Reviewer’s report

Title: Undernutrition and associated factors among Urban children aged 24-59 months in Aykel town, Northwest Ethiopia: A community based cross sectional study

Version: 1 Date: 13 Mar 2019

Reviewer: Reviewer 2

Reviewer’s report:

"REVISION ASSESSMENT FROM THE ACADEMIC PEER REVIEWER:

Has the author addressed your concerns sufficiently for you to now recommend the work as a technically sound contribution? No

Reviewer comments: Thank you for allowing me to revise once again the paper 'Undernutrition and associated factors among Urban children aged 24-59 months in Aykel town, Northwest Ethiopia: A community based cross sectional study.'

The authors have greatly improved the manuscript. The document still requires a scientific review, I give the example below, and presents some statistical problems. The tables must be revised so that the variables of the bivariate analysis can be displayed with their statistical significance related to the 3 nutritional categories.

The authors should expand the section on nutrition practice of study participants in this specific age group. We do not know what children eat, how much, when, etc.

The discussion has been extensively revised but still requires work. It should focus more on the associated factors specifically related to this age group (reduce discussion of well-known factors for which recommendations have been made for a long time)

The total number of children (401) included in analysis do not appear in text only in abstract.

I do not understand the following response regarding formula feeding, was this assessed in the survey?

..Was the time of introduction of cow milk a variable? etc.. was there any goat feeding? Was there any formula feeding?

Response: Yes, introduction of cow milk was a variable. But, no goat feeding or formula feeding?

..None of the sampled children were affected with both?

Response: definitely there were, but not reported.
Why? I suggest that you present the data?

Abstract

If the number of words is too large, you can delete all unnecessary words such as: but, therefore, etc., etc.

Please remove duplicate terms such as the children age, in the study...etc.

Anthropometric measurements were used to assess nutritional status of the children drop the second part of sentence (you can also drop statement as Crude and adjusted odds ratios with a 95% confidence intervals were calculated pr Variables with P-value < 0.05 in the final multivariable model were considered as significantly associate, which are expected in this kind of studies, and instead provide which measures has been done and included in bivariate analysis.

… Similarly, not fed on cow milk (AOR= 2.90, 95%CI: 1.40, 6.00), duration of breast feeding (AOR= 2.60, 95%CI: 1.35, 5.00), dietary diversity score (< 4 food groups) (AOR= 6.30, 95%CI: 1.70, 23.00), mothers' poor hand washing practice (AOR= 2.50, 95%CI: 1.30,4.70)…

Please revise the sentence, « duration of breast feeding is explained in text but all definitions and terms has to be presented as a foot note in tables.

Conclusion: The prevalence of undernutrition in the study area remains as a severe public health concern.

in the study area..

replace by area name..

Please Revise and edit the conclusion (see above comments) and focus more on take-home message.

Introduction

You can shorten 1 paragraph. You have improved the editing of the document, but can you perform another reading and careful editing? .. This should include the removal of duplicates, typing errors or unnecessary remarks, as well as a reorganization and reduction of your writings.

I appreciate your comment about the 24-59 month age range instead of the conventional 6-59 months. I agree that this is a critical time for children, but doing so you miss the trends of malnutrition in young children. Could it be suggested that this gives you more power to specifically evaluate this age group? Please limit excessive lengths and excessive explanation.
Methods

Study design and study setting and design

Reference ? and socio-economics data ?

Study participants

Please resentence

Sample size and sampling procedure

The prevalence of undernutrition in the specific age group (24-59 months) was used to calculate the sample size. The prevalence of stunting, wasting and underweight were 57%, 16% and 25% respectively (14)…

In the same region ?

As a result, the calculated sample sizes was 378 calculated based on the prevalence of stunting and it was found to be the largest and was taken as a sample size for this study.

Finally, considering 10% non-response rate the final sample size become 416.

Please resentence

There were two kebeles and each kebele had four ketenes.(the smallest administrative unit in Ethiopia) in the town.

In study setting section can you develop a little ?

Data collection

Data were collected through home to home visits using pretested and interviewer-administered questionnaire. Information regarding to socioeconomic and demographic factors, child health and care practices, household food security, dietary diversity, environmental factors, and child co-morbidities was collected from mothers/caregivers by face to face interview.

Please resentence

Operational definitions and measurements section

Thank you for providing extensive information in this section.

Please check writing and resentence as appropriate
Anthropometric measurements were converted into Z-scores values using WHO Anthro version 3.2.2 software for the indices; Height for Age (HAZ), Weight-for-Height (WHZ) and Weight-for- Age (WAZ) taking sex into consideration using WHO 2006 standards. The child was classified as stunted, wasted and underweight if his/her z score was less than −2SD; otherwise, he/she was well-nourished (≥ − 2 Z score) (16).

Move to definition section and analysis section as appropriate

7 food groups or 8 unclear?

Data quality control

To assure the quality of the data and to make all assessment team members able to administer the questionnaires correctly, two days training of enumerators and supervisors were provided.

Before the actual data collection began, data collectors and supervisors carried out role play practices and then field pre-test activities conducted.

Duplicate

Data processing and analysis

For under-five children WHO Anthro-software was used to enter and determine the prevalence of malnutrition. Bi-variable binary undernutrition.

