Reviewer’s report

Title: The effect of youths as change agents on cardiovascular disease risk factors among adult neighbours: a cluster randomised controlled trial in Sri Lanka

Version: 1 Date: 03 Jan 2019

Reviewer: Mariana Menezes

Reviewer's report:

The study has an interesting intervention approach, using youths as change agents; and a strong design and analysis. In the methods section it is necessary to explain better a lot of issues about sample, data collection and intervention.

Introduction

Pg 3, line 54 - the prevalence presented seems low, considering is overweight. Is not related to obesity?

The background subsection very well introduced the subject of the paper. However, I have a suggestion: it would improve if it have presented the author hypothesis: Why do you think an intervention targeting children would change adult's habits and health? Why this make sense? I know you presented some studies, but it would be nice to go further and explain theoretically this relation. We usually see studies investigating the opposite direction: how parent's habits can influence children habits.

Methods

Pg 5, line 89 - How many Divisional Secretariat (DS) division are in the city? What are the generalization/external validity consequence of this method (it could be included in the discussion part)? Explain better what is DS and Grama Niladari (GN) divisions.

I think it would be nice to explain better about youth club. What are the sociodemographic characteristics of the members? How it differentiates from general population? Who are the youths registered at the Divisional Secretary?

Pg 6, line 97 - Please explain how the sample was calculating and how you get from 68 to 24 GN division.

Pg 7, line 121 - explain about the theory that based intervention (theory-driven experience of several years?).
Pg 7 - how was the procedure of recruitment youths? Did they receive any payment?

Pg 8, line 141 - coconut oil for cooking - was it considered a healthy or unhealthy habit? Is this habit common in the region? Some official organization worldwide have discouraged the use of coconut oil, based on scientific evidence.

Table S1 - the dietary patterns targeted on intervention were developed considering any national food guideline or scientific review of literature? Rice, for example, can be part of a healthy diet when eaten in moderation. How are the Sri Lanka population food habits? Is it similar to population worldwide, increasing the consumption of ultra-processed food? Or the consumption of natural food as rice is considered a bad habit?

Pg 8, line 130-132: it seems that the intervention was focused on monitoring lifestyle habits. Please explain better how youths encouraged them to adopt improved behaviors. Any theory driven?

Pg 9 and 10, outcomes - it is not clear if the 292 adults also received the intervention by the youths. Or if they were just located in the intervention area.

Pg 9, line 160 - The method of "dropping pins on road maps" is robust? Or the researcher may choose, for example, area known as with better sociodemographic characteristics?

Pg 10, line 171 - insert BMI in extension, before citing the abbreviation.

Pg 11, line 188 - you considered that an individual has adequate intake when they eat snacks twice/day; and sugar-sweetened beverages, once/day?? It is TOO MUCH. Why not choose cut-off based on percentiles as done for vegetables?

Results

Table 1 - if the paper is going to be submitted to an international journal, is not better to present income in dollars? Or at least present the exchange rate?

Pg 15, line 270 - but they are statistically similar?

Table 1 - I suggest to insert p value, in order to compare control and intervention group.

Table 2 - For the categorical variables, it is not possible to evaluate the evolution between baseline and follow-up. You may present the percentage of these variables in baseline and follow-up.
Discussion

Pg 19, line 334 - 337 This could be better explained in the Methods section.

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

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?
5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal