Author’s response to reviews

Title: Traditional knowledge-based lifestyle interventions in the prevention of obesity and type 2 diabetes in Indigenous children in Canada: A systematic review protocol

Authors:

Rebecca Crawford (crawfr5@mcmaster.ca)
E. Danielle Sims (daniellesims12@gmail.com)
Kuan-Wen Wang (wangkw2@mcmaster.ca)
Michael Youssef (youssm7@mcmaster.ca)
Ajantha Nadarajah (nadara1@mcmaster.ca)
Angelica Rivas (rivasa@mcmaster.ca)
Laura Banfield (banfie@mcmaster.ca)
Lehana Thabane (thabanl@mcmaster.ca)
M. Constantine Samaan (samaanc@mcmaster.ca)

Version: 1 Date: 28 Nov 2017

Author’s response to reviews:

Dear Dr. Moher, Dr. Shekelle, and Dr. Stewart,

We would like to thank you for considering our manuscript for publication, and the reviewers for their insightful comments and suggestions. The manuscript has been revised based on the comments we received. Below, we provide a point-by-point response to the reviewers’ recommendations.

Reviewer(s)’ Comments to Author:

Reviewer: 1
The authors are to be commended on a well-written and comprehensive systemic review protocol of interventions aimed at preventing diabetes and obesity within the Canadian indigenous populations. I have just a few comments:

- 1) It would be helpful to discuss the backgrounds of the reviewers and teams. Will there be balance across teams in terms of experience?

Response: We have incorporated this suggestion into the discussion section (page 12, paragraph 4, lines 267-271).

- 2) The authors research question refers to "traditional knowledge and lifestyle-based interventions"? There does not appear to be a definition of what constitutes a traditional versus non-traditional intervention. Since the authors only want to include traditional interventions, they should clearly define both what does and what does not constitute a traditional intervention.

Response: We thank the reviewer for highlighting this important point. We have referenced the importance of traditional knowledge in addressing diabetes in Indigenous communities and have defined traditional knowledge:

"However, addressing diabetes through conventional approaches in Indigenous communities may not be successful if it does not account for the spiritual, emotional and cultural views of the community(12). It is critical to incorporate traditional knowledge when engaging in research with Indigenous communities(13). Traditional knowledge as it relates to health encompasses the passing of knowledge, beliefs and practices across generations that relate to physical, emotional, mental and spiritual wellbeing (14-18)." (page 5, paragraph 3, lines 109-114).

- 3) With regards to secondary outcomes, if there are any studies looking at changes in insulin sensitivity or insulin resistance, the authors may wish to include these parameters as well since there interest is in diabetes prevention. (I'm assuming insulin and glucose levels refer to fasting insulin and glucose levels.)

Response: We thank the reviewer for this comment. We have expanded the section of the secondary outcomes to include these suggestions:

"We will also include changes in diet and physical activity, as well as metabolic profile changes including lipids, fasting glucose and insulin levels, and insulin resistance detected by calculating the Homeostatic Model Assessment (HOMA), Homeostatic Model Assessment-Insulin resistance (HOMA-IR), insulin tolerance test (ITT) or other reported measures will be included." (page 6, paragraph 3, lines 129-130).
• 4) The authors state that they are including cross-sectional studies in addition to others. I would not think cross-sectional studies would be useful in determining the effectiveness of an intervention, please comment.

Response: We would like to thank the reviewer for their comment. We wished to be over-inclusive in order to capture all evidence of obesity and type 2 diabetes prevention studies in Indigenous communities in Canada. We recognize that cross-sectional studies may have their limitations, however there are "cross-sectional interventional studies" which we wished to capture if present. In some reports, investigators may have introduced a new team member e.g. Kinesiologist to a clinic, and then did a cross-sectional review of the effect of the introduction of this new healthcare professional on baseline and post introduction of this person on insulin sensitivity or fitness. This would not be a purposefully designed clinical trial, however it will provide valuable information on methods to interventions to improve insulin sensitivity.

