Reviewer's report

Title: A family-based education programme for obesity: a three-year study.

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Reviewer: caroline braet

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General

The authors evaluated the weight evolution of 85 overweight children compared with 105 control children at a three year follow-up. The study has interesting aims: describing a three-session family-based program. Strengths of the study were: the child friendly approach (‘Balloon Game’ ‘involvement of the whole family’ ‘self-help book for the families’), the sample size, and the long-term follow-up response rate. However, we also see several weaknesses. They are described below.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

INTRODUCTION

1. The introduction section is too concise. It would benefit from a more detailed description of former research results on childhood obesity treatment. Providing numerical data (eg: what is unsuccessful? what is a high drop-out? what are successful weight losses?) would lead to a more thorough review of the literature. Also add shortcomings of these studies.
2. The authors should fit TEP into the other current interventions for childhood obesity (eg description of the treatment model: what are the ingredients and how are they chosen?). Describe whether similar interventions were evaluated.
3. Please provide a definition of treatment success and all dependent variables. What about weight stabilisation? It is not clear if this was positive or negative. If the authors choose that a 10% weight increase is negative, this has to be motivated. In the result section, satisfaction is included as dependent variable as well. In the discussion, success is described as a healthier lifestyle.
4. We need a more solid narrative text leading up to a more explicit formulation of the hypotheses and the end of the introduction.

METHOD

1. Please provide different paragraphs in the method section: information about the procedure must be deleted in the study population and moved to ‘procedure’. Information collected at the follow-up (see page 6 must be moved to the result section. Add also a paragraph ‘assessment or measures’.
2. More information on the assessment phase should be included, describing the measurements used (especially because on p. 9 is written that children with body-image dissatisfaction, emotional eating and binge-eating received additional sessions – how was this measured?)
3. Design of the study: A more detailed description of the inclusion and exclusion criteria is needed. The authors describe in this section that children with secondary obesity and psychiatric problems were excluded. In the discussion section on page 14 however, the authors state that children who had clinically evident psychological problems (10% of the original group) were sent to a standard multidisciplinary treatment. This is confusing.
4. Design of the study: How were participants assigned to either the TEP group or the DT group? Was it randomized?
5. Design of the study: On p. 6 – 7 the authors write that the TEP group and the DT group were matched as to age, gender and follow-up. Did the authors control for other potential baseline differences in order to check whether both groups are comparable? How do they control for motivation and psychological problems? (eg see page 14: some families were not allowed in TEP or were not willing to participate (69%) in the TEP-group).
6. Matching implicates a case-control study (for each case, a control case was selected). This means that we needed 85 controls in stead of 105.
7. The description of the study population (p. 5 – 7) raises several issues of concern: description of the sample with regard to their ethnicity, socioeconomic status and other related demographic characteristics should be presented in the text.

8. The description of the study population: do the authors have any information about differences between the participants versus refusers in both groups? It is a relatively low response rate (as was described in the discussion section) and it would be helpful to characterize these families more completely. I do not understand how many children actually refuse to participate. Information in the discussion is different than those on page 6 (87 families gave their consent, and for 85 children the one year follow-up was observed, so the drop-out is 2/87?) and page 27 (90 families started, 56 were on the one-year FU and 40 were on the 3 year FU).

9. Percentage overweight (BMI%) means BMI/BMI at 50th percentile x 100. Why did the authors choose for another index?

10. I notice a considerable age range (3-18 years). Do the authors found age-related differences?

11. Therapeutic Education Programme. How many therapists were involved? Did they use a standardized protocol? How many weeks were there between the sessions (on page 8 we see ‘after two months’: does that mean after intake or after session 2?) (specify exactly the number of weeks between session 1 and 2 and between 2 and 3)? Who decided that?

12. Therapeutic Education Programme. On which theoretical or empirical grounds was the follow-up schedule based?

13. Programs. The authors should elaborate this section by adding a description of the DT. What are similarities and differences between TEP and DT? This is especially important for the appraisal of potential overlap between both conditions. Are both condition checked on treatment integrity? Do the therapists had contact with each other? How to avoid contamination of the treatment approach?

STATISTICS AND RESULTS

Several issues should be clarified:
1. p. 10: A negative outcome was scored when a BMI% increase was observed (>= 10% baseline): the use of this criterion should be justified.
2. p. 11: baseline information has to be moved to the description of the participants in the method section.
3. p. 11: When making comparisons between the number of children that decreased, please add X² analyses.
4. p. 11: What is meant by ‘that to be matched paired’?
5. Information on the conducted t-tests and chi quadrate tests should be completed. Further, should it not be more solid to use a repeated measure analysis?
6. p. 12: please put figure 1 and 2 in the right order. Is figure 1 referring to all children or, only those with positive evolution?
7. p. 12: ‘positive children number’ and ‘negative children number’ are confusing concepts.
8. p. 13: additional information on the evaluation and lifestyle questionnaires should be provided.
9. The use of linear regression is rather confusing. On page 11, the authors state that “Linear regressions were employed to search for weight variation trends versus some parameters like follow-up time span, age variation, etc.” However, this was not clearly elaborated in the result section.
10. Table 1: Please add a row ‘Normal weight’, so that we can see how many children moved to that category at follow-up.

DISCUSSION

1. A major critique is that the authors should not generalize beyond the study findings. The section on practical implications should be done cautiously. Would it not be more ethical to conclude that TEP is effective for a subgroup of children with overweight and their families? For children with moderate overweight (specify criteria!), with no additional psychological problems, for well motivated families... Several criteria should be described; as such that TEP is implemented in first care and can have its specific target population. Children with severe overweight and with additional psychosocial and familial problems (the majority of the obese children) should be referred to multidisciplinary treatment programmes. In that way TEP deserves its place next to ‘the golden standard’ in stead of TEP taking the place of a well evidenced multidisciplinary treatment. We prefer this view to be implemented in the discussion section.

2. Furthermore, the limitations of the study should be acknowledged and suggestions for future research should be included.

3. No new data can emerge in this section (see page 16: ‘growing number of obese children asking treatment’, is not a relevant conclusion)
Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
I declare that I have no competing interests