Reviewer’s report

Title: Factors associated with institutional delivery practice among women in pastoral community of Dubti district, Afar Region, Northeast Ethiopia: a community-based cross-sectional study

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Reviewer: Michael Balikuddembe

Reviewer's report:

Kudos to the authors for choosing to study this important subject that can add a step towards reducing preventable maternal and perinatal deaths. You took time to conduct the study but it would be great if you responded to the comments below which I believe could improve your output to the rest of the audience. Here I majorly comment on the substance and leave the grammar and typos in the tracked manuscript copy that the editorial team may send back to you.

0. The phrase "Factors associated with" may be better than "Determinants" given your study design (and analysis).

1. The abstract could be improved, particularly give a background to the statement "However, there was limited evidence about institutional delivery in the study area."

2. The plain English summary needs improvement. For example, the 1st sentence / paragraph is not clear.

3. p-values were never included in the results, any reference to them is idle.

4. Please provide a reference(s) and time frame(s) for the statements "An estimated 287,000 maternal deaths occurred worldwide." and "Ethiopia was one of the leading contributors for maternal deaths in Sub-Saharan African countries with Maternal Mortality Ratio (MMR) of 676 per 100,000 live births."

METHODS

5. In the study setting, kindly define what "kebeles" (and Logia) is/are. You may also inform the reader if all the 4 sampled kebeles were rural or not?

6. It is good you clearly describe the sample size calculation.

7. Did you use "proportionate stratified random sampling" based on birth rates of the kebeles? Otherwise, when you state that "Finally, a systematic random sampling technique was used to
select the study participants," is there a specific technique you refer to? Also, you need to describe what you did at selected kebeles to identify the participants.

8. What is/are the Reference/s for the source questionnaire(s) that you adapted to get your study tool.

9. In the data analysis, candidly state the reason for inclusion of parameters in the multivariate analysis.

RESULTS

10. Ability to read and write refers to literacy and not education (formal or informal). Literacy was not in your variables of interest, otherwise one would like to know which how your questionnaire picked information on ability to read and write.

11. About the fraction of ANC service users, it would be better to maintain the n as 381, so that you emphasize the lower number of 4th ANC visit attendees in the region.

12. For knowledge and attitude, one needs to look at your Questionnaire and data used to determine these, since table 2 does not show how you reach those conclusions "good knowledge" and "favorable attitude".

13. Regarding how far health facilities were, how was this assessed? Distance should be measured in kilometers or miles. You seem to have used "hours to HF" which has many other determinants that affect speed used, like means of transport, maternal condition, terrain, ... Distance = Speed x Time?

14. You stated that 65.29% mothers faced vaginal bleeding during labor and delivery! Bleeding after birth is normal, what is abnormal is excessive bleeding. So, do you mean PPH was 65% among the participants or 35% did not even have lochia? Was this an incidence in the most recent childbirth or a prevalence in their past deliveries?

15. What exactly do you mean by "Women who had ANC follow up during their recent pregnancy...? Is it those that came for other visits, those who came for at least 4 visits, or those that were visited by the health workers / HEWs? The numbers used in the 2x2 suggest another factor!

16. For women whose husband involved in decision making on the place of delivery were 4.42 times..., was the question on male involvement in decision making, or primary decision maker?
DISCUSSION

17. The objective once result is discussed in much detail.

18. For the discussion on "mothers who had previous history of stillbirth were 4.34 times more likely to attend..." please provide a comparison to other literature.

19. The last paragraph of the discussion has no basis in your results and the explanation does not match.

20. What were the study strengths and or limitations?

TABLES

Table 1. Disband ability to read/write from education. Otherwise, I would expect the percentage for Able to read and write to be 100 - Unable to read and write, e.g. for women I would expect a 35.7%. Might you have other permutations like Unable to read but able to write, able to read/unable to write, ...

Table 2. Complete the phrases as necessary. e.g. Knowledge of women on...

Table 3. For the Reasons for HF delivery, who was source of the information? Did the 315 mothers that did not decide for themselves get reasons from the decision makers?

For Type of complication that faced during labour, the Figures do not add up to any declared n. How do percentages for prolonged labor and fast labor compare visa viz their numbers? Why include Transport problem and Far HF in this variable?

Consider revision of Reasons for home delivery, as the figures do not add up, and it ought to be aligned with Reasons for HF delivery.

Table 4. Disbanding education from literacy could give different results that are significant.

For calculations on decision on delivery place, why do these figures refer to the 134 that delivered at HF only? Wouldn't the opposite (home births) be equally significant?

I look forward to reading another version of your work.

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Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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