PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Community perceptions on demand-side incentives to promote institutional delivery in Oyam District, Uganda: A qualitative study
AUTHORS	Massavon, William; Wilunda , Calistus; Nannini, Maria; Agaro, Caroline; Amandi, Simon; Orech, John; De Vivo, Emanuela; Lochoro, Peter; Putoto, G

VERSION 1 - REVIEW

REVIEWER	Sara Rivenes Lafontan Department of Community Medicine and Global Health University of Oslo
REVIEW RETURNED	26-Nov-2018

GENERAL COMMENTS	A well-written manuscript about interventions to improve facility-based deliveries. The study findings are highly relevant and should be shared with NGOs and government entities in Uganda and beyond. Comments: Title: change "towards" to "about" or "on" p 2 line 17/18- change theme to highlight that these are health seeking behaviors post-intervention. line 29: change "to health workers" to "for health workers" line 30- change "of births" to "to reproduce" or similar p 3 line 40-49 include use of family planning rates and births by a skilled provider/delivery in health facility in the study area. p 4 line 7-14 Design: why were these to data collection techniques selected and what are their advantages for the study objective? why was qualitative content analysis selected to analyze the data? line 45-57 include efforts made, if any, to member check the results. include the language that the FGDs and KIIs were conducted in and translated to. specify if the same research team were present during the KIIs as the FDG. Where each answer translated during the FGDs and KIIs? if yes, does the authors see any issues with this in terms of facilitating discussion among participants? p 5 line 22-37 Data analysis: were the codes descriptive or analytical? please include references used to inform the way in which the data extraction process was conducted. P 7- presentation of results and table 2A. Be careful not to include a level of analysis in your presentation of results. An example of

	this is seen in table 2A under context that "poverty was the underlying factor". this should be included in the discussion not result section. another general comment for the result section is to include opposing views among the participants both within groups but also between groups- where there any differences in the perceptions of participants in FGDs compared to KIIs? p 9 line 31-32 change health seeking behaviors to highlight that this was post-intervention. It is also suggested that utilization of maternal health services is changed to *increased* utilization of maternal health services. p 11 line 5- change "extra" to "increased". this effect of the intervention is very interesting and highly relevant to future similar interventions and should be further elaborated in the discussion. What do the authors recommend is done to avoid/address this? line 31- change "production of more children" to "increased fertility" or similar. under this sub-category it would be very interesting to include the communities perspective (i.e participants from the FGDs) if it differed on this particular issue. p. 12 line 27-28 remove the entire sentence "there was a need for more community sensitization..." as this is analysis unless specifically stated by participants and in that case include a quote that reflect this as the two included does not. line 41 the description of this sub-category is adequately reflected in the title as the quotes describe poor attitudes and poor quality of care and not "challenging interactions" the name of the sub-category should be changed to adequately reflect that. p 13 line 25- "community involvement addressed implementation challenges" is not a perception. also, this sub-category seems to be more about suggestions for improvement which should be reflected in the name of the sub-category. line 42-onwards: Discussion section There is no need to repeat the themes instead, highlight the key findings and discuss these. The discussion as it stand now is a repetition of the result sections. Instead, focus on a couple of key issues and discuss these against current literature. Importantly, what are your recommendations when similar interventions are implemented in the future? what are your policy recommendations based on your findings? if possible, include a theoretical perspective to your findings. p 14 line 52. "These measures lead to behavior change..." this statement is incorrect as you are claiming that there was a change in behavior which you have not measured. only that the study participants of the study said that there was one. p 16 line 11- 20 this section needs to be elaborated to adequately show that the authors have taken steps to increase the validity of the study findings and ensure trustworthiness (such as credibility, transferability, conformability, validity, reliability and reflexivity).

REVIEWER	Christabel Kambala University of Malawi - The Polytechnic MALAWI
REVIEW RETURNED	05-Dec-2018

GENERAL COMMENTS	The topic of study is of public health importance. The research study is well executed and has used appropriate research design. The methods of data collection and analysis are also well executed so that others can easily replicate. Every section of the manuscript from the abstract through conclusion provides adequate and precise information that reflects the topic of study. The authors have done a commendable job. However, there are some edits that the authors should pay particular attention before the manuscript is published as follows: 1. Abstract, page 2/26, line 32: I feel the word “implementation is misplaced” please remove it. 2. Introduction, page 3/26, line 44: IIs that comes after HC should be written in full first if its an abbreviation or at least explain what it means. Similarly on the same page, line 51 the acronym CUAM should be written in full first and abbreviate later. 3. Materials and methods, page 4/26, line 12: “ performed using the content analysis approach…” remove “the” in this statement. On the same page lines 25-27: readers will benefit if a description of how much the transport vouchers were worth and also a description of what the baby kits consisted of. 4. Materials and methods, Data collection, page 5/26, lines 15-19: This information seem to be misplaced? Is it supposed to be a label for a table? 5. Results: On the specific quotes, could the authors conceal names of the specific health centres for confidentiality purposes for example, “Female, KII participant, Atipe HC II”. The “Atipe” should be removed. Likewise, “Male KII participant, Member of Oyam DHMT), the “Oyam” should be removed.

