

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Women's perceptions and self-reports of excessive bleeding during and after delivery: findings from a mixed-methods study in Northern Nigeria
<b>AUTHORS</b>	Yargawa, Judith; Fottrell, Edward; Hill, Z

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Meffe, Filomena University of Toronto, Obstetrics and Gynecology
<b>REVIEW RETURNED</b>	12-Feb-2021

<b>GENERAL COMMENTS</b>	<p>4. Are the methods described sufficiently to allow the study to be repeated?</p> <p>With regards to the quantitative phase of the study, participants were selected using the Expanded Program of Immunisation Method which I am not familiar with although a reference is provided. It is not clear to me when the inclusion criteria were applied and I believe readers would have been interested to know how this was communicated to potential participants and how that process worked. Also, if this research were to be repeated, the questionnaire that was developed for the quantitative part would need to be made available to other researchers on request. Also, I am not clear on why the women in the qualitative part of the study were not also part of the quantitative part of the study. It would have made sense to me to explore both the quantitative and qualitative responses from the same group of women. So the women who responded to the survey (results in Table 1) are different from the respondent data in Table 2. I find that odd that the respondents who provided the qualitative part of the data did not have their demographics demonstrated. Perhaps I am confused but this is the way I am interpreting the study methods and representation of results.</p> <p>12. Are the study limitations discussed adequately?</p> <p>Some limitations are addressed. However, the limitation of recall bias is quickly glossed over. I would think that the recollection of how much blood was lost in the first 24 hours postpartum would be difficult to remember several months later. Also, the women that actually died from postpartum hemorrhage would not have been sampled in this study. I think the point of this study was to try to find descriptors that would help women/families delivering outside of a facility to identify excessive or abnormal postpartum bleeding early and to seek help early to prevent death. This study does not discuss or try to identify women who died of postpartum hemorrhage and seek information from their families regarding the circumstances or description of their blood loss. The authors conclude that "women conceptualise bleeding and quantify excessive bleeding during and after delivery using a variety of</p>
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	<p>subjective identification methods; these make recognition of haemorrhage for prompt care-seeking and reporting of haemorrhage in community-based surveys difficult....Self-reported measures may be unreliable and lack validity for estimating the burden of obstetric hemorrhage." I agree the conclusion fits the findings and supports previous research findings which the authors cite. So I am not clear how this study adds to the current challenge of identifying postpartum hemorrhage early so as to lead to prompt-care seeking, as the authors say. What do the authors suggest would be the next steps in tackling this issue?</p>
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<b>REVIEWER</b>	Biggerstaff, Deborah University of Warwick Warwick Medical School, Mental Health and Wellbeing
<b>REVIEW RETURNED</b>	25-Mar-2021

<b>GENERAL COMMENTS</b>	<p>I read this paper with interest, examining the concept of 'severe bleeding' in women after the first 24 hours following childbirth in Northern Nigeria. The paper is well written and reads well; it is clear that the authors have worked very hard on preparing their manuscript.</p> <p>Severe bleeding is an important topic and the authors are to be commended for highlighting the issue which often goes under-reported, despite it being an indicator for post-partum haemorrhage. The paper is especially of interest since it examines some of the perceptions of new mothers and their understanding of blood loss. The authors focus on issues surrounding women delivering in sub-Sahara Africa, where many mothers have less opportunity to access hospital care, should it be needed.</p> <p>The study's methodology is well designed and described clearly. However, may I suggest it would be helpful to describe the term 'FGD' in full in the Abstract section please (rather than further on in the paper)? A mixed-method approach is used for the study which appears appropriate. A qualitative study is reported first, followed by a larger group of participants, selected and analysed using cluster analysis. I focus on the qualitative elements here with my review: the cluster results would appear to be appropriate but I have not attempted to analyse these, since these are not particularly an area of my expertise.</p> <p>The findings from the qualitative elements are interesting and help inform the larger study. The researchers analysed their interviews and focus groups by using Thematic analysis, TA. The authors state they used both inductive and deductive approaches which I suggest may need an additional sentence or two to explain to anyone unfamiliar with this method? (p 6, l 40). Ditto their use of the cognitive interview technique (p 7, l 6-7) again, this might help inform the reader as to how they actually developed their questionnaire. I could not see any sample of the questionnaire tool used for the study but perhaps that can be made available please, as a supplementary file for the interested reader?</p> <p>The discussion section develops the authors' thinking and offers a thoughtful analysis of the topic. I would suggest the final sentence in the first paragraph on p 14 (lines 12 – 15) might benefit from further support by citations from relevant literature to support the conclusions drawn by the authors here?</p> <p>I also noticed a few very minor typos: p 14 line 27 should read I think 'by the extent' (not extend)?</p> <p>Ditto, same page line 37 'not clear in literature' (should I think read in the literature, 'the' missing)? Actually, this sentence is less clear and I needed to read this several times so wonder if the authors</p>
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	<p>may wish to consider a slight re-wording here please to explain their thinking to their reader?</p> <p>Finally, may I suggest the authors consider a slight re-writing of the conclusions they draw? I appreciate the research team aims to offer a balanced view, but I also think they are slightly underselling themselves. The authors discuss the concept of validity as being something their work, by the use of self-reported measures, may therefore be considered 'unreliable'. This might have been debated earlier in their discussion perhaps?</p> <p>While I can see what the authors may mean I also suggest that, by their including Nigerian mothers' views, the research team have obtained much valuable insight and understanding of new mothers' experiences. I would also have liked to see more excerpts from the mothers' interviews and focus groups since their comments help to bring the work alive for the reader. The authors' findings could only have been obtained by asking the participants about their opinions of severe bleeding and asking them to describe what happened to them. Indeed many qualitative researchers consider we should think about the concepts of trustworthiness and quality, instead of validity in such studies. In my view, it would strengthen the conclusions if the authors were to consider expanding their debate on this area please?</p> <p>Thank you for inviting me to review this interesting paper.</p>
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### VERSION 1 – AUTHOR RESPONSE

