Reviewer’s report

Title: Perceived Stress and Diet Quality in Women of Reproductive Age: A Systematic Review and Meta-Analysis

Version: 0 Date: 03 Feb 2020

Reviewer: Skye Marshall

Reviewer's report:

This is a systematic review and meta-analysis on a topic that has not been investigated among women of reproductive age. This study systematically reviews the literature to determine if there is an association between stress and unhealthy dietary patterns in women of reproductive age.

Things the author did well:
1. Authors acknowledged the heterogeneity in both methods and outcomes of studies.
2. Recognised and addressed limitations of the study
3. Authors appear to have reported results correctly.

However, major revision is needed to address:
1. Background: Poorly written, contains some irrelevant information that does not relate to the study aim and topic, difficult to follow certain messages - not sure where it is heading.
2. Although the authors report critically appraising studies using CASP, the results of this assessment are not reported. Not only should this be reported transparently, but study quality is an important consideration in meta-analysis and should be used to explore heterogeneity/inconsistency using sensitivity analysis.
3. Increasingly, systematic reviews are expected to apply GRADE so we can determine the confidence in pooled results/estimated effects (meta-analysis). This takes into account risk of bias in each study as well as other considerations which help the reader to really understand how confident we can be in the conclusions. I strongly encourage the authors to add a GRADE assessment of confidence in the body of evidence.
4. Method: Did not provide meta-analysis process/methods.

Other areas to address are:
5. Abstract and background: Does not clearly discuss the literature on the association/link between psychological stress and its impact on poor diet quality (with evidence) in the beginning until line 69.
6. Abstract: What type of papers were searched.
7. Background: Authors have provided the health consequences of obeing obese and overweight in line 43-44 but have not linked it to women of reproductive age in particular.
8. Background: Explain why women of reproductive age may be at an increased risk of obesity related morbidity and mortality, why this target group? Slightly mentioned it in the conclusion.
9. Background: The mechanism of how fat builds up in line 65 may not be necessary. The mechanism of how psychological stress impacts on diet quality in line 76 would be more relevant and sufficient.
10. Background: Summarise in one statement the strength of current literature & why this research is important - coming back to what is the gap you are addressing?
11. Method: Authors did not provide study protocol registration with PROSPERO - this should be added or recognised as a limitation.

12. Method: Authors did not provide key words & index terms used in search strategy in line 116. The full search strategy across all databases should be provided as an appendix or supplementary material.

13. Method: Paragraph from line 123 requires it's own sub heading (i.e. Selection of Studies) and authors did not provide deduplication process.


15. Method: Inclusion criteria did not address that only english language studies were included until discussion.

16. Method: Did not provide subheading for study outcomes (primary and secondary outcomes); outcomes are reported in data extraction.

17. Method: data extraction checked for accuracy or review by?

18. Method: Fig 1 Flow diagram of studies selection process to specify records per database searched, number of duplicates removed, records screened to specify as title & abstract screening.

19. Results: Line 236, where is reference 40? Is that a reference error?

20. Results: Meta-analysis results to have subheading.

21. Discussion: Line 346 basically states the gap for this research, which should be in the background.

22. Conclusion loses relevancy and focus - suggest deleting lines 444 to 446.

23. Conclusion and discussion - it is important to highlight that although some studies found an association; this study cannot determine causation - which came first the stress (chicken) or the or poor diet quality (egg)?

**Level of interest**

Please indicate how interesting you found the manuscript:

- An article of importance in its field

**Quality of written English**

Please indicate the quality of language in the manuscript:

- Acceptable

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None.

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