Weight-management interventions for pregnant or postpartum women
Kuhlmann AK, Dietz PM, Galavotti C, England LJ

CRD summary
This review concluded that, whilst weight-management interventions could help pregnant and post-childbirth women manage their weight, many questions remained unanswered. Given the limited quality and the small number of the included trials, a degree of caution is required in interpreting the authors’ conclusions.

Authors' objectives
To assess the effectiveness of weight-management interventions for pregnant or postpartum women.

Searching
The following databases were searched for English language studies from January 1985 to August 2007: MEDLINE, EMBASE, PsycINFO, CINAHL and Sociological Abstracts. Search terms were reported. Reference lists of relevant publications were handsearched.

Study selection
Randomised controlled trials (RCTs) that evaluated weight-management interventions for pregnant or postpartum women were eligible for inclusion. Eligible trials had to report a weight-related outcome measure and be of sufficient quality (details not reported).

The outcomes reported in the review were weight gain exceeding Institute of Medicine recommendations, percentage of women returning to their pre-pregnancy weight by the end of the intervention, and weight retention at one-year postpartum (after childbirth).

One included trial enrolled pregnant women of less than 20 weeks gestation, with a pre-pregnancy body mass index (BMI) of more than 19.7kg/m$^2$. The other two trials enrolled postpartum women (three to 12 months after delivery with BMI 22kg/m$^2$ or more at the time of recruitment for one trial, and six weeks to six months after delivery with pre-pregnancy BMI of 25 to 29.9kg/m$^2$ for the other trial).

All included trials evaluated interventions involving both diet and exercise elements. The interventions involved individual or group educational and counselling sessions. Some trials also included newsletters, written lessons, telephone follow-up, or the keeping of food and activity diaries. The control groups of included trials received standard-of-care prenatal information on exercise and diet, or written information on healthy eating and physical activity during the postpartum period. The duration of interventions for postpartum women ranged from six to 10 months.

All potentially relevant articles were assessed independently for inclusion, with any disagreement resolved by consensus.

Assessment of study quality
The quality of included trials was assessed using the following criteria: randomisation, allocation concealment, intention-to-treat analysis and attrition rate.

The authors did not state how many reviewers performed validity assessment.

Data extraction
Data were extracted on: the percentage of women exceeding Institute of Medicine recommendations at delivery; the percentage of women returning to pre-pregnancy weight; and mean body weight.

The authors did not state how many reviewers performed data extraction.
Methods of synthesis
The studies were combined in a narrative synthesis, supported by accompanying data tables.

Results of the review
Three RCTs were included in the review (n=250 women). The sample size of RCTs ranged from 40 to 120. Randomisation and allocation concealment were only adequately described in one RCT. Two RCTs used intention-to-treat analyses. The attrition rates ranged from 8 to 42%.

Intervention during pregnancy: One RCT (n=120 women, attrition rate 8%) reported a significant treatment effect of interventions compared with controls in women with a pre-pregnancy BMI of 19.8 to 26.07kg/m\(^2\) (percentage of women exceeding Institute of Medicine recommendations at delivery was 33.3% versus 56.1%; p<0.05), but not in women with a pre-pregnancy BMI more than 26.07kg/m\(^2\).

Interventions post-partum: One RCT (n=90 women, attrition rate 31%) reported a significantly higher rate of returning to pre-pregnancy weight in the intervention groups compared with control groups (33% versus 11.5%; p<0.05). One RCT (n=40 women, attrition rate 43%) showed a significant decrease of mean body weight from 78.6kg to 71.3kg (p<0.001) in the intervention group at one-year postpartum, and a non-significant decrease in the control group.

Authors' conclusions
Whilst weight-management interventions could help pregnant and postpartum women manage their weight, many questions remained unanswered.

CRD commentary
The review inclusion criteria were clear. Relevant databases were searched. Efforts were made to find published studies, but not unpublished studies, so the potential for publication bias was increased. Only English language studies were sought, which may have increased the risk of language bias. It appeared that steps were taken to minimise reviewer errors and biases in study selection, but it was unclear whether the same applied to the data extraction and validity assessment processes.

Relevant criteria were used to assess trial quality. Given the diversity of included trials, a narrative synthesis was appropriately employed.

Given the limited quality and the small number of the included trials, a degree of caution is required in interpreting the authors' conclusions.

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

Research: The authors stated that further studies are required to evaluate the potential negative effect of focusing attention on weight gain during pregnancy. They also stated that further studies should evaluate the feasibility of provider-delivered interventions, the most effective content and format for provider-patient interactions, and the role of family, community and environmental support. Future studies should use a consistent definition for postpartum weight retention.

Funding
Not stated.

Bibliographic details
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.