Author’s response to reviews

Title: Illness recognition and care seeking for maternal complications of pregnancy and birth in rural Amhara and Oromia Regional States of Ethiopia

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Reviewer reports:

Rahat Najam Qureshi (Reviewer 1):

1. the authors keep introducing their methodology as a mixed methods approach even through the material submitted is entirely following a purely qualitative approach.

2. authors have based their results on a 'structured narrative'. However, there is no reference to this neither have they elaborated a method through which they developed this.

Questions 1 and 2 are related. Please see Yount KM and Joel Gittelsohn J. Comparing Reports of Health-Seeking Behavior From the Integrated Illness History. J Mixed Meth Res 2008; 2: 23. The method used in this study was adapted from Integrated Illness History (IIH). IIH is a
concurrent mixed methods adaptation of event history narratives to study illnesses in social context. Qualitative and quantitative techniques are integrated in the instrument design, interview, and data analysis. The method permits simultaneous collection of qualitative and quantitative data about perceptions of an illness, the sequence of illness-related events, and the context of seeking care. A standard pattern of open- and closed-ended questions and a systematic method of recall guide the interview. In this study, informant responses were recorded in text on an event timeline rather than in a time-by-event matrix using codes and text. Spontaneous, open-ended probes about observed behavioral patterns complete the interview. See also Groleau D, Young A, Kirmayer LJ. The McGill Illness Narrative Interview (MINI): an interview schedule to elicit meanings and modes of reasoning related to illness experience. Transcult Psych 2006;43(4):671-91. The MINI provides guidelines for instrument development and has been used extensively for illness narrative interviewing.

3. It is not well understood how they arrived at the diagnosis of the morbidity in cases studied. Authors have stated the difficulty with getting information for these patients. But is this based entirely on the structured narrative or was any other methodology selected.

4. It is disappointing that even with a small sample of patients studied the authors have not provided a diagnosis in all cases.

5. An important finding in this work is the discovery of the 'perceived' symptoms and their severity. However, it is disappointing that the symptoms are not matched with underlying morbidity or diagnosis so as to give strength to this important finding.

Questions 3, 4 and 5 are related. Potentially eligible women (respondents) for the study were screened for signs of possible excessive bleeding using a checklist. This checklist was used in all of the country sites. Signs included any amount of continuous bleeding, passage of large or fist-sized clots, weakness, fainting, the woman’s care provider told her (or her family) that she had too much bleeding after birth. These are signs that were taught in the MaNHEP project Community Maternal and Newborn Health Family Meetings for possible excessive bleeding (Buffington S, Sibley L, Beck D, Armbruster D. Home Based Lifesaving Skills (2nd Ed.).
What is important in this study is women's or families' perception of illness / excessive bleeding because this is what drives initial response and care seeking behavior—the focus of the study. In some, but not all of the cases, families were provided a medical diagnosis. In reviewing the cases, it is likely that in some cases the signs reported by the women and caregivers were actually normal postpartum bleeding. However, the women did not think so—and this is what matters.

6. The majority of cases in the sample hemorrhage is the morbidity thus restricting the results and findings.

The 5 participating countries in the TRAction study (of which this is one) selected hemorrhage as a focus of the illness narratives because it is one of the most common causes of maternal mortality and also to simplify the comparison of findings across the 5 countries. We agree that one could illicit illness narratives for all of the major maternal complications.

7. Figure one and two are superfluous and not contributing to the clarity of information.

Agree. Both deleted.

8. Overall need for improving the presentation of the methodology.

Please see revisions. Hopefully this will clarify.
Margareta Persson (Reviewer 2):

Thank you for the opportunity to review this interesting manuscript that explores illness recognition and appropriate care seeking for complications of pregnancy and childbirth within two regions in Ethiopia. The study was based on a three delays model, a framework explaining possible factors that may act as barriers for accessing adequate and timely care related to pregnancy, childbirth and postpartum period. However, this paper needs a major revision before publication.

Background:

1. There is information lacking which would have made the paper easier to follow and understand. For example, what are the main causes of maternal mortality in Ethiopia? Do women predominantly have their birth attended by skilled staff or are most women in the studied regions cared for by traditional birth attendants? The background mainly focus on the MaNHEP project with major focus on who funded and participated in the project and little presentation of the outcomes of the project - it would have been more interesting to focus on the results of the project.

We agree and have added information on maternal health and health care in Ethiopia. Please see revised background section.

The focus of this study is not on the outcomes of the MaNHEP project, per se. These outcomes have been published in a special supplement to the J Midwifery and Women’s Health (Sibley LM, Tesfaye S, Desta BF, Frew AH, Kebede A, Mohammed H, Hepburn K, Ethier-Stover K, Dynes M, Barry D, Gobezayehu AG. Improving maternal and newborn health care delivery in rural Amhara and Oromiya regions of Ethiopia through the Maternal and Newborn Health in Ethiopia Partnership. Journal of Midwifery and Women’s Health 2014; 59(S1): S6-S20).
2. Also, the rationale for this paper is hard to understand and would benefit from some clarification - do you want to find out whether the improvements found at the end of the project still persist some years later? Or whether the illness recognition had resulted in timely and appropriate care seeking? The concept of Illness recognition/Maternal Early Warning Criteria is not presented - what is known about accurate maternal illness recognition?

The study aimed to gain a more nuanced understanding of factors that facilitate or impede maternal illness recognition, care-seeking decisions and care seeking behaviors for pregnancy-related complications.

Potentially eligible women (respondents) for the study were screened for signs of possible excessive bleeding using a checklist. This checklist was used in all of the country sites. Signs included any amount of continuous bleeding, passage of large or fist-sized clots, weakness, fainting, the woman’s care provider told her (or her family) that she had too much bleeding after birth. These are signs that were taught in the MaNHEP project Community Maternal and Newborn Health Family Meetings for possible excessive bleeding (Buffington S, Sibley L, Beck D, Armbruster D. Home Based Lifesaving Skills (2nd Ed.). Washington, DC: American College of Nurse Midwives. See also Barry D, Frew AH, Mohammed H, Desta BF, Tadesse L, Aklilu Y, Biadgo A, Buffington ST, Sibley LM. The effect of Community Maternal and Newborn Health (CMNH) Family Meetings on type of birth attendant and completeness of maternal and newborn care received during birth and the early postnatal period in rural Ethiopia Journal of Midwifery and Women’s Health 2014; 59(S1): S44-S54).

What is important in this study is women’s or families’ perception of excessive bleeding because this is what drives initial response and care seeking behavior—the focus of the study. In some, but not all of the cases, families were provided a medical diagnosis. In reviewing the cases, it is likely that in some cases the signs reported by the women and caregivers were actually normal postpartum bleeding. However, the women did not think so—and this is what matters. Illness recognition and complication readiness (including danger sign recognition) are common elements in community maternal and newborn health education programs in both developed and developing countries.
Method:

3. Study site: the description of the study site would benefit from more details. Are these rural areas? How many live there? Is health care mainly provided by health posts or health centres? Do you know to what extent women in these regions are attended by skilled staff at child birth or do women predominantly give birth at home attended by traditional birth attendants? Are these areas poorer than other regions in Ethiopia? Please, provide more information so it is easier to understand the context where this study is performed.

Please see revision in site description.

4. Sampling and recruitment: unfortunately, I find it difficult to understand the inclusion criteria. Are there no younger mothers than 18 yrs in the region?

Why limiting the inclusion to women who suffered from haemorrhage and survived? Excessive bleeding is only one of the major fatal complications to childbirth, while the cases with fatal outcome could be of any cause? Why not an inclusion of near-miss cases instead?

Five country teams shared a common protocol for this study. The exclusion of women less than 18 years of age was based on practical considerations—weighing the very short study frame, the need to clear IRB across 5 countries both at national and local levels, and the difficulties in case identification.

The decision to select PPH as the major complication for surviving mothers was because it is one of the most common causes of maternal complications across the study sites. The teams opted to include any mother who died because of the challenges of identifying a sufficient number of mothers dying from PPH only in each of the sites. We recognize that illness recognition and care seeking may be different for other maternal complications.
It would have been ideal to select near-miss cases (from any maternal complication). However, in rural settings where the large majority of mothers give birth and die at home, it would difficult to find a sufficient number of cases given the study time frame.

See revised text.

5. When interviewing family members of the dead women, who were interviewed? The head of the family? Husband? Other females? More than one person?

Please see revision in data collection section.

6. Data collection: This paragraph will benefit from comprehensive clarification of the data collection. Where were the interviews performed? In people's homes or elsewhere? Who were present apart from the interviewers? Were the participants free to reveal details or were they overheard by other family members? In what language were the interviews performed? Are the interviews translated to English for the analysis? Who translated? Are there any validation of the translations by back-translations? How is it possible for the senior researcher to provide feedback on reports and field notes without participating in the data collection?

Please see revision in data collection section.

7. Data quality: Who had trained the interviewers? Cross-checking consistency of responses - does that mean that facts presented in the interviews were checked with other witnesses? In such cases, how is the additional information handled?

Please see revision in section on data quality.
8. Analysis: the analysis is based on the Three delay Model - however, the model is not obvious in the results (please, see more information in the Result section). What type of analysis is performed - to me, it seem to be some kind of quantitative thematic analysis, is that correctly understood? How are qual and quant methods combined for the mixed-method design?

I cannot follow who did what in the analysis. First, there are two interviewers who have "prepared" the data set. Then there are two research assistants, but only one research assistant is trained to code - what did the other research assistant do? Who is the senior researcher - an author of the paper? The three steps of the analysis - who performed these? Are the research assistant and senior researcher familiar with the societal context of the region under study? As a reader, how can I validate the coding and findings? Could examples be provided?

Please see revised section on analysis.

Findings:

9. Sample characteristics: Inclusion criteria were women aged 18 - 49 years old. You present the proportion of women 19 - 29 yrs and 30 - 39 yrs, but what about the remaining 14%, are they below 19 or 40 +? The majority had no schooling, but does that mean that they are illiterate? In some African countries, children may attend schools arranged by churches and mosques so they know how to read and write, but may not have formal education - is this the case in this region in Ethiopia?

Please see revisions in section on sample characteristics.

10. Subtitles Delay 1 and 2 - does that mean Phase-one delay i.e. delay in seeking appropriate care and Phase-two delay: delay in reaching the health facility? Why is there no phase-three delay; delay in receiving appropriate care at the health facility? All women who died were in a health facility when they died.

Agree, please see revised labeling of subtitles under findings.
11. Subtitle "Perceived causes", but, of what? Delay or of developing a complication or illness recognition? This needs to be clarified.

Agree, please see revised subtitle.

12. Figure 1 - 2: is the y-axis indicating %? I lack an explanation to the figure that the participants presented more than one symptoms/illness causes, thus the total exceeds 100%. The texts corresponding to the figures are just repeating the content of the figure. It would be more interesting to stress what the reader should take special notice of.

Agree, both deleted. Text stands alone.

13. The paragraph starting with "As mentioned above, of the mothers that died..." This paragraph should have its own subtitle "Perceived causes of death by family members" which makes it easier for the reader to follow.

Agree, please see revision and new subtitle.

14. Box 1: Is this a paraphrase explaining how family members' perceive the causes of the woman's death? When reading the narrative, I find several aspects of Phase-three delays - i.e. delay in receiving appropriate care at the health facility. Should these aspects not be presented as Phase-three delay?

Agree, please see revision. Box 1 is now moved to a separate section on challenges in accessing and receiving quality care.
15. Figure 3 is very difficult to understand despite the explanation in the text. It is impossible to get an overview of the different care seeking options (I tried to color each step in order to make an overview, but it was still hard - too messy). Why not present the care seeking procedures as a table instead? Maybe something similar to the summary table presented by Combs Thorsen, Sundby and Malata (2012) Piecing together the Maternal Death Puzzle through narratives: The three delays model revised. PLoS ONE 7(12):e52090? Some women appear to have turned to traditional healers in their care seeking. This option is not presented in the care seeking pathways for maternal illness despite being described in the text.

Agree. Revised.

Discussion:

16. What are the main findings of this study? What is the new knowledge derived from this study? How is these findings related to the findings of the previous MaNHEP project within the area? Little knowledge and poor illness recognition is often related to low educational levels, but in your sample you have 27% of participants with more than 8 years of schooling- how may this be explained?

Please see revisions in the discussion section. Hope it is more clear.

17. Methodological considerations? What are the strengths with this study? What about the sample?

Why include severe bleeding/haemorrhage as the major complication of participants and any cause for the women who died? Heavy bleeding is a very obvious complication to childbirth, while other severe complications may have much more discrete symptoms. If you want to study illness recognition/maternal early warning symptoms, using haemorrhage as the major inclusion criteria may skew the experiences and consequently the findings. This aspect that may bias the findings should have been discussed.
Excellent point. The country teams selected PPH as the major complication for surviving mothers because it is one of the most common causes of maternal complications across the study sites. The teams opted to include any mother who died because of the challenges of identifying a sufficient number of mothers dying from PPH only. We recognize that illness recognition and care seeking may be different for other maternal complications. See revised text in limitations section.

Further, one interviewer is male - how may this have influenced interviewing about a predominantly female area such as childbirth?

Please see revisions in the section on limitations.

Conclusion:

18. In the conclusion, new information on what has happened in terms of development and improvement of maternal health services in Ethiopia is presented. This is preferably background information that enables the reader to understand the context better. Agree, moved to background section.

19. The conclusion stating that the efforts are beginning to pay off is not supported by the findings. No information of previous care seeking behaviour is presented in the paper; thus it is hard to value if the efforts are paying off in terms of delivery in health facilities (65% of the participants in this study gave birth at home - is this proportion less than previously?) and appropriate care seeking behaviour (still almost half of the participants had not appropriate health care seeking - as there are no results presented of previous behaviours, it is hard to value if the behaviour has improved).

Agree, please see revised conclusion.