A meta-analysis of family-behavioral weight-loss treatments for children
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CRD summary
This review assessed the efficacy of a family-behavioural component in weight-loss treatments for children. The authors concluded that weight-loss interventions that include a family-behavioural treatment are associated with a significant weight reduction which is maintained for several months. Limitations in the evidence and in the review methods mean that these conclusions must be viewed with caution.

Authors’ objectives
To evaluate the efficacy of a family-behavioural component in weight-loss treatments for children.

Searching
PsycINFO (1967 to present), MEDLINE (1967 to present) and CINAHL (1982 to present) were searched; the search terms were reported. Only English language articles were considered for inclusion. The reference lists of retrieved articles were checked to identify additional studies.

Study selection
Study designs of evaluations included in the review
The inclusion criteria for study designs were not explicitly stated. The included studies had to report data needed for the calculation of effect sizes.

Specific interventions included in the review
Studies evaluating any family-behavioural treatment for weight loss in children were eligible for inclusion. Behavioural treatment was defined as the use of at least one named behavioural or cognitive-behavioural technique to encourage children to pursue and maintain healthy physical and/or eating habits. At least one parent or guardian had to be involved in the treatment of the child. In the included studies, parents were either concomitantly treated for obesity or they were trained to encourage behavioural changes to promote weight loss in their children. The frequency of the meetings and the length of treatment varied across the studies. The initial treatment period ranged from 8 to 26 weeks, which in some studies was prolonged into a maintenance phase for up to 9 months. The length of follow-up, if any, was between 3 and 24 months. Comparator groups included other treatment (behavioural treatments analogous to the family-behavioural groups without the direct involvement of the parents) and control groups (not defined).

Participants included in the review
Studies of children between 5 and 12 years old were eligible for inclusion. The participants in the included studies were enrolled through newspaper advertisements, self-referral and physician referrals.

Outcomes assessed in the review
The inclusion criteria relating to outcomes were not clearly specified. The outcomes in the included studies were percentage overweight, body mass index (BMI), weight in pounds (or kilograms), or standardised BMI (z-BMI). When studies reported multiple outcomes, the percentage overweight was the preferred outcome for the review.

How were decisions on the relevance of primary studies made?
Two reviewers performed the study selection based on pre-specified inclusion criteria.

Assessment of study quality
The authors did not state that they assessed validity.
Data extraction
One reviewer performed the data extraction. A second reviewer randomly selected and cross-checked half of the studies. Data on the means and standard deviations of outcome measures before and after treatment were extracted and used to derive a standardised mean difference (MD) using Hedges’ d for each study group.

Methods of synthesis
How were the studies combined?
Pooled mean differences between the pre- and post-treatment weight and 95% confidence intervals (CIs) were calculated for each type of treatment (family-behavioural, other treatment and control) and outcome measure (percentage overweight, weight in pounds, and BMI or z-BMI) using Hedges’ d.

How were differences between studies investigated?
Statistical heterogeneity was assessed by the Q statistic.

Results of the review
Sixteen studies (666 participants) were included in the review. Group sizes ranged from 7 to 57 participants.

Family-behavioural treatments carried a statistically significant reduction in mean percentage overweight (MD -0.89, 95% CI: -1.06, -0.73); there was statistical heterogeneity for this outcome. The exclusion of 1 study evaluating long-term family-behavioural treatment still resulted in a significant decrease in percentage overweight (MD -0.62, 95% CI: -0.80, -0.44), with no evidence of statistical heterogeneity. Similar findings were reported when pounds were used as the dependent measure of effect, whereas conflicting results were reported for the reduction of BMI (2 studies). The reduction in percentage overweight with family-behavioural treatments remained significant at follow-up (MD -0.84, 95% CI: -1.06, -0.61). The effect of comparator treatments on weight reduction was not significant.

Authors’ conclusions
Weight-loss interventions that include a family-behavioural treatment seem to be effective in obese children.

CRD commentary
This review addressed a well-defined question in terms of the intervention while using a broad definition of participants, outcomes and study design. The authors searched three relevant databases and efforts were made to find additional studies by checking the bibliographies of retrieved articles. Only studies published in English were included, which might have introduced a language bias. The potential influence of publication bias was not evaluated. The authors attempted to minimise bias and errors during the review process by carrying out the study selection in duplicate and checking the data extraction. No quality assessment of the included studies was reported; the potential impact of methodological flaws in the primary studies upon the reliability of the review findings cannot, therefore, be assessed. Statistical heterogeneity was tested and found to be significant for the main outcome evaluated. This, and the apparent clinical heterogeneity between the studies, makes it unclear whether the decision to combine the studies in a meta-analysis was appropriate. The fact that the authors’ conclusions are based on a relatively small number of studies and participants presents a potential threat to their reliability.

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 are needed to establish the long-term efficacy of family-behavioural weight-loss interventions and to understand which specific components of these treatments produce effective results.

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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.