Author’s response to reviews

Title: Distant and proximate factors associated with maternal near-miss: A nested case-control study in selected public hospitals of Addis Ababa, Ethiopia

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Author’s response to reviews:

Date: Dec 02, 2017

To Chibuike Chigbu
Managing Editor
BMC Women’s Health

Subject: Submission of revised version of a manuscript

Title: History of chronic hypertension and being from rural areas are important factors associated with maternal near-miss: A nested case-control study in selected public hospitals of Addis Ababa, Ethiopia

Manuscript Number: BMWH-D-17-00197

Dear Chibuike Chigbu and reviewers,

Thank you for reviewing and forwarding the very valuable comments. We have considered all of the comments very carefully and have found them to be useful in enriching the manuscript. Please find below detailed point-by-point responses to the comments given by both reviewers.
### Reviewer 1

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<tr>
<th>S.no</th>
<th>Questions raised</th>
<th>Responses made</th>
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<tbody>
<tr>
<td>1</td>
<td>This is an interesting work especially in a resource-poor region like sub-Saharan Africa. However, the manuscript needs an English Language edition. This will help reduce the grammatical errors therein.</td>
<td>Thank you for your comment and English edition has been performed to improve the typographical and grammatical errors.</td>
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### Reviewer 2

<table>
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<tr>
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<tr>
<td>1</td>
<td>Can you modify your title to reflect many other variables found to be significantly associated with maternal near miss mortality in this study, other than chronic hypertension and rural residence. I think that those factors were essentially risk factors as mist immediate causes of near miss such as PPI, uterine rupture, severe pre-eclampsia, etc were not part of studied or identified variables. These Findings can go for risk factors.</td>
<td>• Thank you, and, as per thereviewerrecommendation, we have modified the title as “Distant and proximate factors associated with maternal near-miss: A nested case-control study in selected public hospitals of Addis Ababa, Ethiopia” (Page 1,lines 1-2).</td>
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#### Methods

| 2    | The criteria for hospital selection should be clearly stated.                   | • Thank you for this comment. Yes, the number of deliveries as well as the availability of an ICU was considered to select the hospitals. In addition, the presence of maternity ward, blood transfusion service and facilities for caesarean section (CS) were also considered in the selection of hospitals. The selected hospitals are among the top five hospitals in Addis Ababa with highest number of deliveries.Because most critical maternal cases are referred to a hospital known to provide better care, the presence of an Intensive Care Unit was a prerequisite for the selection of the hospitals. This study is part of a bigger study, and the details of hospital selection |
|      | i. For example are there any specific number of deliveries needed?                |                                                                                                                                               |
|      | ii. Is availability of intensive unit a prerequisite?                           |                                                                                                                                               |
criteria has been published in PLOS one journal. (journals.plos.org/plosone/article?id=10.1371/journal.pone.0179013). Hence, it is just to avoid redundancy of information that we did not mention the details of hospital selection criteria in the current manuscript (Pages 4 and 5, lines 83-91).

3 Inclusion criteria:
   a. I suggest you modify the use of cohort of women, to for example Patients or women that met one of the WHO criteria for near miss maternal death from the study centres were enrolled.
   • We agreed to modify the word “cohort of women”. It is now re-written as “Women who were admitted to the selected hospitals during the study period for treatment of pregnancy related complications (irrespective of gestational age), having delivered, or within 42 days of termination of pregnancy and fulfilled at least one of the conditions that is stated in the WHO criteria” (Please refer page 5 lines 96-99).

4 Selection of control:
   a. Why did you select only those that had vaginal delivery? Caesarean delivery is not one of the criteria that defines near miss mortality and they were not excluded in the cases.
   • Thank you very much for your observation. As you said, CS may be performed for various reasons not related to near-miss. Hence, to avoid unnecessary difference between cases and controls, we have actually selected controls that delivered without any complications (irrespective of the type of delivery). The term “vaginal” was wrongly stated in the earlier version of the manuscript. We have now corrected this on the revised manuscript in the following way: “Women who come to the same hospital where the cases happened, and having a similar age interval category with that of the cases and delivered without any complications were enrolled as a control” (Page 5 lines 104-107).

5 Sample size.: the study population size was adequate. Though I had expected that computing for sample size with the stated parameters into the Epi info software would give me the same figure but I got a small sample size. Please cross check.
   • We checked it again, and the number of cases required remains the same, however, as the reviewer said, the number of controls required is found to be 497, not 498 as calculated before. Accordingly, corrections on the sample size have been made in the revised manuscript (Page 6 lines 114-115).
Development of Questionnaires:
- I expect that some of the data sought by the questionnaire should be stated.
- Was the questionnaire validated since you derived it and if so how? Please state.

We didn’t validate the questionnaire; however, we have conducted a pre-test prior to the commencement of data collection in order to determine the appropriateness of the questionnaire. This is stated on page 6 lines 128-129.

Data analysis:
a. You made reference to literature review twice in this section, but I suggest you focus on independent factors as identified in your studied population. Example. The independent variables identified in these patients were grouped into Distant and proximate factors.

b. I thought that the proximate causes would be the clinical conditions and complications in the pregnancy that led to the near miss maternal mortality. E.g. PPH, Eclampsia etc but those were not mentioned or sought for in this study. It may be pertinent to state such if you have the data.

Thank you for your comment. The first paragraph of the data analysis section (Page 7, lines 135-141), states the different independent factors identified from the literature, and paragraph 3 (Page 7, lines 147-151), classified the aforementioned factors as distant or proximate.

Pertaining to the reviewer’s second concern, PPH, Eclampsia, sepsis etc were considered causes to maternal near-miss and handled in another objective (journals.plos.org/plosone/article?id=10.1371/journal.pone.0179013). That is why we fail to include them in our current study.

Tables:

a. Table one should be adapted and made part of the methods as criteria for inclusion.

Yes, as you said, we have adapted Table 1 from the WHO and it is part of the method section. Please refer page 5 lines 96-99, and the whole table can be seen on pages 19 and 20 lines 425-426. Table 1 will be inserted in the methods section during production of the manuscript.