Making healthy behaviors the easy choice for employees: a review of the literature on environmental and policy changes in worksite health promotion

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CRD summary
This review assessed the effectiveness of work-site health promotion programmes, concluding that environmental and policy changes, combined with individual-level strategies, were most promising, for encouraging healthy employee behaviour, and should be examined further. The authors' conclusions were fairly cautious, but the limitations of the evidence and results presented, make it difficult to assess the reliability of the findings.

Authors' objectives
To assess the effectiveness of work-site health promotion programmes, using environmental or policy changes or both, to improve employee diet or physical activity or both.

Searching
PubMed and PsycINFO were searched for peer-reviewed English-language articles published between 1995 and 2010. Search terms were reported. Reference lists of identified articles and five relevant journals (from January to March 2010) were manually screened.

Study selection
Eligible for inclusion were studies assessing the effectiveness of work-site health promotion programmes, using environmental or policy changes or both, alone or with individually focused health behaviour change strategies. The aim of the studies had to include the improvement of employees' diets or physical activity or both.

Most of the included studies were conducted in the USA; some were conducted in Canada, Mexico, the Netherlands, the UK (one study), New Zealand, Japan, or Chile. Where reported, studies were of blue- or white-collar workers or both, and the number of work-sites ranged from one to 114. Intervention changes included increases in healthy option foods, provision of nutritional information, and encouragement of exercise breaks. Individual study outcomes varied considerably, and included self-reported changes in dietary intake of sweets, fats, fruit etc., physical activity levels, and smoking cessation.

The authors did not state how many reviewers screened studies for inclusion.

Assessment of study quality
Study quality was assessed according to six criteria: sample size, study design, validity and reliability of the measurement tool for self-reported data, type of data collection, and follow-up. Studies were considered to be of relatively high quality if five or more of the criteria were met.

The strength of evidence, for each type of intervention, was assessed and rated as strong, moderate, limited, inconclusive, or none.

The authors did not state how many reviewers assessed quality.

Data extraction
The major findings were extracted. Interventions were categorised as minimal, moderate, or intense (as defined in the review).

The authors did not state how many reviewers extracted the data.

Methods of synthesis
The data were presented in tables and in a narrative synthesis, grouped by type of intervention (those with or without individually focused strategies), by study design (experimental, quasi-experimental, or non-experimental), and by lifestyle behaviour targeted.
**Results of the review**

Twenty-seven studies were included in the review; 10 were randomised controlled trials (RCTs), 11 were quasi-experimental studies, and six were non-experimental studies. Where reported, the number of participants ranged from 145 to 26,806. Follow-up ranged from immediately after intervention to five years.

Environmental or policy changes: There were 11 studies of poor quality. Three studies focusing on improving the dietary environment and their interventions had a positive impact on dietary behaviours. Six studies assessed the effects of work-site health promotion programmes on physical activity, and they were successful. The results from the stair-use campaigns (three studies) were inconsistent and benefits were not necessarily sustained over time. Findings from single studies were reported. Overall, the evidence for the effectiveness of increasing physical activity and improving dietary behaviour of employees was inconclusive.

Changes plus individual strategies: There were 16 studies, eight of which were of relatively high quality. Five studies aimed at improving nutrition had minimal to modest improvements. Two studies aimed at increasing employees' engagement in physical activity at the workplace showed significant improvements. Nine studies aimed to change both nutrition and physical activity in the workplace; most interventions were successful. Overall, the evidence for the effectiveness of combined interventions to improve employee dietary and physical activity behaviours, and health risk indicators was moderate.

**Authors' conclusions**

Environmental and policy changes combined with individual-level strategies had the most potential for encouraging healthy behaviour among employees, and these should be examined, in more detail, in future research.

**CRD commentary**

The review question and inclusion criteria were broadly stated. Various sources were searched for relevant articles, but the search was restricted by language and publication status, so potentially relevant data may have been missed. Study quality was assessed, and most studies were considered to have some limitations. It was unclear whether the review process was conducted in duplicate, which means that reviewer error and bias may have been introduced.

Given the considerable variability in the interventions and outcome measures, a narrative synthesis was appropriate, but quantitative data and significance levels were not reported. The authors acknowledged the methodological limitations of the studies, including the use of self-reported outcomes. They highlighted that most studies reported positive results, but only a few were significant. All of these shortcomings limit the ability to draw firm conclusions on the effectiveness of the interventions.

There was potential for bias in the review and for potentially relevant data to have been missed. The authors acknowledged some of the limitations of the evidence. Their conclusions were fairly cautious, but given the limitations of the evidence and the reporting of the review, it is difficult to assess the reliability of the findings.

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

**Practice:** The authors stated that work-site health promotion programmes, using environmental changes, could affect employee health and behaviour, at least in the short term.

**Research:** The authors stated that future high-quality studies should examine the effects of environmental and policy changes on employee behaviours, and tease out the separate effects of environmental, policy, and individually based strategies. The authors stated that future studies should identify the barriers perceived by employees in joining workplace physical activities and investigate how they might be overcome. Long-term studies, and studies to identify which interventions could be implemented and sustained at work-sites, were needed. Studies on the application of these interventions in small businesses, and their cost-effectiveness were required.

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