REVIEWER	Dr. Andrew Hans Mgaya, MD., M.Med, PhD Muhimbili National Hospital,Obstetrics and Gynaecology. Tanzania
REVIEW RETURNED	30-Jan-2019

GENERAL COMMENTS	Community perceptions towards demand-side incentives to promote institutional delivery in Oyam District, Uganda: A qualitative study. William Massavon et al Introduction This is a qualitative study that examined the perceptions of community members and other stakeholders towards the use of baby kits and transport vouchers to improve the utilization of childbirth services in Oyam, Uganda. The demand-side incentive scheme was conducted in a low resources setting with disadvantages including inaccessible and poor quality of maternal and newborn care. As a quality improvement interventions both desirable and undesirable effects were addressed. The study findings not only contribute to the pool of knowledge to improve maternal and newborn health during childbirth; but also, advocates client/patient centered health care interventions. General comments:

	The Abstract was concise and hooks the reader by clearly addressing what the study is all about. The background motivates the study aim. The study methods were appropriate in fulfilling the the objectives of the study. Despite a good description of the settings, the author should elaborate how and when the community dialogue was conducted to discuss the challenges of the intervention. What was the content of these discussions? The data collection section is unclear. What was the relationship of the interviewers/ translators / observers to the study investigators? Were the investigators part of data collection team? Data collection (FGD) was performance at the Health facility and once in the trading center. Could this have limited freedom of expression of informants - pregnant women/ mothers/spouses in a health facility? How was the FGD started- was there a preamble in form of a story or illustration to stimulate the discussion? How was the consenting process? The results section is well written, however, the author should consider shortening this section by being more concise; and perhaps, deleting the third level subheadings. Specific comments Title: Clear and concise Abstract: Well written Background: Well written Methods Participants and sampling The age and gender distribution should be address in this section, even though the participants' characteristics are shown in table 1 Data collection The FGD and interview details are not enough to assess the freedom of expression of the informants, considering that these were clients/patients and interviews were performed in a health center. Ethical consideration The authors should at least mentions which research team member was responsible for seeking consenting for participants, when the consent was sought, and what were the main points of the consenting process? This is important because the FGD were conducted at the Health Centre where patients/clients may have stress and lack of freedom to open up. Previous studies have shown adverse effects of unbearable workload associated with incentivizing for the purpose of increasing utilization of health services. Did the investigators consider discussing the undesired outcome during the consenting process? Some interventions "transport voucher intervention" were continuing during data collection and the authors reported that some health facilities were overwhelmed with workload. What did the investigators do about this? Is there a possible further declining of quality of health care because of overloading the already over stretched system? Was it worthwhile to continue with the intervention to increase utilization of maternal and child health care service knowingly that the health facilities were overstretched with resources because of extra workload?

	Results The theme: “context” is confusing because the details seem to explain the study settings rather than how the intervention change the perception and health care within the setting. The authors should consider keeping only the theme as subheadings. For example: Under the second level subheading: “Community support intervention”, the finding supporting the third level subheadings, “Acceptability and impact of interventions” align to the following subheadings,“Need to scale up” and “preferred intervention subheading”. Furthermore, all third level subheadings under “Health seeking behavior” that is, “utilization of maternity service”, “bypass resident health facility” etc, seem to have the same meanings as a units of evidence of health seeking behavior. I also do not see any distinction of meaning between the subthemes under “implementation issues and lessons learned” With regards to the third level subthemes: “changing of role of TBA”, the authors should elaborate further this important finding in both the summary of the findings and results. The phenomenon seem to be the opposite of what one expects from the usual relationship (competing for clients) between the health care providers and TBAs. Did the TBA, in any way, benefit from the intervention? Under subheading: “Perceived adverse effect of intervention”, I am not convinced that there was rich evidence to generalize the community perception that the intervention may lead to “more production of children”. The author should put more supportive evidence from the interviews to support this subtheme. Was this corroborated by others informants? Is there evidence that poor quality of service and inaccessibility of health facilities could have been a reason for child limiting? I do not see neither connection nor evidence of the intervention encouraging high fertility. In the data collection section, it was mentioned that there was an observer during FGD. Was there anything worth mentioning in the results from observer’s notes to enrich the findings? Discussion The discussion is well written. However, I do not understand the message of the second paragraph under subheading: “perceived undesirable effect”. The author should consider revising this paragraph or delete it. The strength and limitation section is not balanced. I suggest the authors to consider explaining other limitations such as possible loss of meaning from using a translator during FGD, possible stress and limitations in opening open during the FGD because of interviews being conducted in health centers which is not a stress free environment such home. Additionally, the authors should consider mentioning that increasing utilization of health service in a health resource limited system like that in Oyam, may not necessary lead to improved maternal and newborn outcome.

VERSION 1 – AUTHOR RESPONSE

Reviewer(s)' Comments to Author:

Reviewer: 1

Reviewer Name: Sara Rivenes Lafontan

Institution and Country: Department of Community Medicine and Global Health, University of Oslo

Please state any competing interests or state ‘None declared’: none declared

Please leave your comments for the authors below

A well-written manuscript about interventions to improve facility-based deliveries. The study findings are highly relevant and should be shared with NGOs and government entities in Uganda and beyond.

Comments:

1. Title: change "towards" to "about" or "on"

Response:

We have changed this.

2. p 2 line 17/18- change theme to highlight that these are health-seeking behaviors post-intervention.

Response:

We have clarified this as suggested. The theme now reads “health seeking behaviours post-intervention.”

3. p 2 line 29: change "to health workers" to "for health workers"

Response:

We have changed this as suggested by the reviewer

4. p 2 line 30- change "of births" to "to reproduce" or similar

Response:

We have changed this as suggested by the reviewer

5. p 3 line 40-49 include use of family planning rates and births by a skilled provider/delivery in health facility in the study area.

