Author’s response to reviews

Title: Household dietary diversity and associated factors among residents of Finote Selam Town, North West Ethiopia: A cross sectional study

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Author’s response to reviews:

Reviewer reports:

Reviewer 1: This is a timely manuscript which helps add more data and information to the existing data sets on dietary diversity in Ethiopia. There are however, some revisions needed before the manuscript is ready for publication. Below is a page-by-page review of the manuscript.

Title page: Manuscript title needs grammatical revision. Consider changing "...residents in Finote Selam Town" to "...residents of Finote Selam Town".

Response: residents in Finote Selam Town changed in to residents of Finote Selam Town".

Page 2 line 15: I do not agree the authors view that "very little information exists on HHDD in Ethiopia". Workicho et al 2016 is an example of availability of data. However, there is need to review past information and update it with new data. The introduction is not exhaustive in its review of previous information.

Response: Revised and corrected.

Page 2 line 30: correct spelling error of the word questionnaire

Response: Corrected as questionnaire

Page 3 line 19: delete the word 'which'

Response: The word 'which' deleted.

Introduction lacks the following:
- A review HHDD data from the Ethiopia national statistics especially from the Central Bureau of Statistics (or similar government institution) of Ethiopia

- Information about the region studied and Specifically about Finote Selam Town. Why was this region/town selected? why is it of interest? what are the dietary habits of people living there and how do they compare to the rest of the country etc.

Response: The reason for selecting Finote Selam Town is HHDD and associated factors were not studied. The dietary habits of people living there were not studied well.

- Introduction also lacks comparative information with neighboring countries and/or peers of Ethiopia for the reader to place the research objectives in context. It is not enough to just say that 'the situation is bad!' as stated by the authors.

Response: We didn’t state the situation is bad.

Study setting and participants: authors should describe how they obtained a list of all the households? was it through a census? who conducted it? how comprehensive was this list?

Response: The lists of all households were obtained from each kebele administration of the town.

Measurements: It is not clear how the process of checking for the accuracy of the back-translated questionnaire was done. Were the same translators used or were different independent questionnaires asked to back-translate the questionnaire? Description could be more clear.

Response: First the English version of the questionnaire prepared by investigators. Then language expert translate it to Amharic version and back to English for checking accuracy.

Page 5 line 4: the description of the qualifications of the nurses i.e. "diploma nurses" and "BSc nurses" is vague in the international context given the strict definition of a diploma as a "a certificate awarded by an educational establishment to show that someone has successfully completed a course of study".

Response: Diploma nurse is someone who successfully completed a three year course of study in nursing from Health Science College. Bsc nurse is someone who successfully completed a four year course of study in nursing from university.

The authors should also state how they assessed whether the one day training was adequate to equip the interviewers with the necessary skill to carry out the research.

Response: At the end of training we assessed interviewers how they will get permission& consent, collect data from respondents after providing sample questionnaire through observation during the pretest.

Operational definitions: Is there a better way of presenting this section? the authors should consider converting the section into a paragraph or a table etc.
Response: No better way of presenting this section.

Page 5 line 44: sentence should be revised to remove the parenthesis and improve readability.

Response: Reference added

Page 6 line 14-16: needs grammatical revision

Response: revised

Table 1: Insert footnote explaining the meaning of "diploma"

Response: Diploma is someone who successfully completed a three year course of study from College.

Page 7 line 41: needs grammatical revision

Response: Revised as Cereals (88.6%), vegetables 43(10.7%) and animal products 3(0.7%) were commonly consumed foods.

Table 2: Insert footnote indicating the conversion rate of the birr to USD

Response: Footnote inserted indicating the conversion rate of the birr to USD

Table 3: Suggestion; why not present the Dietary Diversity Score as low, medium, and high as presented in the operational definitions?

Response: Corrected and presented as low, medium, and high DD.

Table 5: needs editing to improve presentation and readability

Response: Edited accordingly

Table 5: column one does not indicate what the numbers mean i.e. including those in parenthesis

Response: The numbers are values in each category of dietary diversity (diversified/non-diversified) and those numbers in parenthesis indicate the percentage of each category.

