Author’s response to reviews

Title: Postnatal Care Utilization and Associated Factors Among Women of Reproductive Age Group in Halaba Kulito Town, Southern Ethiopia

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Response to reviewers: AOPH-D-17-00071RI Postnatal Care Utilization and Associated Factors Among Women of Reproductive Age Group in Halaba kulito Town, Southern Ethiopia

Reviewer #1: General comment and recommendation: the manuscript address is an important maternal and newborn health strategy- postnatal care (PNC). Abstract

The finding of this study does not lead to this conclusion highlighted yellow. I suggest deleting it. This study showed the importance of women economic improvement, creating awareness on postpartum danger sign, creating enabling women to use ANC and delivery services because ANC is an important entry point to increase the utilization PNC services and addressing cultural adversity that limits women decision making.

Response: Comment accepted and correction was made. Based on the comment of the reviewer pending variables and change to reference category was considered at multivariable analysis. Hence, result, discussion, and conclusion part of the study was modified accordingly. (View the revised manuscript)

Background:

The most recent WHO recommendation on PNC needs to be included  Response: we included most recent WHO recommendation on PNC
Method:

(Study setting and period): Suggest to enrich the discretion of the settings in terms of urban, rural, road access, transportation, communication, health facility, and number of health workers, availability of EMONC and BEMOC services and the policy of PNC visit-place (home visit by health workers and or health extension workers or mothers return to health facility) and timing of PNC service. Authors need to describe how and why this site was selected. The year the town is established is irrelevant information so I suggest deleting it. Response: We appreciate comment, and we added the requested study setting information in the revised manuscript from main document (view study setting…)

(Study design and population): A statistician need to look at the sample size calculation. I have not done that. However the sample size estimate used prevalence of PNC coverage in a region that usually has higher PNC coverage compared to SNNPR and this might have given a smaller sample size. This needs to be indicated in the limitation section

Response: We accept comment regarding small sample size and we consider it at limitation part.

Since there was little information in description of the study area; I could not understand how the authors managed the systematic random sampling. I could not understand how eligible respondents were identified. I recommend detail description of the methods

Response: Comment accepted. We have provided the detail description of the sampling procedure

(Data collection): Description of the tool was it open ended, structured, semi structured? What was the training of data collectors included? What are the dependent and independent variables?

Response: Comment accepted and we added the requested information

The data collection process and quality assurance mechanism are not described. Except checking for completeness there has not been any data quality check such periodic observation of interviews, re-interviews, review meetings, questionnaire review, and hand tallies of selected indicators were done in the field. If these were done it needs to include in method section. If not; this needs to be pointed out in the limitation

Response: comment accepted and we added the requested information
Discussion:

The authors need to refine and focus the discussion in such a way that policy makers and program managers can use it to improve use of PNC services. Cultural beliefs are identified as the major reason of not using PNC services. The authors have not discussed this issue sufficiently. To minimize the repletion authors need to consider discussing only the major findings.

Response: correction was made. Based on the reviewer comment we computed multivariable analysis. Pending variables were considered and reference category was changed. Hence, there were changes at result and discussion part. (View the revised manuscript)

I suggest to delete the HSDP reference-as this is old and is not informing programming anymore; I recommend authors to use the current targets

Response: comment accepted and HSDP is replaced by HSTP target at the background part.

Postnatal care is not an intervention but a delivery strategy for the interventions. It is presented as an intervention mothers "utilize". Throughout the document consider revising these statements

Response: comment accepted and correct was made

Danger sign during post-partum period needs to be for both the mother and the newborn. If the authors have the data; I suggest to include the analysis

Response: Awareness regarding danger signs of mother and newborn was explored (not the prevalence of danger sign)

There is major error in the following operational definition: I have noted in italics o Postnatal care utilization: -women and newborn have at least one check-up by the skilled health
professional within 42 days after birth at the health facility. PNC utilization should be for the newborn as well

- Postpartum danger sign: obstetrics complication occur after birth such as vaginal bleeding, fever, unable to suck, vomiting everything, edema etc… danger sign for both mother and newborn should have been included

- Postnatal care awareness: If the respondents mention at least one service from postnatal services (counseling on breastfeeding, child care, immunization, family planning, etc…) care for the mother is omitted

Response: comment accepted and correction was made

Line 43-58 is strength and limitation of the study. Consider having subtitle

Response: The reason that strength and limitation presented in the discussion section is to reduce subsection. In order to make the article readable, we have added subtitle for this section

Conclusion

Line 6-19 are repetition of findings. Consider deleting it.