We have inserted the following statement.

“In 2016, 42% of women delivered in a health facility according to routine data, whereas the region-wide (Lango) contraceptive prevalence rate was 41% according to a household survey.”

6. p 4 line 7-14 Design: why were these to data collection techniques selected and what are their advantages for the study objective?

Response:

In general, a qualitative study design was appropriate in achieving the study objective –i.e. exploring people’s perception on a subject. We used focus group discussion and key informant interviews for two reasons. The first was a practical one: the researcher were competent and had previous experience in using these methods.

The second reason is technical: this study aimed to examine the perceptions of both the beneficiaries and other stakeholders. Whereas the beneficiaries were homogenous groups (women or their husbands) the other stakeholders where small units of heterogeneous groups. FGDs are suitable for collecting data from homogenous groups of sufficient units whereas KIIs are more suitable for collecting data from heterogeneous groups and individuals with diverse backgrounds.

The two methods complemented each other. FGDs were used to explore the perceptions of the beneficiaries towards the incentives whereas KIIs were used to gather in-depth information from other stakeholders and to triangulate some of the information gathered during FGDs.

We have inserted the following statement for clarity (page 4):

“FGDs were used to explore general perceptions of community members whereas KIIs were used to gather in-depth information from other stakeholders and to triangulate some of the information gathered during FGDs.”

7. why was qualitative content analysis selected to analyze the data?

Response:

We collected a large volume of textual data from different sources and content analysis is efficient in analysing such data. It provides a condensed and broad description of phenomenon.

We have clarified this by inserting the following statement and citing the relevant literature (page 4):

“Data were analysed using qualitative content analysis approach, which is an efficient method to analyse a large volume of textual data, yielding a condensed and broad description of phenomenon inform of structured concepts or categories”

8. line 45-57 include efforts made, if any, to member check the results. include the language that the FGDs and KIIs were conducted in and translated to. specify if the same research team were present during the KIIs as the FDG. Where each answer translated during the FGDs and KIIs? if yes, does the authors see any issues with this in terms of facilitating discussion among participants?

Response:

We have clarified who conducted the FGDs and KIIs (page 5). The teams were the same throughout. We made efforts to check results through debriefing, and compared notes, including the observer’s notes, after each data collection field trip until data collection was completed. The FGDs were conducted in the local language (Lango), and later translated into English by a professional bilingual translator, whereas all the KIIs were conducted in English. Although a translator was present during FGD sessions, her work was to help the principal investigator to follow the discussions and to probe further if necessary. We clarified this. Of note, most of the FGDs and KIIs were audio recorded and we took notes for the few remaining FGDs and KIIs. All notes were in English. Neither the audio recording nor the note taking appeared to have affected the smooth flow of the discussions among the participants because the note taker was not involved in facilitating FGD sessions.

9. p 5 line 22-37 Data analysis: were the codes descriptive or analytical? please include references used to inform the way in which the data extraction process was conducted.

Response:

The codes were descriptive. We extracted data based on the approach suggested by by Gläser & Laudel, 2010. We have clarified this in the manuscript and provided a reference (page 5).

10. P 7- presentation of results and table 2A. Be careful not to include a level of analysis in your presentation of results. An example of this is seen in table 2A under context that "poverty was the underlying factor". this should be included in the discussion not result section.

another general comment for the result section is to include opposing views among the participants both within groups but also between groups- where there any differences in the perceptions of participants in FGDs compared to KIIs?

Response:

We agree with the reviewer and we have deleted the statement "poverty was the underlying factor".

We have carefully reviewed the transcripts once more and could not identify any pattern of opposing views. It seems like there was either a broad consensus on viewpoints within and between groups and data collection methods or certain groups of respondents did not raise the issue raised by the other. Of note is “increased production of children” (Changed to “increased fertility”). Whereas KIIs perceived this to be an unintended consequence of the incentives, FGD participants did not mention it.

11. p 9 line 31-32 change health seeking behaviors to highlight that this was post-intervention. It is also suggested that utilization of maternal health services is changed to *increased* utilization of maternal health services.

Response:

We have made these changes throughout the manuscript, as suggested by the reviewer.

12. p 11 line 5- change "extra" to "increased". this effect of the intervention is very interesting and highly relevant to future similar interventions and should be further elaborated in the discussion. What do the authors recommend is done to avoid/address this?

Response:

We have changed "extra" to "increased" as suggested by the reviewer. We recommend concerted efforts and collaborations with the local health authorities to ensure strengthening the supply side of health system alongside implementing such intervention in order to avoid the challenges experienced.

13. p 11 line 31- change "production of more children" to "increased fertility" or similar. under this sub-category it would be very interesting to include the communities perspective (i.e participants from the FGDs) if it differed on this particular issue.

Response:

We have changed "production of more children" to "increased fertility" as suggested by the reviewer. It is interesting that only key informants raised the concern of increased fertility. Unfortunately, we could not obtain the views of FGD participants on this specific issue because it became apparent during data analysis.

14. p. 12 line 27-28 remove the entire sentence "there was a need for more community sensitization..." as this is analysis unless specifically stated by participants and in that case include a quote that reflect this as the two included does not.

line 41 the description of this sub-category is adequately reflected in the title as the quotes describe poor attitudes and poor quality of care and not "challenging interactions" the name of the sub-category should be changed to adequately reflect that.

Response:

We have deleted the sentence "there was a need for more community sensitization..." we have also changed the name of the sub-category from "challenging interactions" to “poor attitude and quality of care”.

