Author's response to reviews

Title: Individual and Community Level Determinants of Childhood Full Immunization in Ethiopia: A Multilevel Analysis

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Author's response to reviews:

Thank you for contemplation of our manuscript for publication in BMC Public Health. We have reviewed the manuscript according to your reviewer’s comments.

Reviewer: Chiara de Waure

Comment 1: In fact, with respect to the comment on final data set, Authors, in “data source” quote “This study analyzed the sample of mothers aged 15-49 years who had at least one child aged 12-59 months in the last five years (2005-2010).” This means that all mothers in the original dataset had at least one child of the desired age. As a consequence, the quotation in “descriptive statistics” “For the purpose of analysis age of the child (12-59 months) and number of children per cluster at level-2 was used as criteria to create the full data set” is meaningless because all mothers in the original database satisfied the first criterion. Please amend the paper in order to make it more consistent.

Clarification: As you said all mothers in the original dataset were expected to have at least one child of the desired age. But during cleaning of the data set for the final analysis we found children’s having age outside the predefine range (i.e 12-59 months). In addition to this during the final Analysis we had also found clusters violating the minimum number of observations per cluster at level-2. Therefore as far as we have used multilevel modeling, as mentioned in the methodology section these two criteria’s must be fulfilled simultaneously to include observations for the final analysis as a result 896 observations were excluded.

Comment 2: Authors declare that the outcome of the study is vaccination status of the last child and I understood it. Anyhow I would like to point out that in “outcome variable” the following sentence is reported “The outcome variable in this study was the probability of a child 12-59 months of age being fully immunized”. I do not see any reference to the last child. This is why the rest of the paper is not enough clear. In methods it is not stated that the outcome variable regards the last child. Please amend the paper in order to make it clearer.
Clarification:

As you have mentioned “The outcome variable in this study was the probability of a child 12-59 months of age being fully immunized” this means by default the youngest child belonging to a family is considered as study subject, but whenever there are more than one 12-59 months children belonging to a single family in order to reduce bias (over estimation) we have included the youngest child only. In methods section, we also stated that the outcome variable regards the last child and it works for the whole document.