Author’s response to reviews

Title: Understanding mistreatment during institutional delivery in Northeast Nigeria: a mixed-method study

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RESPONSE TO REVIEWER 1

This study adds to the evidence from Nigeria on women's perspectives on the quality of maternity care and nicely uses mixed-methods to describe the findings in one state.

The title of the paper suggests the focus is on understanding respectful maternity care (RMC), but the content is almost exclusively focused on mistreatment. For example, the description of the quantitative instrument (p7/8) says, "The respectful care component had 31 items, structured around the seven domains of mistreatment…", and the prevalence and manifestations of RMC practices are reported in terms of mistreatment (see Table 3). This positioning could be seen to imply that the absence of mistreatment constitutes RMC, rather than acknowledging that RMC is a broader concept than this and that the absence of one does not equate to the presence of the other. I appreciate that RMC is tricky to define, but I think you need to unpack this and make clear that your study is looking at mistreatment - and your title should reflect this.

Thank you, we revised the title to reflect your suggestion. The new title now is ‘Understanding mistreatment during institutional delivery in Northeast Nigeria: a mixed-method study.’ Please see page 1, line 1

Background
This is rather brief. While it sets up the rationale for the study, it does not provide sufficient detail on the birth context in Nigeria more generally, which would then allow the reader to see how Gombe State compares to the rest of the country. I would have found it interesting to see something about the prevailing model of midwifery care (the 'who with' and 'where' elements) and the socio-cultural factors that may be relevant in this context to the discussion of mistreatment and RMC.

Thank you for your suggestion, we have added more information in the background and method sections. Please see page 6, lines 1-8 and lines 25-26; page 7, lines 1-15.

P5 lines 7 - 12 - I would urge you to use more recent references to support the points you are making here as [11] and [12] are rather dated.

We have updated the references to more recent references, please see page 5, lines 9-15.

Methods

The methods are explained well and only need a few amendments/additions.

Quantitative: It would really help to provide a table of the questionnaire items as it is difficult to assess the validity without seeing how the questions were framed. For example, it is unclear if women were reporting their own direct experience or if the questions could include seeing other women being mistreated.

We have added the table, pls see supplementary material, Table S1.

Qualitative: This is nicely described, but please provide an anonymised identifier for each quote to allow readers to judge the spread of data across participants.

Thank you, we have added numbers as additional identifiers to make it easier to judge the spread as suggested please see the identifiers at the end of each quote.
A little detail about the type and level of the health facilities from which the sample was drawn would also be informative.

Thank you for your suggestion, we have added more information in the method section, please see page 8, lines 14-23.

Of the 64 women recruited, 31 took part in IDIs and 32 in FGDs - please account for the missing woman and state if the same 'trained female interviewer' carried out both the IDIs and FGDs.

Thank you. We have accounted for the missing woman, please see page 11, lines 5-7. We have also reflected the addition you suggested, please see page 12, line 2.

It would be interesting to know if your analysis found any data that did not fit the a priori coding framework and, if so, how you accounted for it.

Thank you. We have accounted for the missing woman, please see page 11, lines 5-7. We have also reflected the addition you suggested, please see page 12, line 2.

On p11 lines 4/5, please clarify what you mean by ensuring "themes were internally homogenous and externally heterogeneous".

Thank you. We have revised the sentence to make it clearer, please see page 12, line 25.

Ethics: Please add a bit more detail - type of consent (verbal/written), freedom to withdraw, confidentiality etc.

Thank you for your suggestions, we have provided more detail to explain how the informed consent for the study was obtained, please see page 8, line 1-11.
Findings

These are nicely described for both quantitative and qualitative data.

Data were collected in 10 primary health facilities with the highest volume of births in the state - it would be interesting to hear your thoughts on the implications of this for your findings.

The study site selection of 10 health facilities limit the generalisability of our study findings. We added this limitation to the limitation section. Please see page 30, lines 21-22.

Please clarify the figures for birth attendant - Table 1 reports 20% skilled and 80% non-skilled birth attendant, yet Table 3 shows ‘Skilled attendant absent at time of delivery’ as 18%.

Thank you. These are two different indicators. The indicator in Table 1 is referring to skilled birth attendants formally employed in the 10 health facilities, while the indicator in table 3 is reporting women’s report of skilled birth attendant absent at the time of delivery. We have added ‘formally employed’ to reflect this distinction, please see Table 1.

Were you able to identify any differences in the qualitative data on how women were treated in facilities with lower (Kwami) versus higher (Kaltungo) levels of facility births?

No clear pattern emerged to indicate differences in the manifestations of mistreatment between Kwami LGA and Kaltungo LGA. We have added this additional information, please page 15, line 11-12.