15. p 13 line 25- "community involvement addressed implementation challenges" is not a perception. also, this sub-category seems to be more about suggestions for improvement which should be reflected in the name of the sub-category.

Response:

As suggested, we have changed the name of that sub-category from "community involvement addressed implementation challenges" to “community suggestions for improvement”.

16. p 13 line 42-onwards: Discussion section

There is no need to repeat the themes instead, highlight the key findings and discuss these. The discussion as it stand now is a repetition of the result sections. Instead, focus on a couple of key issues and discuss these against current literature. Importantly, what are your recommendations when similar interventions are implemented in the future? what are your policy recommendations based on your findings? if possible, include a theoretical perspective to your findings.

Response:

We have deleted all the themes and focused the discussion on the key findings as suggested. You will also note that where necessary, we have cited relevant current literature to support our arguments. Actually, we have already included our policy recommendations, such as involving beneficiaries in the design and implementation of such schemes, in the Conclusions section. Kindly see the revised manuscript.

17. p 14 line 52. "These measures lead to behavior change..." this statement is incorrect as you are claiming that there was a change in behavior which you have not measured. only that the study participants of the study said that there was one.

Response:

We have deleted the statement "These measures lead to behavior change..." and revised that portion of the manuscript to read “In both the FGDs and KIIs, respondents said there had been behavioural changes such as men escorting their wives to the health centres for antenatal and delivery services, which was uncommon before the interventions. Community mobilisation may explain the perceived improvements in maternal health awareness and perceived behaviour change over a relatively short period.”

18. p 16 line 11- 20 this section needs to be elaborated to adequately show that the authors have taken steps to increase the validity of the study findings and ensure trustworthiness (such as credibility, transferability, conformability, validity, reliability and reflexivity).

Response:

Besides what we have mentioned, we have inserted the following statement to explain how we ensured the trustworthiness of the results.

“The use of two coders to analyse the data increases the reliability of our findings. FGDs were conducted mainly in HCs, which might have restricted the freedom of expression. To mitigate this problem, all the discussions were performed in a quiet and closed room in the absence of any health facility staff. Participants were assured of confidentiality and were encouraged to freely express themselves without fear of victimization or future prejudice.”

Reviewer: 2

Reviewer Name: Christabel Kambala

Institution and Country: University of Malawi - The Polytechnic, MALAWI

Please state any competing interests or state ‘None declared’: None declared

Please leave your comments for the authors below

The topic of study is of public health importance. The research study is well executed and has used appropriate research design. The methods of data collection and analysis are also well executed so that others can easily replicate. Every section of the manuscript from the abstract through conclusion provides adequate and precise information that reflects the topic of study. The authors have done a commendable job.

However, there are some edits that the authors should pay particular attention before the manuscript is published as follows:

1. Abstract, page 2/26, line 32: I feel the word “implementation is misplaced” please remove it.

Response:

Thank you for noting this. We have deleted the word.

2. Introduction, page 3/26, line 44: IIs that comes after HC should be written in full first if its an abbreviation or at least explain what it means. Similarly on the same page, line 51 the acronym CUAM should be written in full first and abbreviate later.

Response:

We have written the abbreviations in full. CUAMM is an abbreviation of part of the Italian name of the organization. It stands for Collegio Universitario Aspiranti e Medici Missionari.

3. Materials and methods, page 4/26, line 12: “ performed using the content analysis approach…” remove “the” in this statement. On the same page lines 25-27: readers will benefit if a description of how much the transport vouchers were worth and also a description of what the baby kits consisted of.

Response:

We have deleted “the” as suggested. We have also inserted the following statement on the value of the voucher and the contents of the baby kits, and cited the intervention study.

“Each baby kit consisted of a plastic basin, a bar of soap, a polythene bag, 1/2 kg of sugar, and a piece of cotton cloth for wrapping the baby. Each voucher was valued at a fixed amount of US$ 4.”

4. Materials and methods, Data collection, page 5/26, lines 15-19: This information seem to be misplaced? Is it supposed to be a label for a table?

Response:

We have deleted this information from here and moved the figure legend at the end of the manuscript.

5. Results: On the specific quotes, could the authors conceal names of the specific health centres for confidentiality purposes for example, “Female, KII participant, Atipe HC II”. The “Atipe” should be removed. Likewise, “Male KII participant, Member of Oyam DHMT), the “Oyam” should be removed.

Response:

Thank you for pointing out this. We have deleted the identifiers to maintain confidentiality as suggested.

Reviewer: 3

Reviewer Name: Dr. Andrew Hans Mgaya, MD., M.Med, PhD

Institution and Country: Muhimbili National Hospital,Obstetrics and Gynaecology. Tanzania

Please state any competing interests or state ‘None declared’: None declared

Please leave your comments for the authors below

Community perceptions towards demand-side incentives to promote institutional delivery in Oyam District, Uganda: A qualitative study. William Massavon et al

Introduction

This is a qualitative study that examined the perceptions of community members and other stakeholders towards the use of baby kits and transport vouchers to improve the utilization of childbirth services in Oyam, Uganda. The demand-side incentive scheme was conducted in a low resources setting with disadvantages including inaccessible and poor quality of maternal and newborn

care. As a quality improvement interventions both desirable and undesirable effects were addressed. The study findings not only contribute to the pool of knowledge to improve maternal and newborn health during childbirth; but also, advocates client/patient centered health care interventions.

