Author’s response to reviews

Title: Nutrient Intakes and Sources of Fiber Among Children with Low and High Dietary Fiber Intake: The 2016 Feeding Infants and Toddlers Study (FITS), a Cross-sectional Survey

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Author’s response to reviews:

Dear Reviewers,

Thank you for your thorough review of our manuscript and valuable suggestions. Below we have provided detailed responses to your individual comments.

BMC Peds Reviewer 1:

1. Line 81, if available, please add information on the causes of the under-consumption of dietary fiber in children. You might want to separate this out by age group, i.e. toddlers vs. teenagers. Although not much information is available, the reader would benefit from understanding why the chronic under consumption of dietary fiber has deep behavioral roots and won’t be resolved without targeted interventions to change intake behavior.

Thank you for this suggestion. We added a paragraph of factors related to low consumption and targeted interventions that may be necessary. We also reiterated this in the discussion.

2. Line 219 in lieu of "positive" changes, I suggest the use of the word "beneficial" or "healthier".

Changed to ‘beneficial’ per your suggestion.

3. Line 240 please add a short description of why consuming whole grains does not automatically lead to meeting 100% of the DF intake levels; i.e. the fiber content of whole grains varies greatly....
Added this to the discussion.

4. Line 254 please add one or two examples of added fibers that affected your analysis and and estimation of how much of the total DF intake to expect to be from these added fibers.

Expanded on this limitation. Unfortunately we are unable to estimate how much added fibers may have contributed.

5. Overall, is it possible to examine the data for information on which foods or intake patterns were displaced/affected by the higher DF intake? That would be a very valuable addition to this manuscript but I recognize that due to high intra-person diet variation it might not be possible to extract that information.

This is an excellent suggestion. We added this analysis to the manuscript and it yielded interesting results.

BMC Peds Reviewer 2:

1. Line 27-28: "Increased dietary fiber intake in children may offer health benefits including improved overall diet quality". Improved diet quality can lead to health benefits, however, diet quality is not a health benefit itself. Please rephrase.

Rephrased to “Increasing dietary fiber intake in children may improve overall diet quality.” per your suggestion.

2. In the abstract it would be much more interesting to report actual differences in intakes rather than p values.

Added mean differences per your suggestion.

3. Line 259: "In conclusion, young children in the U.S. fall short on dietary fiber." This seems to be overstated. It can be said with certainty that this is the case for the current study population, but not for all young children in the US as they were not all included in the study. It is merely a speculation.

Reworded to say, “In conclusion, the young children in this nationwide survey fell short on dietary fiber.”

4. Table 1: what does the SE represent? For instance, in the group of 12-23.9 months with fiber intake <25th percentile 53.7% is male with an SE of 4.2. The SE does not seem to have any meaning here and should be left out.

Thank you for pointing out this important oversight. The sample is weighted so the % is a weighted estimate and the standard error of that estimate. I clarified this in the methods and the table.

5. Table 3: Some of the numbers of subcategories do not seem to add up. In the 1st age group (<25th percentile) 9% comes from grains, of this 5% is sweetened and 8% is whole grain, which seems to exceed the initial 9%. Please clarify.
9% is all cereal and of that cereal 5% is sweetened and 8% is whole grain. It doesn’t add up to 9% because a cereal can be both whole grain and sweetened (e.g. honey nut cheerios). Clarified in footnote “All cereals were categorized as both whole grain/non-whole grain and sweetened/non-sweetened”

6. Table 3: Why are meat and other protein sources categorized together? This means meat is in the same category as legumes. In light of studying fiber sources, these should be separated from each other as these have a very different fiber content.

The FITS study was designed so that the foods were grouped and categorized similar to the NHANES methodology. We agree that it is a limitation that the FITS Study was not designed to look specifically at fiber intakes and have specified that in the discussion.

7. Lines 77-78: "mean intake was 10±0.1g per day for children aged 12-23.9 months" this differs from the value presented in the results. It is based on the same study population, why is it different?

The mean intakes form line 77-78 are from a previous publication. The mean intake in our results are energy adjusted (per 1000kcals) which is why they are different. Clarified this in the results section.

8. Please specify that fat regards total fat throughout the manuscript.

Clarified throughout

9. One of the aims of the study is to determine the characteristics of those with a low intake versus those with a high intake. However, no statistical tests are performed to examine how characteristics differ from each other and findings are not interpreted in the discussion section. As this could be useful in terms of targeting certain groups in public health strategies, this should be studied in more detail.

This is an excellent suggestion. We conducted the t-tests and added to the discussion.