Discussion

Your discussion situates the findings within the existing literature from Nigeria on women's experiences of facility-based birth and draws attention to the inconsistency of prevalence figures across the country. However, it does not engage with the research underway in Nigeria that is trying to find operational and service delivery options to address mistreatment and improve RMC (see references below). It is too light on implications and recommendations e.g. How can your findings be used to inform strategies for improvement? What can be done (structurally as well as at ward level) to facilitate a more positive birth environment? What facilitators/barriers (policy, socio-economic, cultural etc) specific to the Nigerian context need to be considered and how?


Thank you very much for your suggestion and for the references, we have expanded on how our study findings can be used to inform strategies for improvement. Please see page 28, lines 12-26; page 29, 1-15 and page 30, lines 5-12.

Strengths and limitations

Your comment about data collectors carrying out the translation (p10 line 17-18) should go in here as a strength.

Thank you for your suggestion, we agree with you this is an additional strength.

This study was carried out in one region only, so you should acknowledge the lack of transferability of findings, particularly in light of the inconsistencies in other literature from the country that you noted in the discussion.

We have provided additional reflection on the implication of the study site selection. Please see 30, lines 21-22.
It would be interesting to hear why women were not included in the pilot testing of the instruments, particularly given the literature on different perceptions between women and health care providers on what constitutes mistreatment.

Thank you for highlighting this, it is an important omission on our part, we have added more details on the pilot, please see page 9, line 26 and page 10, lines 5-12.

Proofing

I found some sentences overly long or awkwardly worded and needed to read some twice to understand what you meant to say. It would be helpful if you could check through the manuscript, add some commas, or reword for clarity. In particular, please look at:

* p5, lines 21-25
* p6 lines 13-14
* p10 lines 1-3
* p11 lines 4/5
* p18 lines 19-22
* p25 line 10 - remove 'Any' or reword

Thank you. We have revised the sentences you highlighted accordingly.

RESPONSE TO REVIEWER 2

Thank you for the opportunity to review this insightful contribution to the respectful maternity care literature. Appreciating the high MMR and the low level of facility deliveries in this part of
Nigeria, the evidence presented here provides context on how the experience of care may relate to women's birth decisions.

The data are very rich and have the potential to inform respectful maternity care (RMC) initiatives in Gombe State. In the discussion section, the authors have room to comment on how the findings may relate to efforts for increasing facility deliveries and improving quality of care, including RMC. For example, women reported that verbal and physical abuse was mostly due to the fault of the laboring woman, and that they would prefer to be in a medicalized setting with verbal abuse rather than give birth at home with dignity. How could this inform future community outreach and facility-based programs?

Thank you very much for your suggestion and for the references, we have expanded on how our study findings can be used to inform strategies for improvement. Please see page 28, lines 12-26; page 29, 1-15 and page 30, lines 5-12.

One question of note is why the authors chose not compare the frequencies of experienced mistreatment with women's characteristics to explore potential associations. Was there a reason this analysis was not included?

Thank you for your question. ‘Our sample size restrictions limited any tests for association’. We have added this limitation in the study limitation section, please see page 30, line 24.

Finally, I ask the authors to please clarify information on the characteristics of the participants sampled in each analysis, the queries for which are further described in subsequent sections. Specifically: is the purpose of comparing quantitative and qualitative data to describe the manifestation of mistreatment in ten specific facilities? The Gombe State in Nigeria?

Thank you for your question. Participants in the qualitative interviews were likely to have attended any of the ten primary health care facilities. They were selected to describe how mistreatment occurs in Gombe State. Although the exit interviewees were more likely to be multigravida, married, Muslims and Fulani’s than the qualitative interviewees, we do not expect this to have changed the conclusions arising from this study, as the results are supposed to be complimentary, not to converge to provide the same conclusions. This study provided complimentary results relating to two different aspects of mistreatment: (1) the frequency with which mistreatment occurs in Gombe state, and (2) the presentation of mistreatment when it
occurs. We have reflected on this in the manuscript and provided more description, please see page 28, lines 1-9.

Additionally, Kruk, Ratcliffe and others have noted that there are differences in frequencies of reported mistreatment immediately post-delivery and those which are reported 4-8 weeks post-delivery. Could the time discrepancies in administrating the tools account for any incongruities in the quantitative (e.g. exit interview at discharge) and qualitative (e.g. median six months post-delivery) data sets? Exploring the differences between the data sets and presenting them in a compelling manner will strengthen the overall argument of the paper.

