Reviewer's report

**Title:** Dietary habits of pregnant women and implications for child health: a survey of predominantly Hispanic women in California.

**Version:** 1  **Date:** 22 March 2013

**Reviewer:** Kathleen Abu-Saad

**Reviewer's report:**

Major Compulsory Revisions

1. The paper raises at least two important topics that have not been covered adequately in the literature: exposure to food- and beverage-borne environmental toxins in pregnancy, and dietary habits of pregnant Hispanic women. However, it is difficult to adequately cover both of these topics in a single paper. What the authors present in this manuscript does instead provide the basis for 2 separate and important papers.

2. There is not to my knowledge a comprehensive review paper of the many environmental toxins the authors discuss in the paper, however they have made a good start on such a review in their discussion. It would be a great contribution to the literature to have a comprehensive review that summarizes the existing evidence and provides quantitative information whenever possible (e.g., what level or range of levels of exposure have been associated with adverse developmental outcomes). It would be helpful to have the literature summarized in tables that clearly summarize study subjects (human, animal), sample sizes, specific exposures (and how measured), outcome variables, and the point estimates/ranges associated with (or not found to be associated with) adverse outcomes. In the current draft of the manuscript discussion the authors describe much of the literature, and then make very general recommendations about what should and should not be consumed, which goes beyond the scope of the original data they present in the paper. This type of discussion would be more suitable for a literature review in which the recommendations are based on the evidence summarized and then are more specific (e.g., not “women should avoid or abstain from eating X foods”, but rather consumption of XX grams or portions per day may put women at risk of YY adverse outcomes), or point out the specific areas that require more study before clear recommendations can be made.

3. The other topic the authors deal with (and seems to be the main topic from the title) is the prenatal dietary habits of a sample of predominantly Hispanic women, which in my opinion could and should be presented as a separate paper, with only a very succinct, quantified summary of the healthy and unhealthy dietary habits the authors plan to discuss, specifying either the recommended or the known/suspected dangerous intake levels. The background/introduction and discussion of such a paper should also review the literature of what is and is not known about the dietary habits of pregnant Hispanic women, and what knowledge this study adds.
4. The data collection instrument used (Food, Beverage, and Medication Intake Questionnaire) enables the assessment of selected healthy and potentially high-risk dietary habits that are of interest, but not a full dietary assessment of the overall adequacy of their nutrient intake. This should be made clearer in the title and research question of the paper. The paper should more clearly describe the data collection instrument, and ideally, if possible, include it as an appendix. The instrument collected information on frequency of consumption (according to pre-specified categories?? e.g. times per day/week/month?), but apparently not number of servings, or portion size, and this needs to be better clarified.

5. The results, as currently presented, are inadequate for publication, but the authors have much more data at their disposal. Whenever possible they should relate consumption frequency to recommendations (and provide sources for the recommendations), as they do for fruit in Food Consumption Habits, paragraph 3. Furthermore, the level of statistical analysis that they present is too simple. They should at the very least explore associations in univariate and multivariate analyses, between dietary habits/consumption levels and various co-variates such as age, possibly ethnicity (dichotomized as Hispanic/non-Hispanic), household income and/or educational level, and also possibly among Hispanics, language of the questionnaire as a proxy for acculturation. Consumption levels by trimester of pregnancy would also be of interest if there are differences, and if not, this should be reported. Tables and figures should present different data, rather than repeat exactly the same data.

6. Associations with SES are of particular importance. Is there data on whether or not women were in the WIC program (or at an income level that would qualify them for the WIC program)? How was this associated with healthy and unhealthy habits? If it’s associated with a high consumption of canned foods, for example, this may have policy implications for the WIC program. Again, it would be very important for the authors to better quantify the levels at which exposures to canned foods and all other toxins they mention may be dangerous, and compare consumption levels to those in their sample. Alternatively, if dangerous exposure thresholds are not known, highlight this as an important area for further research in light of the consumption levels found in the study. However, if the data provides only information on percent consuming or not consuming, it cannot be taken to support the assumption that the dietary intake of either healthy or unhealthy foods is high, so better use should be made of the data to quantify/characterize consumption levels.

7. The discussion lacks a paragraph on study limitations, and this should be added.

8. The paper does not support the final statement that healthier pregnancy lifestyles should be promoted particularly for women of Hispanic origin, because there is no evidence presented that the pregnancy diet/lifestyle of Hispanic women is more or less healthy than that of women in other ethnic groups (and diets of Hispanic women have been shown to differ by country of birth and acculturation level). Comparisons with the literature, or to NHANES data possibly, are needed to support such a statement.
9. In conclusion, the authors broach important and under-researched areas. With substantial revisions, both topics presented in the current manuscript are worthy of publication (in my opinion, in separate papers) and would represent valuable contributions to the literature.

Given the extensiveness of the major compulsory revisions that I recommend, I do not make recommendations for minor essential or discretionary revisions on this version of the manuscript.

**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.