Author's response to reviews

Title: Factors associated with health facility childbirth in districts of Kenya, Tanzania and Zambia: a population based survey

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Author's response to reviews: see over
Revision of the manuscript

Title: The title has changed slightly to ‘Factors associated with health facility childbirth in districts of Kenya, Tanzania and Zambia: a population based survey’.

Revisions based on Reviewer 1 report:

Major compulsory revisions

1. Re-analysis was done by stratification into site-level (i.e. by district) and by urban-rural. Population distribution by urban rural residence has been included in the study site section. Table 4 in the original manuscript was replaced by Table 2 which shows frequencies, proportion of facility childbirths and bivariate odds ratios for the different districts and by urban rural residence. A number of variables have been dropped as they did not add much significance to the manuscript, and these are:
   - Self-rated health
   - Professional health care visits
   - Non-professional health care visits
   - Ever admitted to hospital
   - Time since last delivery
2. Some covariates were dropped from the analysis, as listed above, and including ever admitted to hospital.
3. Deliveries that occurred more than five years prior to the survey have been excluded from this analysis as we agreed with the reviewer that perceived cost and perceived distance are more likely to refer to a more recent period.

Minor essential revisions

1. In the results section we tried to make a transition in the story line from one table to the next.
2. HIV testing was included as a proxy to use of health services during pregnancy since most women ever tested HIV through prevention of mother to child transmission (PMTCT) services.
3. The distribution of place and type of health facility for childbirth has been presented in Table 1 and results presented in the result section. In the discussion we refer to the findings under perceived cost, i.e. ‘in contrast, urban Malindi was found to have reduced facility childbirth with perceived cost, and this district had relatively higher utilization of private health facilities compared to the other two’.

Revisions based on Reviewer 2’s report:

1. Is the question posed by the authors well defined?

Major compulsory revisions
a) Reanalysis was done by stratification into district and urban rural as mentioned above.

Discretionary revisions

a) We have included in the second paragraph of the introduction the definition of skilled birth attendance, and that in order to reduce maternal and neonatal deaths related to birth asphyxia during the intra-partum period, the facilities need to meet standards of quality care. Also included in the paragraph is that inadequacies in competence of health personnel and provision of EmONC services have been observed in several countries with high maternal mortality rates which could retard the intended benefits of skilled birth attendance.

2. Are the methods appropriate and well described?

Minor essential revisions

a) We included the definition of urban and rural in the study design section of methods.

b) Reference for number and type of facilities for Malindi has been included. That for Kapiri Mposhi needs to be included.

3. Are the data sound?

Major compulsory revisions

a) And b) Extensive revision in terms of stratification, presentation of variables (education combined with wealth index to create socio-economic position variable), dropping some variables which did not seem to be very relevant (listed above) was done. Some variables were included as continuous in the multivariate logistic regression model so as to improve on precision of the odds ratios. These are SEP, trust-quality, perceived cost, perceived distance and ANC visits. This allowed us to make a comparison of urban rural areas and the three districts.

b) Number of ANC visits: With reanalysis we found that the number of ANC visits was positively associated with giving birth at a health facility.

Minor essential revisions

a) And b) the participation rate did not differ by sex, and the non-response did not differ by sex, age, SEP and place of delivery. In the manuscript we have reported that the non-response did not differ by socio-demographic and socio-economic characteristics.

Major and minor compulsory revisions for tables and figures

i) And ii) Distribution of socio-demographic and socio-economic characteristics for urban and rural areas for each district have been shown in Table 2.

iii) Education variable has been combined with wealth index to create socio-economic variable.

iv) Generally, the revised manuscript presents different tables and titles because of reanalysis.

4. Are the discussion and conclusion well balanced and adequately supported by the data?

Major compulsory revisions

a) Analysis was redone. Findings of similarities and differences among the districts have been presented in the discussion.
5. Are limitations of the work clearly stated?

Major compulsory revisions

a) Limitation on possible measurement bias by using perceived quality of care, distance and cost has been given some brief discussion.

Minor essential revisions

a) Perceived quality of care and not quality of care. This has been corrected.

6. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

Minor essential revisions

a) Reference after referring to McCarthy and Maine included.

b) Reference for information for health facilities in Malindi has been added. Reference for Kapiri Mposhi needs to be added.

c) The sentence on home delivery has been rephrased to read ‘Considering evidence from studies that relate EmONC to reduced maternal mortality’, and reference has been added.

d) Reference added after ‘Single women seen to have more autonomy than married women, and conversely….’

7. Is the writing acceptable

Minor essential revisions

b) P.5 Rephrased sentence reads: We also hypothesized that trust and perceived quality of care...

c) to j) In general, the results and discussion sections have undergone a lot of changes in view of re-analysis based on re-stratification.

g) and h) P.3 The words ‘in’ and ‘more’ were removed from the sentences referred to in the report.