Reviewer’s report

Title: Reproducibility and relative validity of a newly developed web-based food-frequency questionnaire for assessment of preconception diet

Version: 0 Date: 07 Jun 2019

Reviewer: Gail Rees

Reviewer's report:

This paper assesses the reproducibility and validity of a FFQ for use with young adults in Norway. This is a worthwhile piece of work, which will be useful for widespread dietary assessment with this population. However, there are a couple of methodological issues that reduce the robustness of the data and the conclusions made. Firstly, the sample size is very small. Only 21 participants completed the study (22 according to figure 1). The authors note that this is a limitation in their discussion, and acknowledge that a reasonable sample size for this type of work would be 100-200. So my question is, whether the work should be published at this stage or whether more data should be gathered to ensure the data and subsequent conclusions are correct. The sample was recruited from a university campus and so is unlikely to be representative of the wider population, and again this is noted, but it does reduce the usefulness of the work. The two methods of dietary assessment (FFQ and weighed intake) are not assessing the same period of time and so there are likely to be differences with the weighed intake assessing 7 days and the FFQ reflecting the last 4 weeks.

The paper was well written, clear and concise. Some smaller issues include:

-I disagree that pre-conception nutrition has just recently gained attention. Although there are some recent important papers and reports, it has been a subject of concern for some time. (Wording of abstract and first paragraph).

-main section on page 4 about dietary assessment methods is not well referenced and references 9 and 10 are not original sources. Refer to a 'scale' as a 'weighing scale' for clarity.

-lines 132 - 133. It is unclear if 21 or 22 people completed the study (also figure 1).

-line 162 - what are 'cold cuts'? Cold meats?

-lines 168-169 - what is the difference between 2-3 per day and more than 1 unit per day?

-for data entry (page 10) - was there more than one researcher who did this, was a proportion of the data checked?
- spelling of axis on line 228
- line 248 BMI needs units here and on Table 1 kg/m²
- line 206 the r value for calcium is quoted as 0.94 but is 0.93 in the Table
- how did you choose which nutrients to examine - for example why did you not look at vitamin C or thiamine?
- line 278 - how did you decide on a plausible energy intake range? Did you calculate under / over reporting according to estimated BMR?

For the discussion - you have shown reproducibility for the nutrients under examination but the measures were taken quite close together and so you would expect them to be correlated.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**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

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Please indicate the quality of language in the manuscript:

Acceptable

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