See comment above

A variable with p-value < 0.05 were considered as statistically significant.

A total of 411 mothers/care givermother-child pair completed pairs were participated in check writing

Table

Diploma 87 87 (21.7)

Degree and above

What is the difference ?
Majority of the children were not sick with malaria, 395 (98.5%) and diarrheal disease, 392 (97.8%) two weeks prior to this survey…

Was this not an exclusion criteria?

Should be excluded from analysis?

A large proportion of the children, 323 (80.5%), had dietary diversity score of less than four food groups. Majority, 354 (88.3%), of the mothers initiated breast feeding timely. Most of mothers didn't practice pre-lacteal feeding 341 (85%) but started complementary feeding at the 6th month of age 326 (81.3%).

Reorganize writing, I suggest not to remove the deleted sentence

Table 2

What is Pre-lacteal feeding in Ethiopia?

Sorry to ask again but you write for international readers

What is a protected source in Ethiopia? What is the quality of water of such source?

Determinant factors of undernutrition among children aged 24-59 months

Suggest to drop the unnecessary second part of sentence

Among all variables selected by the bi-variable binary logistic regression model on the basis of a p-value less than 0.2 and entered to the final model. In the multivariable logistic regression in to multivariate analysis, birth order, meal frequency, and household family size were significantly associated with stunting. Thus Accordingly, the likelihood of stunting among children whose birth order was at first was 8.6 times more likely to be higher as compared to children whose birth order was fifth and above, [(AOR;= 8.60; 95% CI: 8.60(2.40, 30.77)]. Likewise, the probability of being stunted among children whose birth order was 2nd-4th was 5.8 times higher compared to children whose birth order was fifth and above, [(AOR;=5.80, 95%CI:5.80 (1.80, 18.9)]. The likelihood of stunting among children who can't get minimum meal frequency per day (less than three times per day) was 5.1 times greater compared to their counterparts, [(AOR;= 5.10, 95%CI: 5.10(2.96, 8.74)]. Whereas, the likelihood of stunting was 3.67 times higher among children whose parents had a family size of greater than four compared with children whose parents had a family size of less than/equal to four, [(AOR;= 3.67, 95%CI:3.67(1.92, 7.00)]. (Table 4).

Regarding factors associated with wasting in the multivariate analysis, only cow milk feeding and hand washing practice of mothers/care takers' were significantly associated with wasting.
Accordingly, children who were not fed with cow milk as complementary food besides continued breastfeeding was 5.48 times more wasted as compared to children who were fed with cow milk as complementary food beside continued breastfeeding (AOR= 5.48, 95%CI: 2.29,13.09). Similarly, the likelihood of being wasted among children whose mothers' or care givers' hand washing practice was poor was found to be 11 times higher as compared to their counterparts (AOR= 11.00, 95%CI: 4.34,27.90) (Table 5).

Concerning underweight, duration of breast feeding (<24 months), dietary diversity score (<4 food groups), lack of cow milk feeding and poor hand washing practice of mothers' or caretakers' were significantly associated with underweight. Thus, the probability of being underweight among children that breast fed inadequately (< 24 months) was 2.6 times higher than children who had adequate breast feeding (AOR= 2.6, 95%CI: 1.35, 5.00). Likewise, children who consumed foods from less than food groups were 6.33 times higher among those as compared to their counterparts (AOR= 6.33, 95%CI: 1.73, 23.1). The likelihood of being underweight among children whose care givers' or mothers' hand washing practice was poor was 2.5 times higher as compared to children whose mothers' or care givers' hand washing was good (AOR= 2.50, 95%CI: 1.3, 4.7) (Table 6).

The result presentation is too long and can be shortened.

Please resentence and remove unnecessary statement and words

the result of Hosmer and Lemshow test was >0.24

Interpretation ?

Probably this should be introduced into analyses section also

Discussion

There is a large descriptive discussion comparing results frequency with local or national frequency results with a tentative interpretation of differences.

The discussion of related factors is interesting but probably needs to be shortened or reorganized. (One suggestion might be to discuss the different factors involved and see what can be done: improved hygiene). A lot of it is quite well known (big family for example, etc.), so I wonder what this discussion adds? how could you introduce it to make it more useful? (a table?);

The authors could therefore focus more on the implication of their findings for better nutrition in Ethiopia.

What is the real implication of cow's milk supplementation in the context of poor hygiene practices? According to the results, this seems to be a protective factor. Can we learn a little more about this practice in Ethiopia (see comment above)? Can you develop this point based on your data and experience? Would you recommend extending this practice and how far?
I am still wondering if there are infant formulas in the population, since no information has been provided and what the consequences would be.

Please, consider a paragraph on perspectives and involvement?

The finding of this study also indicated that time of initiation of complementary feeding, duration of breast feeding, dietary diversity score, feeding cow milk as complementary food, hand washing practice of care givers at critical times were determinant factors for underweight among preschool children. Whereas feeding cow milk as complementary food and hand washing practice of care givers at critical times were determinant factors for wasting

Any possibility to simplify the presentation of factors associated with two categories in discussion and conclusion?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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