Author’s response to reviews

Title: Maternal Vegetable Intake During and After Pregnancy

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Author’s response to reviews:

Thank you for the invitation to revise and re-submit our manuscript now entitled “Maternal Vegetable Intake During and After Pregnancy” (PRCH-D-18-01413.” We have revised the paper based on the reviewers’ comments and believe that the manuscript has been strengthened by their suggestions.

Below, please find our point-by-point response to the reviewer comments (in italics). Changes to the manuscript have been highlighted in grey.

Editor Comments:

1. Abstract: there is need more information about the tool/s that authors used for data gathering regarding vegetable consumption.

We have added this information.

2. Method: please explain the DHQ with a better detail. How many questions did it have, and where authors derived this questionnaire?

We have added some additional information as well as the reference to the original survey.

3. Please explain setting of the study. And if authors selected women randomly?
This was a secondary data analysis of the Infant Feeding Practices Study II. We have added some additional details. A limitation to this study sample is that it was not a random sample of pregnant women, rather it was from a self-selected consumer panel. We have added this to the limitation section.

4. **METHOD:** authors explained that they estimated the vegetable intake with adjusting energy intake. Please explain how did you estimate energy intake?

The validated Diet History Questionnaire is a semi-quantitative food frequency questionnaire (FFQ), so total energy intake was one of the output variables.

5. Please explain in which semester of pregnancy, women recruited for the study? We have added this. They were recruited during their third trimester.

6. Every questionnaire or scale that authors used in this study need to be explained in detail.

We have added some additional information for each of the measures.

7. Please explain the condition that you used for entering variables into the logistic regression.

We used a theory and data-driven approach to select covariates. Relevant literature was used to select initial covariates to test in models, and then any variable that changed the odds ratio by 10% or more was included in the final model.

8. Because there were four groups in this study, one of the statistical tests should be ANOVA.

We thank the editor for raising this. We were interested in comparing those women who improved their vegetable intake to those that remained inadequate, and comparing those that reduced their intake compared to those that remained adequate. By doing this comparison, we hoped to better understand the predictors for those that improved vs. those that remained inadequate and those that reduced their intake vs. those that remained adequate with the hopes to more directly inform and appropriately tailor interventions to improve or maintain proper intake during pregnancy. We have made this clearer in our introduction and methods section.

Having said that however we agree that exploring diet quality across four groups is also important. We ran those tests and the results were similar to what we present by groups (data not shown). Given the new framing of our paper we thought this would be a more straightforward approach.
9. Table 1: why authors did not take into account four groups of study with each other using the ANOVA test and then diagnose the difference between groups with post Hoc test?

See comment above.

10. Table 1: please explain poverty level below the table.

We have added this information.

11. Table 1: please put other groups of educational level such as primary, high school and so on in the table. For other variables such as marriage status, gravity and ethnicity also please put other variables in their category.

We have added these categories to the table.

12. Table 2: please consider months for breastfeeding instead of weeks that is unusual.

We have made this change to the table and the text.

13. Please put the gestational age for four groups of the study.

All of the infants in this dataset were at least 35 weeks of age as specified in the methods section for eligibility. Based on the literature in the area we are not aware of a child’s birth age after 35 weeks being related to maternal dietary intake. We however appreciate the feedback and will be sure that for future studies we collect this variable.

14. What was the mode of delivery?

Thank you so much for this comment and that we unfortunately do not have that information in the selected dataset and based on the literature we are not sure how this would impact maternal dietary intake.

15. It is necessary to explain that if authors followed pregnant women until 6 months after delivery.

As part of the protocol for the cohort, longitudinal data were collected with a prenatal questionnaire; a short telephone interview near the time of the infant’s birth; a neonatal questionnaire sent when the infant was 1 month old; and 9 questionnaires about infant feeding, health, care, and related issues sent approximately monthly during infant ages 2 to 7 months and
then approximately every 7 weeks until the infant was 12 months old. We have added a sentence to the method, that says that mothers were followed throughout the first year of their infant’s life.

16. Please put the aim of the study at the beginning of the discussion.

We have added this to the beginning of the discussion.

BMC Pregnancy and Childbirth operates a policy of open peer review, which means that you will be able to see the names of the reviewers who provided the reports via the online peer review system. We encourage you to also view the reports there, via the action links on the left-hand side of the page, to see the names of the reviewers.

Reviewer reports:

Hamid Baradaran (Reviewer 1): This is interesting paper but for better presentation I have some suggestion

1- It is not very clear that it was a historical cohort or case-control or nested case-control study

We have added clarity on this, in that it is a longitudinal cohort design.

