Author's response to reviews

Title: Factors associated with Institutional Delivery Service Utilization among Mothers in Bahir Dar City Administration, Amhara Region: A community based cross sectional study

Authors:

Gedefaw F Abeje Mr (abejegedefaw@gmail.com)
Muluken Y Azage Mr (mulukenag@yahoo.com)
Tesfaye S Mengistu Mr (tesfayesetegn@yahoo.com)

Version: 3 Date: 15 February 2014

Author's response to reviews: see over
Authors’ point by point response for peer reviews

Major compulsory revisions

Question # 1a: Abstract and the general contents part

Question #1a: abstract and other contents part: It is necessary to provide an overview of the differences between the urban and rural respondents before presenting the predictors of institutional delivery among all the respondents. For instance, it is misleading to just mention the overall prevalence of 78.8% without reference to the 83.4% urban respondents.

Response #1a: Comment has been well consumed and corrected accordingly. It should be understood that Bahir Dar city administration has both “rural” (which can be equated with urban slums) and urban kebeles. The paragraph under the predictors section has been modified, highlighted as yellow and made to start as:

_In this study, although 83.4% mothers were urban respondents, the prevalence of institutional and home delivery was 78.8%....._But in this study the term rural is not in its strict sense rather it is meant to refer the slum areas of the city administration.

Question #1b: There are major grammatical errors and many sentences need reconstruction. e.g. the sentence " A total of 484 mothers - selected from the systematically selected households ..." needs grammatical reconstruction.

Response #1b: comment accepted, the paragraph is revised, corrected and made to read as follows:

“…..Four hundred eighty four mothers were selected…… Data were collected …..”

Question #1c: In addition, the sentence "Data were collected by trained 10th grade completed female data collectors" can be rephrased simply as "Data was collected by trained female data collectors".

Response #1c: Comment accepted and the paragraph has revised to read as:

“Data were collected by trained female data collectors. Descriptive statistics……. computed. Statistical significance was considered at p < 0.05 and the strength of statistical association was assessed by odds ratios (OR) with 95% confidence intervals.
Question #1d: The 'result section' of the Abstract needs to be written, organized and presented better. Furthermore, the 'conclusion section' also needs reconstruction and should mainly present deductions from the results of the study especially those which have policy implications and/or improved health care practice.

Response #1d: comments are well taken and;

1. The major grammatical errors, the need for sentences reconstruction and content revision issues were thoroughly considered. The changes made on grammatical errors, reconstructed sentences and any revision are highlighted yellow in the main manuscript.

2. Sentences in the introduction, method, and result and conclusion part in the abstract and in the main manuscript were re-written, reconstructed and highlighted yellow.

Question #2: The Introduction section needs to be better written and organized. This section has major grammatical errors for e.g. the sentence in paragraph two "Developing countries especially African and South Asian countries showed relative failurity in improving maternal health and reducing maternal deaths..." needs grammatical reconstruction.

Response #2: Comment accepted and the entire paragraph was edited and re-written, referenced and highlighted as: “The progress is very slow in African and South Asian countries. This might be due to low institutional delivery among women in developing countries (7-9)”.

Question #3: Methods part: The authors need to clearly specify how the potential confounders were determined and which ones were included in the logistic regression model to arrive at the final predictors.

Response #3: During the multivariable logistic regression analyses, although not reported in the manuscript, variable shown statistical significance at P<0.05 in the binary logistic regression analyses were entered to multivariable logistic regression analyses. In the multivariable logistic regression analysis, Enter Method was used which would control potential confounders from its very nature. In addition to using Enter Method, numerical problems (i.e standard errors larger than 2.0.) which are a clue to indicate numerical problems due to confounding or multicollinearity effects were assessed in every multivariable analysis. Variable with standard errors larger than 2.0, which might be due to confounding were excluded from the analysis and the final predictor were refined in these ways.
**Question # 4:** Why wasn’t the final model assessed for goodness-of-fit (e.g. Hosmer-Lemeshow test)?

**Response # 4:** Thank you very much for the supplement. Although not reported, a repeated check of the goodness-of-fit was done to see the cut off point for the Hosmer-Lemeshow test so that to come up with the final model to. In all multivariable logistic regression analyses, the p-value for the Hosmer-Lemeshow test was >0.05 showing that the data is good to fit to the multivariable logistic regression.

**Question # 5:** This section (Methods part) has some major grammatical errors. In addition, under the 'Study setting and Sample section', the first sentence "A community based cross sectional study..." the last 12 months period from 'June 15–July 15, 2012' does not clearly show a 12 months period.

**Response # 5:** Comment accepted and grammatical errors of sentences were extensively checked by authors and sentences are re-construction and re-written as highlighted yellow in the method part. Regarding the duration of last 12 months, it is an inclusion criterion for mother; meaning mothers who gave birth in the last 12 months period were included which based on the Ethiopian Calendar. But the duration referred 'June 15–July 15, 2012’ is only for the data collection period.

