Community health-promotion interventions with physical activity: does this approach prevent obesity?

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Authors' objectives
The authors aimed to look at the effects on obesity of community interventions aimed at preventing cardiovascular diseases. The interventions were intended to encourage changes in diet and increase physical activity.

Searching
MEDLINE was searched; the search terms were provided. The dates of the search were not given, although the authors said that only studies published in 1990 or later were included. The reference lists of two previous reviews were also checked.

Study selection
Study designs of evaluations included in the review
The authors did not specify any inclusion criteria relating to the study design. The included studies were observational studies, some with control communities as comparisons.

Specific interventions included in the review
Studies of community-based interventions for the prevention of cardiovascular diseases were sought. These had to have a clearly defined physical activity component. 'Community intervention' was defined as an intervention aimed at making widespread changes within a community rather than in individuals. The interventions in the included studies were aimed at increasing physical activity and dietary changes. The methods included education, supervision, social support, screening, organisational, policy and environmental changes (e.g. walking and fitness paths). The duration of the interventions ranged from 4 to 7 years.

Participants included in the review
Studies on whole communities, defined by geographical area, were sought. In the included studies these were populations of cities, towns and counties.

Outcomes assessed in the review
Studies that reported a change in body weight, body mass index (BMI), or prevalence of obesity were included. Changes in physical activity levels were also reported.

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 did not state how the data were extracted for the review, or how many reviewers performed the data extraction. The extracted data included study location and design, brief details of the intervention, and outcomes.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative discussion.
How were differences between studies investigated?
Differences between the studies were discussed within the narrative.

Results of the review
Five observational studies were included, three of which had control groups. The outcomes were assessed by random sampling at the beginning and end of the study, or by cohort or cross-sectional surveys. The studies were large in that they covered counties, cities or towns.

Two studies reporting on physical activity did not show any significant change. One study showed some self-reported increase in physical activity, while another showed an increase in the cross-sectional assessment but not in the cohort assessment.

Three studies found no effect on the BMI. In one other study the BMI increased less in the intervention group than in the control. However, this effect was only observed in the cross-sectional assessment and not in the cohort assessment. In addition, in one study there was no change in the prevalence of overweight people (BMI greater than 25), whilst there was a non statistically significant increase in the BMI in two further studies.

Authors' conclusions
The positive effects of physical activity in the prevention of weight gain are not easily demonstrated in (controlled) interventions. It seems that the increase in energy expenditure from physical activity was not large enough.

CRD commentary
This was a brief review that attempted to answer an important public health question. The search strategy was limited: only one database was searched, the search terms were restricted and only English language studies were sought. The dates of the search were also unclear; the authors say they only included studies published in 1990 or after. It is therefore possible that studies were missed. The methods of the review (e.g. study selection, quality assessment) were not described and information about the nature, or intensity, of the interventions in the included studies was limited. The decision to present the results in a narrative form appears to have been appropriate.

The focus of the review was on physical activity. However, the interventions described were broadly educational or organisational programmes aimed at decreasing cardiovascular risk by changing both physical activity and dietary habits. It may not have been appropriate to attempt to draw conclusions relating to only one aspect (physical activity) of these mixed programmes. Whilst it is true that these interventions seem to have had very little effect on obesity, the authors' conclusions that the beneficial effects of physical activity have not been demonstrated may be better answered from a study of actual physical activity programmes rather than mixed educational/organisational interventions.

Implications of the review for practice and research
Practice: The authors suggested that programmes such as these should have a stronger emphasis on changes in the local physical and social environment.

Reviewer's comment: There was insufficient evidence in this paper to support this suggestion.

Research: The authors did not state any implications for further research.

Bibliographic details

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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.