• 5) The use of the term diabesity in the background (and nowhere else in the paper) is distracting. I would suggest the authors follow what they did in the rest of the paper and refer to diabetes and obesity unless they wish to carefully define the term.

Response: We have changed the term "diabesity" to now read "obesity and diabetes" instead (page 5, paragraph 2, line 107). This makes perfect sense, and we thank the reviewer for pointing this out.
Reviewer: 2

Background:

• Line 107: A brief definition of the term "diabesity" should be provided.

Response: We have changed the term "diabesity" to now read "obesity and diabetes" instead (page 5, paragraph 2, line 107) for clarity and consistency throughout the paper.

• Line 108: Since no systematic review of the literature has yet to be conducted, how do the authors reach the conclusion that these interventions need to be culturally relevant and incorporate traditional knowledge to be successful? This is more likely to be an hypothesis or question to be answered by the review.

Response: We agree with the reviewer that this is the aim of this review, and we do not know yet if interventions exist, or indeed if they are culturally relevant.

We have addressed this suggestion by changing the focus of the paragraph to reference the importance of traditional knowledge in addressing diabetes in Indigenous communities:

"However, addressing diabetes through conventional approaches in Indigenous communities may not be successful if it does not account for the spiritual, emotional and cultural views of the community(12). It is critical to incorporate traditional knowledge when engaging in research with Indigenous communities(13). Traditional knowledge as it relates to health encompasses the passing of knowledge, beliefs and practices across generations that relate to physical, emotional, mental and spiritual wellbeing (14-18)." (page 5, paragraph 3, lines 109-114).

Study Selection and Eligibility Criteria:

• Line 174: Please provide an example of the typical intervention components common to traditional knowledge vs. lifestyle programs as well as the intervention components that would differentiate one type of program from another. Also, please explain how the reviewers will classify studies that test interventions that combine components of both types of interventions.

Response: We thank the reviewer for their comment. To address this, we have added in the following paragraph address the three points highlighted in this comment:

"Non-traditional lifestyle interventions will include any studies which incorporate exercise, behavioural or dietary modifications to prevent diabetes or obesity in Indigenous communities and are not based on Indigenous culture, whereas traditional knowledge programs will
incorporate similar elements but with incorporation of Indigenous knowledge, beliefs and culture into the intervention. These include, but are not limited to, interventions which incorporate Indigenous languages, traditional foods, cultural and spirituality practices, as well as delivering information through traditional practices such as storytelling, ceremonies, dances, arts and crafts(17). Eligible studies will be classified as those that employ components from traditional knowledge only, lifestyle only, or those that hybridize both intervention methods." (page 8, paragraph 5, lines 182-3; page 9, paragraph 1, lines 184-190)

Discussion:

- Line 243: The abbreviation T2DM could be used here since it has been introduced earlier in the manuscript.

Response: We have made this change (page 12, paragraph 3, line 263).

- Line 248: Please revise. The text currently reads, "If no interventions are identified to address the two diseases, then the situation requires urgent investment...". Why would one embark on a systematic review if a priori the authors suspect there will not be a sufficient number of eligible studies to review? Let us assume there are sufficient studies to justify conducting a systematic review. If that is the case, this sentence could be revised to address the review's hypothesis or central question, "If it is found that traditional knowledge interventions are more successful at preventing obesity and/or diabetes, urgent investment in the development, implementation and dissemination of these interventions is warranted" or something to this effect. However, if the authors already suspect there will be insufficient studies to review given the parameters of their inclusion criteria, could they consider expanding their criteria to include studies of Indigenous people outside of Canada and then extrapolate findings to this more specific population?

Response: We thank the reviewer for this insightful comment.

We have taken the reviewer's suggestion and adjusted the sentence as follows:

"If it is found that traditional knowledge-based interventions are successful at preventing obesity and/or diabetes, urgent investment in the development, implementation and dissemination of these interventions is warranted." (pages 12, paragraph 3, lines 264-266).