Does parental involvement make a difference in school-based nutrition and physical activity interventions? A systematic review of randomized controlled trials

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CRD summary
There was insufficient evidence on the added value of parental involvement in school-based obesity prevention interventions in children and adolescents. Despite poor reporting of trial results and quality assessment, the authors’ cautious conclusions reflected the inconsistent evidence, heterogeneous and limited number of studies, and appear likely to be reliable.

Authors’ objectives
To evaluate the impact of parental involvement in school-based obesity prevention interventions in children and adolescents.

Searching
MEDLINE, Web of Science, The Cochrane Library, CINAHL and ERIC were searched from 1990 to August 2010 for studies in English; search term groups were reported.

Study selection
Controlled trials that evaluated the effectiveness of parental/caregiver involvement in school-based obesity prevention programmes were eligible. Interventions had to focus on behaviours related to obesity risk in healthy children between six and 18 years old. Studies had to include at least one outcome of interest: nutrition, physical activity-related behaviour, or an anthropometrical outcome at the child level. Interventions were compared to a school-only intervention group.

Mean age of pupils ranged from about nine to 13 years. Nearly all interventions targeted parents’ knowledge, skills, awareness, role modelling and parent-child interaction with regards to both nutrition and physical activity. Some school-based interventions also focused on environmental change. Most were explicitly informed by theory. A broad range of outcome measurement tools were used. Intervention duration ranged from six weeks to three school years. Studies were published between 1990 and 2003.

The authors did not state whether the studies were selected in duplicate.

Assessment of study quality
Study quality was classed as strong, moderate or weak based on the following criteria: selection bias, study design, confounders, blinding, reliability and validity of data collection tools, and withdrawals and drop-outs. The authors did not state whether study quality was assessed in duplicate.

Data extraction
Outcomes data and p-values were extracted from each study. The authors did not state whether the data were extracted in duplicate.

Methods of synthesis
Results were reported in a narrative synthesis.

Results of the review
Five randomised controlled trial (RCTs) of which four were cluster-RCTs were included (9,679 pupils, range 132 to 5,106). Study quality was considered strong in three trials, moderate in one and weak in one RCT.

One trial found statistically significant effects on fat intake at one year, and BMI at one and two years in the intervention arm receiving parental support compared to the school-only group and control groups. However, effects were only seen in girls and effects on fat intake were no longer significant at two years. One trial found that the
intervention programmes with a parental component had more positive effects on children's behaviours. However, two other trials only found positive effects on children's nutrition knowledge, but not on behaviours when comparing the school-plus-parent intervention condition with the school-only condition. In one study, the parental component did not result in added effects.

Authors' conclusions
There was a lack of evidence regarding the added value of parental involvement in school-based obesity prevention interventions in children and adolescents.

CRD commentary
The review question and inclusion criteria were clear. Several bibliographic databases were consulted, but language restrictions were applied to searches. The authors did not report whether appropriate steps were taken to minimise the risk of reviewer bias and error throughout the review process. Only the overall quality classifications of validity assessment were reported. Three out of five studies were found to be of strong quality, and most trials included a relatively large number of pupils. Given the heterogeneity of interventions, participants, outcomes and measurement tools, the choice of a narrative synthesis appeared justified. However, an evaluation of individual study results was difficult as neither effect sizes, nor p-values were reported.

Despite poor reporting of trial results and quality assessment, the limited number of studies and inconsistent evidence, the cautious conclusions of the review appear likely to be reliable.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.
Research: The authors stated that there was a need for more studies that compared school-based interventions with and without a parental component. They recommended that studies that focused on parent modules should include more descriptive information about content, strategies, focus and amount of parental participation to make more conclusive decisions concerning the effectiveness of parental involvement in school-based health behaviour interventions. They stated that more information about how theory informs the choice of behavioural change techniques or intervention techniques was needed.

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