Reviewer's report

Title: Maternal characteristics associated with the dietary intake of nitrates, nitrites, and nitrosamines in U.S. women of child-bearing age: a cross-sectional study

Version: 2 Date: 15 January 2010

Reviewer: Mary H. Ward

Reviewer's report:

The authors have addressed my major comments and the manuscript has been considerably revised and improved. I commend the authors on their considerable efforts in both developing the database and in describing intakes of nitrate, nitrite, and nitrosamines in this geographically and ethnically diverse U.S. population.

I have a few additional recommended changes and an additional comment.

Recommended changes:

1. Tables 1-4 could be streamlined by only presenting crude and adjusted ORs for those factors that were significantly associated with intake in the multivariable models.

2. Nitrosamine should be changed to Nitrosamines in the tables and a footnote should be added describing how these were determined (i.e. mostly NDMA measurements but sometimes summed NDMA and other NOC).

3. In comparing reported intakes in the literature, it is important to consider the FFQ, the number of food items assessed, and whether the study was designed to capture nitrate, nitrite, and NOC intake. More extensive assessment of vegetable intake especially high nitrate vegetables like celery and beets will lead to higher estimated intakes. This point deserves a comment in the section of the discussion that contrasts intakes across populations (sorry I didn't think to mention this before).

Additional Comments:

I wanted to clarify my previous suggestion about weighting nitrate etc. values for individual foods that comprise a line item. The USDA CSFII data (24 hour recalls) can be obtained sex-, race-, and age-specific. So the 24 hour recall food lists can be limited to women of reproductive age and obtained separately for the racial/ethnic groups of interest. The frequency of mentions of a type of food (e.g. fish) can be determined by race/ethnicity. Nitrate, nitrite, and nitrosamine values would be assigned to each 24 hr recall food (e.g. fresh fish, cod; pickled fish, canned; etc). The value assigned to the line item (e.g. "fish") is then a weighted average of the number of mentions of each food that is relevant to the FFQ line item "fish". Databases can be computed separately by race if the CSFII 24 recall shows variation across racial/ethnic groups. It may be that weighting by the
number of literature reports for a food accomplishes a similar result to weighting by the number of mentions of a food on the 24-h recall. However, it would be good to check this for a few line items where there is considerable variation in nitrate, nitrite, and nitrosamine levels across foods comprising the line item.

Level of interest: An article of importance in its field

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.