2- Please be more clear in inclusion and exclusion criteria

All women identified as being in their third trimester of pregnancy were included in the mailings. Qualifying criteria on the birth screener were that neither the mother nor the infant could have a medical condition at birth that would affect feeding and that the infant had to have been born after at least 35 weeks’ gestation, weigh at least 5 lb, be a singleton, and not have stayed in intensive care for 3 days. After the birth screener, infant-mother pairs were disqualified if the infant was reported to have a serious, long-term health problem that would affect feeding. Each questionnaire asked about such problems, and the reported problems were evaluated by a physician and by a pediatrician and a maternal and child health expert. Women were excluded from the sample if 2 of these 3 evaluators thought that their infant had an illness or condition that would affect their feeding behavior. In addition, respondents were excluded from the sample if they lived in a zip code to which the US Postal Service stopped delivering mail as a result of the 2005 Gulf Coast hurricanes. Exclusions because of this mail disruption affected respondents in the prenatal through month-4 questionnaires. Given that this has been a widely cited cohort, we only included some of the details and made sure to reference the protocol.

3- The important issue is that what is or are the outcome(s) ?

We were interested in exploring the sociodemographic predictors of either reduced vegetable intake (versus stable adequate) or improved (versus stable inadequate), therefore the outcomes
are “reduced” and “improved” vegetable intake. We believe that by using these two outcome variables we could better target/predict those at risk for reduced vegetable intake for intervention purposes and try to understand why some mothers improve without intervention.

4-Authors mentioned that mothers were categorized into one of four groups: stable inadequate vegetable intake group, improved vegetable intake group, stable adequate vegetable intake group, reduced vegetable intake group, but which group is REFERENCE group? therefore I would suggest to estimate the OR (either adjusted and unadjusted) based on the reference group in order to give better perspective of your comparison.

We were interested in exploring the predictors for women who both improved their vegetable intake, compared to those that had stable and adequate consumption (reference) and those that reduced their vegetable intake as compared to those that had stable and inadequate consumption (reference) hence these were separate models. We have made this clear in our methods and results.

5-OR adjusted not reported based on control the cigarettes smoked.

We have added the adjusted OR controlling for cigarettes smoked in the final model.

6-Please report the mean difference, confidence interval and Cohen's d for table 1 and 2.

We apologize for the confusion, we conducted t-tests or chi-square tests in tables 1-2. Our p-value is indicating if there is a significant difference between the two groups on relevant variables. To make this clearer we have added text in the table footnote “p-values derived from t-tests for continuous and chi-square tests for categorical variables.”

7-Report OR adjusted based on control of demographic variables which significant in table 1 and 2.

8-Authors should present OR adjusted and 95% CI for all subgroups in the text

We have included the all variables which were significant in table 1. Dietary variables are not considered possible control variables and have noted this in Table 1.

Good luck

Najmeh Maharlouei (Reviewer 2): Dear Authors,
Thank you for submitting your manuscript entitled "Maternal Vegetable Intake During and After Pregnancy" to "BMC Pregnancy and Childbirth". In this study you compared vegetable and fruit intake during pregnancy and post partum.

I personally like the classification in four groups; however, I did not get the logic why you compared the groups two by two in table 1 and 2. Please clarify the reason in the methods if there is any; otherwise, compare the variables among four groups instead of two by two.

Thank you for this comment, we have added our rationale as to why this was important. We believed that the implications and recommendations of our work would make more sense if we explored those that either increased or decreased intake relative to those that were stable. We have added this to our background as well as our method section.

Given that the classifications from "stable inadequate to stable adequate" could be considered as ordinal ranking of one measure (taking vegetable and fruits) why you did not use ordinal regression, in which you would reference either "stable adequate" or "stable inadequate" and compare other three groups to it.

We have included our rationale as to why

Appendix Table 1 is very important and encompasses some of the most important messages of your study as it covers the main part of the first paragraph of the discussion. I think it should not be presented as the appendix. Even if the number of tables is limited based on the journal's policy, it seems wise if you integrate other tables, so that you can present it in the text of the manuscript.

We agree with the reviewer and have added it to our tables.

Since my university has not subscribed for Reference 30 I could not evaluate it. It does not make sense that "… mothers believe they change their diets and eating habits after the birth of their child and that they turn towards unhealthier dietary habits.(30) The primary reason for changing their diet was feeling responsible for their baby's digestive discomfort via their breastmilk,…". The sentences in Italic format do not match.

Page 3; Line 69: Background: Given that during the the first 4-6 months of life, exclusive breast feeding is recommended, may be it is better to modify the sentence, as you have written "Vegetable intake during the first year of life is associated with the development of healthy eating habits later in life.”

We have made this change.