Thank you very much for your suggestions. We agree that since ‘our exit interviews were conducted within 24 hours post-partum, women’s reflections on the birthing experience may be different to women interviewed later after birth. In some studies, exit interviews have been complimented with community interviews with women 4-10 weeks post-delivery to compare what women reported at exit. Our qualitative sample comprised of women whose infants were about 6-months old, meaning that they had more time to reflect on their facility birth experience. However, the two data sources were designed to be complementary, with the qualitative data further elaborating and illustrating the manifestations of mistreatment.’ We have highlighted the likely differences between the data sets and associated strengths and limitations of using the quantitative and qualitative data, please see page 30, line 26 and page 31, lines 1-8.

Plain English summary

Page 4, lines 16-18: "Our study showed that the occurrence of mistreatment during institutional delivery was high and was related to both health system constraints as well as what the health workers do."

Understanding that this summary is general, nuance is important for this particular sentence. The data are from women's perspectives; multiple data sources, such as direct observation and facility assessments, would be needed for this sentence to be absolute. Further, by stating that mistreatment is "related" to health system constraints etc implies analysis using independent variables. Rather, the Bohren (2015) typology, as used in this study, lists health system constraints and certain provider behaviors in and of themselves mistreatment. A more appropriate sentence would be "Our study showed that women reported high levels of
mistreatment during institutional delivery, which included health system constraints and poor health worker behavior."

Thank you, we agree with your suggestion and have edited this section, accordingly, please see page 4, line 16-17.

Background

Lines 7-14: "A combination of the effectiveness of care given and the negative experience from services received shapes users' perception of care, which in turn influences health-seeking behaviour.[11] Considering every pregnant woman is at risk of obstetric complication, [12] access to timely and appropriate obstetric care, estimated to prevent about 75% of maternal mortality, remains imperative.[11] Further, evidence has shown that early presentation by a pregnant women with complications combined with good quality of care, significantly contributes to the survival of mothers and their newborns. [11]"

Thaddeus and Maine (1994) is seminal literature in maternal health; however, there are more recent substantive articles that better support the argument surrounding quality/experience of care and maternal mortality. I would suggest reviewing the other works cited in the paper and reference those appropriate for this rationale.

We have updated the references to more recent references, please see page 5, lines 9-15.

Page 6, lines 4-9: "we aimed to explore the quality of care relating to the prevalence and manifestations of respectful maternity care practices during institutional birth in Gombe State."

A small but very important distinction: this study focuses on how mistreatment manifests, which is different from respectful maternity care. The latter implies practices that are observed or implemented to improve quality, respect and dignity during childbirth.
We have revised the sentence, accordingly, please see page 6, lines 10-13.

Quantitative data collection

Page 7, lines 16-19: "In each of these 10 facilities, two trained data collectors and a supervisor were posted in shifts covering day and night deliveries, seven days a week for approximately four weeks. This was determined to be the amount of time needed in these high-volume facilities to recruit a sample of 320 births."

The sample size approximates 8 births per facility per week, which may be seen as low compared to other facilities in low resource settings. Understanding that mistreatment is associated with structural deficiencies in low resource settings, it would be useful to have more information on the environment in which women gave birth. Could you please provide contextual variables, including: client/provider ratio (if available); annual deliveries per facility; number/type of staff per facility; number of beds, number of providers per shift and their responsibilities at the health facilities (e.g. deliveries only, all maternal health care, all primary care, all services etc.).

Thank you for your suggestion, we have added more information in the background section, please see page 6, lines 1-8. And in the method section, please see page 6, lines 25-26; page 7, lines 1-15; page 8, lines 14-23.

Study instrument (pages 7-8)

Developing quantitative tools remains one of the more challenging aspects of studying mistreatment during childbirth. Please give more information on how the tool was created. For example, how were the questions chosen and tested? Was the pilot site different from the study site? Is so, how did it compare to the study site?

Qualitative data collection/analysis (pages 8-11)
The sections on qualitative data collection and analysis are excellent; the rationale for each decision is well-presented.

Page 10, lines 23-25: "The coding was determined a priori to align the qualitative findings to the quantitative results, to aid understanding how the quantitative findings were manifest."

It would be useful to the reader, particularly if their primary discipline is another form of qualitative analysis, to note that thematic content analysis is the only form of qualitative analysis that allows for using quantitative results as the basis for a priori themes, rather than only cite the supporting text.

Thank you, we have revised the sentence accordingly, pls see page 12, lines 12-13.

The relationship between the quantitative and qualitative respondents should be clarified here or in the study design section. In the study design section, it is noted that, of the two LGAs chosen for the qualitative data collection, one was in a low facility delivery area while the other was in an area with high level of facility deliveries. However, in the quantitative sample, it is noted that women were recruited from 10 facilities that had the highest deliveries in Gombe. Did the women who were sampled for the IDIs/FGDs attend the same facilities where the exit interviews were administered? Is so, please be specific. If not, how does this affect the analysis? Do you feel confident in using thematic content analysis if the facilities are different? Explain why in the discussion section or the strengths/limitations section.

