PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Perspectives of healthcare workers on the challenges with obstetric referrals in rural communities in Ghana: a descriptive phenomenology study
AUTHORS	Dzomeku, Veronica; Mensah, Adwoa; Nakua, EK; Agbadi, Pascal; Okyere, Joshua; Kumah, Alex; Munukpa, Jacob; Ofosu, Anthony; Lockhart, Nancy; Lori, Jody R.

VERSION 1 – REVIEW

REVIEWER	Boafor , Theodore K.
	Korle Bu Teaching Hospital
REVIEW RETURNED	30-Aug-2022

GENERAL COMMENTS	This article on challenges to obstetric referrals in Ghana:
	perspectives of health care workers in rural Ghana is very
	interesting reading and relevant contribution to literature on the
	issues of obstetric referrals in Ghana .The authors have explored
	and documented the perspectives of health care workers on the
	challenges during the referral process, using Sene East and West
	districts as case study. I agree with their conclusion that for
	effective and timely referrals, there is the need to improve
	awareness of the importance of referrals and the need to have
	patients' support for the process.
	The paper is well written, and relevant references have been cited.
	However, reference 1 is not complete. It should be well cited as
	Ghardallou M, Limam M, Khelifi A, Khairi O, Khairi H, Mtiraoui A,
	NabliAjmi T. Obstetric referrals to a tertiary care maternity: a
	descriptive study. Pan Afr Med J. 2019 Aug 19;33:306. doi:
	10.11604/pamj.2019.33.306.16906. PMID: 31692846; PMCID:
	PMC6815507.
	My recommendation is that this paper is accepted for publication
	after this minor corrections have been done.

REVIEWER	Daniels, Anita University of Ghana Business School, Legon, Department of Public Administration and Health Services Management
REVIEW RETURNED	19-Dec-2022
	This is a year interacting and important study. Identifying the

GENERAL COMMENTS	This is a very interesting and important study. Identifying the challenges affecting obstetric referrals in poor resource settings is crucial to advancing interventions to prevent maternal and
	neonatal mortalities. The authors are however advised to provide explanations or address the following questions to help improve the quality of the paper. These comments are given in line with the checklist provided:

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	1. The problem statement of the paper is not clear. The authors need to clearly identify the gap in the literature that this study seeks to fill. This would help shape the research question and make it meaningful.
	2. The conclusion of the abstract is not entirely based on the findings of the study. For example, the authors did not highlight all the factors that emerged as institutional challenges and how they could be resolved. Again, the use of technology such as WhatsApp is not based on any of the major themes identified in the study and is thus not justified.
	3. Again, a thick description of the methods would help in the replication of the study. Kindly address the following:
	 Clearly state the inclusion/exclusion criteria in selecting the respondents for the study.
	 How many Focus Group Discussions (FGDs) were held and what was the composition of each?
	• Where were IDIs and FGDs conducted?
	 What informed the sample size used for the study?
	• Authors should also indicate how data collected through interviews and discussions conducted in the local language (Twi) was managed prior to analysis. Was that data also transcribed verbatim in the local language or it was translated into English before? Please, indicate what was done to ensure the accuracy of the translated transcripts.
	• How were health facilities used for the study sampled? Were they selected using simple random sampling, purposive sampling, quota sampling,?
	• Operationally define obstetric referrals in the study. The authors need to let readers know whether the referrals were to or from the health facilities used in the study. Again, they need to state whether the referrals included emergency ones or not. Clarity on these would help readers appreciate the context in which respondents gave their accounts.
	4. With regards to the presentation of results, kindly address the following:
	 Page 16 of 26, line 34. Kindly check and revise a statement under Table 3, "Three levels of challenges emerged at the patient and institutional level". I am not quite sure if this statement is the case as presented in the table. Page 17 of 26, line 23. The description of the scenario under Financial constraints as leading to Type 1 delay should be looked at. Referrals are to ensure continuity of care so I am thinking the decision to seek care has already been made. Delays in getting to the referral centres could therefore pass as Type 2 delay as posited by the model.
	• Page 20 of 26, line 47. "referral decision making" is ambiguous within the context it is used. Does this refer to conversations leading to deciding on referring a patient to a higher

 facility or is it got to do with making decisions on their care while they are at the referral centre? Kindly revise for clarity. Page 21 of 26, line 21. The scenario indicated can only lead to Type 3 delay and NOT Type 2 delay.
• Line 23, first sentence, Kindly add " in receiving care" after the
"delay".
• Page 23 of 26, last two sentences of the first paragraph under discussion. I am not quite sure how the attitudes of healthcare providers at the receiving facilities contribute to Type 2 delays as advanced by Thaddeus and Maine.
• Th last paragraph under discussion. Could lack of expertise or competence issues be the cause of the long deliberations? I believe there may be protocols to follow in referring a patient so we may not be able to discount the process of conferring with superiors or colleagues before a decision is made. Again, the implication of using WhatsApp is not justified since it is not based on any finding from the study.
Lastly, the conclusion of the study should be revised with the comments made on the abstract.

