
Prevention of overweight in the school arena

Lissau I

CRD summary

The author concluded that school-based interventions are important to help reduce the prevalence of overweight or obesity in children. Despite the limitations of this review, the very general conclusion appears to reflect the results.

Authors' objectives

To assess school-based interventions to prevent paediatric obesity.

Searching

PubMed, EMBASE, PsycINFO, NHS EED and ERIC were searched from 2001 to August 2005; the keywords were provided. The lists of included studies from relevant Cochrane Reviews were also evaluated. Experts in the field were contacted for additional relevant studies.

Study selection

Study designs of evaluations included in the review

Controlled studies were eligible for inclusion. The included studies were randomised controlled trials (RCTs) and non-randomised controlled trials.

Specific interventions included in the review

Studies of interventions conducted at schools that aimed to prevent overweight, or that provided activities to high-risk children, were eligible for inclusion. The interventions included aerobic dance, reduction in television watching, increased physical activity, reduced intake of fat, reduced intake of carbonated drinks, increased intake of fruit and vegetables, parental support, nutrition education for children and parents, and improved school lunches or healthy snacks.

Participants included in the review

Studies of school students, including those with a high risk of becoming overweight, were eligible for inclusion. The included studies evaluated children from 5 years of age to high-school students.

Outcomes assessed in the review

Studies that reported at least one of following outcomes were eligible for inclusion: body mass index, skin fold (biceps or triceps), waist circumference, or fat percentage (as measured by bioimpedance or dual X-ray absorptiometry).

How were decisions on the relevance of primary studies made?

The author did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality

The author did not state how the validity assessment was performed.

Data extraction

The author did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis

How were the studies combined?

A narrative synthesis was provided.

How were differences between studies investigated?

The author reported that the studies differed by age group, outcomes measured, and type and length of intervention. The papers were summarised by the target group and type of intervention.

Results of the review

Fourteen studies (n=12,840) were included: 12 RCTs (n=8,925) and 2 non-randomised controlled trials (n=3,915).

Studies that targeted high-risk groups.

The 'Keil Obesity Prevention Study' evaluated an exercise programme for children and home visit support for parents, while the El Paso Catch study targeted American-Indian children aged 8 to 10 years. Both demonstrated a positive effect on overweight (statistical results not reported). In contrast, the 'Pathway' study (that also targeted American-Indian children) and an obesity programme for inactive girls called 'New Moves' did not demonstrate significant effects.

Studies that aimed to increase physical activity.

Two studies demonstrated a significant effect on the prevalence of obesity (statistical results not reported): the 'Medical College of Georgia FitKid Project' which involved a healthy snack, physical activity and coaching, and a 'Dance for Health' programme. Two studies did not demonstrate a significant effect on overweight: the 'Promoting lifestyles activities in youths' and the 'New Moves' studies.

Studies that aimed to decrease physical inactivity.

The 'San Jose' and the 'Planet Health' studies both encouraged children to reduce the amount of time spent in front of the TV, and both reported positive effects on overweight.

Studies that focused on nutrition.

One study aimed to reduce the intake of carbonated drinks: 'The Christchurch obesity prevention projects in schools'. However, no significant difference in body mass index was observed between the intervention and control groups.

Studies that focused on physical activity and diet.

Six studies aimed to increase physical activity and improve diet: the 'Planet Health' study and 'Keil Obesity Prevention Study' demonstrated at least some positive effects, whereas the 'Active Programme Promoting Lifestyle in Schools', the 'Be Smart', the 'Pathway' and the 'Nebraska' studies did not have a significant effect on overweight.

Authors' conclusions

Overall, half of the studies demonstrated significant effects, suggesting that school-based interventions are important to help reduce the prevalence of overweight or obesity.

CRD commentary

The inclusion criteria were clearly reported. The author searched a number of databases, although it is not clear whether the search was limited to English language publications, which might have introduced the potential for language bias. However, the author contacted experts in the field for additional studies, and this might have helped limit publication bias. The validity of the included studies was not adequately assessed and taken into account, thus the results from these studies may not be reliable. The number of reviewers involved in the review process was not reported. Details of the included studies were presented, although more detailed information on the interventions and any statistical analyses would have been useful. No information was given about what happened in the control groups. The narrative synthesis of the studies was appropriate given the differences between them. Despite the limitations of this review, the very general conclusion appears to reflect the results.

Implications of the review for practice and research

Practice: The author did not state any implications for practice other than that all children should be offered prevention services.

Research: The author stated that more research is needed to understand how school-based interventions may effectively

prevent paediatric obesity in different groups.

Funding

Not stated.

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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.