Author's response to reviews

Title: The relationship between childhood body weight and dental caries experience: an umbrella systematic review protocol

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Author’s response to reviews:

Dear Editor,

Thank you for arranging the peer review of this protocol. We would like to thank the reviewer for their time and for providing valuable comments. We have included the comments from the reviewer within this response and address each as listed in the section that follows.
Thank you for the opportunity to submit a revised version of the manuscript.

Kind regards,

Susan Carson

Corresponding Author

1. The Background and introduction to this review is disjointed and unclear. For example line 79-82 are two sentences which are stand alone and do not actually tell the reader anything in terms of the broader picture and story of dental caries and obesity. I am unsure why there is a Background and Introduction heading. The information in regards to the umbrella review methodology in the 'Introduction' section would be better placed in the methods section. There are desired outcomes, research questions and then additional research questions in line 138-142. A clearer aim and objectives would make the paper easier to understand.

Response: We have amended the background section. Lines 79-82 have been removed together with any additional material which doesn't add directly to the picture or story of dental caries and body weight. The heading ‘Introduction’ is no longer included and the information with regards to the umbrella review methodology has been moved to the methods section as suggested. The aim, objectives and a single research question are now contained within the Background.

2. Study characteristics: what observational study designs within SRs and meta-analysis will you accept in the review. Please provide examples.

Response: Observational study designs within SRs and meta-analyses which will be accepted are now described in lines 136-138.

3. You appear to be using the JBI methodology for the umbrella review (ref 34) yet the protocol doesn't appear to follow this format. For example are you using the PICo format from reference 34? You currently have a citation for the ROBIS tool explaining the PICO equivalents (ref 41).

Response: The review headings which correspond to the JBI methodology (refs 33, 34) have now been added. In-line with this the PICo format from what was reference 34 has been included under the ‘Phenomena of Interest’ heading. A decision has now been made to exclusively use the PICo format within the protocol rather than PICO which is designed for interventional studies. The text which referred to this and reference 41 have therefore been removed from this section.
4. Please make sure your protocol aligns with your review methodology at this stage the headings and information within them do not. Also please check to ensure your refs match your sentences.

Response: The review headings and information within them now better correspond to the JBI methodology. References have been checked against sentences as suggested. The duplicate reference has now been removed with the others amended within the text accordingly.

5. Your PICo equivalents are the research questions you are interested in they haven't been expressed as population, exposure or comparator or outcome. Please be clearer about what these are. Table 1 actually provides this information clearly.

Response: PICo equivalents are now contained within the Population of Interest section and retained within the table as described previously.

6. Review characteristics: you have restricted the review by the English language and the time period of the search so there are restrictions. Please fix this.

Response: The description of these restrictions has now been moved to the Review Characteristics section. The limitation around English language has now been explicitly described in table 1.0 (the time period was already included within this table and so has not been added).

7. Please list the government and NGO organisations that you will be searching.

Response: The search tool Open Grey retrieves government and NGO organisations literature within Europe. Rather than searching in specific government or NGO organisations databases we have now included additional searches which will retrieve publications from a range of organisations. These are listed in lines 156-160.

8. The data extraction sections are very confusing in the 'selection process' and 'Data collection and analysis sections'. What is 'data elements abstracted' (line 200)? How come there are two different data extraction variables. Please make this clearer. This is clearer outlined reference 34? Why aren't two people extracting data?

Response: This section has undergone major revision taking into account the reviewer comments. Sub-headings which relate to the JBI methodology have been included (Data Extraction and Management, Assessment of Methodological Quality and Reporting of Findings). The ‘Selection Process’ header has been removed as has the sentence about ‘data elements extracted’ as it was confusing and repeated information which is already contained in an earlier section. It wasn’t previously clear that two people would extract the data, this has been corrected.
9. Risk of bias need its own heading with the appropriate information.

Response: A Risk of Bias section has been added together with the appropriate information.

10. Line 214-216 - 'Any additional observational studies retrieved as part of the supplementary search will be assessed using the proposed Meta-analysis of Observational Studies in Epidemiology checklist.' What does this mean? What additional observational studies there is no mention of this in the methods? Are you assessing all studies using this checklist? Why please justify.

Response: Lines 214-216 from the previous version have been removed. This supplemental search was mentioned in the previous version of the manuscript in lines 120-123 “the primary search will be supplemented by locating and evaluating observational studies which have been published in the period after the most recent good-quality systematic review”. The additional search forms part of the wider review process which will be carried out as part of the lead author’s postgraduate research. We have now decided to remove this from the protocol and detail only the process for the umbrella review of systematic reviews and meta-analysis. The Meta-analysis of Observational Studies in Epidemiology (MOOSE) checklist is a recognised tool for reporting observational studies which was proposed by Stroup et al. in JAMA in 2000. No studies will be assessed by this checklist as the supplemental search has now been removed from the umbrella review protocol.

11. Review synthesis and reporting: How will you know if there has been selective reporting please mention how you will do this?

Response: This is now addressed in lines 201-202.