Author's response to reviews

**Title:** Low Nutrient Intake among Adult Women and Patients with Severe Tuberculosis Disease in Uganda: A Cross-sectional Study

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The Editor
BMC Public Health

Re: Response to Reviewer's Comments: Manuscript No: 1757808674758009

Thank you for the communication dated October 8th, 2012 concerning reviewers' comments. We would like to thank the reviewers for the excellent comments that have enabled us improve the manuscript. Please find below a point-by-point response to the comments.

Reviewers' comments:

Reviewer #1:

This paper is dealing with very important public health topics such as TB, HIV and malnutrition. The main weakness of the study is that the findings are based on the last 24 hours dietary recall which is not validated by a more reliable weighted food record or by measuring serum micronutrients and nitrogen balance studies.

*We are agree to this limitation. Weighted food record or measuring serum micronutrients and nitrogen balance studies were beyond the scope of the study.*

It is not also stated if some of the subjects, at least those with severe TB were hospitalised. In those hospitalised the 24 hours dietary recall reflects the hospital diet.

*None of the study participants were hospitalized including those with severe disease. All participants were ambulatory. We have added a phrase on line 83 first paragraph in Methods.*

The large variation in caloric intake by the mild TB patients (3064 kcal) and the non wasted patients with mild TB (3500 kcal) reflects probably under reporting and over reporting.

*This is possible; however, we probably think this variation is due to the tendency for dietary data to be skewed. The differences are not significant. We aggressively trained the study staff in estimation of portion size with photographs as job aid.*

There is also lack of power calculation in the population sample selection.

*We have added a sentence on sample size estimation in analytic section.*
The low caloric intake of 567 kcal by two women and the very high caloric intake by 3500 kcal by the non wasted mild TB patients represent only 8 subjects.

*This represents sub-analysis issue, the study was not powered to evaluate this difference. However, findings were important to report and are consistent with the differences in dietary intake between men and women as reflected in Table 2 where sample size is higher for men and women.*

There is no description how the 30 control patients without TB and HI were selected from the community.

*We have added the following sentence “The community individuals were selected through random pick of consenting adults from the immediate neighborhood households to those for tuberculosis patients”*

Although it is a cross sectional study it could have investigated the social and medical history and the previous nutritional status and disease status of the subjects.

*We agree with this review; however, this data was not collected.*

The lower nutrient intake by women in the severe TB is expected because of the lower energy intake.

*We are agree with this review; however, this further demonstrates the differences in dietary intake between men and women.*

More sophisticated multivariable analysis could have provided clearer conclusions.

*We agree with this review because multivariate analysis would adjust for confounding effects. However, the study was purely descriptive.*

Allthough the study is dealing with a very important public health issue in a developing country it is not appropriate for publication in the current form because of serious weaknesses.

*We have addressed the weakness in a point by point.*

Reviewer #2
Reviewer's report:
Title: Tuberculosis Disease Severity and Gender are Associated with Reduced Dietary Intake among Adults in Uganda: Cross-sectional Study. Authors: Ezekiel Mupere, Isabel M. Parraga, Daniel J. Tisch, Harriet K. Mayanja, and Christopher C. Whalen.

This is a paper examining differences in dietary intake between patients at different stages of tuberculosis and with presence or not of HIV. The paper presents novel information, which will be of interest to a wide range of health professionals and is appropriate for BMC Public Health.

Major compulsory revisions:
1. A major comment has to do with your manuscript's title (and wherever else this might be relevant). The term ‘reduced dietary intake’ is very broad and does not specify your specific findings. For example, an individual can have a reduced dietary intake (thus, reduced in quantity food intake) and still have a high energy intake, if, for example, they consume extremely energy-dense foods. On the other hand, I understand that this is probably unlikely, considering the theme of your manuscript. Nevertheless, please make this issue clearer
throughout the manuscript, including the title and abstract, so that your message is more straightforward to readers.

*In agreement to this review, we have re-phrased reduced dietary intake to reduced nutrient intake and mentioned specific nutrients such as energy intake, etc throughout the manuscript.*

2. In addition, I recommend that you change the word ‘associated/ associations’ throughout the manuscript, since it does not seem that you performed actual association tests, rather you examined differences between different groups (stage of tuberculosis and gender). Your method to analyze your data is correct, however, you did not test for associations.

*We have revised the word associations to differences between different groups throughout the manuscript.*

3. Some minor editing with regards to English language would be needed.

*We have proof-read and revised typos as necessary throughout the manuscript.*

Abstract:
1. If the word count allows, please include information on age of participants, as well as the distribution of genders.

*We have this information to the abstract.*

2. Although HIV is a well-known term, it is usual to describe abbreviations in full the first time they are used. This is also valid for the abstract.

*We have described HIV in full before using the abbreviation and this has been done to other abbreviations.*

3. Please convert kcals to KJ or MJ (again, it is usual universal journal policy these days). If you like, you can present both KJ and kcal values in both the text and tables, but not only kcals.

*We have preferred to use MJ throughout.*

4. Please include p values in the results section of the abstract.

*We have included p-values appropriately.*

5. Is it right that among patients with moderate-to-severe disease, men consumed 3064 kcals per day? It seems like a very high energy intake, particularly for this stage of the disease.

*No, it is among men with mild disease. We have corrected this error.*

6. Lines 40-41: ‘gender were associated with reduced dietary intake’. Please be more specific and make sure to state that you are examining differences in energy intake etc. between the genders, and not associations.

*We have re-phrased to differences and deleted the phrase associations.*
Methods
1. 1st paragraph (Lines 78-79): ‘One participant was excluded because of prior tuberculosis treatment’. Please describe inclusion/exclusion criteria in detail.

*We have added the inclusion and exclusion criteria in first two sentences for methods*

2. Also define number of females/males in your sample.

*We have defined these in first paragraph of the results.*

3. Were all of your patients HIV-positive? If so, this should be clearly identified in your title/abstract as well. You mentioned that HIV advice was provided, but the title indicates that tuberculosis was your main aim.

*We enrolled four categories of study participants including tuberculosis patients with and without HIV, HIV positive participants without tuberculosis and community individuals without HIV and tuberculosis. In the title and abstract, we preferred to present the key finding and key message that affect differences in nutrient intake.*

Since you are obviously looking at both tuberculosis and HIV, it might be confusing for some of your readers, so I think clarification is needed.

Discussion
1. It is common practice for the discussion to include a paragraph on study’s limitations, usually just before the final conclusions.

*We have added a paragraph on study limitations.*

We hope you find our responses satisfactory.

Sincerely,

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