#### Responses to comments from Reviewer 1- Dr. Filomena Meffe

S/N	Reviewer's comment	Authors' responses
1.	With regards to the quantitative phase of the study, participants were selected using the Expanded Program of Immunisation Method which I am not familiar with although a reference is provided. It is not clear to me when the inclusion criteria were applied and I believe readers would have been interested to know how this was communicated to potential participants and how that process worked.	Thank you very much for your comment. The inclusion criteria were applied at stage 3 of the cluster sampling. We have now included further information about stage 3 in the manuscript and how potential participants were selected.
2.	Also, if this research were to be repeated, the questionnaire that was developed for the quantitative part would need to be made available to other researchers on request.	We have now provided the questionnaire in Supplementary file 2 (for parts relevant to this paper as this study was part of a larger project).
3.	Also, I am not clear on why the women in the qualitative part of the study were not also part of the quantitative part of the study. It would have made sense to me to explore both the quantitative and qualitative responses from the same group of women.	Many thanks. The women selected in the qualitative part were purposively sampled as they had key characteristics relevant to the study's objectives whereas the women in the quantitative phase were randomly

	So the women who responded to the survey (results in Table 1) are different from the respondent data in Table 2. I find that odd that the respondents who provided the qualitative part of the data did not have their demographics demonstrated. Perhaps I am confused but this is the way I am interpreting the study methods and representation of results.	sampled, which was done to ensure representativeness and minimise bias. It was therefore not possible to have the same set of women in both studies since these are two different methods needing different sampling strategies.
4.	Some limitations are addressed. However, the limitation of recall bias is quickly glossed over. I would think that the recollection of how much blood was lost in the first 24 hours postpartum would be difficult to remember several months later.	Thank you for this key observation. We have now added more texts regarding recall bias and other limitations in the paper.
<b>S/N</b>	<b>Reviewer's comment</b>	<b>Authors' responses</b>
5.	Also, the women that actually died from postpartum hemorrhage would not have been sampled in this study. I think the point of this study was to try to find descriptors that would help women/families delivering outside of a facility to identify excessive or abnormal postpartum bleeding early and to seek help early to prevent death. This study does not discuss or try to identify women who died of postpartum hemorrhage and seek information from their families regarding the circumstances or description of their blood loss.	Many thanks. We agree that seeking information from the families of women who died from postpartum haemorrhage would have provided added value on recognition and care-seeking. We recruited respondents from the community and it would have been difficult to identify these women and their families from non-facility settings. This aspect is also beyond the scope of our paper. However, we have now acknowledged this non-inclusion in the limitations section.
6.	The authors conclude that "women conceptualise bleeding and quantify excessive bleeding during and after delivery using a variety of subjective identification methods; these make recognition of haemorrhage for prompt care-seeking and reporting of haemorrhage in community-based surveys difficult....Self-reported measures may be unreliable and lack validity for estimating the burden of obstetric hemorrhage." I agree the conclusion fits the findings and supports previous research findings which the authors cite. So I am not clear how this study adds to the current challenge of identifying postpartum hemorrhage early so as to lead to prompt-care seeking, as the authors say. What do the authors suggest would be the next steps in tackling this issue?	Thank you for highlighting this point. While we found that women conceptualise/ quantify excessive bleeding in subjective ways, we believe that our study provides in-depth descriptions of their perceptions in this setting and ways that these might influence measurement, which are gaps in the literature. We have now added additional texts in the discussion section about how these perceptions might be used in health promotion messages to encourage prompt care-seeking, and how these self-reported data might be used for measurement purposes.