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Theodore K. Boafor , Korle Bu Teaching Hospital

Comments to the Author:

This article on challenges to obstetric referrals in Ghana: perspectives of health care workers in rural Ghana is very interesting reading and relevant contribution to literature on the issues of obstetric referrals in Ghana. The authors have explored and documented the perspectives of health care workers on the challenges during the referral process, using Sene East and West districts as case study. I agree with their conclusion that for effective and timely referrals, there is the need to improve awareness of the importance of referrals and the need to have patients' support for the process.

The paper is well written, and relevant references have been cited. However, reference 1 is not complete. It should be well cited as Ghardallou M, Limam M, Khelifi A, Khairi O, Khairi H, Mtiraoui A, NabliAjmi T. Obstetric referrals to a tertiary care maternity: a descriptive study. Pan Afr Med J. 2019 Aug 19;33:306. doi: 10.11604/pamj.2019.33.306.16906. PMID: 31692846; PMCID: PMC6815507.

Response: Thank you for the comment. We have now revised Reference 1 accordingly.

My recommendation is that this paper is accepted for publication after these minor corrections have been done.

Response: Thank you.

Reviewer: 2

Ms. Anita Daniels, University of Ghana Business School, Legon

Comments to the Author:

This is a very interesting and important study. Identifying the challenges affecting obstetric referrals in poor resource settings is crucial to advancing interventions to prevent maternal and neonatal mortalities.

Response: Thank you.

The authors are however advised to provide explanations or address the following questions to help improve the quality of the paper. These comments are given in line with the checklist provided:

1. The problem statement of the paper is not clear. The authors need to clearly identify the gap in the literature that this study seeks to fill. This would help shape the research question and make it meaningful.

Response: Thank you for the insightful comment. We have now revised the problem statement. It now reads: "... deaths related to obstetric complications remains unacceptably high.^{2,7} Thus, suggesting lapses in the current regime of obstetric referrals, particularly in rural settings. If left unaddressed, the situation could derail Ghana from achieving key targets of the sustainable development goals including the target of achieving universal health coverage, and reducing the maternal mortality ratio to <70 deaths per 100,000 live births. Yet, research on obstetric referral challenges based on validated theoretical models like the TDM remains limited in the context of rural settings in Ghana. Hence, the question remains that: (a) What challenges impede obstetric referrals in rural settings in Ghana? (b) How does the TDM explain the existing obstetric referral challenges? The present study, therefore, seeks to explore and document healthcare workers' perspectives on the challenges encountered during obstetric referrals."

2. The conclusion of the abstract is not entirely based on the findings of the study. For example, the authors did not highlight all the factors that emerged as institutional challenges and how they could be resolved. Again, the use of technology such as WhatsApp is not based on any of the major themes identified in the study and is thus not justified.

Response: Thank you for the comment. We have now revised the conclusion. It now reads: "We conclude that in order for obstetric referrals in rural Ghana to be effective and timely, there is the need to raise more awareness about the need for patients to comply with referral directives, through health education messages and campaigns. Our study suggests that the delays associated with long deliberations could be due to the lack of expertise or competence. Hence, the study recommends the training of more cadre of health care providers to facilitate obstetric referral processes. Such an intervention would help to improve the current low staff strength. Also, there is a need to improve ambulatory services in rural communities to counteract the challenges that poor transportation system poses on obstetric referrals."

3. Again, a thick description of the methods would help in the replication of the study. Kindly address the following:

• Clearly state the inclusion/exclusion criteria in selecting the respondents for the study.

Response: We have now showed that "The inclusion criteria was that, the prospective participant must be directly involved in the management of obstetric cases and obstetric referrals."

• How many Focus Group Discussions (FGDs) were held and what was the composition of each?

Response: Thank you. We have now stated in the revised manuscript that: "Two FGDs were conducted; each group was composed of six participants."

• Where were IDIs and FGDs conducted?

Response: We have now provided information about this. It reads: "Both IDIs and FGDs were conducted at the respective premises of the health facilities. The venue was decided by the participants."

• What informed the sample size used for the study?

Response: Thank you. The sample size was informed by the principle of data saturation. We have now provided evidence to this: "Regarding the sample size for the IDIs, data was collected until the point of saturation. By the 22nd interview, no new analytical information was emerging. Hence, we conducted additional three interviews to confirm that we had reached the point of saturation."

