Reviewer’s report

Title: Nutritional knowledge as a determinant of vitamin and mineral supplementation during pregnancy

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Reviewer: Sofia Correia

Reviewer’s report:

The authors aimed to evaluate the effect of nutritional knowledge on the use of vitamins and mineral supplements during pregnancy and to assess the role of socioeconomic circumstances and prenatal care in this association.

Major Compulsory Revisions

1. According to the results (the main objective is resumed to one sentence in the end), tables and discussion, I think the aim of this study was to assess the determinants of folic acid, iron and multivitamin supplementation and not what the authors purpose as the main objectives. Both topics are well studied and I cannot see what this study adds to the literature. The additional effect of prenatal care could be of interest but it could not be addressed with this study.

2. The manuscript is based on the assumption that education and adequate prenatal care use act as proxy indicators of the nutritional knowledge (introduction, paragraph 4), which is the characteristic that influences the intake of supplements during pregnancy. I think the existing evidence does not support this and I did not see the evidence or the conceptual framework for this statement.

3. In the discussion (paragraph 9 and 14), the authors assume that nutritional knowledge as a measure of adequacy of prenatal care content but this was not analyzed in this study. It is not possible to understand if nutritional knowledge results from better prenatal care or if women with higher awareness (determined by other characteristics, namely education) went more often to prenatal care.

4. Education and nutritional knowledge, although do not represent the same, may show high collinearity and this aspect should be taken in consideration in the models and in the final conclusions. Also, if the authors assume that nutritional knowledge represents prenatal care the same happens with this variable.

5. Methods, “Validation of the nutritional knowledge questionnaire”: According to what was described I do not think it is a complete validation of the instrument. Also, the authors could explore some of the components of the questionnaire.

6. Methods, paragraph 2: The authors calculated the required sample size based on a prevalence study, which was not their aim. And what was the power of this study?
7. Methods, paragraph 3: Inclusion and exclusion criteria should be revised, since they are not the opposite of each other (eg: inclusion criterion - singleton pregnancies, the exclusion is not having a multiple pregnancy).

8. Methods, paragraph 4: “a significant correlation between the sample and the reference group ($r=.900$, $p=.004$).” – in what? The differences between the sample and the target population should not be calculated with correlations but with the appropriate tests.

9. The discussion is confusing and needs to be more structured. The limitations of this study should be more detailed, namely about the moment of data collection, the questionnaire used.

10. Discussion, paragraph 6: I do not fully understand the reason proposed for folic acid underuse. Also I think it might need a more detailed explanation on all the reasons that involve supplementation misuse. It would be useful to have a brief explanation how medicines insurance or reimbursements work in Romania.

11. Discussion, paragraph 9: The authors declare that some studies show a positive association between education and multivitamins use (no references were added), but some studies also show the inverse, as one of the cited studies (Lunet N at al., reference 27). In the same paragraph the authors should better explain what is usually used on studies about the effect of prenatal care, namely the use of some adequacy indexes. The authors do not discuss the limitations of this particular study that only uses initiation and the amount of visits.

**Level of interest:** An article of limited interest

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests