Author's response to reviews

Title: The role of health extension workers in improving utilization of maternal health services in rural areas in Ethiopia: a cross sectional study

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Version: 4 Date: 22 April 2012

Author's response to reviews: see over
Dear Editor,

First of all on behalf of all authors, I would like to express my heartfelt gratitude to all reviewers for their time in reviewing our manuscript. We are really grateful for their constructive comments. We found them very helpful in enriching our manuscript.

With this cover letter, I am sending our point to point reflection on the comments forwarded by the reviewers. Our reflections to comments are indicated in italic. Please find herewith.

Kindest regards,

Araya Medhanyie

On behalf of all authors
Reflections on comments given by referee 1

Reviewer's report
Title: The role of health extension workers in improving utilization of maternal health services in rural areas in Ethiopia: a cross sectional study
Version: 2 Date: 23 January 2012
Reviewer: Peter Johnson
Reviewer's report:
Reasonably well written paper reporting field based research in an area where little data driven recommendations exist.
Level of interest: An article of importance in its field
Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report

Reflection: Specific comments are not forwarded by the reviewer
Reflections on comments given by referee 2

Reviewer's report
The role of health extension workers in improving utilization of maternal health services in rural areas in Ethiopia: a cross sectional study
The paper is well written and brings very interesting findings which in my opinion require some clarification.

Version: 2  Date: 24 February 2012
Reviewer: Miguel San Sebastian

Reviewer's report:
Major Compulsory Revisions
Level of interest: An article of importance in its field
Quality of written English: Acceptable
Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:
'I declare that I have no competing interests'

Major revisions

Introduction and methods

How was the sampling procedure (district, kebeles) carried out?

Reflection: The three districts were selected purposefully in consultation with Tigray regional health bureau. We considered the accessibility of the district to carry out the research in terms of transport. The three districts were selected from different zones to ensure representativeness of different zones.
Revision: In our revised manuscript explanation on the section of the districts and additional information on sampling are included (Page 6)

How many rural kebeles were excluded out of the total because of no functional health posts? Rural kebeles who had health facilities other than health posts were either included in the study. Any possible limitations of these criteria? Especially if this data are compared with the EDHS 2005?

Reflection: During the period of our data collection, out of the total 72 rural kebeles (by the way all the kebeles in the three selected districts for our study are rural kebeles, there are no urban kebeles), 13 of them had health centers or Health centers (+health posts). 12 of them did not have any health facility. The rest 47 rural kebeles were with only health post. Since our focus was to look the proportion of women receiving maternal health services from health extension workers we excluded kebeles which didn’t have functional health posts. We also excluded kebeles with health centers (with or without additional health posts) from our study as prior to the data collection we have observed women living in kebeles with health centers did not prefer to go to health posts.
Revision: In our revised manuscript, we added the information on the total number of kebeles in the districts, kebeles which had / had not functional health posts in the selected districts. (Page 6)

How was the sample size calculated? There was any refusal to participate?

Reflection: A total sample size of 726 households was determined using EPI-info version 2002 by considering 95% confidence interval, design effect of 2, 80% power of study; 1:1 comparison, contraceptive prevalence rate of 16.2% (contraceptive prevalence for Tigray region (EDHS 2005), and
we assumed that the proportion of contraceptive users would be two times when we did our data collection in 2009. There was no refusal to participate. However when a selected house was closed or a woman was not present at her home during the data collection for interview, neighboring woman who fulfilled the inclusion criteria was interviewed. We think the details of the sample size calculation are not of paramount importance given our study is a cross-sectional survey. Hence we didn’t include these details of sample size calculation in our manuscript.

Why HIV testing? Can HEWs carry out this test or they educate on this?

Reflection: There are variations. In some districts HEWs are trained and carry out HIV test using HIV test kit. There has been a task shifting of HIV test from health centers to health posts by HEWs. Yes educating on HIV prevention and control is one of the main tasks of HEWs. All HEWs across the country educate on HIV prevention and control.

I understand that the use of salt can be considered as a maternal health service but not clear as a proxy for maternal nutrition. Comments?

Reflection: We agree the term “proxy for maternal nutrition” was not appropriately used in our manuscript.
Revision: In our manuscript we left the phrase “proxy for maternal nutrition” out.

Why the mean of the sum score is 3.01?

Reflection: we calculated a composite score of utilization of maternal health services out of the six maternal health services included in our study for each woman. That is we calculated how many of the six maternal health services were accessed by each woman. The score for each woman could be 3 out of 6, 5 out of 6. It ranges from 0-6. Then we summed up these scores of each woman and we divided the total sum by the total sample size to get the mean of the sum score which is 3.01.

Results

“Forty-four percent of the mothers reported having been visited before delivery”. Do you mean by HEWs? Because they received visits by other health workers too.

Reflection: Yes it is by HEWs.
Revision: In our revised manuscript, we indicated this percentage is visit by HEWs. (Page 11)

Why in table 2 there are 843 deliveries? What is the meaning of the percentage?

Reflection: Multiple responses were possible for the question. For instance a woman could be assisted by HEW and TTBA. That is why the sum 843 is more than the total number of respondents. Similarly the sum of percentages is more than 100%.
Revision: In our revised manuscript, we put a remark at the last row of table to indicate multiple responses were possible for the questions (Table 2).

Not clear in Table 4 the meaning and relevance of health professionals. Were the questions asked in the same way in the EDHS than in this study? If I understood well the data, most women attended ANC in a health centre and therefore they were not seen by a HEW. In the same line, it could be argue with family planning where a lot of women attended to health centers. It this is correct, could the increases in family planning and ANC visits due to increase in attendance at the health centers?
Reflection: We asked our questions in the same way as the EDHS. Table 3 reflects only utilization of primary health care facilities by women. Women are visiting health centers more than health posts. In our manuscript we stated health posts are underutilized by rural women despite health posts are nearer to them than health centers. However, this doesn’t mean women were not seen by HEWs. HEWs are expected to provide services at health posts as well but it seems that almost the services by HEWs are provided through house to house and outreach services (Table 2). Moreover, HEWs also educate and advice to go to health centers. Hence someone might reasonably argue that the increase in utilization of maternal health services at health centers by rural women is a result of awareness creation and education carried out by HEWs in rural areas.

Revision: We left the term health professionals from table 4 out to avoid ambiguity.

Discussion

To what extent the increase in HIV testing could be due to HEWs and to campaigns of the Tigray Health Bureau?

Reflection: In reality in rural kebeles in Ethiopia, HIV testing and Education on HIV prevention is carried out primarily by HEWs. Even HEWs who are not trained for HIV testing using HIV test kits, organizes and coordinate the campaigns for HIV testing. Hence it is quite difficult to differentiate the extent to which the increase in HIV testing is due to HEWs and campaigns. Practically all the health activities including campaigns at rural kebeles in Ethiopia are undertaken and organized by HEWs. Here we have not forgotten the role of NGOs and other stakeholders in HIV testing and prevention. The fact is at the ground in rural kebeles, the implementers are the HEWs even though it is well known that HIV programs are highly backed by NGOs and other stakeholders.

The limitation section is very short. For instance, issues that could be discussed include: bias, both respondent and interviewer, the limitation of how the outcome index was constructed, problems of comparing a national representative sample with a local sample, other study designs can could have captured better the contribution of HEWs.

Reflection: Though we are not clearly sure to what kind of bias the reviewer is referring. We do agree there could be biases like recall bias and social desirability bias however we expect their influence on the overall findings is minimal. One we were asking utilizations of maternal health services within five years prior to data collection. Many of the questions are related to pregnancy and births which are less likely to be forgotten. Second the data collectors were trained and were explaining to each respondent on the purpose of the study and the importance of giving true responses. As regards to the outcome index, the focus of our study is to look at the role of HEWs in improving access to comprehensive maternal health services. It is not a single maternal health service. We could have made specific analysis for each maternal health service which is practically quite impossible to present in one article. Hence we chose to create one outcome variable (Index) on utilization of maternal health services by a means of calculating a composite score and taking the mean as a cutoff point.

Revision: In our revised manuscript we acknowledged the limitation of comparing local sample with national representative sample. We also acknowledged the limitation of the study design we employed. (Page 17 and 18)
Reflections on comments given by referee 3

Reviewer’s report
Title: The role of health extension workers in improving utilization of maternal health services in rural areas in Ethiopia: a cross sectional study

Version: 2  Date: 20 March 2012

Reviewer: Eilish McAuliffe

Reviewer’s report:
Major Compulsory revisions

1. More clarity is needed in abstract e.g. reference is made to “model family” without explanation of what this is. Last sentence of results seems to be missing some information.

Revision: In our revised manuscript we explained what we “model family “is (Page 2). We leave the last sentence (place of residence, age and year of enrolment ....) which was in the previous version out from the abstract of this revised manuscript. But this sentence is rephrased and is still available in the body of the article under the result section (last sentence). (Page 12 and 13)

2. In the Methods section the meaning of the following sentence is unclear. It should be rephrased “Study participants were motivated to give a true answer through explaining the purpose and importance of the study and assured the confidentiality of the data”.

Revision: We deleted this sentence from the data collection section of the methodology (page 7) for two reasons. One as the reviewer said we found it unclear. Second the ideas about “explaining the purpose of the study and confidentiality issues” are explained in the Ethical consideration section (page 9).

3. Taking the respondent’s word on whether they had completed the full package of interventions would seem to be less precise that collecting this from HEW logbooks. Some explanation for this course of action should be included.

Reflection: Prior to our data collection we checked logbooks of HEWs. We found the logbooks had incomplete and inconsistent information on whether a family completed the full package of interventions. Hence we chose women’s word over gathering the information from log books.

Revision: An explanation for this action is included in our revised manuscript. (Page 8)

4. The statement “This national survey was conducted at almost the same time as when the HEP was introduced” is too imprecise, as this could have a significant impact on what the study is using as baseline data. The exact timing of HEP programme start and dates of the national survey data collection should be provided.

Reflection: In our revised manuscript we provided the exact dates on which the national survey (EDHS 2005) was conducted (page 9). However we could not trace and provide the exact timing for the introduction of the HEP. It is well documented that the HEP was introduced in 2003. We mentioned this fact in our manuscript (Page 2). It should be also kept in mind that in 2003 the program was officially
introduced but was not started across the whole country at the same time. The introduction of the program and deployment of HEWs was phase by phase (year by year).

5. Again the meaning is unclear in the following “Some of the women’s characteristics in the questionnaire were not distinctive, meaning that most answers were the same. Therefore, these variables were not used in the analysis. This concerned questions about religion, marital status and occupation.”

Reflection: we wanted to explain the fact that almost all the women who participated in our study had the same response for the questions related to religion, marital status and occupation. For instance 99.9% of the respondents were orthodox. Similar distributions were observed for marital status and occupation. Hence we excluded these variables from the analysis.
Revision: In our revised manuscript this sentence is rephrased and made clearer. (Page 9)

6. Authors need to be careful in their terminology. Does “sharp increase” represent a significant difference or not?
Revision: In the revised manuscript we leave out the word “sharp” avoid ambiguity.

7. Later in the results section several references are made to the “significant” Improvements in access to some services, but no information is provided on tests for significance on data from the EDHS 2005 and this study. This is a major omission as without this the claims made in the discussion do not hold up.

Revision: We included the tests for significance on the data from the EDHS 2005 and our study. We included the odds ratio and 95% CIs which support our claim in the significant improvement of utilization of family planning, antenatal care and HIV testing (page 12, and Table 4). In the previous version of our manuscript, table 4 had figures of maternal health service utilization for Tigray region from EDHS 2005. However in this revised version we excluded these figures for clarity reasons. In this revised version we only showed and compared findings of our study with figures of EDHS 2005 for Ethiopia. Although we did not show the results in this revised manuscript, we compared findings of our study with findings of the EDHS 2005 for Tigray region. The results showed a significant increase in family planning, antenatal care and HIV testing.

8. The first page of the discussion is a continuation of the results and should therefore be moved to the results section.

Reflection: To the best of our knowledge the first paragraph of a discussion should be a summary of the major findings. We did accordingly. The rest paragraphs of the discussion in our manuscript discuss, compare and contrast findings of our study with other studies and literature. Hence we think that the first page of the discussion should be kept as it is.

9. The authors should attempt to relate the findings of their study to the literature on utilization of maternal health services in similar contexts. Although there is not a huge volume of work on HEWs specifically, several studies address the broader cultural and other barriers that influence women’s perceptions and utilization of maternal services.

Reflection: We read the three articles suggested. We incorporated relevant findings from these studies in our discussion.( Page 14 and 16)
10. Authors should refer to the study by Ergano et al.(2012) Determinants of community based maternal health care service utilization in South Omo pastoral areas of Ethiopia Journal of Medicine and Medical Sciences Vol. 3(2) pp. 112-121. and indicate what additional information this manuscript adds.

Reflection: We thank the reviewer for suggesting us this relevant article.

Minor essential revisions

1. The low rate of deliveries in health facilities could have been influenced by many factors that have not been taken into account in this study. For example distance to the health facility, timing and frequency of HEWs visits, household decision-making practices etc. The fact that the study did not collect data on any of these variables should really be acknowledged as a study limitation.

Reflection: Accepted and we incorporated these limitations in our revised manuscript. (Page 17 and 18)


Reflection: We thank the reviewer for suggesting us these relevant articles.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests: I declare that I have no competing interests