

The impact of school-based prevention of overweight on psychosocial well-being of children

Van Wijnen LG, Wendel-Vos GC, Wammes BM, Bemelmans WJ

CRD summary

This review concluded that there was insufficient evidence to assess the effects of school-based obesity prevention programmes on the psychosocial well-being of children; interventions integrated into the standard school curriculum appeared to show most promise. Based on the quality and quantity of the data, and despite limitations in the review methods, the authors' cautious conclusions appear valid.

Authors' objectives

To assess which psychosocial effects of school-based obesity prevention programmes had been studied, summarise the methods used and determine their effects on the psychosocial well-being of children. This abstract summarises the effectiveness data.

Searching

MEDLINE, EMBASE, BIOSIS Previews, SciSearch and PsycINFO were searched from January 2005 to February 2008; further details of the search strategy were available from the authors. Reference lists of published systematic reviews and meta-analyses identified through a Pubmed search from 2005 to 2006 were searched for further studies. Only studies published in English from 1990 onwards were eligible for inclusion in the review.

Study selection

Studies of school-based interventions designed to prevent overweight or overweight-related diseases (such as cardiovascular diseases) in children (aged five to 18 years) were eligible for inclusion in the review. Relevant interventions had to use an educational approach and contain a diet and/or physical activity aimed at producing a behavioural change. Eligible outcomes were body weight or adiposity (for example, body mass index or skin folds). Studies that did not assess a general population of children and studies that specifically focused on treating obese children with eating disorders in a clinical setting were excluded from the review.

Included interventions were multi-component programmes that included different combinations of diet and/or physical activities; two interventions also included other additional components. Where relevant, interventions were compared to a usual curriculum, no intervention or minimal intervention control. Interventions were mostly targeted at mixed gender groups of children aged from five to 12 years. One study targeted older children (teenage girls aged 14 to 17 years). Single studies targeted single-sex groups of boys and girls. The duration of intervention programmes ranged from 16 weeks to three years. Outcome measures varied between studies (further details were reported in the review). Most studies were conducted in USA and the rest in UK, Canada and Israel.

Studies were assessed by one reviewer. Where there was doubt about the eligibility of a study a second reviewer was consulted. If the two reviewers failed to reach consensus, the study was included in the review.

Assessment of study quality

Study quality was assessed according to the following six components, as reported in the Cochrane Collaboration Handbook: adequate sequence generation; allocation concealment; blinding; reporting of loss to follow-up; absence of selective reporting; and absence of other biases. The authors did not state how the validity assessment was performed.

Data extraction

The authors stated neither how data were extracted for the review nor how many reviewers performed the data extraction. The main study findings were reported. Where available, means and standard deviations were extracted for continuous outcomes and event rates for dichotomous outcomes. Where possible, standardised mean differences or odds ratios with 95% confidence intervals were calculated. Data for within-group and/or between-group differences were reported. Study authors were contacted for additional information.

Methods of synthesis

The study findings were synthesised using narrative methods. The main study findings and characteristics were summarised in tables.

Results of the review

Seven studies were included in the review (n=1,953): five randomised controlled trials (RCTs), one controlled trial and one cohort study. Most of the studies showed a high or unclear risk of bias based on concealment, blinding and the way in which loss to follow-up was addressed in the analysis. Sample sizes ranged from 30 to 634. Follow-up duration ranged from eight months to three years.

Four studies reported no statistically significant differences (net effect or change within intervention group). Five studies reported a net effect between study groups for psychosocial variables. Two out of seven studies reported a statistically significant net effect in favour of the intervention group. Psychosocial variables that were found to be influenced positively by the interventions were unhealthy weight control behaviours such as purging and using pills (one RCT of teenage girls), and peer-rated aggression and observed verbal aggression (one RCT of girls and boys with a mean age of 8.9 years).

Authors' conclusions

There was insufficient evidence to assess the effects of school-based obesity prevention programmes on the psychosocial well-being of children; however, interventions integrated into the standard school curriculum appeared to show most promise.

Options

Print

PDF

Set alert

Fast track

PubMed record

Original research

Share

Your keywords

Assign your own keywords to this record. You can search on your keywords in Advanced Search.

(Hold the CTRL key to assign multiple keywords from the list.)

Create a new keyword

Add

Assign

Clear

CRD commentary

This review answered a clearly defined research question using broad inclusion criteria for study designs, interventions and outcomes. However, relevant data may have been missed and the review may have been at risk of both publication and language biases due to the inclusion of only published English-language studies. There was a potential risk of reviewer error and bias, as only one reviewer was primarily involved in the selection of studies for inclusion. The number of reviewers involved in the quality assessment of studies and extraction of data was unclear. The validity of the studies was assessed using published criteria for randomised controlled trials (although not all of the studies used this type of design); all of the studies showed some risk of bias. The studies varied considerably with respect to interventions, populations and outcome measures, which suggested that use of a narrative synthesis was justified. Overall, based on the quality and quantity of the data, and despite limitations in the review methods, the authors' cautious conclusions appear valid.

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 should investigate the effects of school-based obesity prevention programmes through assessment of a wide range of psychosocial variables. Both internalising and externalising problem behaviours should be assessed, including self-concept, eating disturbances and social problems. And standardised measurement instruments should be developed and validated for use in future studies.

Funding

None reported.

Bibliographic details

Van Wijnen LG, Wendel-Vos GC, Wammes BM, Bemelmans WJ. The impact of school-based prevention of overweight on psychosocial well-being of children. *Obesity Reviews* 2009; 10(3): 298-312

PubMedID

[19243517](https://pubmed.ncbi.nlm.nih.gov/19243517/)

Original Paper URL

<http://www3.interscience.wiley.com/journal/122210678/abstract>

Indexing Status

Subject indexing assigned by CRD

MeSH

Adolescent; Body Image; Body Weight; Child; Exercise; Humans; Life Style; Obesity /prevention & control; Quality of Life; Schools; Self Concept

AccessionNumber

12009105735

Database entry date

11/11/2009

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.