Worksite-based weight loss programs: a systematic review of recent literature

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CRD summary
The authors concluded that worksite-based weight loss programmes can result in modest short-term improvements in body weight; however, heterogeneity and overall poor methodological quality suggested that further research is needed. The authors’ cautious conclusion reflected the presented evidence, but there was a possibility of publication bias.

Authors’ objectives
To determine the effectiveness of worksite interventions for weight control.

A systematic review of worksite-based weight loss programs, with a search date of 1994 was found; studies prior to this date were not considered (see Other Publications of Related Interest).

Searching
PsycINFO, EMBASE and LexisNexis (up to April 2004) and MEDLINE and The Cochrane Library (up to October 2006) were searched from 1994 for peer-reviewed English-language publications; search terms were reported. Reference lists of relevant articles were checked.

Study selection
Studies that looked at worksite-based weight loss programmes of at least eight weeks duration that assessed body mass index (BMI) or body weight before and after implementation of the intervention were eligible for inclusion in the review.

Most of the interventions involved a multicomponent intervention focusing on education and individual or group counselling to change diet and increase physical exercise. Single intervention programmes included an aerobic exercise training programme, a low calorie diet and a meal replacement regimen. Programme durations ranged from two to 18 months. Almost half of the programmes were classified as low intensity. One study was specifically designed to address weight maintenance. Participants came from a variety of countries and work-based settings. Most participants were volunteers, but it was not always clear whether programmes were mandatory or optional. Participation rates, where reported, ranged from 2% to 49% of eligible subjects. Mean baseline weight ranged from 65kg to 105kg. Mean BMI ranged from 24.5kg/m\(^2\) to 32.9kg/m\(^2\). Participant age ranged from 32 to 52 years.

The authors independently selected studies for inclusion in the review.

Assessment of study quality
Studies were assessed using a 12-item checklist adapted from an earlier systematic review on this topic.

The authors did not state how many reviewers assessed the validity of the included studies.

Data extraction
Two reviewers independently extracted data from the included studies. Intensity of intervention was categorised according to frequency of face-to-face contact with the participant in the first three months (>1/month=high, 1/month=moderate, <1/month=low).

Methods of synthesis
Studies were combined in a narrative synthesis. For each study, mean change was extracted for the outcomes of interest.

Results of the review
Eleven studies were included in the review (n=2,502): seven randomised controlled trials (RCTs, n=1,139), two non-
randomised trials (n=508) and two uncontrolled case series (n=855). Overall, the quality of the included trials was considered to be weak.

Five RCTs found a significant difference in mean weight loss or change in BMI in intervention groups compared with controls. Mean difference in weight loss ranged from -0.2kg to -6.4kg. All four high-intensity programmes (three RCTs, one uncontrolled case series) resulted in significant weight loss. One of the five low-intensity programs, an RCT, reported a significant difference compared to controls. One RCT looked at maintenance and found significant weight regain in both intervention and control groups at 12-week follow-up.

In general, modest improvements were reported for effect on serum lipids and changes in systolic and diastolic blood pressure; only two RCTs found a significant improvement in systolic and diastolic blood pressure.

Authors' conclusions
Worksite-based weight loss programmes can result in modest short-term improvements in body weight; however, heterogeneity and overall poor methodological quality suggest that further research is needed, in particular on long term health and economic outcomes on which data were lacking.

CRD commentary
As a consequence of a relatively broad review question and inclusion criteria studies were heterogeneous and a narrative synthesis was appropriate. A number of databases were searched. The search was restricted by language and no specific attempts were made to locate unpublished studies, which raised the possibility of publication bias. Steps were taken to minimise error and bias for study selection and data extraction. It was unclear whether similar steps were taken for the assessment of methodological quality. Internal validity was assessed using appropriate criteria and results were clearly reported. As acknowledged by the authors, most of the studies did not evaluate weight loss beyond six months or consider weight maintenance. Many of the studies included multicomponent interventions, which made it difficult to attribute the effect to any single component.

The authors' cautious conclusion reflected the evidence presented, but there was a possibility of publication bias. It might have been useful to have incorporated the studies found in the previous review.

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

Research: The authors stated that methodologically robust programmes that provided data on long-term weight loss and return on investment were needed. More research on financial incentives alone and in combination with other worksite-based strategies for weight loss was required. It was unclear whether stage of change should be used to target specific employees and/or individualise interventions.

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