General comments:

1. The Abstract was concise and hooks the reader by clearly addressing what the study is all about. The background motivates the study aim. The study methods were appropriate in fulfilling the the objectives of the study. Despite a good description of the settings, the author should elaborate how and when the community dialogue was conducted to discuss the challenges of the intervention. What was the content of these discussions?

Response:

Community dialogues were open gatherings/meetings involving local community leaders/chiefs, other stakeholders, members of the village health teams, social workers, the research team and project manager of the implementing organisation. The meetings were often monthly, but depending on the situation or urgency, they were arranged as and when necessary. The venues often included the Meeting Hall of a sub-county chief, a church premise, a trading centre, a school classroom or even under a tree in the community. The meetings were facilitated by the implementing organisation.

The contents for discussion were essentially updates (progress reports) regarding the interventions (baby kits and transport vouchers) and challenges needing community involvement to deal with.

Additionally, the discussions yielded valuable information and suggestions for improving the interventions, particularly, the transport voucher system, and to phase out the baby kits.

We have added more information on community dialogues (page 4).

2. The data collection section is unclear. What was the relationship of the interviewers/ translators / observers to the study investigators? Were the investigators part of data collection team?

Response:

We have clarified that the FGD data collection team consisted of a moderator, a translator, and a note-taker (page 5). Two of the investigators (WM and MN) were also present throughout the FGDs. They supervised data collection and followed the discussions through the translator. All KIIs were conducted in English by two of the investigators (WM and MN). Besides the translator in the FGD data collection team, we hired a professional bilingual translator, who was from the study area and was familiar with the local culture and traditions, to translate the audio recordings.

3. Data collection (FGD) was performance at the Health facility and once in the trading center. Could this have limited freedom of expression of informants - pregnant women/ mothers/spouses in a health facility?

Response:

As explained earlier (please see comments from Reviewer #1 above), we were aware of this potential limitation before data collection and we tried our best to mitigate it. Nonetheless, the venues for the FGDs may still have limited the freedom of expression of the participants to some extent. We have therefore captured this observation in the “strengths and limitations” section of the revised manuscript.

4. How was the FGD started- was there a preamble in form of a story or illustration to stimulate the discussion?

Response:

The FGDs often started with a preamble. Interestingly, many of the participants had used or knew about the interventions. The fact that some of participants were direct beneficiaries in itself stimulated spontaneous discussions, generating first-hand information. The use of the local language (Lango) made it easier to communicate and facilitate the discussions. As stated elsewhere, most of the FGDs and KIIs were audio recorded.

5. How was the consenting process?

Response:

On arrival at the selected venues, the research team greeted the participants, introduced themselves and made the participants comfortable. All communication was in the local Lango language, and so there was no translation (moderator-respondent) at any point from start to end of the discussions. A brief introduction regarding the interventions was then provided by the research team. The participants were then told why the study was being conducted. They were also informed that their views would be treated confidentially, and that no identifiable personal details would be collected or published.

They were also assured that participation was voluntarily, and that refusal would not affect their access to the available health care services. They could also withdraw from the study at any time if they changed their minds. The participants were encouraged to seek clarification/ask questions if something was not clear to them. If they agreed to participate in the study, they either signed or thumb printed on the consent form. Illiterate participants thumb printed in the presence of a witness. All participants were given copies of the signed or thumb printed consent forms to keep. All the study participants received transport refunds as appreciation for participation in the study.

6. The results section is well written, however, the author should consider shortening this section by being more concise; and perhaps, deleting the third level subheadings.

Response:

We prefer to retain the structure of the results section. Kindly see a more detailed response related to this comment below.

Specific comments

Title: Clear and concise

Abstract: Well written

Background: Well written

Methods

Participants and sampling

7. The age and gender distribution should be address in this section, even though the participants' characteristics are shown in table 1.

Response:

In this section, we did not mention the age and gender distribution of the participants because these were not the criteria for selection. For FGDs, all women who utilised maternal health services in 2015/2016 and their male partners were eligible regardless of their age. For KIIs, we included individuals considered knowledgeable about maternal health service delivery in the study sub-counties or district, again regardless of age and gender.

Data collection

8. The FGD and interview details are not enough to assess the freedom of expression of the informants, considering that these were clients/patients and interviews were performed in a health center.

Response:

As mentioned earlier, the data collection venues were proposed by participants in consideration of geographical inaccessibility and logistical challenges during the planning phase of the study. As also mentioned, we were aware that health centres might not be ideal places for data collection as the venue could limit the freedom of expression. We tried to put in place measures apriori to mitigate this potential limitation. These included conducting discussions behind closed doors with no intruders including health facility staff, assuring the respondents of confidentiality and encouraging them to speak freely.

We have, nonetheless, acknowledged this as a potential limitation and inserted the following statement under “Strengths and limitations”

“FGDs were conducted mainly in HCs, which might have restricted the freedom of expression. To mitigate this problem, all the discussions were performed in a quiet and closed room in the absence of any health facility staff. Participants were assured of confidentiality and were encouraged to freely express themselves without fear of victimization or future prejudice.”

9. Ethical consideration

The authors should at least mentions which research team member was responsible for seeking consenting for participants, when the consent was sought, and what were the main points of the consenting process? This is important because the FGD were conducted at the Health Centre where patients/clients may have stress and lack of freedom to open up.

Response:

We obtained informed consent from all participants individually, before data collection (for both FGDs and KIIs). A study interviewer sought consent following the steps described above, in response to your question: “How was the consenting process?” We have also commented above on the potential effect of the venues on participants.

