Reviewer’s report

Title: A randomized home-based childhood obesity prevention pilot intervention has favourable effects on parental body composition: Preliminary evidence from the Guelph Family Health Study

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Reviewer: Christina Niermann

Reviewer’s report:

The authors report on a sound study with an appropriate design. They present data of a pilot study with a small sample size and this is a major problem. Nevertheless, I really liked the research question. In my opinion, the research question is quite interesting and important but unfortunately the authors omitted to explain WHY it is interesting and they missed to explain why it could be relevant to focus on the effects on parents, especially regarding the prevention of overweight in (early) childhood. As the study and the result that are presented suffer from a small sample size, it would be even more important to address the relevance of the research question and to include theoretical approaches. In my opinion the manuscript could really benefit from changing the focus away from reporting results of a very small sample size towards a careful derivation of the relevance (for programs that aim to prevent childhood obesity) that parents change their behavior and that family dynamics change (which result in changes in parents body composition). The results could then be used to support this issue and provide first evidence.

Abstract:

-The use of BMI (Body Mass Index) and BM is confusing (Body Mass). BMI was not introduced

-Why do the authors report BM and BMI and not only BMI? I would suggest using only BMI

Background

Overall the Background is too short and does not provide necessary information for the reader

-The position of the reference numbers (throughout the manuscript) is confusing, e.g. lines 47, 48

-The authors should describe what is meant or what they mean by home-based obesity interventions

-Please explain why the authors address this research question: why could it be important to focus on parents' health behaviors or parents' anthropometrics and body composition? The reader
needs more information regarding home-based interventions to understand, why there should be an impact on parents outcomes and why it is important to focus on parents

- The authors should be careful with the use of the terms "home-based" and "family-based" interventions. Is it the same for the authors or are there different definitions? It could be useful to have a look on Skelton et al., 2012, Where are family theories in family-based obesity treatment?, International Journal of Obesity

- It is not clear to me why investigating the influence of the interventions on the amount and distribution of body fat helps us to understand "HOW interventions affect parents" (line 63). For me HOW is related to mechanisms but mechanisms are not examined. Appropriate would be for example: "the addition of XX would provide a more differentiated view on the effects of a XX intervention on parents XX"

- The authors should describe the aim of the study more concise. Please delete "several measures" (line 65) and "in a sample of parents". (e.g. … in parents that took part in a XX intervention aiming to prevent childhood obesity)

Why do the authors hypothesized that parental improvements are a beneficial? (This issue is related to the comments above!)

Methods

- The authors should use subheadings to structure this section

- Information on gender and age of the parents are missing, childrens' age in the groups

- The authors should write out "months" (not M) to simplify reading

- More information on the families are needed, e.g. one parent or two parents, more than one child (44 children and 79 parents?, final sample 58 parents -> some families took part with two parents and others with one?)

- line 94: WC for waist circumference is not explained before

Results

- What do the authors mean by "There was no evidence of effect modification by parent sex"? This sentence does not fit in this section. Do the authors mean moderation? Effect on what?

- How many parents have a BMI ≥ 25 and how many have a BMI < 25? By the way the authors should describe in the methods section that they analyzed both groups separately and why they did this
-line 113 "experienced an intervention effect" is not a suitable term -> for example "there was an effect of the intervention on parents..." would be more suitable (the authors used "experienced" several times in the discussion, this should be changed)

-I think it makes no sense to report on BM and BMI, the authors should only use BMI

-Due to all the abbreviations the authors used, this section is difficult to read. This should be changed.

-Table2: The authors should use consistent terms in the first column, e.g. "Body mass, kg" and "%FM" -> "Body mass (kg) and Fat mass (%) or BM (kg) and FM (%) etc.

-The authors should try to describe the results more comprehensible and not leave out interesting findings such as that the BMI does not changed from t1 to t2 but from t1 to t3. What about the change from t2 to t3? Instead of describing in the text the values that are presented in Table 2, the authors should provide means and SDs for the groups and the measurement points in the text (or in the table). It makes no sense to describe the same values in the text and the table.

Discussion

-Please rewrite "In a 2014 Australian family-based community obesity prevention-intervention,..." to facilitate reading

-The abbreviation GFHS is not mentioned before (line 139)

-The authors should highlight and discuss the unexpected and interesting results such as BMI reduction from t1 to t3 but not from t1 to t2 or that the effects are lower for 4HV (more details and ideas why there were no sign. changes in the 4HV group would be nice)

-Please rewrite the sentence in lines 143-145, this is important information but the sentence is difficult to understand

-149-152 could be written more clear, for example: In the present study, we found BMI reductions... which is consistent with...

-The content of lines 154-164 is quite interesting and important, but not concisely and clear enough. The authors should try to highlight that the intervention that aims to prevent children's' overweight has an equal effect on parents' weight reduction / improvement of body composition as interventions that focus on adults and discus more clear and detailed what this means

-180: the authors should think about the relevance of the reduction of parents' adiposity (see above) and consider that it is perhaps not an "unintended" benefit but a necessary condition for preventing weight gain in children (see above). This issue is related to several articles that highlight the importance of addressing the family as a whole in treatment and prevention of childhood obesity (e.g. Skelton et al; Kitzman-Ulrich et al.)
References

The authors should check the references, e.g. reference 8. is incomplete

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

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I am able to assess the statistics

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