## Responses to comments from Reviewer 2- Dr. Deborah Biggerstaff

S/N	Reviewer's comment	Authors' responses
1.	<p>I read this paper with interest, examining the concept of 'severe bleeding' in women after the first 24 hours following childbirth in Northern Nigeria. The paper is well written and reads well; it is clear that the authors have worked very hard on preparing their manuscript.</p> <p>Severe bleeding is an important topic and the authors are to be commended for highlighting the issue which often goes under-reported, despite it being an indicator for post-partum haemorrhage. The paper is especially of interest since it examines some of the perceptions of new mothers and their understanding of blood loss.</p> <p>The authors focus on issues surrounding women delivering in sub-Sahara Africa, where many mothers have less opportunity to access hospital care, should it be needed.</p>	<p>Thank you very much for the kind words and positive comment. We agree that excessive bleeding is an important topic and hope that our paper will contribute towards highlighting this issue in Sub-Saharan Africa.</p>
2.	<p>The study's methodology is well designed and described clearly. However, may I suggest it would be helpful to describe the term 'FGD' in full in the Abstract section please (rather than further on in the paper)? A mixed-method approach is used for the study which appears appropriate. A qualitative study is reported first, followed by a larger group of participants, selected and analysed using cluster analysis. I focus on the qualitative elements here with my review: the cluster results would appear to be appropriate but I have not attempted to analyse these, since these are not particularly an area of my expertise.</p>	<p>Thank you very much for the positive feedback and helpful comments on the qualitative part of the paper. We have now described the term "FGD" in full in the abstract section.</p>
3.	<p>The findings from the qualitative elements are interesting and help inform the larger study. The researchers analysed their interviews and focus groups by using Thematic analysis, TA. The authors state they used both inductive and deductive approaches which I suggest may need an additional sentence or two to explain to anyone unfamiliar with this method? (p 6, l 40). Ditto their use of the cognitive interview technique (p 7, l 6-7) again, this might help inform the reader as to how they actually developed their questionnaire.</p>	<p>Many thanks for the suggestion. We have now provided additional texts to explain inductive and deductive approaches and cognitive interviews.</p>
4.	<p>I could not see any sample of the questionnaire tool used for the study but perhaps that can be made available please, as a supplementary file for the</p>	<p>We have now provided the interview and FGD guides and questionnaire in Supplementary files 1 and 2 (for parts</p>

	interested reader?	relevant to this paper as this study was part of a larger project).
<b>S/N</b>	<b>Reviewer's comment</b>	<b>Authors' responses</b>
5.	The discussion section develops the authors' thinking and offers a thoughtful analysis of the topic. I would suggest the final sentence in the first paragraph on p 14 (lines 12 – 15) might benefit from further support by citations from relevant literature to support the conclusions drawn by the authors here?	Thank you. We have now included citations from the literature to support the conclusions drawn.
6.	I also noticed a few very minor typos: p 14 line 27 should read I think 'by the extent' (not extend)? Ditto, same page line 37 'not clear in literature' (should I think read in the literature, 'the' missing)? Actually, this sentence is less clear and I needed to read this several times so wonder if the authors may wish to consider a slight re-wording here please to explain their thinking to their reader?	Many thanks. We have now corrected the typos and edited the sentence to make it clearer to readers.
7.	Finally, may I suggest the authors consider a slight re-writing of the conclusions they draw? I appreciate the research team aims to offer a balanced view, but I also think they are slightly underselling themselves. The authors discuss the concept of validity as being something their work, by the use of self-reported measures, may therefore be considered 'unreliable'. This might have been debated earlier in their discussion perhaps?	Many thanks for this suggestion. We agree that our intention to provide a balanced view may have slightly undersold the usefulness of the findings. We have now included further debate on validity in the discussion section and have adjusted the conclusions accordingly.
8.	While I can see what the authors may mean I also suggest that, by their including Nigerian mothers' views, the research team have obtained much valuable insight and understanding of new mothers' experiences. I would also have liked to see more excerpts from the mothers' interviews and focus groups since their comments help to bring the work alive for the reader. The authors' findings could only have been obtained by asking the participants about their opinions of severe bleeding and asking them to describe what happened to them. Indeed many qualitative researchers consider we should think about the concepts of trustworthiness and quality, instead of validity in such studies. In my view, it would strengthen the conclusions if the authors were to consider expanding their debate on this area please? Thank you for inviting me to review this interesting	Thank you. We have now included additional quotes, within the limited word count possible. The discussion on validity relates to the quantitative findings rather than the qualitative ones and we have sought to make this clearer in the discussion.

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**VERSION 2 – REVIEW**

<b>REVIEWER</b>	Meffe, Filomena University of Toronto, Obstetrics and Gynecology
<b>REVIEW RETURNED</b>	25-May-2021

<b>GENERAL COMMENTS</b>	<p>Just wondering if it is necessary to mention that the data collector was the "female" PhD student on page 5/44 (or page 4 of the manuscript) line 23. Does gender matter here?</p> <p>Thank you for considering our feedback and for making the revisions.</p>
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**VERSION 2 – AUTHOR RESPONSE**

Thank you very much for your feedback. These were included as part of the COREQ reporting guidelines for qualitative studies, hence have been retained.  
 Many thanks for your time and helpful comments.