Response: Accepted and correction was made

Ethical approval

Authors report that support letter was obtained. Is this from ethical review board?

Response: Yes it is from ethical review board
Reviewer #2:

I do have several major concerns, all of them commented in the pdf (we made changes according to the comment on the manuscript)

Abstract:

Line 56-57 (result) even more counterintuitive. no dose-response. far less use when 2 antenatal than with 3 antenatal visits.

Response: comment accepted and correction was made. We did multivariable analysis by considering pending variables and changing the reference category (view the result and discussion part).

Methods and materials:

Line 22, Formal: Use just Methods or Methodology. Avoid as many subheadings as possible

Response: Accepted, we have presented study design, setting, and population together in one subsection.

Study design and population:

Line 33: Place this subsection at the beginning

Response: Accepted and corrected

Line 34: cross sectional or case-control? Not clear to me your comment below in sample size
Response: The study is cross-sectional study. Information about the status of an individual with respect to the presence or absence of exposure and PNC utilization was assessed at the same point in time. Since the study subjects were not sampled by their outcome status (i.e. PNC utilization). Meaning that, in case control study persons with a condition ("cases") and suitable comparison subjects ("controls") are identified, and then the two groups are compared with respect to prior exposure. We have not done that. Therefore, this study is absolutely not case control.

It is known that, cross-sectional study is useful not only to estimate the prevalence, beyond that it is useful in identifying causes of disease/health and health related events at a population level.

We expected that this question may arise due to the use of double proportion formula in sample size calculation. The reason that we have used the double proportion is to check adequacy of the sample size to assess factors associated with PNCU. However, the total sample size calculated using single population formula for the first objective (422) was larger than the sample size calculated for factors (377). Hence, 422……..

Sample size determination and procedures:

Line 41: Yes, but your main aim is analyzing the factors. Isn't it? So the proper method is the one you referred below. I would take this part off.

Response: At design stage of the study, we computed the sample size using both single, and double population proportion formula (i.e. for the first objective-to assess PNC utilization, and for the second objective-to identify factors associated with PNC utilization). However, sample size calculated using single population formula was larger than the double one, and hence, it was used in the study.

Line 51: what you ended up having is very different. Almost 3:1

Response: type error and corrected
Line 54: are those selected because they represent extreme OR, or because are the main outputs?

Response: In order to have large sample size, variables used to calculate the sample size was selected because they have large OR.

Line 58: This is a strong statement that should be underpin with the actual value of statistical power. Please calculate and report.

Response: calculated and reported (view sample size section)

Definition of operational terms

MAJOR ISSUES

Line 15: You must define operationally all the variables: main endpoint, exposures, potential confounders, etc. In the operational definition please consistently across variables take as the reference category the one you expect more or less risk of PCU. Although computationally is the same, it makes the text more readable (see my comment in table 3) There are variables in the results that have not been included in the analyses. Please include.

Response: Comment accepted and correction was made. All variables including the pending variables were included. However, only those variables at final mode were presented at table 3

Data collection and quality:

Line 43: concordance in the pre-test was assessed? Otherwise point out in limitations

Response: comment accepted and correction was made

Data processing and analysis

Line 55: determinants? Determinants imply causation; factors associated to PNC fits better

Response: Comment accepted

Line 57: Why this threshold.. You should clarify should not be 0.2%?
Response: In our study, variables with P-value of \( \leq 0.2 \) in the bivariate analysis were selected as candidate variable for multivariable logistic regression analysis. The use of this threshold is that, if variables with p-value 0.05 have selected from bivariate analysis for multivariate one, we may miss significant variables. Because those variables with p-value of greater than 0.05 in bivariate analysis may have significant association when they are together with other variables in multivariate analysis.

The concept of p-value (whether it is percent or probability) is addressed together with the response given on the comment in line 4 below.