Overall the paragraph has revised and made to read as:

“**Community based cross sectional study was conducted** in Bahir Dar City administration from June 15 – July 15, 2012 on women who gave birth 12 months before the study period.......”

**Question # 6: In the Results part;** this article will be much improved if the findings are better presented and some grammatical errors addressed.

**Response # 6:** Comments are accepted and grammatical issues were re-considered as shown in the main text highlighted.

**Question # 7a: Discussion part:** This section needs to be better organized and the discussions following from the results section better presented in a logical manner.
Response # 7a: Comments are accepted, the discussion part has substantially been revised, edited for its organization. The editorial and any changes made in the discussion part is shown as highlighted yellow in the main text.

Question # 7b: It currently seems as if the findings from the study are not coherently presented and discussed thus appearing somewhat confusing. Furthermore like all other sections of the manuscript, there is need for major grammatical errors to be addressed and many sentences reconstructed before a decision on publication can be made.

Response # 7b: we accept the comments given; we have tried our best to make it coherent and not confusing. We have reconstructed sentences and made grammatical corrections in the result and discussion part. The changes made are highlighted yellow in the main manuscript part.

Question # 8: Conclusions part: this section needs re-writing to reflect the inferences from the discussion of the results for policy intervention rather than restating the results.

Response # 8: comment accepted, the conclusion part is re-written. Regarding the policy implication, authors tried to reflect the policy implication in the conclusion and recommendation sections as follows “…intensifying education for women and behavior change communication (BCC) interventions to increase early initiation and up take of ANC visits in the first trimester and delaying marriage are recommended to promote institutional delivery…”

Question # 9: The report needs to be thoroughly edited. The writing is not up to publication quality. More justification is needed for inclusion of variables related to age at marriage

Response # 9: It is unclear whether the urban and rural data were combined for the logistic regression. If they were combined, there should be an odds ratio for urban vs. rural. However, none is given. The difference between urban and rural areas is so substantial that it might make sense to present urban and rural regression results separately.

Question # 10: Although the rationale for the study was clearly presented, unfortunately the study population was substantially skewed towards urban dwellers who constituted 80% in contrast to the national rate of 12.7%.
**Response # 10:** Thank you for the comments. This comment is accepted. Of course the data looks skewed towards urban dwellers if we took the word “rural” in its strict sense. But our study area is Bahir Dar city administration which consist urban kebeles surrounded by “rural” kebeles (urban slums). Therefore, in this study, we could say urban slums instead of rural areas. The kebeles we referred as “rural” are classified in the city administration administratively. We referred urban slum area residents as “rural”. Because, they are living in urban slums, their living arrangement, socio-demographic and socio-economic status is very similar with the rural resident.

This study should be viewed from the perspectives of access to health care services (being urban residence) Vs institutional delivery services utilization. Since majority of respondents are urban dwellers, it clearly answers the question “why mothers do not gave birth given that health institutions are accessible?”. In addition, we have studies done on the general (consisting both urban and rural population) but few studies are conducted in city administrations which have access to health institutions.

Therefore, we recommend that the word “rural” should not be taken in its strict meaning rather it would be good to equate it with “slum urban” dwellers loosely.

**Question #11:** Even though the study is presented as community-based it is difficult to generalize the result findings to the entire population. The entire manuscript in its current form requires thorough editing for language and grammar

**Response #11:** the study is community based and is generalizable for city administrations with rural and urban kebeles like Bahir Dar city administration. We have made language and grammar editing throughout the manuscript.

**Minor Essential Revisions**

**Question # 12:** Results part: Page 7, Results section, line 4: The statement: ‘Majority (83.4%) of respondents were rural mothers’, is incorrect. Streamline with the values on Tables 1&3.

**Response # 12:** comments accepted and the sentence is revised to read as: “Majority (83.4%) of respondents were urban mothers” which is in line with Tables 1 and 3

**Question # 13:** Tables 3 & 4 should be re-titled to reflect the fact that the logistic regression model was set up to determine factors associated with institutional delivery rather than “place of delivery”
Response # 13: Comments accepted the table titles for table 3 and 4 are modified to reflect the content what has been presented in the tables as follows:

Table 1. Socio-demographic factors associated with institutional delivery service utilization among reproductive age women, Bahir Dar City Administration; Northwest Ethiopia, 2013

Table 2. Maternal and obstetric factors associated with institutional delivery service utilization among reproductive age women, Bahir Dar City Administration; Northwest Ethiopia, 2013

Here the phrase “Binary and multivariable logistic regression analysis” in the table title is deleted assuming that the contents there in the table are self explanatory that it is the result from Binary and multivariable logistic regression analyses.