Reviewer’s report

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

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Reviewer: Christopher Wong

Reviewer's report:

The effect of a whole grain diet on reducing cardiovascular risks in obese/overweight adults: a systematic review and meta-analysis - Wang et al., 2019

We had the pleasure of reviewing the article entitled "The effect of a whole grain diet on reducing cardiovascular risks in obese/overweight adults: a systematic review and meta-analysis", submitted by Dr Wang and colleagues to BMC Cardiovascular Disorders.

In this article, the authors sought to determine the effect of whole grain foods on body weight, BMI, cholesterol, blood pressure, and fasting glucose. These characteristics are known to contribute to cardiovascular function and can increase in risks of cardiovascular diseases. A systematic review and meta-analysis of 22 RCTs were included in the study. The authors found a significant moderate decrease in body weight and LDL-C from consuming whole grain foods and other secondary outcomes showed no difference.

The effect of different dietary components on cardiometabolic parameters is of significant interest and relevance to population health. Thus, the present effort by the authors is commendable.

However, there are a number of issues that require addressing before this analysis is appropriate for publication.
Major points

- The authors need to first clarify the rationale for the present analysis. The mention a systematic review and meta-analysis in the introduction but it is not clear whether this is re-addressed in the discussion. There should be an adequate discussion of these prior studies and how the present analysis extends previous observations.

- Further information on the methodology needs to be provided. For example, the authors talk about their objective being "to evaluate the impact of whole grain foods on body weight in patients with overweight or obesity" - however, the methodology does not mention any inclusion criteria specifically focussing on these patients. No subgroups are mentioned in the methods yet are reported on later. Was the protocol registered?

- The results of subgroup analyses are mentioned in the discussion section - these should be included and expanded on in the results (as well as the methods section). It is not clear how these subgroups were exactly defined. One presumes the Figures are divided into these subgroups, but this is not mentioned in the labels.

- The discussion needs revision to better present the findings of the analysis in the context of prior literature. The manuscript would benefit from review by English language review

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
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