Line 4: 0.05%

Response: In this study a significant association was declared when the p-value was less than 0.05. “P-value is probability that an effect at least as extreme as that observed in a particular study could have occurred by chance alone. By convention in medical research if p-value is less than 0.05, meaning that there is no more than a 5%, or 1 in 20, probability of observing a result as extreme as that observed due solely to chance”. Therefore, the p value mentioned in our study, 0.05 is a probability, not a percent. In order to describe this 0.05 probability in percent, it gives 5% not 0.05%.

Line 6: MAJOR ISSUES

1) You have not included interaction terms in your regressions. Looking at your variables, very likely, there will be multicollinearity or interactions between factors. You must assess and include it.

Response: Multicollinearity among independent variables assessed and VIF is included.

   Furthermore, we have re-assessed standard error of beta coefficient’s and all

   Independently associated variables have a value less than 2 (Specifically a
   Minimum of … and maximum of ……). This indicates absence of

   Multicollinearity.
2) Please estimate the goodness of fit of your final model. A Hosmer-Lemeshow statistic would be enough.

Response: We have assessed the goodness of fit of the final model. Hosmer and Lemeshow test statistics is added

Result

Line 30: why you use confidence intervals in some variables and not in some others. Be consistent.

To make the results section more readable,

1) I would suggest keeping just proportions in the description,

2) use confidence intervals when referring to factors associated to PNC utilization.

3) As you have table 1, select some results and referred to table 1 for the remaining.

Response: Comment accepted and corrected accordingly

Line 11: Fig 1 is not adding to the text. On the other hand why you have chosen this particular variable for the figure and not another one. I strongly suggest taking it off

Response: Accepted
explanatory entails causation, as well as the term determinants. As far as I understand the paper, I do see an exploratory approach so, the proper term would be associated factors. Please, carefully reword any term implying causation. Otherwise argument against my point.

Response: Accepted

At least 12 variables showing statistical differences in tables 1 and 2. I do not see all enumerated here. As you have both tables, for the sake of making the text easy to read, I would keep the text as you have done in the three first lines, refer to the table, and just detail the results for the multivariate.

Response: We thank the reviewer for this comment and agree to present only the detail of multivariate result. We have removed the description (text) of bivariate analysis.

Neither cultural reasons nor perception of healthy mom and children are included in the variables in table 1 or 2, and are definitively not use in the multivariate analyses. Redo analyses and include in tables, please.

Response:

Line 50:

Line 52: Accepted

Line 54: Accepted, the word explanatory variable is replaced by associated factors
Discussion

Line 47: Copy editing

Response: Corrected

Line 47: see my comment in sample size calculation

Response:

Line 52: in what way, explain for an international audience

Response:

Line 58: In previous comments, I have pointed out to some other potential limitations that you should discuss here. A last one: might be a limitation or not, but you have to refer to whether the results are generalizable to the population from which the sample was retrieved. In this sense, you have to mention those that ended up not participating - how different they were from those participants and whether this might affect external validity

Response:

Conclusion

Line 5: This is a repetition of the results. It fits better as the first paragraph in the discussion, anticipating the results discussion, that here
Response: Accepted

1) Clarify whether you are exploring association or looking for inference a. Reword accordingly

Response: we looked for association

2) Variables, operational definition and its use in the multivariate regression. a. Please, describe carefully the main endpoint, exposures and/or confounding factors, potential modifiers, etc. b. Be consistent - all variables defined in the methods should be considered in the analyses, and vice versa.

Response: a) The dependent variable was PNC ............... 

b) 3) Multivariate analysis. a. Please, redo including those pending variables b. Test main plausible interactions c. Assess goodness of fit

Response: a) We have tried to re-analyze the multivariate analysis by including those pending variables and made revision to result, discussion and conclusion accordingly.

b) Interaction between variables were tested, and there was no significant interaction found

C) We have provided Hosmer and Lemishow goodness of fit

4) Limitations a. Comment on all those that I have suggested as potential risks. It is not an enumeration of risk but a discussion on the potential impact on the results - you nicely did this with the recall bias.

Response: We have added the impact of the limitation on the finding

5) Copy-editing is still needed I have pointed out some typos, or clauses that needed rephrasing. Double-check all the text.

Response: We have checked all the text and corrected accordingly

Response: Thank you for providing us valuable comment.