General comment regarding tables: ensure that units are inserted in all sections to describe to the reader what the numbers mean. The tables can be revised to look more presentable.

Response: checked and revised accordingly

Discussion
General comments: though the discussion is well written, the authors should improve it by reviewing more exhaustively the internal and external validity of their findings. The authors do not discuss whether the period of data collection is special in any way in the Ethiopian context (e.g. public holidays or religious festivals etc.). The observed adequate dietary diversity 87.2% in this population is high (especially given the African context) and requires a strong discussion and appraisal of the tool(s) and methods used, the population selected, sampling technique etc. The discussion should also compare this findings with the rest of Ethiopia and the neighboring countries to enable the reader to place the results in context.

Response: Already compared. The higher prevalence of adequate household dietary diversity in the study area was due to the presence of religious festival among orthodox Christian community during data collection period.

Page 13 line 7: remove the word "tried"

Response: The word "tried" removed.

Page 13 line 23: Inset the year of the publication by Belachew and Yemane. Do the same for all other sections where you mention published studies

Response: Publication year inserted

Page 13 last paragraph, last sentence: I do not agree with the view that the reason why male-headed households have higher dietary diversity is because women have low decision making power. We are comparing male headed versus female headed households. It is my understanding that the decision making power in a female headed household is solely with the woman and though she could theoretically have a lower decision making power, I postulate that it is a question of the financial position/ capability of the female heads of the households compared to the male heads of the households. Simply put, male headed households have more money at their disposal hence the higher dietary diversity. Could the authors clarify this issue in the discussion?

Response: Corrected as male headed households have more money at their disposal hence the higher dietary diversity.

Page 15 lines 34 and 49: needs grammatical revision

Response: Revised and corrected.

Ethical statement: authors should expound whether written informed consent was obtained or they simply obtained verbal consent as stated. Is the verbal consent verifiable?

Response: We simply obtained verbal consent
Reviewer 2: Paper of Mekuria et al presents results on the household dietary diversity among residents in Finote Selam Town. However, the paper was not well written and I have some major concerns:

INTRODUCTION

General idea of the paper was not new as shown by many similar previous papers have been published in many regions on similar topics (EG. Ethiopia by Workicho et al, 2016; Ghana by Condjoe et al 2016 etc). Authors explained almost 1 page about dietary diversity, but did not provide clear information about the existing evidence in Ethiopia and what gaps needed to be filled in that motivated the authors to conduct this study.

Response: Ethiopia Socioeconomic Survey (ESS) - 2013/14 reported that cereals (rice, sorghum, barley, wheat) are the most consumed food items with 90% of all households reporting consumption of at least one of these items in any form in 6 of the last 7 days on average. In Ethiopia, 60% and 40% of households had low and medium diet diversity scores. HHDD and associated factors were studied in the region particularly in Finote Selam town.

Associated factors were left as open findings, authors need to explain why not focusing on certain predictors in the first place based on what have already found in many studies before and what problems might be of relevant to the context of the town of Finote Selam.

Response: Since our study was cross sectional

Introduction section should be revised.

Response: Revised

METHODS

Study site:

Reason to choose Finote Selam town was not at all explained. The study setting was described as it was in town, but why in Table 1, it was mentioned urban and rural residence, it is confusing.

Response: Reason to choose Finote Selam town was HHDD and associated factors were not studied in the region particularly in Finote Selam town.

The town had rural and urban kebeles i.e why table 1 described it.

Study populations:
Were mentioned as permanent residents, but it was not so clear who were exactly the respondents?

Response: Respondents were head of households who lived for 6 months and above in Finote Selam town.

What were their criteria to be eligible?

Response: Head of the household as well as lived for 6 months and above in Finote Selam town were eligibility criteria.

What does it mean by permanent residents (eg living more than 6 months? or other criteria?)?