10. Previous studies have shown adverse effects of unbearable workload associated with incentivizing for the purpose of increasing utilization of health services. Did the investigators consider discussing the undesired outcome during the consenting process?

Response:

The issue of increased workload associated with incentives emerged during the discussions and interviews and we have reported and discussed it in the manuscript. We did not include this as part of the consenting process because we did not know about it beforehand. It is actually not clear why we should have considered including the adverse effects of unbearable workload on the informed consent sheet.

11. Some interventions “transport voucher intervention” were continuing during data collection and the authors reported that some health facilities were overwhelmed with workload. What did the investigators do about this? Is there a possible further declining of quality of health care because of overloading the already over stretched system? Was it worthwhile to continue with the intervention to increase utilization of maternal and child health care service knowingly that the health facilities were overstretched with resources because of extra workload?

Response:

Certainly, we were concerned as researchers. Doctors with Africa CUAMM, the sponsoring agency, started negotiations with the district local government, the district health authorities and other stakeholders to recruit more qualified health workers to work in health centres including the ones in the intervention areas. Moreover, Doctors with Africa CUAMM recruited more nurses and midwives as part of the 5-year project to strengthen the district's health system. Measures to sustain the transport vouchers beyond the project during period were also initiated (Please see page 15). We do not expect further decline in the quality of care, given the health system strengthening activities already implemented and the support and commitment of the local government to provide resources to mitigate the situation in the entire district health system.

We also wish to clarify that the situation on the ground is not as the reviewer imagines. Doctors with Africa CUAMM has been operating in the Oyam district for over a decade now. We have provided a detailed description of the project and the health system in Oyam in our previous publication (Massavon W, Wilunda C, Nannini M, et al. Effects of demand-side incentives in improving the utilisation of delivery services in Oyam District in northern Uganda: a quasi-experimental study. BMC pregnancy and childbirth 2017;17(1):431.)

Based on that, we can confidently say that indeed, it was worth continuing with the interventions because the study has not only exposed long existing challenges but has also motivated the local leaders and communities to be directly involved in maternal health care. It has further strengthened collaborations between the local communities and this non-governmental organisation.

12. Results

The theme: "context" is confusing because the details seem to explain the study settings rather than how the intervention change the perception and health care within the setting.

Response:

Although the information provided under this theme does not explain how the intervention changed the perception and health care, it provides a contextual setting, from the perspective of respondents, to enable readers to interpret the results, by placing themselves in the context (i.e. an emic view). For instance, readers can partly understand why the interventions were generally acceptable and appropriate given the context. For this reason, we prefer to leave this theme as it is. However, we have edited it to shorten the length.

13. The authors should consider keeping only the theme as subheadings. For example: Under the second level subheading: "Community support intervention", the finding supporting the third level subheadings, "Acceptability and impact of interventions" align to the following subheadings,"Need to scale up" and "preferred intervention subheading". Furthermore, all third level subheadings under "Health seeking behavior" that is, "utilization of maternity service", "bypass resident health facility" etc, seem to have the same meanings as a units of evidence of health seeking behavior. I also do not see any distinction of meaning between the subthemes under "implementation issues and lessons learned"

Response:

We went to great lengths in coming up with the level of analysis displayed in the results section. The pieces of related evidence carefully gathered under a given theme add up to consolidate that finding. Hence, we strongly believe that the additional pieces of evidence captured under the second and third level subthemes are valuable and greatly enrich the paper, while providing useful information for the reader. As indicated elsewhere, this work builds on a previous quantitative study that examined the effects of the same incentive schemes. Interestingly, a considerable proportion of the results section actually answer questions that emerged during the review of the quantitative study but could not be adequately addressed with that study design. Consequently, we would like to retain the format of the results section, including the second and third level subthemes. We are concerned that effecting the changes suggested by the reviewer would amount not only to loss of valuable pieces of information, but may also distort the structure and flow of the results section, all of which have implications for the paper.

14. With regards to the third level subthemes: “changing of role of TBA”, the authors should elaborate further this important finding in both the summary of the findings and results. The phenomenon seem to be the opposite of what one expects from the usual relationship (competing for clients) between the health care providers and TBAs. Did the TBA, in any way, benefit from the intervention?

Response:

This was an unexpected outcome. TBAs who referred and escorted pregnant women to deliver at the health facilities implementing the voucher system were recognised as ‘transporters’ and received voucher refunds. We have addressed this in the results section on page 10 and in the discussion section on page 14. However, this is not surprising. Studies have shown that TBAs can change their roles if provided with the right incentives (Wilunda C, Dall'Oglio G, Scanagatta C, et al. Changing the role of traditional birth attendants in Yirol West County, South Sudan. PloS one 2017;12(11):e0185726 and Pyone T, Adaji S, Madaj B, et al. Changing the role of the traditional birth attendant in Somaliland. International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics 2014;127(1):41-6.)

15. Under subheading: “Perceived adverse effect of intervention”, I am not convinced that there was rich evidence to generalize the community perception that the intervention may lead to “more production of children”. The author should put more supportive evidence from the interviews to support this subtheme. Was this corroborated by others informants?

Response:

In fact, this issue emerged only from KIIs. FGD participants did not mention it and we did not have an opportunity seek their opinions given that this is something that emerged during data analysis. Nonetheless, we felt it was important to report on this concern of key informants.

16. Is there evidence that poor quality of service and inaccessibility of health facilities could have been a reason for child limiting? I do not see neither connection nor evidence of the intervention encouraging high fertility.

