Reviewer’s report

Title: Proximate determinants of infant mortality in Ethiopia, 2016 Ethiopian Demographic and Health Surveys: Results of Survival Analysis

Version: 1 Date: 07 Jun 2019

Reviewer: Jayanta Kumar Bora

Reviewer's report:

Major Comment##

There is a need to check the data very carefully as something is wrong in the analysis. Please check the outcome variable, whether it is chosen the setting variable or failure event in the Cox regression model and Kaplan-Meier survivor function in figure 2 correctly. The given results are not promising as at least education, wealth index, ANC, etc. should be necessary for child survival apart from other findings. Also, the variable "size of the infant at birth" - don't know (DK) category seems minimal number in table 2, then how it comes highly significant in your results? Please check whether it is combined missing cases recode with DK variable?

Also, no theoretical framework of the analysis has discussed, and I would suggest adding the analytical framework given by the below reference and plan your analysis frame accordingly with the predictors.


Overall, English write-up and interpretation of the results are poor and need to strengthen.

Minor comment ##

In abstract, background needs to restructure, as it is not up to the mark and in method section line, no 20-21 is repeating the same content. In result part- line no 33- "It was observed that 68% of the deaths occurred in the first month of life" - from where you have concluded these findings (similarly in discussion section line no 29, page no 13)?
In background section-, the Starting line is inadequate as it is the definition of IMR, which is not required a reference. The literature review is not enough as per the recent, and some sentences are repeating in most of the places, for example, on page no 4 first paragraph. Last paragraph of the page no 4 is poorly written and can be modified with identifying the research gap and what is new through this research. It is written but needs to restructure the sentences with more information.

In method section-, most of the information is already available in the DHS report, so there is no need to explain all again here and need to give relevant information regarding the analysis where necessary with reference. Also, I do not see the relevance of figure 1 as it can be present in the text itself. It will be helpful if it can separate the definition of the outcome variable, predictors, and statistical analysis- as the current form is not well presented.

In predictors, why wealth index is categories in three categories? In DHS, it is available for five categories, and it is good to have all the categories to see the variation among them.

Cox model is not present well. You can present the used model; define clearly the terminology, why cox model used for this analysis, what is the benefit for the use of it can be mention? Also, why variable with p-value \(<\;0.25\) sent to Cox regression model? P-value of what? Why considering this?

In the result section- Descriptive results part, I do not see any table support for the explanation of child characteristics. Where from explaining these results? Also, interpretation is not clear and need to modify as lots of grammatical and structural issues in the interpretation.

In the section "Kaplan-Meier estimates for overall all infant's survival"- Interpretation can be modified and written in a better way. Please see for reference eg.-

In Figure 2, X-axis is wrongly given up to 60 months, which will be applicable for under-five mortality. Please check. Also, the graph needs to modify for better presentation.

In discussion sections, the first paragraph is not written carefully, and it should strengthen with more information beginning with the objective of the study.

In line 22 (page no 13) from where 5.1% value comes? The second para in the discussion is not clear what want to explain with the findings.

The overall flow of the discussion is not clear, and need to arrange the order and restructure the sentences with arguments. The limitation is very poorly written, and it might mention other possible limitation for the data as well.

In conclusion, sections-, how it can be said that the high rate of death among infants was observed? Which analysis supports the results? You need to mention all these in a clear way.

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