Reviewer's report

Title: The association between diet quality, dietary patterns and depression in adults: A systematic review

Version: 2 Date: 4 April 2013

Reviewer: Russell J de Souza

Reviewer's report:

ASSESSMENT

The authors performed a systematic review to evaluate existing evidence regarding the association between diet quality and depression, and 25 papers were deemed eligible for inclusion. Overall, I think it is a valuable contribution to the literature, and the revisions I have are relatively minor; no "fatal" methodological flaws.

1. Is the question posed by the authors well defined?
Yes. The introduction is well written, and clearly outlines the problem, and limitations of previous attempts to link components of diets with common mental disorders.

2. Are the methods appropriate and well described?
Inclusion/Exclusion criteria: exceptionally clear and justifiable
Search strategy: thorough- used 3 databases; wonder why EMBASE was not searched?
Methodological quality of included manuscripts- the scale chosen has good face validity and covers all the major threats to validity. Agree with hierarchy of obs designs.

Data Analysis: Deciding not to meta-analyze was, in my opinion, a good strategy. Criteria for evidence synthesis also have good face validity. I commend the authors on taking this approach; it is, of course, somewhat subjective, but I think well-justified, and transparent.

QUORUM Statement: This (Figure 3) is acceptable, but my preference, this would be better displayed as a typical CONSORT diagram, which is what most readers will expect to see. I suggest re-formatting this figure to follow this format (see McDonald, Han et al., BMJ, 2010, Figure 1 for an example of this format). Other than this, text describing search and selection approach is concise and covers major questions a reader would have.

3. Are the data sound?
Yes. No concerns.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
No. It is now "best practice" for systematic reviews that a PRISMA Statement should be included.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
   Yes.

6. Are limitations of the work clearly stated?
   Yes.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
   Yes.

8. Do the title and abstract accurately convey what has been found?
   Yes.

9. Is the writing acceptable?
   Quality of writing is excellent. No changes needed in tables.

REVISIONS SUGGESTED

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

1. The authors claim that "high levels of heterogeneity remains in the 18 studies determined as high quality." This reason is used to justify not performing a quantitative synthesis. Was this a post-hoc decision based on tests of heterogeneity from a meta-analysis? Or did they make this decision a priori? I understand that this a commonly taken tactic, one thing that we must be careful of is inappropriately not pooling data.

   The question of heterogeneity I would have is whether or not the authors consider this heterogeneity clinically relevant. For example if 50% of studies had OR <1.0 and 50% of the studies had OR >1.0, then we’d not want to pool; but if all studies had RR >1.0, but the heterogeneity may be in the quantification of the effect. For example, if the effects range from RR 1.2 to 1.5, and are "heterogeneous" by I² >50%, is that really sufficient justification not to pool?

   Of course, this is a judgement call, and I leave it to the authors, who are the experts in the area to make it. My suggestion, however, is to move the reasons listed in paragraph 2 of discussion to an earlier point in the manuscript (where "Methodological quality of included manuscripts" is discussed), to provide some detail on how they arrived at the decision that the data were "too heterogeneous" to quantitatively pool. I would suggest things like variation in methods of assessment of diet quality, study design, assessment of depression, etc.

2. QUORUM Statement: This (Figure 3) is acceptable, but my preference is that this would be better displayed as a typical CONSORT diagram, which is what
most readers will expect to see. I suggest re-formatting this figure to follow this format (see McDonald, Han et al., BMJ, 2010, Figure 1 for an example of this format). Other than this, text describing search and selection approach is concise and covers major questions a reader would have.

- Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

None.

- Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

1. It is now "minimal standard of reporting" for systematic review authors to include a PRISMA checklist with systematic reviews. The authors would be well-served by filling out and attaching this with their MS (as supplementary material); and including a statement to this effect in the methods. (http://www.prisma-statement.org/statement.htm). Since the meta-analysis component was not done, some fields will be "not applicable", but for the sake of transparency, I think the checklist should be added. Methodologists will like to see it, and it will give an already high quality paper more "gravitas".

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I have no conflicts of interest related to the work in this reviewed manuscript.