Response:

This question is not clear, as we have neither indicated or implied that “poor quality of service and inaccessibility of health facilities could have been a reason for child limiting”. Rather, our knowledge of the district, including cultural practices like child birth indicates that, before the interventions, more pregnant women were delivering at home, often with the support of traditional birth attendants, families and friends (please see introduction). Hence, not using the health facilities does not imply that women were not delivering, as the reviewer is suggesting.

Please see below:

“…the family planning messages are not included in the intervention because sometime this intervention could be a motivating factor to produce more children.”

(Male key informant, Loro Sub-County)

Similar sentiments emerged from some of the men’s FGDs.

17. In the data collection section, it was mentioned that there was an observer during FGD. Was there anything worth mentioning in the results from observer’s notes to enrich the findings?

Response:

We reviewed all observer’s notes during our post-field work briefing sessions. We incorporated useful information from the notes into the results and discussion and therefore we did not present separate section for ‘observer reports’.

Discussion

18. The discussion is well written. However, I do not understand the message of the second paragraph under subheading: “perceived undesirable effect”. The author should consider revising this paragraph or delete it.

Response:

We have revised that paragraph as suggested.

19. The strength and limitation section is not balanced. I suggest the authors to consider explaining other limitations such as possible loss of meaning from using a translator during FGD, possible stress and limitations in opening open during the FGD because of interviews being conducted in health centers which is not a stress free environment such home. Additionally, the authors should consider mentioning that increasing utilization of health service in a health resource limited system like that in Oyam, may not necessary lead to improved maternal and newborn outcome.

Response:

All FGDs were conducted in the local language by a facilitator who was familiar with the local language. Thus, there was no need for translation to facilitate communication between the facilitator and the FGD participants. The role of the translator during the sessions was to assist the investigators to follow the discussions and intervene when necessary, for example by asking the facilitator to probe further. We have clarified this under “Data Collection”. After data collection, FGDs were translated to English by a different professional translator.

We have revised the “strengths and limitations” section adequately with the additional suggestions offered above (page 16).

VERSION 2 – REVIEW

REVIEWER	Sara Rivenes Lafontan Department of Community Medicine and Global Health University of Oslo Norway
REVIEW RETURNED	25-Mar-2019

GENERAL COMMENTS	Thank you very much for opportunity to review this revised paper. It is evident that the authors put quite a lot of thought into the revisions and addressing the reviewers' concerns. There are great improvements in both the introduction and materials and methods sections which now reads well. However, there are still areas where the paper needs to be strengthened in the results and discussion sections. It seems that the main issue is related to the authors having collected a lot of data from a vast amount of participants and wanting to include “it all” in the manuscript which is quite common. Both sections could benefit from a more narrow/focused and in-depth approach. Perhaps it could be beneficial to clearly define three or four key messages that you would like the reader to remember after reading your paper and build your presentation of results and subsequent discussion around those. Reviewing other qualitative papers in BMJ Open might also be beneficial. Results:

	The presentation of results would benefit from a richer description of each theme, leaving out the sub-category headings and merging it into the overall description of the theme. One example is that the quotes often includes one group talking about another such as key-informants talking about mothers “bypassing” resident health facilities, beneficiaries talking about the changing roles of TBAs, key informants talking about concerns that the intervention might case increased fertility rates or male beneficiaries discussing poor ANC care. In these instances it would be beneficial to include data about what the group in question said about that particular topic- what did the TBAs say about their changing roles etc. Additionally, very often it is interesting look in the material for what was not said. Or look for issues that were important to the participants that were surprising to you and not part of the interview guide. Did the key informants and beneficiaries have opposing views on aspects of the intervention? As it reads now, in particular the sub-categories which are composed of one sentence and one or two quotes, it is also difficult to get an understanding of whether it was a pattern in the data, mentioned by some or just the one or two quoted. Since they often talk about another group and not themselves, it sometimes can seem less relevant to include (such as the three male participant’s views on the perceived increased utilization of maternal health services and not one from a female beneficiary as the one female participant was a key-informant) Discussion: The discussion still seems like a repetition of the results with a few citations added. Instead, select some of the key findings and discuss these in more depth. Here, recommendations for change in policy or future research can be included. Many important issues are raised and could be elaborated and underlined. One such example is the paradox of improving access to health care services which offers poor quality of care or the issue of participants fearing that the intervention may lead to increased fertility. These are powerful examples of the importance of a systems wide approach anchored within a quality of care framework to improve maternal-and child health outcomes. Here, the authors can also include any suggestions to how the intervention could have been improved. As previously mentioned, there is no need to repeat the themes in the introduction of the discussion. Instead, state the key aspects of your findings that you are going to discuss related to the objective of the study (which are different from the themes). Limitations Should include the risk that some of the participants might have been reluctant to voice negative aspects of the intervention as staff members of the NGO that implemented the intervention and funded the study, carried out the data collection while the intervention was ongoing. Competing interest To include the three authors who are staff members of the NGO who carried out the intervention and funded the study.

	However, there are still areas where the manuscript could be strengthened. While there are notable improvements in the results section, it is believed that the As previously mentioned, parts of the discussion could benefit from more of a discussion and less of a repetition of the results. An example is That project staff working for the NGO that implemented the intervention under study and who funded the research project, also took part in the data collection should be addressed in limitations, due to the risk it may have had on affecting participants answers. It should be also stated clearly under funding/competing interests that three of six authors are staff members in the same NGO.

