Family-based interventions for childhood obesity: a review


CRD summary
This review assessed family-based interventions for childhood obesity. The authors stated that it was difficult to draw conclusions since most of the studies had methodological flaws. There were limitations to the review itself, but the authors drew no firm overall conclusions; this reflects the paucity of evidence from a small number of generally poor-quality studies.

Authors' objectives
To assess family-based interventions for childhood obesity.

Searching
MEDLINE, PsycLIT and CINAHL were searched for studies published in English from 1980 to January 2004; the search terms were reported. No attempts were made to locate unpublished studies. In addition, five named relevant journals were searched.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) that followed up participants for at least 6 months were eligible for inclusion. Where reported, the follow-up period ranged from less than 6 months to 3 years.

Specific interventions included in the review
Studies of family-based interventions for childhood obesity that used nutrition, exercise or behavioural methods were eligible for inclusion. Family-based interventions were defined as those targeting the child and at least one parent. Studies of pharmacotherapy and bariatric surgery were excluded. All of the included studies included elements of nutritional education, exercise and behavioural therapy. Where reported, the duration of treatment ranged from 8 weeks to 2 years.

Participants included in the review
Studies of obese children were eligible for inclusion. All of the included studies targeted the child but varied in the degree of parental involvement: in some studies parents were targeted for weight loss with or separately from the child; in other studies the parental role was to support the child. Most of the included studies did not report ethnicity or economic status of the participants; studies reporting this information were mainly in Caucasian middle to upper socioeconomic people. The age of the children studied varied: ranging from one study recruiting 5- to 8-year-olds, to another recruiting 13- to 17-year-olds. The mean baseline body mass indices of the children included in the studies were not reported.

Outcomes assessed in the review
Studies that assessed weight reduction (weight, percentage of weight or body mass index) as the main outcome were eligible for inclusion.

How were decisions on the relevance of primary studies made?
The authors did not state how studies were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The studies were assessed for sample size, power calculation, method of randomisation and description of the participants. The authors did not state who performed the validity assessment.
Data extraction
Three reviewers independently extracted data on the results. Any differences were resolved through discussion.

Methods of synthesis
How were the studies combined?
The studies were grouped according to the intervention type (categorised as behavioural modification interventions, behavioural therapy interventions and problem-solving) and combined in a narrative.

How were differences between studies investigated?
Differences between the studies were discussed in the text of the review.

Results of the review
Thirteen studies (n=602) were included.

All of the studies had methodological weaknesses. Ten studies had small sample sizes, ranging from 8 to 22 participants per treatment group. The largest arm of any of the trials was a comparator group with 50 participants. None of the studies reported a power calculation. Four studies did not describe the methods used for randomisation.

Behavioural modification interventions (7 studies, n=305).
The outcomes varied. For interventions in which parents and children were seen together, weight loss occurred in parents, parent and children, or the child alone. When parents and children were seen separately, weight loss occurred in either the child or the parent. In interventions in which parents guided and supported their children, the children lost weight.

Behaviour therapy interventions (4 studies, n=190).
Three studies using behavioural therapy to improve the parents' management skills reported weight loss in children. In one study targeting parents and children, weight loss occurred in parents and children.

Problem-solving (2 studies, n=107).
One study reported that problem-solving taught to parents improved weight loss in their children. The other study reported that the addition of problem-solving to a standard family-based intervention had no additional effect.

Authors' conclusions
The authors stated that it was difficult to draw conclusions since most of the studies had methodological flaws.

CRD commentary
The review addressed a clear question that was defined in terms of the participants, intervention, outcomes and study design. One study included in the review did not meet the inclusion criteria for study design. Several relevant sources were searched, but the review was limited to studies reported in English and there were no attempts to locate unpublished studies, thus there is a potential for both publication and language bias. Methods were used to minimise reviewer errors and bias in the extraction of data, but it was unclear whether similar steps were taken at the study selection and validity assessment stages. Validity was assessed using specified criteria.

The primary studies were adequately described, although tabulation of the main study details and results would have aided across-study comparisons. Given the small number of diverse studies, which varied particularly in relation to the intervention and age range of the participants recruited, a narrative synthesis was appropriate. There were limitations to the review, but the authors drew no firm overall conclusions; this reflects the paucity of evidence from a small number of generally poor-quality studies.
Implications of the review for practice and research

Practice: The authors did not state any implications for practice.

Research: The authors stated that further research is required to understand family-based interventions and to link theory, research and clinical practice. They stated that research should include one or both parents or siblings, should use different interventions for parents, children and adolescents, and should assess outcomes using valid and reliable measures.

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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.