Response: Permanent residents were people who lived for 6 months and above in Finote Selam town.

Were they a family head or any member of family within a household?

Response: Family head asked about the whole family member food consumption.

Were children excluded?

Response: Children were included

Measurements:

Authors relied on the questionnaire and dietary recall for their measurement but did not describe how well the questionnaires have been constructed, pretested or validated.

Authors need to mention:

- the basis in constructing the questionnaires, what kind of guideline has been used, FAO Guidelines?

Response: FAO guideline was the basis in constructing the questionnaires. The pre-test was done in one of the Kebele other than the selected kebeles.

- How the questionnaires were administered, is it all at the household level (head of household) or at the individual level (household members who were eligible, ie, 15-59 years old for females or for males).

Response: questionnaires were administered at the household level (head of household)

The definition of a household was not described?
is it a group of people who eat from the same pot when food is prepared at home or bought from food vendors from the same source?

Response: Household is one or more people who live in the same dwelling and also share at meals or living accommodation, and may consist of a single family or some other grouping of people.

procedure to categorize the food groups and scale or score being calculated was not well explained.

Response: FAO guideline for measuring household and individual dietary diversity was our base for categorization of food groups.

Ethical consideration:

- In the case of participants who could not read, because many respondent were identified illiterate, in signing the informed consent, did the authors apply thumb-printed an informed consent form before participating in the study? or allow a witness to sign in addition to the thumbprint of the participant to indicate that the project was explained to the participant and he/she agreed to participate in the research?

Response: We simply obtained verbal consent because we didn’t collect any biological sample, sensitive information.

Data/statistical analyses: was not clearly described, why All variables included in the index are dichotomized? what is the basis of this categorization?

Response: Data/statistical analyses already described clearly. Not all variables included in the index are dichotomized. Previous similar studies were the basis of variable categorization.

RESULTS

All tables were not constructed neatly. Variables and decimals were not written in good order in all tables.

Response: Corrected accordingly

Table 2: Why not assessing socioeconomic by construction the wealth quintile index as measured by many studies which included all household assets and utility services rather than a section of monthly income?

Response: If we ask respondents concerning all household assets they may interpret negatively like government will increase tax. In addition the questionnaire may be too long to respond by respondents.
In all, it was not reported how many food types were reported by the households, and why were categorized into 12 different food groups, which was the basis of this categorization.

Response: FAO guideline for measuring household and individual dietary diversity was our base for categorization of food types. We collected data concerning consumption of any food groups rather than food types i.e why we didn’t report the number of food types consumed by household members.

Table 5 was not nicely presented. Abbreviation used was not described in the footnote. Why there were no Adjusted Odd Ratio for Ownership of farming land and HHFIAS? To be consistent, if P value is put in AOR, it also need to put for COR. Order in writing the reference used is not consistent, please revise, to make the table looks professional.

Response: There were no Adjusted Odd Ratios for Ownership of farming land and HHFIAS because these variables were not significant during the multivariate logistic regression analysis. P value removed from the table. Abbreviations used were described in the abbreviation section of the manuscript.

DISCUSSION

The main findings of the study need to be described in the beginning of discussion section.

Response: The main findings of the study were already described in the beginning of discussion section.

Authors need to synthesize the figures/percentages found from the previous studies.

Discussion section is still lacking on explaining the internal validity in conducting the study and in constructing the scoring as well as in performing the statistical analyses; reasons of associated and no associated factors should be more described according to the local condition, not only just normative reasons; not mentioning at all about what implication to public health to this region and further porposed studies that might be needed for the local or other setting?; strength and limitation of the study.

Response: The limitations of this study are relying on 24 hour dietary recall which doesn’t show the usual dietary practice of household members and affected by religious festivals.

CONCLUSION

Need to be revised. Why the presented of adequate household diversity was different between the abstract and conclusion section 88.2% or 87.2%?? Conclusion need to be directed to answer the research question.

Response: Corrected as 88.2%
Page 14 line 34-39 is too long and not clear.

Response: Revised