of the literature on postpartum care: effectiveness of interventions for smoking relapse prevention, cessation, and reduction in postpartum women
Levitt C, Shaw E, Wong S, Kaczorowski J, McMaster University Postpartum Research Group

CRD summary
This review concluded that there was no evidence to support the effectiveness of smoking interventions to prevent relapse, improve cessation rates and reduce smoking in postpartum women. This conclusion may not be reliable given its reliance on only a small number of low-quality studies and the possibility that relevant studies may have been missed.

Authors' objectives
To evaluate the effectiveness of smoking interventions to prevent relapse, improve cessation rates and reduce smoking in postpartum women. (This update of a previous review focuses on defined outcomes in women who started smoking prior to pregnancy).

Searching
MEDLINE, CINAHL, PsycINFO and Cochrane Register of Randomised Controlled Trials were searched from inception to 1999 and updated in 2003 for the previous review (see Other Publications of Related Interest), the searches were then updated to 2005 for this review. Search terms were reported. Bibliographies of published articles and key websites were scanned for additional data. Only studies published in English were eligible for inclusion.

Study selection
Randomised controlled trials (RCTs) of interventions aimed at smoking cessation, smoking reduction and relapse prevention in postpartum women who had started smoking before their pregnancy were eligible for inclusion. To be included, studies had to have initiated interventions immediately or up to one year after birth and be conducted within North America, Europe, Australia or New Zealand. Studies of lactation suppression, endometritis, hypertensive disorders, postoperative analgesia after caesarean section, intrapartum interventions or prenatal interventions were excluded (as they might have impacted on postpartum outcomes).

Interventions in the included studies were advice and educational pamphlets, telephone counselling sessions or Smoke Free Children intervention delivered by trained child health nurses. Intervention duration ranged from two weeks to seven months postpartum. Control groups were given a minimal intervention that included some educational material, usual care or care by nurses with no specific training. Follow-up ranged from three months to 12 months after birth. Settings of the included interventions were community practices, child health centres or hospital setting. Primary outcomes included smoking relapse, smoking and cessation rates. Secondary outcomes included household smoking habits, intention to stop status and attitudes and knowledge relating to passive smoking. Where reported, mean age of participants ranged from 27.6 years to 43 years. Participants included women who had smoked one month before their pregnancy or had smoked prior to pregnancy and had stopped during pregnancy.

At least two reviewers independently selected studies for inclusion in the review. Disagreements were resolved through discussion.

Assessment of study quality
Validity was assessed and scored (between 0 and 5) using the Jadad scale (assessment of randomisation, blinding and handling of withdrawals). Additional criteria, including intention-to-treat analysis, allocation concealment and a priori power calculations, were used to assess validity. Two reviewers independently assessed validity and resolved disagreements through discussion.

Data extraction
Data were extracted onto a standard form by one reviewer. Each study was then classified into a key topic area (outcome) by the review team. Disagreements were resolved through discussion.
Methods of synthesis
The studies were combined in a narrative synthesis. Each study was described in the text and additional descriptive information was presented in tables.

Results of the review
Three RCTs (n=3,193) in five publications were included in the review. Two RCTs scored 3 points on the Jadad scale and one RCT scored 2 points. No adjustments were made in the analysis for baseline differences or clustering effects.

No statistically significant differences between intervention and control groups were found for smoking relapse rates (two RCTs, n=3,152) or cessation rates (one RCT, n=2,901) at either six or 12 months postpartum.

There was mixed evidence of effectiveness for a reduction in postpartum smoking. One RCT (n=2,902) reported the intervention group smoking fewer cigarettes per day compared to control (p<0.01). Another RCT (n=41) reported that the intervention group smoked more than control group at 3 months after birth (p<0.02).

One RCT (n=2,901) reported a greater readiness to stop smoking in the intervention group compared to control (p<0.01), but the differences were of limited clinical significance. One RCT (n=251) reported no differences between groups for smoking abstinence six months postpartum, but significant differences were found at 12 months for higher levels of confidence to stop smoking (p=0.01) and negative or affective self efficacy (p=0.02). More positive attitudes and improved knowledge of passive smoke exposure were found for women in one RCT (n=2,901) in the intervention group compared to control (p<0.001). A second RCT (n=41) found no differences between groups regarding the likelihood of smoking or smoking indoors.

Authors’ conclusions
There was no evidence to support implementation of postpartum smoking cessation interventions such as the provision of advice materials and counselling for women during the postpartum period.

CRD commentary
The review question and inclusion criteria were clearly defined. Several relevant sources were searched. By limiting included studies to those in English, the authors may have missed some relevant studies. No attempts were made to minimise publication bias. Methods were used to minimise reviewer errors and bias in study selection, assessment of validity and extraction of data. Validity was assessed using an established checklist, although only the composite score was presented, which made it difficult to judge the study validity. In view of the differences between studies, a narrative synthesis with studies grouped by outcome was appropriate. Limiting the studies to those conducted in specific countries may have reduced generalisability to populations in other countries. The authors’ conclusion may not be reliable given its reliance on only a small number of low-quality studies and the possibility that relevant studies may have been missed.

Implications of the review for practice and research
Practice: The authors stated there was no evidence to support the implementation of smoking cessation interventions such as counselling and provision of advice for postpartum women.

Research: The authors stated that further studies that included improved and tested smoking cessation materials, clinician advice and counselling approaches as well as pharmacological treatments were needed before effects can be determined.

Funding
Bureau of Reproductive and Child Health, Health Canada, Ottawa, Canada.

Bibliographic details
PubMedID
18021150

DOI
10.1111/j.1523-536X.2007.00194.x

Original Paper URL

Other publications of related interest

Indexing Status
Subject indexing assigned by NLM

MeSH
Evidence-Based Medicine; Female; Humans; Postpartum Period; Pregnancy; Program Evaluation; Recurrence; Smoking /prevention & control; Smoking Cessation

AccessionNumber
12008103862

Date bibliographic record published
23/12/2008

Date abstract record published
11/11/2009

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.