Reviewer’s report

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

Version: 1 Date: 30 November 2012

Reviewer: Henrique Barros

Reviewer’s report:

This is a very interesting, well written paper on an important subject that has not gained the needed attention. The research protocol followed standard steps and seems sound. However, some minor questions and comments follow:

1. FFQs were obtained during the 1st and the 3rd trimester of pregnancy: During the course of pregnancy many different health issues can occur and diet might change a lot be it because of nausea and vomiting (that disappear), hypertension, edema, unwanted weight gain, etc. Thus, we are not really talking about reproducibility but may be measuring in fact different intakes. This is not addressed in the co-variates section (diseases of symptoms of pregnancy) nor in the discussion as it should.

2. Also, in the Discussion section, the authors stated that “We applied a 20-week interval which made answer memorization more unlikely, thus avoiding an artificially increased reproducibility. However, a long interval could also be a concern since diet in pregnant women may not be as stable as among non-pregnant women and reproducibility may be compromised by real dietary changes. Is any evidence available from the study protocol or other study’s data to help to go into more detail regarding this possible bias? Could adjustment for weight gain help to understand it?

3. “We collected detailed information on multivitamins use…” Could you give details? Were the box checked, was it based on prescriptions or self-report. Was this information ever validated? Often, women keep taking vitamins during the all pregnancy period. Was it considered?

4. Was dime light also used for carotenoids handling?

5. You probably got the information regarding anemia and hemoglobin. Was it considered or do you think it might be useful to take it into consideration to value the nutritional status and “independently” give some additional consistence to the findings?

6. The authors stated “All nutrient and food group intakes were log-transformed prior to analysis to improve their normality”. As we know, very often this is not enough to guarantee normality - did you always got it or had you to accept robustness of methods and not follow the expected assumptions? If yes, how could this influence the magnitude and significance of relatively weak and imprecise point estimates?

7. It is true that “most carotenoids are transported in plasma lipoproteins” but it is
not obvious that “plasma concentrations of carotenoids and vitamin E” needed adjustment “per plasma cholesterol concentrations using…”. Did it really change anything? Weren’t you just over adjusting?

8. “As for nutrients, the energy-adjusted correlations for food groups were slightly lower than unadjusted correlations although all of them were statistically significant (except for animal fat)”. Any possible explanation?

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'