Reviewer's report

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

Version: 2
Date: 10 November 2013

Reviewer: Terhi Lohela

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

General comment: This manuscript studies factors associated with health facility deliveries in three different sub-Saharan countries. The set of data is interesting and valuable. The manuscript has improved markedly since the first version.

MAJOR ESSENTIAL REVISIONS

1. Abstract p.2: Based on the data, it cannot be stated that perceived distance is a barrier to facility childbirth in rural areas as it was negatively associated with facility birth only in Malindi (significant).

Results

In general, the Results section needs some rewriting.

2. Place for Childbirth (p.7): The authors report that “Significant differences in health facility childbirth across the districts, p<0.001, between rural and urban areas of Malindi and Kapiri Mposhi, p<0.001, and in place for childbirth in all the three districts, p<0.001, were observed.” The authors should state the magnitude and direction of the effect together with the p-values.

3. p.7: Based on the data presented in the tables, it can hardly be stated that married women tended to deliver in a facility more often or that facility childbirth was negatively associated with perceived cost.

4. The authors should indicate what was/were the statistical test(s) used for testing in tables 2-5.

5. Table 2: Show total values for each underlying factor and for rural and urban separately. Indicate why the totals vary between the different underlying factors (e.g. due to missing values on certain variables).

6. The total of rural births seems to be 417 for rural Malindi in Table 1 and 418 for rural Malindi in Table 2.

7. The total of rural births in Kapiri Mposhi is 298 in Table 1 and 299 in Table 2. Make changes to correct these discrepancies.

DISCRETIONARY REVISIONS
1. In the Population characteristics chapter, it should be made clear whether the authors refer to the responders or to the non-responders when stating “Their age ranged from 15 to 49…” Assuming the authors refer to the responders, the sentence concerning the non-responders (“Non-response did not differ…”) could be replaced to the end of the chapter.

MINOR ESSENTIAL REVISIONS

1. In the Study Design chapter (p.5), quote proportions of urban populations with the similar precisions for each population (e.g. with precision of one decimal place).

2. The authors state that ANC and HIV testing increased health facility deliveries (p.7). This sentence should be rephrased as it implies causality and only associations have been studied in this study.

References

3. The authors should be consistent in the way reports are cited. References to a report should include the following elements: authors, year of publication, name of the report, place (city) of publication. If the report was accessed online, include the URL as well. These elements should be similar and in the same order for each reference. Revise reference numbers 1-4, 7, 8, 15, 25, 27-29, 32-37, 53, 59 accordingly.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.