VERSION 2 – AUTHOR RESPONSE

Reviewer(s)' Comments to Author:

Reviewer: 1

Reviewer Name: Sara RivenesLafontan

Institution and Country: Department of Community Medicine and Global Health

University of Oslo

Norway

Please state any competing interests or state ‘None declared’: None declared

Please leave your comments for the authors below

Thank you very much for opportunity to review this revised paper. It is evident that the authors put quite a lot of thought into the revisions and addressing the reviewers' concerns. There are great improvements in both the introduction and materials and methods sections which now reads well.

However, there are still areas where the paper needs to be strengthened in the results and discussion sections. It seems that the main issue is related to the authors having collected a lot of data from a vast amount of participants and wanting to include “it all” in the manuscript which is quite common. Both sections could benefit from a more narrow/focused and in-depth approach. Perhaps it could be beneficial to clearly define three or four key messages that you would like the reader to remember after reading your paper and build your presentation of results and subsequent discussion around those. Reviewing other qualitative papers in BMJ Open might also be beneficial.

Results:

The presentation of results would benefit from a richer description of each theme, leaving out the sub-category headings and merging it into the overall description of the theme. One example is that the

quotes often includes one group talking about another such as key-informants talking about mothers "bypassing" resident health facilities, beneficiaries talking about the changing roles of TBAs, key informants talking about concerns that the intervention might case increased fertility rates or male beneficiaries discussing poor ANC care. In these instances it would be beneficial to include data about what the group in question said about that particular topic- what did the TBAs say about their changing roles etc. Additionally, very often it is interesting look in the material for what was not said. Or look for issues that were important to the participants that were surprising to you and not part of the interview guide. Did the key informants and beneficiaries have opposing views on aspects of the intervention? As it reads now, in particular the sub-categories which are composed of one sentence and one or two quotes, it is also difficult to get an understanding of whether it was a pattern in the data, mentioned by some or just the one or two quoted. Since they often talk about another group and not themselves, it sometimes can seem less relevant to include (such as the three male participant's views on the perceived increased utilization of maternal health services and not one from a female beneficiary as the one female participant was a key-informant)

Response: We have merged all sub-themes into the main ones, as suggested. We have reviewed the transcripts once more and where additional details were available, we have added such details to enrich the description of the results section. Strangely, there were no opposing views between beneficiaries and key informants. Commonly, participants talked about different aspects of the schemes, perhaps a reflection of what was important to them, but sometimes, all groups talked about the same issue. For instance, all the viewpoints relating to perceived undesirable effects of the interventions were from key informants, who were all leaders in various positions in the community. Therefore, this reflects a higher-level concern about these schemes. On the other hand, issues related to health seeking behaviours emerged across all focus groups and interview sessions. To improve the readability of the paper we selected quotes which illustrated a typical response.

The involvement of TBAs through escorting women to health facilities was unexpected as mentioned, and this information was collected from key informants and FGDs with mothers. We did not aim to collect data from practising TBAs. Although TBAs are integrated into village health teams (VHTs), it is unlikely that the VHT members included in this study were practising TBAs. We have added the following statement in the Limitations:

"Finally, this study could have benefited from the views of TBAs concerning the influence of the schemes on their roles. Information on their changed role emerged mainly from mothers and key informants."

Discussion:

The discussion still seems like a repetition of the results with a few citations added. Instead, select some of the key findings and discuss these in more depth.

Here, recommendations for change in policy or future research can be included.

Many important issues are raised and could be elaborated and underlined. One such example is the paradox of improving access to health care services which offers poor quality of care or the issue of participants fearing that the intervention may lead to increased fertility. These are powerful examples of the importance of a systems wide approach anchored within a quality of care framework to improve

maternal-and child health outcomes. Here, the authors can also include any suggestions to how the intervention could have been improved.

Response: We have deleted all unnecessary repetitions as suggested. We have selected four key findings for discussion. We have also elaborated on important issues as concerns regarding the undesirable effects of the interventions. Additionally, we have made some recommendations for successful implementation of similar schemes in resource limited settings.

As previously mentioned, there is no need to repeat the themes in the introduction of the discussion. Instead, state the key aspects of your findings that you are going to discuss related to the objective of the study (which are different from the themes).

Response: As stated above, we have removed all such repetitions from the discussion, and focused the discussion on selected key findings, related to the study objective. Please see the revised manuscript.

Limitations

Should include the risk that some of the participants might have been reluctant to voice negative aspects of the intervention as staff members of the NGO that implemented the intervention and funded the study, carried out the data collection while the intervention was ongoing.

Response: We have included the following statement under Strengths and Limitations in the revised manuscript:

“Despite these precautionary measures, it is possible that some of the participants might have been reluctant to voice negative aspects of the intervention as staff members of the NGO that implemented the intervention and funded the study, carried out the data collection while the intervention was ongoing.”

Competing interest

To include the three authors who are staff members of the NGO who carried out the intervention and funded the study.

Response: We have revised the competing interest statement to read as follows:

“CW, MN, CA, JBO, and SA have no competing interests to declare. At the time of this study, WM, ED, PL, and GP were employees of Doctors with Africa CUAMM. The views expressed in this

document are solely the responsibility of the authors and do not necessarily represent the views of Doctors with Africa CUAMM."

VERSION 3 - REVIEW

REVIEWER	Sara Rivenes Lafontan Department of Community Medicine and Global Health University of Oslo Norway
REVIEW RETURNED	01-Aug-2019

GENERAL COMMENTS	Great job on the last revision, congratulations!