Smoking cessation in pregnancy: a review of postpartum relapse prevention strategies
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CRD summary
The review looked at postpartum smoking cessation relapse and relapse prevention strategies. The authors concluded that programmes can reduce the risk of relapse but more research is required. The limited search and review methods, the lack of a validity assessment and study details, and the problematic synthesis mean that the conclusions may not be reliable.

Authors’ objectives
To assess existing research on smoking cessation relapse and relapse prevention during pregnancy and postpartum.

Searching
The authors searched MEDLINE (via PubMed) from 2002 to 2003 and screened the references of retrieved articles. The search terms were reported.

Study selection
Study designs of evaluations included in the review
Any effectiveness study and studies comparing cohorts of relapsed and smoke-free women were eligible for inclusion. Of the included studies, eight assessed the effectiveness of a specific intervention, while five appeared to describe different cohorts.

Specific interventions included in the review
Studies of pre- or postpartum smoking relapse prevention or treatment interventions were eligible for inclusion. Studies not investigating the effects of a specific intervention but comparing cohorts of women who relapsed with those who remained nonsmokers were also eligible for inclusion. This abstract focuses on the intervention studies only. The included intervention studies investigated a variety of interventions, such as nurses providing counselling at birth and telephone counselling, and Healthy Options for Pregnancy and Parenting (HOPP) or Stop Tobacco for OuR Kids (STORK) programmes.

Participants included in the review
The review did not specify any inclusion criteria for the participants. Where stated, the participants in the included intervention studies were women who had smoked before their pregnancy, pregnant women who quit smoking during pregnancy or before the first prenatal visit, pregnant women who smoked in managed care settings, and programme staff and obstetric and paediatric clinicians at community health clinics.

Outcomes assessed in the review
The studies had to address postpartum relapse to be eligible for inclusion. Various outcomes were extracted from the included studies. The outcomes assessed included experience about postpartum relapse, smoking behaviour, postpartum cessation relapse, pre- and postpartum relapse, programme implementation and efficacy, pre- and postpartum abstinence rates, smoking intervention practices (performance), knowledge and attitudes.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed validity.
Data extraction
The authors stated that four reviewers analysed the articles but did not report details of the method. The review reported the intervention, some information on the study population, the number of participants, the outcomes, results, and comments or recommendations from the included studies.

Methods of synthesis
How were the studies combined?
The studies were tabulated and referred to in a narrative review which incorporated further studies.

How were differences between studies investigated?
The individual studies were compared in the narrative synthesis. Some of the intervention studies were discussed separately: interventions to maintain smoking cessation during pregnancy and interventions to prevent postpartum relapse.

Results of the review
Thirteen studies (n more than 24,120; exact number not stated) were included, of which eight appeared to evaluate a specific intervention. Numerous other studies were referred to in the text.

Only results for the explicitly included postpartum prevention relapse studies, investigating the effectiveness of a specific intervention, are reported below.

Eight studies that appeared to evaluate a specific intervention were identified. One study reported that the HOPP programme delayed but did not prevent relapse, while the STORK programme showed no significantly reduced relapse at 12 months’ follow-up. Another study reported that the programme delayed but did not prevent postpartum relapse, and that prevention abstinence was significantly greater for an intervention with a pre- and postnatal intervention compared with a self-help booklet or a postpartum intervention alone. A third identified study reported no significant differences between a group receiving physician advice and referrals to individual counselling and a group receiving usual care. One study reported that self-reported quit rates were significantly higher in a group receiving a low-intensity intervention based on stages-of-change and motivational interviewing techniques. Another included study reported that performance scores of smoking cessation counselling interventions differed between clinics. A study assessing counselling by nurses reported that smoking cessation efficacy did not vary between the intervention and control groups. A study evaluating a self-efficacy intervention reported that 21% of the treated women were abstinent 12 month after birth compared with 18.5% of the control group. A study on a 15- to 30-minute nurse intervention reported no difference in the relapse rates of women in the intervention and control groups.

Authors' conclusions
Programmes can reduce the risk of relapse in women who have stopped smoking during pregnancy, but more research is required.

CRD commentary
The review question and the inclusion criteria were not particularly clear. The search was extremely limited and it is possible that relevant studies have been missed. No attempts were made to minimise publication bias and it was unclear whether any language limitations had been applied, thus the potential for language bias could not be assessed. The methods used to select studies and to extract the data were not described in full, so it is not known whether any efforts were made to reduce reviewer error and bias. Since the data extraction did not appear very systematic, the study designs were not stated, and no validity assessment took place, it is unclear whether the results from the individual studies and any consequent synthesis are reliable.

The results of the individual studies did not appear to have been the focus of the review. Numerous studies that did not meet the inclusion criteria and for which details were not given were referred to in the text. Most of the identified intervention studies for which details were tabulated did not show the intervention to be effective. The conclusions did
not seem to be entirely based on the effectiveness studies. The outlined limitations mean that the conclusions may not be reliable.

**Implications of the review for practice and research**

**Practice:** The authors stated that smoking cessation programmes should be incorporated into routine care, should address stresses experienced by postpartum women, and should involve the woman's social support network, including the partner. Furthermore, the authors presented a detailed algorithm that clinicians could use for the assessment and management of smoking relapse prevention in pregnancy and postpartum.

**Research:** The authors stated the more research on relapse prevention, in addition to cessation interventions, is needed.

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