

<b>Article details: 2014-0053</b>	
Title	<b>Prevention of overweight/obesity in children and youth: a systematic review with meta-analyses</b>
Authors	Leslea Peirson, Donna Fitzpatrick-Lewis, Katherin Morrison, Donna Ciliska, Meghan Kenny, Muhammad Usman Ali, Parminder Raina
<b>Reviewer 1</b>	Natalie Riediger
Institution	University of Manitoba, Community Health Sciences
General comments	<p>The manuscript is well-written and succinct. The rationale and methods are clearly described. The topic area is also important and in a phase with many new publications, therefore an updated meta-analysis is an important contribution.</p> <p><b>Abstract</b>  In the results section, lines 28-33, the authors state, "Compared to controls, prevention interventions showed a very small effect of lowered body mass index/body mass index z-score....., a greater reduction in body mass index....". It would be clearer to just write "body mass index z-score" otherwise the reader is unsure what's the difference between "lowered body mass index" and "greater reduction in body mass index".</p> <p><b>Methods</b>  Is it possible to conduct sensitivity analysis according to BMI at baseline or proportion with overweight/obesity at baseline? I suspect the benefits are greater for populations that are heavier to begin with. This would also have important implications in practice. The results on other health outcomes (lipids, blood pressure) are not really relevant since these outcomes were not included in the selection criteria. I would recommend removing them as they may be misleading.</p> <p><b>Minor</b>  Table 3: Characteristics of Included Studies:  1) Barkin 2012. It is unclear what "dyads" you are referring to. Is this mother and child? Or any parent and child? Or could it include both parents and child?  2) Salcedo 2012. The sample n and intervention n are incorrect.</p>
<b>Reviewer 2</b>	Gregory Heath
Institution	University of Tennessee, Health and Human Performance
General comments	<p>General comments: Well written and lucid description of a systematic / meta analytic review of the question of therapeutic shifts in BMI/weight loss among children and adolescents. Search and meta-analytic methods are clearly described. Appropriate analytic approaches are applied to the reviewed research studies and consequent papers. Tables are complete and rather detailed. Consideration of summary evidence tables with more detailed findings as attachment may be most useful to the common reader.</p> <p>Specific questions:</p> <p>Pg 4, lines 42-44 - a brief narrative about the inclusion/exclusion criterion (Box 2) might be useful here - to allow the reader to stick with the flow of the methods.</p> <p>Pg 10, lines 42-56: further discussion about study designs that might contribute to the understanding of primary prevention of unhealthy weight gain might prove helpful in moving the efforts in obesity prevention forward, e.g., discussion of the role of quasi-experimental designs along with alterations in dietary and physical activity environments among children and their families might be in order here -or in the section on limitations. What role is policy? The deficiencies of the current literature seem to beg for more innovative study designs and the need to address primary prevention and/or the prevention continuum.</p>
<b>Author response</b>	<p>Reviewer #1 (NR) Comments to Authors Authors' Revisions/Response #</p> <p>General Comments  The manuscript is well-written and succinct. The rationale and methods are clearly described. The topic area is also important and in a phase with many new publications, therefore an updated meta-analysis is an important contribution.</p> <p>AR #16: Thank you for the positive feedback. No action required</p> <p>Main Comments  <b>Abstract</b>  1. In the results section, lines 28-33, the authors state, "Compared to controls, prevention interventions showed a very small effect of lowered body mass index/body mass index z-score...., a greater reduction in body mass index....". It would be clearer to</p>

just write “body mass index z-score” otherwise the reader is unsure what’s the difference between “lowered body mass index” and “greater reduction in body mass index”.

AR #17: These results were re-phrased in the Abstract and in the Results sections to better reflect the direction of effect and consistency across various measures of adiposity.

#### Methods

2. Is it possible to conduct sensitivity analysis according to BMI at baseline or proportion with overweight/obesity at baseline? I suspect the benefits are greater for populations that are heavier to begin with. This would also have important implications in practice.

AR #18: We appreciate the reviewer’s suggestion however a sensitivity analysis according to baseline BMI was not part of the pre-specified analytic plan for this review. In our analysis we do look at change from baseline in terms of the prevalence of overweight/obese

#### Methods

3. The results on other health outcomes (lipids, blood pressure) are not really relevant since these outcomes were not included in the selection criteria. I would recommend removing them as they may be misleading.

AR #19: We agree with this reviewer. We have focused the manuscript on the weight outcomes and the harms only. The section on secondary outcomes was removed from the results, corresponding rows were deleted from Table 3 and corresponding columns were removed from the risk of bias summary table.

#### Other Minor Points

Table 3: Characteristics of Included Studies:

4. Barkin 2012. It is unclear what “dyads” you are referring to. Is this mother and child? Or any parent and child? Or could it include both parents and child?

AR #20: Clarifications were made to the Barkin 2012 entry in the e-Table. The dyads could include either parent with the child, but most often it was the mother (95% of dyads completing study included mothers).

Table 3: Characteristics of Included Studies:

5. Salcedo 2012. The sample n and intervention n are incorrect.

AR #21: Thank you for pointing this out. These typos have been corrected in this entry in the e-Table. The sample n was changed to 1,119 and the intervention n was changed to 513.

#### Reviewer #2 (GH) Comments to Authors Authors’ Revisions/Response #

##### General Comments

Well written and lucid description of a systematic / meta analytic review of the question of therapeutic shifts in BMI/weight loss among children and adolescents. Search and meta-analytic methods are clearly described. Appropriate analytic approaches are applied to the reviewed research studies and consequent papers. Tables are complete and rather detailed.

AR #22: Thank you for the positive feedback. No action required.

Consideration of summary evidence tables with more detailed findings as attachment may be most useful to the common reader.

AR #23: The paper already included tables that summarize features of the overall body of evidence and highlight key findings for overall and subgroup analyses for BMI/BMI-z. We added a table that summarizes features of efficacious interventions (see response #10).

##### Specific Questions

##### Methods

1. Pg 4, lines 42-44 - a brief narrative about the inclusion/ exclusion criterion (Box 2) might be useful here - to allow the reader to stick with the flow of the methods.

AR #24: We agree with the reviewer’s comment but have not made a change to the

	<p>manuscript. Box 2 contains the inclusion/exclusion criteria. Given word count restrictions we believe duplicating even some of the details in the text would occur at the expense of addressing other important clarifications or revisions.</p> <p>Interpretation</p> <p>2. Pg 10, lines 42-56: further discussion about study designs that might contribute to the understanding of primary prevention of unhealthy weight gain might prove helpful in moving the efforts in obesity prevention forward, e.g., discussion of the role of quasi-experimental designs along with alterations in dietary and physical activity environments among children and their families might be in order here -or in the section on limitations. What role is policy? The deficiencies of the current literature seem to beg for more innovative study designs and the need to address primary prevention and/or the prevention continuum.</p> <p>AR #25: We added information about potential areas where additional research is warranted due to lack of evidence. We also identified the potential need for studies with larger sample sizes to detect small differences across various subgroups. We agree with the reviewer that the identified issues would be interesting to explore. However addressing some of these areas was not within the scope of this review.</p>
--	---