Author's response to reviews

Title: Effectiveness of community based safe motherhood promoters in improving the utilization of obstetric care. The case of Mtwara Rural District in Tanzania

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Version: 5 Date: 1 December 2009

Author's response to reviews: see over
The Editor,
BMC Open, Journal of Pregnancy and Child Birth
Dear Sir/Madam

RE: Manuscript Resubmission for Publication in the Journal of Pregnancy and Child Birth
The heading above reads. We have responded to the reviewers comment and hereby we are resubmitting our manuscript titled “Effectiveness of community based safe motherhood promoters in promoting utilization of obstetric care. The case of Mtwara Rural District in Tanzania’

Our responses to reviewers are attached with this cover letter. All authors read and approved the revised manuscript.

I am looking forward to hear from you.

Sincerely yours,

Dr. Declare Mushi
Lecturer- KCM College, Tumaini University
Author's response to reviews
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Version: 1 Date: 1st Nov, 2009

Reviewer: Thomas John Bisika

We are grateful for the very helpful comments from the reviewers and incorporated them in the revised version. In the few cases where we did not follow the suggestions, we gave the reasons.

General comments
The manuscript is long and there is need to improve on presentation of the findings.
Response: We have streamlined the text, but shortening was difficult, because the reviewers asked for more details on a range of issues. steel feel that the manuscript is not long based on what was done. If we are to explain every thing as some of the reviewers have requested the manuscript will be even much longer. However, we have tried to add some description of the intervention for reader to be able to understand the context.

Specific comments
1. Institutional delivery, skilled care at delivery and professional delivery are used in the manuscript. If they mean the same then we need to harmonize but if they are different there is need for clarification

Response: We have now harmonized the terms; throughout the manuscript we have used skilled care at delivery, which was mostly identical with institutional delivery. Generally, skilled health workers did not attend home deliveries, although some exceptions were observed in the intervention period, as reported in the results.

2. Who trained the SMPs? Local health officers are acknowledged as having participated in the training but I don’t want to assume that they conducted the training

Response: SMPs were trained by the main researcher Declare Mushi (who is experienced in community health program and was assisted by two health officers (male and female) who work at the district office. This information has been added.

4. No incentives were used. Can the authors comment on the sustainability of this intervention.
**Response:** It is true that SMPs were not given any incentive. Sustainability does not only depend on the incentive. The intervention was implemented through the existing community health structure: meaning that the existing system is sustainable. Secondly in each village there were about 10 SMPs, so the work load was not too big, each SMP spent not more than 2 hrs per month for this work. Thirdly SMPs team involved TBAs, religious leaders and CHWs. These people are usually involved in much community health work. In fact, safe motherhood activities are part and parcel of their activities. Since the intervention was implemented through the existing health structure the prospects for sustainability are good, but will have to be confirmed in a follow-up study.

4. Participatory adult learning and problem based adult education were used in the trained. Are these the same? Can we be consistent?

**Response:** Participatory adult learning is a technique used in problem-based education. For consistency purposes we use now the term Participatory adult learning

5. Were SMPs trained on data collection as well? Of course the authors report that they trained the research assistants.

**Response:** Sure, SMPs were also trained on data collection on monthly basis. See page 5 under the section on “Intervention components” also pg 7 under the heading “data collection.

6. Who actually conducted the semi-structured interviews?

**Response:** The semi-structured interviews were conducted by the main researcher and two research assistants? This information has been added.

7. Intervention and post-training activities look very similar and I think they can be presented together

**Response:** While they may look similar, they have a different background. The section on intervention just mentioned the package, while the post-training activities actually describe what was accepted by the community leaders and implemented by SMPs

8. Can the authors explain how health facility records captured home deliveries? This will help explain why SMPs data were more complete than the health facility data which I believe is a good lesson from this study

**Response:** Health facility captured home delivery by asking women when they come for postnatal care, for vaccination of the newborn and also through TBAs report. This information is now added in the manuscript see pg 7.

9. Study limitations should be discussed under methods. I would like to know how the authors ensured that the responses in the post evaluation were not affected by the base-line responses or the fact that the respondents were familiar with the instrument (instrumentation)

**Response:**
(a). Based on our experience and from other manuscripts, study limitation are often discussed at the end of the manuscript. There is no strict rule on this and we would prefer to keep it that way.

(b). Participants for interviews during the baseline and post evaluation were randomly selected. Through this process not all respondents who took part in the baseline also took part in the post evaluation. Based on intervention outcome, changes particularly in knowledge were a result of the intervention activities by SMPs. It is also not very likely for respondents to remember the instruments which were used three years ago. So we are rather confident that responses were not affected by the baseline instrument. In any case, this was not our primary study outcome.

10. Under ethical considerations, we would like to know how confidentiality and privacy issues were addressed. We are satisfied with the informed consent part

Response: In this study all ethical issues were strictly observed and explained in the consent for. No names of interviewees were disclosed; data were kept and locked in the office of the local coordinator. Participants were also assured that all information will be treated as confidential. We have added this information.

11. Under results, we notice that gender representation was very different for the baseline and post intervention samples. This should be accounted for as it may have affected the outcomes reported in the manuscript (Table 1 refers!!)

Response: It is true this can somehow affect the outcomes, BUT it should be noted that our primary outcome measure was utilization of a skilled attendant at delivery. This can not be affected by the difference since the primary outcomes based on all deliveries and not on the interviews in the sample.

12. The authors report that “as a new development skilled health workers started to assist in home deliveries”. We would like to know how this was done and whether these skilled workers are actually midwives.

Response: Normally home delivery by skilled workers are conducted in the homes of the trained TBAs after assessing the risk involved and satisfied that they can perform. Skilled workers are usually midwives and others were nurses with midwifery training, who are officially charged with the task of providing delivery care to perform delivery in Tanzania.

13. Under the section titled “Table 4 Knowledge on maternal health aspects” we notice that community education did not achieve better results. Can we explain this?

Response: It is difficult to explain this but it known that changing knowledge is not something easy that can be done within two years. We do speculate this is due to the low level of forma education among participants’ and the deep rooted traditional beliefs and taboos on pregnancy and deliveries. Thus we attribute much of the success of the intervention to the better link between community and health services, brought about by the SMPs.

14. The authors report that TBAs who were part of SMPs have become active promoters of institutional delivery and became reluctant to perform home
deliveries. This is a great lesson which should be included in the conclusion and discussion.
Response: We have taken note of this and we have included this lesson in the discussion and conclusion.

15. Under the section entitled “Performance of safe motherhood promoter and community acceptance” the authors report that 6 SMPs dropped out and later in the report this number is reported as 12 (see section titled “Community based intervention are feasible and effective”. The study uses a retention rate of 88% in the abstract. Can we be consistent please?
Response: This was typing mistake, the drop-out was 6 and not 12, this is corrected now.

16. In the section entitled “Community based intervention are feasible and effective” the last but one paragraph report that SMPs were trained to encourage women with danger signs to use skilled attendants at delivery. This is at variance with the current practice as we know that every pregnancy faces risks.
Response: It is true that every pregnancy faces risks, and every pregnancy should be attended by a skilled attendant. In rural areas of Mtwara region, first, there are very few trained skilled attendants and very few health facilities. Second, TBAs are very much accepted by women. Because of this the maternal health services still depend on TBAs. According to the District Health Management Team, TBAs are allowed to assist women at delivery and to refer those with danger signs to higher level of care. So our key message based on what is feasible and what were officially practices in the district. De factor, the Tanzanian guidelines (as well as the WHO model of antenatal care) still maintain screening for risk factors, such as previous CS, suspected multiple pregnancy, bleeding etc.

17. Under the section entitled “The potential role of ANC” the authors report ANC coverage rate as 96% but in the introduction they cite 97%. Again this is a consistency issue.
Response: This has been corrected it now reads 96%.

18. The authors report that frequency of ANC visits helps women overcome fear of health providers. Where is the reference on this?
Response: This was omission. The reference for this is from Kolaweski et al. 2000

19. The discussion section is too long. I do not recommend further sub-headings in this section.
Response: We think that subheading help the reader. However, we have streamlined the text as much as possible.
20 and 21. Some conclusions are not based on study findings. These include the one on building community level intervention around functioning health care facilities, socio-cultural, financial barriers, and health facility weakness

Response: This has been corrected. Though the issues of functioning health care facilities is elaborated under the section “Study site and population” Pg 5
Reviewer: Nikiema Béatrice

Major revisions
1. Focus of the paper is not clear- and the methodology difficult to follow

Response:
- We have clearly defined primary and secondary outcomes (p.8 “The primary outcome was skilled delivery attendance, which was in our case almost identical with institutional delivery. Secondary outcomes included ANC attendance and knowledge on Safe Motherhood issues. We also included a process evaluation, as should be done in any intervention study. Thus we think the study outcomes and objectives have been clearly stated. However, we conclude from the reviewers’ comments, that the presentation needs to be better structured. We have now revised the introduction and the methodology and structured them according to outcomes and process variables, as well as according to the methodology (quantitative or qualitative). We have also added a short paragraph to explain the structure.

- Comment on who are SMPs: we have added some description on this see Pg 5

- How the SMPs, the local coordinators, the village health committees, and the MCH team were collaborating within the intervention: This is now clearly described under the sections “Organizational and implementation structure” and “Follow-up and monitoring activities” Pg 6-7

- Gender aspect: this is also addressed on Pg 5, the last paragraph where the starting sentence read “Criteria for the selection of SMPs…”.

- Comment on pregnant women were identified is addressed under the section on “post-intervention activities”

The design/method of the evaluation of effectiveness

a. Description on how the pre-post comparison and process analysis were done has been clarified.

b. Data collection method: We used quantitative methods for assessing the primary outcome. We used also qualitative methods as is now more clearly described in the methodology.

Samples inclusion and exclusion criteria,: As stated, there was no sampling beyond the selection of the villages with respect to delivery data, as all deliveries in the specified time period in the these villages were included. The sampling for the interview survey has been described and additional details have now been added. Measuring the health providers’ attitudes towards SMPs, and evaluating the improvement in the community-leaders’ involvement were done using a structured questionnaire which adopted Lickert’s scale questions.
Selection of 38 SMPs for Interview: During assessment we intended to interview all the trained SMPs 50 (including six who dropped outs) but we managed to interview only the 38, the rest were not around during the interview.

b. Detailed Analysis
   - **Response:** The analysis that we did aimed mainly at assessing the effectiveness of a community based intervention in promoting utilization of obstetric care with respect to our primary and secondary outcomes. In this context we do not see the advantage of analyzing additional independent variables. Further more, the population was rather homogenous limiting the scope for analyzing additional variables due to lack of variability.
   - **Using primi-gravida to assess timing of ANC**
     - First, since the majority of primi-gravida in Mtwara area are women with ho aged not more that 24 years old, meaning that they have similar demographic characteristic. We decided to use primi-gravida only both at pre and post intervention because we found that follow-up, analysis and comparison will be easy than mixing with others.
     - Since non primi-gravida mothers might have experienced delivery before, we though that this experience plus attending ANC could influence their beliefs and practices. Studies have shown that previous pregnancy experience does influence knowledge and the choice of maternal health services.

Minor essential revisions
- Title: We have changed the title and now it reads “Effectiveness of community based safe motherhood promoters in improving the utilization of obstetric care. The case of Mtwara Rural District in Tanzania”
- The title of Table 2 and Table 3 have arranged accordingly.
- Consistency in using terminologies:- As explained before this has been taken care of- we have decided to use the phrase “promoting utilization of obstetric care” through out the document.
Reviewer: Imran Morhason-Bello

Major compulsory revisions
1. Abstract
   a. Method to portray the intention of the study.
      o The methodology has been re-structured (see comment to reviewer B. Nikiema). Assessing maternal morbidity and mortality would have required a different study design and sample size. However, skilled delivery attendance is an accepted key indicator to monitor MDG 5, according to the MDG declaration and its link to maternal and perinatal health is well established.

b. Male involvement assessed? Is male participation part of the outcomes?
   As clearly stated, male involvement was not part of our outcomes, but an additional observation; that’s why it is reported under the section on “Expected and unexpected outcome”. In our semi-structured questionnaire participants were asked to mention people who were more involved in encouraging women to delivery with a skilled attendant.

2. Background
   a. Reason(s) for the reduction in skilled birth attendance utilization in Tanzania? Could it be cost related, cultural or religious? Or what?

   Response: Reasons have been extensively discussed by Mbaruku, 2005, Massawe et al 2002, Urassa and Masawe 1996, Urasa et al. 1997 and Jahn & Brouwere 2001, Kowalewski et al. 2000). This is now well explained in the discussion.

c. What is the C-section rate in the Tanzania?
   Response: Around 2-3 %, with higher rates in towns.

d. Line 14 para 2 – who are those that developed and evaluated the intervention? Is it a government project, individual or donor organization? It is better to provide these details so that the readers will appreciate better the context of this research work.

   Response: The intervention was evaluated by the research team (authors). This study was part of a larger project know as MatCare Project which was implemented by Muhimbili University in collaboration with Heidelberg University. The first author Mr. DM a PhD student by then, was the main researcher in this intervention study and involved in all parts of the field work.

3. Methods

   a. The study site selection – Please how was the study site chosen? Any criteria? If not please include that you use convenient sampling and include the limitation of this method in your discussion.
The study site was purposively selected due to high rate of home deliveries in the region and that no intervention has ever carried out in the area. Intervention villages were also selected based on the presence of health facilities which offer obstetric care. According to literatures community based safe motherhood intervention will be meaningfully if the area is served with functioning health facilities including the obstetric care.

The second paragraph – “besides general public awareness……………………skilled attendants at delivery” this statement is not clear to me

This means that in the study area there has been sporadic public health education (not specifically on maternal health).

b. The study design and brief description of intervention – Details of design should be included here

I think the important details of the design are included for the readers understand. Detailed explanation will make the current paper very long. Some reviewers have expressed their concerns that this manuscript is long. However, we have added more detail as mentioned in the reply to reviewer B. Nikiema.

c. Intervention components –

i. The four TBAs and Two community representatives that were illiterate were included and compared with others that could read or write. Are there specific task that warrant writing and reading by the SMPs? If Yes, how did this group cope during the study?

All those who were selected were perceived as good community educators. The only challenge that the illiterate had was report writing. However, the organization was made in such a way that those who couldn’t read and write were mixed up with the literate one. Others wise they managed to educate pregnant women using picture booklet and conduct home visits without problem.

ii. Age range and mean of the SMPs? Please add to the write-up

The age range of the SMP was 23-64, the mean age was 37 years old. This information has been added.

d. Organizational and implementation structure,

As it is explained Pg 6 the intervention was integrated within the existing primary health care

e. Selection of households

We don’t understand what the reviewer wants to know. If it is about pregnant mothers, all households with women of reproductive age and mothers attending postnatal care were visited by SMP. The list of households were obtained from the village office.

f. Follow-up and monitoring activities
This is also explained in pg.6

i. How often were the follow-up meeting held?
The main researcher conducted follow-up meetings twice a year, while the local coordinator conducted every three months.

g. Data collection - Data on safe motherhood knowledge and perception of intervention –
We used a semi-structured questionnaire to collect this data.

h. Pls describe the type of sampling technique used to select the respondents
  - We have added this in the revised methodology.

i. Variables to measure weakness, strengths and general perceived out-put of the intervention
  o We used closed ended questions with pre-determined answers to assess weakness, strengths and general perceived out-put. Some of the variables were, selection of SMP, number of home visits, usefulness of the education, presentation skills and the attitude of the SMP, their perception of SMPs (what they like/dislike most). We had also two open ended questions to ask about general views of the intervention.

j. I noticed that respondents included men, how were you able to merge the result since they will be speaking for their wives/partners? How were they selected? Are they the partner of women that declined to be interviewed?
  o The intervention activities targeted both men and women, however, during evaluation men were asked specific questions with regard to their role in promoting utilization of obstetric care among women (their wife (s) or daughters). The criterion was men with women of reproductive age, and men whose wife/wives or daughter(s) had child birth during the study period; this information has been added.

4. Results
   a. How did SMPs confirm home births that are supervised by skilled attendant during intervention phase?
      o They used the ANC cards and talked to the mothers during home visits after delivery (postnatal visits).

   b. The result section was poorly written I suggest for better understanding you first report the qualitative findings and thereafter, the quantitative aspect.
      o While we have tried to improve the structure, we have to start with the primary and secondary outcomes, which were quantitative, followed by the qualitative data.

   c. The qualitative findings – major outputs could be reported and divided into pre-intervention and post interventions for ease of comparison using same thematic headings.
      o We have taken care of this in all 4 tables. If we do the separation in the text, it will be difficult for readers to follow and make comparison.
d. The quantitative aspect – data collection are now be divided into 3 headings
   - Our 3 tables (2,3 and 4) and the sub-headings have taken care of this

5. Discussion
   a. The discussion was silent about the gender disparity of SMP and the potential effect in a Muslim dominated community
   - Our findings did not observe and striking findings related to gender of SMPs or religion. Probably because people in the study area are used to have females and males community health workers. Most important SMP were selected by community members. That means they don’t have problem with gender disparity. We have added a sentence to clarify this in the discussion

   b. Study limitations
   - We reported limitations which did/ could potentially affect the study outcome. We regard to methodology adopted we have explained its limitations and how we tried overcome them.

Minor Essential revisions
1. Background/introduction – please delete Introduction see pg 3
   - We have done this

2. Complex sentences and Typographical errors in the background section
   - Although the reviewer did not cite those complex sentences we have tried to edit this section.

3. Material and Methods – please delete “ and hence living under poverty line” its amounts to tautology
   - We have done this

4. Results – The description of transport in Mtwara should be included under Methods
   - We have done this in the section on “description of the study setting”.

5. What form of incentive was offered to SMPs?
   - During the training and follow up meetings SMPs were offered transport and meal allowance. They were not given any incentive during the implementation of activities. (They spent 4 hours per months, every last Fridays and Sundays of a month)

6. Review references 17 and 28 (include chapter and pg if available)
   - We have provide a page number for reference 17, but for the reference 28 the Journal style does not demand so

7. Table 3 has no sub-title and also put the baseline column for each of the villages for comparison purposes as it may show a trend.
This is a good idea, but since the sample is small (64 and 72) and that we did not do analysis based on villages we are convinced that this table present the general picture on ANC booking and visits. Our interested here is to compare the pre and post intervention data.

**Discretionary Revisions**

**Is it possible to add the result of the proportion of home and facility deliveries?**

- Please see table 2 for delivery records (place and type of attendant)