Empirically supported treatments in pediatric psychology: pediatric obesity

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Authors' objectives
To review the efficacy of existing interventions for paediatric obesity with reference to the Chambless criteria.

Searching
MEDLINE and PsycLIT were searched (dates and terms not stated). Bibliographies and pertinent journals (authors do not state which) were searched manually. The bibliography of a recent meta-analysis of obesity treatment for children was reviewed for all relevant studies. No language restrictions were reported.

Study selection
Study designs of evaluations included in the review
Studies conducted in outpatient clinics or inpatient settings. Studies involving paediatric obesity conducted primarily within the school setting were excluded. Due to the number of randomised treatment trials identified the review was limited to these studies. The authors were contacted where the method of group assignment (i.e. random vs non-random) was not clear. If no further information was available the study was assumed to be randomised. However, details of identified non-randomised studies (n=19) are presented in Appendix 2.

Specific interventions included in the review
Interventions that targeted weight loss. Studies that used medication as the intervention for weight loss were excluded.

Participants included in the review
Overweight children and adolescents aged under 18. Studies that included participants older than 18 years of age as part of the sample or those that were conducted with special populations such as those with chronic illness or developmental disability were excluded from the review.

Outcomes assessed in the review
Weight loss. Where available, outcome data are reported in terms of changes in percent overweight rather than amount of weight, as this is a more sensitive measure of weight status. Long (more than 2 years) and short term outcome data were included.

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

Assessment of study quality
The authors do not state that they assessed validity.

Data extraction
Data were extracted on citation for study, sample size, age range, inclusion/exclusion criteria, experimental design, relevant treatment components, weight loss data at initial outcome and follow-up. The number of reviewers involved in extracting data was not reported.

Methods of synthesis
How were the studies combined?
Studies were classified according to three age categories: children (≤13 years), adolescence (12-18 years), and mixed group (studies that included both children and adolescents or did not provide the specific age range of the sample).
Long term follow-up was defined as more than 2 years from the end of treatment.

**How were differences between studies investigated?**
The authors state that because the efficacy of interventions appears to differ by age of the sample studied, the studies were classified according to age. No further details are provided.

**Results of the review**
Forty-two randomised studies.

**Children (n=26).**

**Short-term efficacy.**

Behaviour modification of eating and physical activity behaviours were superior to education along in four studies. One study showed that behavioural weight reduction was more effective than a waitlist control. Most studies document short-term decreases of approximately 5-20% in the proportion of children overweight (weight loss in control groups not stated). Studies that manipulated parent involvement in treatment found comparable short term outcomes regardless of whether a child participated alone or with a parent (n=4). However, the studies that found the largest and longest decreases in percent overweight include parent participation as an integral treatment component. Addressing child and parent weight loss was not superior to targeting child weight loss alone (n=1). There is little evidence to suggest that exercise intervention independent of dietary changes will result in decreases in children's percent overweight (n=5).

**Long-term efficacy.**

Four studies of family based behavioural treatment found that at 10 year follow-up 30% of children treated across four treatment interventions achieved non-obese status (results of control group not reported). The interventions investigated included children targeted for weight loss along with their parents (n=5), and diet combined with lifestyle or aerobic activity (n=4).

**Adolescence (n=7).**

Overall the treatment literature regarding adolescents is not as well developed as that for children. There does not appear to be a rigorously conducted study documenting that out-patient obesity treatment is superior to waiting-list or control or instruction only for 12-18 year olds.

**Mixed age (n=9).**

No results were presented.

**Authors' conclusions**

There is strong evidence for the short- and long-term efficacy of multicomponential behavioural treatment for decreasing weight among children relative to both placebo and education-only treatments. Conclusions about adolescent obesity treatment programmes are more tentative as they have been less frequently examined, less rigorously controlled, and usually have not conducted long-term follow-up. Current research appears to be working to identify more efficacious treatments for paediatric obesity by exploring the specific behavioural strategies that will be most effective in modifying children's eating and physical activity habits.

**CRD commentary**

The literature search was adequate and inclusion criteria were clearly stated. Insufficient details regarding review methodology were presented and no validity assessment was conducted, however, only randomised controlled trials were included so this is less of a problem than if the review had included studies of poorer designs such as uncontrolled trials and case reports. Individual study details were provided in an appendix, however, these would have
been easier to follow in a tabular format. The main problem with the review is in the way that studies were summarised. Results were not grouped specifically according to intervention, outcome or duration of follow-up and it is difficult to interpret the results, especially with regard to how many studies looked at which particular intervention. Very few results were presented in the text, and where these were presented they were only presented for one group, presumably the intervention group, and thus cannot be interpreted without the data for the control groups. The results would have been easier to follow if some attempt had been made to pool the data, calculate effect sizes such as relative risks, or present data graphically or in tables. The authors stated that the study design was assumed to be randomised where no further information was available. This seems inappropriate as it is more likely that if authors do not report on method of randomisation that the study was not randomised, including these studies in this review as if they were RCTs is problematic as other non-randomised studies were excluded. Due to the limitations of the review it is therefore difficult to draw any conclusions from the data in the format in which it is presented. The authors conclusions may follow from the data contained within the studies but it is difficult to draw these conclusions from the results presented.

**Implications of the review for practice and research**

**Practice:** The authors state that in childhood treatment, investigators can continue to address specific manipulations of behavioural treatment components and their relationship to outcome. The most successful interventions for paediatric obesity minimise the cost associated with adherence.

**Research:** The authors state that well-designed studies comparing treatment with placebos/instruction alone and with alternative treatments are needed in adolescents. It is also important to focus on outcomes other than weight in considering the benefits of weight loss programmes, such as quality of life, as well as physiological outcomes associated with weight loss. Of great importance is continued work on long-term follow-up and the identification of factors that promote maintenance of weight loss.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract
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