Author’s response to reviews

Title: Risk Factors of Morbidity among Children under Age Five in Ethiopia

Authors:
Kasahun Geneti (kastake10@gmail.com)
Temesgen Zewotir (zewotir@ukzn.ac.za)
Denis Ndanguza (dndanguza@gmail.com)

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Response to reviewers’ comments on ‘Risk Factors of Morbidity among Children under Age Five in Ethiopia.’

We are very grateful for the reviews provided by the editors and each of the external reviewers of this manuscript. The comments are encouraging and the reviewers appear to share our judgement that this study and its results are significant contributions to knowledge. Please see our detailed response to comments. All changes to the manuscript are included in the text. We look forward to hearing from you regarding our submission and are available to respond to any further queries that may arise.

Reviewer #2

Reviewer comment: Page 6, line 35: Somali is not significantly associated with Diarrhea as stated in this sentence (p-value 0.89). However, Dire Dawa does have a p-value significant at 0.05.

Authors’ response: We thank the reviewer for this comment. The interpretation of the result on page 6, line 35, depends on prevalence (percentage) from bar chart. It does not relate with p-value of model results.
Reviewer comment: Page 6, line 43-47: Child sex and marital status are not associated with both diarrhea and fever, as suggested by this sentence.

Authors’ response: We thank the reviewer for this comment. We have corrected as: Cross-tabulation analysis indicates that current age of child, anemia level, husband education level and breastfeeding status associated with childhood diarrheal disease and fever disease at a 5% level of significance. Similarly, sex of child and marital status associated with childhood diarrheal disease and fever disease at a 5% level of significance, respectively.

Reviewer comment: Page 7, line 8-9: "Although breastfed children have a similar rate of fever compared to non-breastfed children" - what p-value indicated significant - this p-value of 0.02 may still be considered significant and if it is this should be mentioned.

Authors’ response: We thank the reviewer for this comment. We agree to the reviewer comment and corrected as: In addition, breastfed children have a lower rate of fever compared to non-breastfed children (14.4 vs. 14.3%).

Reviewer comment: Table labels: The table labels should be more clear and direct. For example: Child age is labeled differently in each table (i.e. current age of child, CAGE, and ChildA). If you are using an abbreviation for the labels they should be noted on the bottom of the table. Labels such as "Breast" for breastfeeding, are not clear. Sex of the child is not included on the marginal model for fever? The label "female" on table 2 does not tell me if this represents male vs. female or female vs. male? Please update and provide clear labels on all three tables.

Authors’ response: We thank the reviewer for these comments. We agree to the reviewer comments and we have corrected. Sex of the child is not included on the marginal model for fever? Yes, this is because of the sex of child was not significant during variable selection process.
Reviewer #3

Reviewer comment: Abstract result section, breastfeeding was reported to have significant association with diarrhea and fever, but in the conclusion section the author concluded that non breastfeeding is associated with higher odds of morbidity. It looks there is confusion in describing breastfeeding status and breastfeeding. Please review and correct this through out the document as it appears in many places.

Authors’ response: We thank the reviewer for these comments. We have modified breastfeeding as breastfeeding status and revised throughout the document. However, we belief that what we wrote in the conclusion section is correct.

Reviewer comment: Page 2 line 26: breast feeding was reported as one risk factor with significant association. Do you mean breast feeding status? Please correct the language if you are referring to breast feeding status as I also commented before

Authors’ response: Thank you so much. Yes, breastfeeding status. We have corrected the language.

Reviewer comment: Page #4 line 26, the method section is not well elaborated. How sample size was determined?, assumption considered for sample size determination? The different sections of the method are not also described separately and clearly. There is only data source sub section where all information is mixed for data source, sample size, sampling technique and data collection. Please follow the outline of BMC publication for the method section where you should describe the different section of the method clearly and separately.

Authors’ response: We thank the reviewer for these comments. We have used the 2016 Ethiopia Demographic and Health survey data. For more clarity, this statement inserted to the data source section: The details on sampling methodology used in the survey can be found in (11).

Reviewer comment: Page #4, line 33-37, what was the total enumeration areas (EA), how did you decide to select 645 EA? How did you decide the urban and rural number of EA? Additional you only mentioned the first stage sampling procedure. What was the second stage sampling procedure, you should describe this as well, preferable in a separate sub section.

Authors’ response: We thank the reviewer for this comment. The details on sampling methodology used in the survey can be found in (11).
Reviewer comment: Page # 6, line 18 and 20: abbreviations AR and QIC used for the first time should be described in full words

Authors’ response: Thank you so much for the comment. We have inserted full words to the manuscript. Qausi information criteria (QIC) and first-order Autoregressive, AR (1).

Reviewer comment: Page #6, line 55, the level of significance is not explained. For all comparison, the level of significance should be presented along with the percentage.

Authors’ response: Thank you so much. We have incorporated significance level for all comparison to the manuscript.

Reviewer comment: Page #7, line 4-7 breastfed children have higher rate of diarrhea, what would be the possible explanation for this? Normally breast feeding prevents diarrhea unlike the finding in this paper

Authors’ response: Thank you for the comment. The result depends on proportion of children breastfeed and not breastfeed. Therefore, we cannot make any generalization based on this result.

Reviewer comment: Page 11, discussion part: the author did not discuss the important finding of the higher risk of diarrhea disease among children who breast fed? As this finding is in contrary to many other studies where actually breastfeeding prevents diarrhea, it is important to discuss this finding in the discussion section, compare with other findings and explain possible reason for the finding.

Authors’ response: Thank you so much for this comment. Yes, we did not discuss the finding in the discussion part because of the breastfeeding status was not statistically significant using GEE and AR models.