Author's response to reviews

Title: Factors affecting utilization of skilled maternal care in Northwest Ethiopia: A multilevel analysis

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Author's response to reviews: see over
To: Editorial in Chief

BMC International Health & Human Rights

Subject: Submitting a revised version of the manuscript

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Title: Factors affecting utilization of skilled maternal care in Northwest Ethiopia: A multilevel analysis.

We were requested to do further revisions on the manuscript specifically on the two points raised by the second reviewer. We want to acknowledge the reviewers and the academic editor for their detail review of our manuscript. The comments and suggestions were utilized to improve our manuscript.

Please see the following point-by-point response to the reviewers` comments. We have also uploaded the revised document.

With best regards,

Abebaw Gebeyehu

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**Point-by-point responses**

We want to acknowledge the reviewer for the important comments and suggestions to improve the manuscript. Based on the comments and suggestions, we revised the manuscript according to the following point-by-point responses.

**Reviewer 2: Miguel San Sebastian (7563186359264957)**

<table>
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<th>Comments</th>
<th>Response</th>
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<tr>
<td>“Using a two-level binary logistic regression modelling, we examined the effect of a number of individual, community, and facility level variables”. Delete level?</td>
<td>Comments accepted and the word “level” is deleted</td>
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<tr>
<td>There is nothing in the analysis section about the analysis of random slope models (as the authors describe in the comments to reviewer). That is why the reader does not expect to see the random slope results. If they keep this analysis, it should be included in that section.</td>
<td>• Comment accepted and the statement in the analysis part is revised based on the recommendation. The type of model used in the full model (in red color) is added in the text. “For each of the three dependent variables, we estimated two models: intercept-only model; an empty model that contains no covariates, and a full model that included individual and kebele level variables. The full model was a random slopes model for ANC and a random intercept model for delivery and PNC.” Thank you</td>
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<td>In relation to the previous comment, the sentence “That means, having ANC in the previous pregnancies and preferences for skilled providers by women were very important predictors for those kebeles with higher ANC coverage than those with lower coverage” is not still clear. The result of a random slope model would indicate that the strength of the relationship between having ANC in the previous pregnancy and ANC use by women is different for different kebeles. The current interpretation is different; the authors do not provide any indication of why should be higher for kebeles with higher ANC coverage (I do not see the variable “kebele ANC coverage” in the model.</td>
<td>As commented, readers may get difficulty to understand the statement. The interpretation of the finding was based on the strength and direction of association (positive), towards 1 (use of ANC) which is analyzed based on proportion of ANC users (probability of event occurrence). We have different proportion of ANC users among the kebeles due to clustering effect. The significant coefficient of the two variables implies their effects are significantly varied among the kebeles ANC use (i.e. their effects are dependent on the proportion of users in the kebeles). The positive coefficient indicates, in kebeles having higher proportion of users (higher clustering), the effect is greater. To make it clear, we revised the statements in the following way. “That means the relationships between these variables and ANC use by women were different for different kebeles (dependent on the proportion of ANC users in the kebeles).”</td>
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Thank you so much!