Reviewer’s report

Title: Whole grain food diet slightly reduces cardiovascular risks in obese/overweight adults: a systematic review and meta-analysis

Version: 1 Date: 29 Oct 2019

Reviewer: Thomas Agbaedeng

Reviewer's report:

The present manuscript by Wang et al reports that whole grain food reduces body weight, LDL cholesterol, and C-reactive protein in overweight or obese patients using a systematic review and meta-analysis. Although this analysis offers an interesting reading on ways to combat the obesity epidemic, the presentation of this manuscript is very limited. The authors should pay special attention to my comments raised below.

Major Comments to the Author

The present manuscript should be sent for language proofreading - it was very difficult to follow.

Abstract

1. The authors have not commented on what the problem the investigated was. They also have not stated the aim(s) of the current study in the Background. Here, the authors need to indicate that the study is a "systematic review and meta-analysis."

2. The Methods is in a very poor state. The primary and secondary outcomes should be separated - at present, this is very ambiguous. Was quality appraisal performed? This should be summarised.

3. In the Results, the authors should briefly summarise the search results. The presentation of the results has not been correctly done. The mean difference (MD) and 95% CI should be reported first before p-value. Also, the mean difference can be abbreviated after first use.

4. The Conclusion should be revised for improvement.
Introduction

The background is not very coherent. There are bits of information added everywhere, thus making the whole section difficult to follow.

Methods

1. The "Data sources" subsection is inadequate. There is no registration number provided - it is a requirement that all systematic reviews and meta-analysis be prospectively registered on PROSPERO. The authors should provide the dates the searches were performed and date range for the searches. What is also missing is how the authors went from online database search to study inclusion. What software did they use for reference sorting?

2. The authors should provide the initials of the investigators that performed data extraction and assessment of study bias.

3. The authors indicate that they extracted data on "cardiovascular outcomes;" however, they have not described which outcomes, in particular, they extracted. These should clarified.

4. The "Data analysis" is missing the statistical methods used for the analysis.

Results

1. In the flowchart, the authors state that 995 abstract (not abstracts) was retrieved. Does this mean that articles without abstracts, e.g., case reports, were excluded before retrieval of abstracts for sorting? This not a correct format of reporting search strategies. The combined database references retrieved should be indicated, followed by the numbers excluded at title stage, abstract stage, and fulltext. Additionally, the authors state "950 abstract excluded." They need to provide the reasons for the exclusion.

2. The Results sections is very limited in terms of the reporting. The authors have not reported the baseline characteristics in detail, other than referring readers to the Table 1. The Outcome of the "Assessment of bias" has not been reported. Reading the results from the pooled analyses, it is difficult to appreciate the level of statistical heterogeneity. Strongly suggest the authors revise the entire Results. It should divided into subsections, with subheadings.

3. For figures 2-5, the subgroups have not been well defined. The authors should correct this by providing the subgroup names on the forest plots.
Discussions

1. The first paragraph should be used for summarising the major findings of the meta-analysis. Currently, this has not been done. Stating the hypothesis of the study for the first in the Discussions sections is bad practice - this should be corrected.

2. On line 59, the authors state that subgroup analysis was done; however, this was not indicated in the Results nor in the Data analysis. The authors should elaborate on this in the Results.

3. The lack of acknowledgement of limitations of the study is very concerning.

Minor Comments to the Author

1. Suggest the authors create a continuous line numbering, rather than the present one that restarts in each page. The pages must also be numbered.

2. In academic writing, the last item in list is always preceded by the conjunction "and." Unfortunately, this has not be obeyed throughout this manuscript. For example, instead of "weight, blood pressure, body mass index, waist circumference, cholesterol." lines 16-19 (2nd Methods page), have "weight, blood pressure, body mass index, waist circumference, and cholesterol."

3. All abbreviations should be written in full at first use, followed by the abbreviation in parenthesis. Please define CVD on line 11 (1st Introductory paragraph).

4. The phrase "...the most effective cardiovascular risk factors." (lines 16-20, 1st Introductory paragraph) does not make any sense.

5. Change "...heart protection compounds..." on line 30 to "...cardioprotective compounds..."

6. "Whole grains" are associated with increased satiety, not lower, as hinted in between lines 56, 1st Introductory page, and 1 in the 2nd Introductory page.

7. Under eligibility criteria and data extraction,
   a. The phrase "Studies would be included when satisfying the following criteria..." should be revised as "Studies were included if they satisfied the following criteria..."
   b. In the 3rd point, delete the definite article "the".
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.

No

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 am able to assess the statistics

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

Not suitable for publication unless extensively edited

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 relation to this paper

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