Thank you for your questions, we have reflected on this and to answer your questions we have added addition text that describe the relationship between the samples: ‘Participants in the qualitative interviews were likely to have attended any of the ten primary health care facilities. They were selected to describe how mistreatment occurs in Gombe State. Although the exit interviewees were more likely to be multigravida, married, Muslims and Fulani’s than the qualitative interviewees, we do not expect this to have changed the conclusions arising from this study, as the results are supposed to be complimentary, not to converge to provide the same conclusions. This study provided complimentary results relating to two different aspects of mistreatment: (1) the frequency with which mistreatment occurs in Gombe state, and (2) the presentation of mistreatment when it occurs.’ We have reflected on this in the manuscript and provided more description, please see page 28, lines 1-9.
Minor edit on page 11, lines 11-14: the section on ethics would be better presented in the study design section.

Thank you for your suggestion, we have moved the ethics section to the study design section, please see page 8, lines 1-11.

Results (pages 11 - 25)

Characteristics of women

Were there any statistically significant differences between the two samples of women? For example, there were only 2% primigravida in the exit interview sample, yet there were 24% in the IDI/FGD sample. Could this have affected responses?

Thank you for your question. The exit interviewees were more likely to be multigravida, married, Muslims and Fulani’s than the qualitative interviewees, we do not expect this to have changed the conclusions arising from this study, as the results are supposed to be complimentary, not to converge to provide the same conclusions. This study provided complimentary results relating to two different aspects of mistreatment: (1) the frequency with which mistreatment occurs in Gombe state, and (2) the presentation of mistreatment when it occurs.

We have added this additional explanation, please page 28, line 3-9.

Also, Kruk, Ratcliffe and others have noted that there may be differences in frequencies of reported mistreatment immediately post-delivery and those reported 4-8 weeks post-delivery. Could the difference in administrating the tools account for any discrepancies in the quantitative (e.g. exit interview at discharge) and qualitative (e.g. median six months post-delivery) data sets?

Thank you very much for your suggestions. We agree that since ‘our exit interviews were conducted within 24 hours post-partum, women’s reflections on the birthing experience may be different to women interviewed later after birth. In some studies, exit interviews have been complimented with community interviews with women 4-10 weeks post-delivery to compare what women reported at exit. Our qualitative sample comprised of women whose infants were about 6-months old, meaning that they had more time to reflect on their facility birth experience. However, the two data sources were designed to be complementary, with the qualitative data
further elaborating and illustrating the manifestations of mistreatment.’ We have highlighted in the strengths and limitation section, please see page 30, line 26 and page 31, lines 1-8.

Reported prevalence and manifestation of respectful maternity care practices during institutional birth

The results in this section are described in a different order than in Table 3. It would better for the reader if the narrative corresponded with data presentation in the table, as well as presenting the table earlier in this section.

Thank you, we have reordered the Table 3 to align with the narrative, please see table 3.

Poor rapport of women and providers

Limit the illustrative quotes to 1-3. Use the saved space in the discussion section to amplify why the data presented are important.

Thank you for your suggestion, we have limited the illustrative quotes to 3, please see page 18 & page 19.

Discussion

The discussion section relates well to other mistreatment studies. Given the rationale in the background section that the quality and experience of care relates to facility birth attendance and maternal health outcomes, I would advise the authors to relate the perceived mistreatment described by women to broader maternal health initiatives. How could the experiences documented here relate to potential care-seeking behavior? What does this mean for planned and ongoing respectful maternity care initiatives in Gombe?

Thank you for your questions and suggestions. We have reflected on how findings from this study and other studies from Nigeria could be an indication of a wide problem of mistreatment during institutional birth in Nigeria, likely contribution to persistent low utilisation of MNH
services in the country. We have added this information in the discussion section. We have also highlighted how the ongoing efforts to improve MNH service utilisation for example the task-shifting policy or the CHIP programs could be leveraged to improve respectful maternity care in Gombe and Nigeria. Please see page 28, lines 12-26; page 29, 1-15 and page 30, lines 5-12.

Page 25-26, lines 24-2: Please state the prevalence in this study to compare it with the prevalence presented from the other studies.

We have added the prevalence from this study, please see page 27, lines 14-15.

Pages 26-27, lines 23-3: Did this specific example occur in any of the health facilities in this study?

Yes, women reported lack of privacy and neglect during their recent facility-based birth please see page 20, lines 42-25; page 21, lines 1-3.

Strengths/Limitations

Please see comments/questions above about the differences in samples. Based on this information, are there strengths or limitations in using two separate groups and types of analyses? Would stratifying the frequency of mistreatment enhance your argument? Why or why not?

We have revised the limitation section to answer your questions, please see page 30. Lines 21-26 and page 31, lines 1-8.