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## The effect of smoking cessation counselling in pregnant women: a meta-analysis of randomised controlled trials

Filion KB, Abenham HA, Mottillo S, Joseph L, Gervais A, O'Loughlin J, Paradis G, Pihl R, Pilote L, Rinfret S, Tremblay M, Eisenberg MJ

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### CRD summary

This review concluded that there is little evidence to show that counselling was efficacious for smoking cessation in pregnant women and sufficient evidence to rule out large treatment effects. There were limitations in the conduct of the review, but the conclusions reflect the evidence and are suitably cautious.

### Authors' objectives

To evaluate the efficacy of smoking cessation counselling for pregnant women.

### Searching

The Cochrane Library, CDC Tobacco Information and Prevention Library, EMBASE, MEDLINE and PsycINFO databases were searched to June 2010. References of published randomised controlled trials (RCTs), relevant reviews and previous meta-analyses were consulted. Searches were limited to studies published in English. Search terms were reported.

### Study selection

RCTs that evaluated the efficacy of smoking cessation counselling among pregnant smokers were included. Minimal clinical interventions (brief advice), individual counselling, group counselling and telephone counselling were eligible. Definitions of interventions and control were provided by the review authors. Trials had to report a biochemically validated measure of abstinence at six or 12 months follow-up. Abstinence was measured as continuous abstinence (no smoking from initial quit data until the end of follow-up) or prevalence at a specific point in time (no smoking during a given period, generally in the past seven days).

Trials that did not have usual care as a control group were excluded. Studies that evaluated self-help or educational interventions other than counselling and studies that randomised physicians, therapists or centres instead of women were excluded. Studies that included two or more types of counselling or had a cointervention that was not used in both treatment groups were excluded. Most studies were conducted in USA and two were from UK.

Most of the women were from the general population. Where reported, participants smoked on average between 12 and 28 cigarettes a day. Most participants received one-to-one and face-to-face counselling and a few received a telephone intervention. The number of counselling sessions ranged from three to nine, with a total duration of between 180 and 600 minutes.

The authors did not state how many reviewers selected the studies.

### Assessment of study quality

The authors did not state that they assessed validity.

### Data extraction

Smoking abstinence outcomes were extracted from each study to calculate odds ratios (ORs) and 95% confidence intervals (CIs). Women who withdrew before follow-up (typically due to pregnancy loss) or who were lost to follow-up were excluded.

Two independent reviewers extracted the data. Disagreements were resolved by consensus and with the input of a third reviewer where needed.

### Methods of synthesis

Studies were pooled using a random-effects model. Statistical heterogeneity was assessed using  $I^2$ . The efficacy of different types of counselling methods were evaluated in subgroup analyses. Sensitivity analyses excluded postpartum

smoking outcomes.

### Results of the review

Eight RCTs were included (3,290 participants, range 100 to 792). Half of the trials were conducted in multiple centres. Follow-up was six months in all trials. Gestational age at follow-up ranged from 28 weeks to six weeks postpartum. One study reported continuous abstinence and all others reported abstinence in terms of point prevalence.

The effect of counselling was not significantly different from usual care (OR 1.08, 95% CI 0.84 to 1.40; eight trials, 3,058 patients). The absolute difference in smoking abstinence between intervention and control was 4% or less in all trials. Few participants remained abstinent at six months (4% to 24% in the intervention groups and 2% to 21% in the control groups). Subgroup and sensitivity analyses yielded comparable results. There was no evidence of heterogeneity ( $I^2=0\%$ ).

### Authors' conclusions

There was little evidence to show that counselling in isolation was efficacious for smoking cessation in pregnant women, but there was sufficient evidence to rule out large treatment effects.

### CRD commentary

The review question and inclusion criteria were clear. The search for published studies was thorough. Unpublished studies were not searched and trials not published in English were not included, which risked publication and language biases. There were sufficient attempts to minimise bias and error during data extraction, but this was unclear in the case of study selection.

The absence of any formal quality assessment and the limited number of trials may limit interpretation of the reliability of the findings. Women who withdrew before follow-up or who were lost to follow-up were excluded from the analysis, which may have introduced bias. However, the review only included randomised studies and yielded consistent results. The authors mentioned that no definitive conclusion could be made due to the wide confidence intervals, the limited size and number of studies and the limited follow-up duration. They noted that the generalisability of the findings was unclear.

There were limitations in the conduct of the review, but the conclusions reflect the evidence and are suitably cautious.

### Implications of the review for practice and research

Practice: The authors did not state any implications for practice.

Research: The authors stated that future RCTs should assess alternative smoking cessation interventions, including pharmacotherapies. The effect of individual aspects within multicomponent interventions should be evaluated to maximise their cost-effectiveness. Surveillance of obstetric and neonatal outcomes via registries was needed to monitor serious adverse events.

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### Bibliographic details

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