Reviewer's report

Title: Reproducibility and validity of a Food Frequency Questionnaire among pregnant women in a Mediterranean area

Version: 1 Date: 23 November 2012

Reviewer: Maijaliisa Erkkola

Reviewer's report:

In general the manuscript is quite well written and handles a very important topic because of the specific group for which data are still lacking. Novelty of the paper lies in the use of biochemical calibration to assess validity of the food frequency questionnaire. However, it also presents the biggest challenge for the study as the biochemical marker and dietary assessment method do not often measure the same thing. In terms of validation studies, there is a need to be clear about just what the biomarker measures. Many, if not most, biomarkers do not permit an assessment of true absolute intake. I suggest one more editing round before accepting the manuscript to be published in the journal.

• Major Compulsory Revisions

1. Abstract: Rewrite the conclusion “…can provide a valid estimate of diet across a wide range of food groups and several important nutrients during pregnancy.” It is too loosely written conclusion as you did not study validity of the FFQ to estimate food intake and the results for nutrients were acceptable only with caution. (lines 53-54)

2. Lines 74-75: I do not see how the frequent use of dietary supplements could limit the use of food records and 24h-recalls to validate an FFQ. The FFQ does not measure the use of supplements if not asked separately as could be done when keeping diaries and answering recalls.

3. Lines 104-105: the classification of subjects by their socioeconomic status should be clarified. At the present form, it does not open for the reader. The same applies to the table 1.

Dietary assessment

4. Did you use data from previous dietary surveys in pregnant women to be sure that most commonly eaten foods and the foods that most discriminate between pregnant women were included into your FFQ?

5. Were the FFQs checked with respondents; any checks for coding errors?

6. Lines 123-125: The ranges should be presented separately for the estimates of reproducibility and validity.

Biomarkers

7. It is essential that the biomarker information is collected on days that are representative of the total frame of the FFQ – does this apply to all the nutrients
Results

8. Validity should be additionally assessed by dividing subject into categories by the intakes from the FFQ and respective plasma concentrations. This method gives a much clearer and undistorted picture of how well the instrument is doing compared with correlation coefficients.

Discussion

9. Do not present new results in the discussion (lines 311-323). They should be included in the results.

10. Line 325-6: “...be valid to estimate of long-term intakes and rank women according to their intakes for relevant nutrients.” The statement of ranking should be based on classification into categories of intake/concentration which I suggest the authors to do.

• Minor Essential Revisions

11. Line 94: For a better presentation of results, it would be better to always present both, frequencies and percentages.

12. Results: Add subtitles for the better organization of the text.

13. Table 1. Decimals are not needed when presenting the percentages.

Quality of written English: Acceptable

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

Declaration of competing interests:

'I declare that I have no competing interests'