Reviewer's report

Title: Children who were Vaccinated, Breast Fed and from Low Parity Mothers live longer: a Community Based Case control study in Jimma, Ethiopia

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Reviewer: Hafizur Rahman Chowdhury

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Title: Children who were vaccinated, Breastfed and from Low Parity Mothers live longer: a community-based Case Control study in Jimma, Ethiopia

1. Do the title and abstract accurately convey what has been found?
Title: reflects the study findings, but misses to highlight important study information on the cause of death – Discretionary Revision.

Abstract: Background: authors didn’t specify the objective of this particular study in a clear sentence and words in the background section of the abstract. Method section also require a little more information such as number of control used and statistical model, particularly the one used for reporting results in abstract. Software used for analysis may also be included in the method section. Results: The 76% risk reduction of dying from vaccination does not tally with the OR of 0.26. Conclusion: it is good to mention that immunization, breastfeeding and low parity mothers were independently found to be protective from childhood death -1st sentence – Major Compulsory Revisions

2. Is the question posed by the authors well described and news

Background
This is a community-based matched case control study aimed to fill up the information gap that exists, and identify better interventions that are effective in local context of Jimma, Ethiopia – para 6 of background section. In this regard, the literature coverage is little poor and unfocused and I do feel that it requires more works to make it suitable for publication. For example a focused literature review regarding the known effective interventions/risk factors for improving child survival both at Ethiopia and internationally. They should describe the local studies instead of writing “studies are limited in para 5” in order to identify the knowledge gaps. Para 1, 2 and 3 could be substantially shorten. Authors should try to make a case through good literature review and strong arguments, why such a case control study is important in the local context of Ethiopia, and can make an international contribution - Major Compulsory Revisions

3. Are the methods appropriate and well described?

Sample size:
Why not 90% power? No mention of total number of cases and controls in the
sample size calculation – Discretionary Revisions.

Data collection:
This section is unclear as regards to number and type of data collection instruments used for cases and for controls. What changes were brought in WHO verbal autopsy questionnaires? And changes should be described. All questionnaires require a little description here to give a clear picture of data collected for the study. Individual variables considered in the analysis should clearly be described in the last paragraph of this section for reader clear understandings - Major Compulsory Revisions

Data analysis:
Para 4 of the data analysis section is complex and unclear. Authors used different names for describing statistical models such as multiple logistic regression, multivariate analysis, exploratory multivariate analysis and stepwise logistic regression models. All are confusing and probably inappropriate. Bivariate logistic regression and backward conditional logistic regression are two models, probably appropriate for such analysis. Authors will only name the variables included in the conditional logistic regression model mentioning the significant level for removal from the model. It is good if authors do a reanalysis using a backward conditional logistic regression and rewrite this section – Major Compulsory Revisions.

4. Are the data sound?
Yes, but not clear what the variable “age at birth of this child” in table 2 means. It is also good if authors give a basic description of age distribution of the cases and controls in the beginning of the result section – Major Compulsory Revisions.

5. Does the manuscript adhere to the relevant standards for reporting and data deposition?
Yes, but the titles of the tables (table 1 and table 2) should be similar- Minor Essential Revisions

6. Are the discussion and conclusions well balanced and adequately supported by the data?
Discussion and conclusion are appropriate giving the findings and scope of the article. There, however, is scope of improvement. In conclusion selection, the meaning of 1st sentence “differences in mortality by age group were observed” is unclear. Author should mention limitations of their method and findings in a separate heading, instead of sporadic description in the discussion - Major Compulsory Revisions

7. Are the limitations of work clearly stated?
Described limitations of study design in the second para of discussion and also in last para about the limitations of verbal autopsy. Good to write the limitation in a separate heading how this study introduced bias and limited the study findings – Major Revisions

8. Do the authors clearly acknowledge any work upon which they are buildings,
both published and unpublished?
Yes

9. Is the writing acceptable?
Need more language corrections before being published. Authors should seek the help from a professional editor.

General comments:
The risk factors and cause of death of child mortality identified in this case control study are not different from published studies, so there is no novelty of findings, and the study findings don’t have any international relevance nowadays. The findings, however, may be of relevance to local policy makers/health managers to reemphasize the already known effective interventions/information for improving child survival in the local context.

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.