• Authors should also indicate how data collected through interviews and discussions conducted in the local language (Twi) was managed prior to analysis. Was that data also transcribed verbatim in the local language or it was translated into English before? Please, indicate what was done to ensure the accuracy of the translated transcripts.

Response: Thank you. We have now provided information on this. It reads: "First, the interviews conducted in the local language was translated to English using an independent back-to-back translation system to ensure that we retain the exact meanings and experiences of the participants."

• How were health facilities used for the study sampled? Were they selected using simple random sampling, purposive sampling, quota sampling,.....?

Response: The Sene East and West district together have only 16 rural health facilities. In this study, "We purposively sampled all 16 rural health facilities within the districts."

• Operationally define obstetric referrals in the study. The authors need to let readers know whether the referrals were to or from the health facilities used in the study. Again, they need to state whether the referrals included emergency ones or not. Clarity on these would help readers appreciate the context in which respondents gave their accounts.

Response: Thank you. We have now provided an operational definition of obstetric referrals. It reads: "Referral refers to the upwards movement of health care seeking individuals in the health system. Therefore, obstetric referral is the referral of individuals with emergency obstetric complications or needs from a lower health facility to a higher health facility. In this study, obstetric referrals denote all pregnancy and childbirth related conditions that are referred from the rural health facilities to Kwame Danso Hospital (a higher healthcare facility) for further management."

4. With regards to the presentation of results, kindly address the following:

• Page 16 of 26, line 34. Kindly check and revise a statement under Table 3, "Three levels of challenges emerged at the patient and institutional level". I am not quite sure if this statement is the case as presented in the table.

Response: Thank you for drawing our attention. We have now revised this to read as: "Two levels of challenges emerged at the patient and institutional level".

• Page 17 of 26, line 23. The description of the scenario under Financial constraints as leading to Type 1 delay should be looked at. Referrals are to ensure continuity of care so I am thinking the decision to seek care has already been made. Delays in getting to the referral centres could therefore pass as Type 2 delay as posited by the model.

Response: We have cross-checked, and have come to an agreement that it actually reflects type II rather than type I as initially presented. We have revised this accordingly. It reads: "Some participants also noted that when women are referred, they often do not have sufficient financial resources

struggle to comply with referral, hence, causing a type II delay as underscored by Thaddeus and Maine."

• Page 20 of 26, line 47. "....referral decision making" is ambiguous within the context it is used. Does this refer to conversations leading to deciding on referring a patient to a higher facility or is it got to do with making decisions on their care while they are at the referral centre? Kindly revise for clarity.

Response: Thank you. We have now provided clarity to this. It now reads: "In this context, referral decision-making refers to both the conversations and preparations leading to the referral of a patient to a higher health facility, as well as the decisions that must be made while the patient is at the referral facility."

• Page 21 of 26, line 21. The scenario indicated can only lead to Type 3 delay and NOT Type 2 delay.

Response: Thank you. We have now revised this. It now reads: "Others also asserted that, at the receiving facility, they often lack key health professionals such as medical officers to cater for emergency obstetric complications. Hence, when the client arrives at the receiving health facility, they have to wait for a long time for the medical officer available to attend to them. This results in III delays."

• Line 23, first sentence, Kindly add " in receiving care" after the "delay".

Response: Thank you. We have now added "in receiving care" after the "delay".

• Page 23 of 26, last two sentences of the first paragraph under discussion. I am not quite sure how the attitudes of healthcare providers at the receiving facilities contribute to Type 2 delays as advanced by Thaddeus and Maine.

Response: Thank you. We have now revised this.

• The last paragraph under discussion. Could lack of expertise or competence issues be the cause of the long deliberations? I believe there may be protocols to follow in referring a patient so we may not be able to discount the process of conferring with superiors or colleagues before a decision is made. Again, the implication of using WhatsApp is not justified since it is not based on any finding from the study.

Response: We agree with you on this. Hence, we have added this as a possible explanation for this result. It reads: "While it is impossible to discount the process of conferring with superiors or colleagues before a decision is made, we postulate that the delays associated with making deliberations could be due to the inadequacy of expertise to ensure swift decision-making about the client's condition and need for referral. Thus, highlighting an urgent need for better coordination between HCWs to accelerate timeliness of obstetric referrals." We have also removed the implication of using WhatsApp.

• Lastly, the conclusion of the study should be revised with the comments made on the abstract.

Response: Thank you. The conclusions have been revised accordingly. It now reads: "We conclude that in order for obstetric referrals in rural Ghana to be effective and timely, there is the need to raise more awareness about the need for patients to comply with referral directives, through health education messages and campaigns. Given our findings on the delays associated with long deliberations, the study recommends the training of more cadre of health care providers to facilitate obstetric referral processes. Such an intervention would help to improve the current low staff strength. Also, there is a need to improve ambulatory services in rural communities to counteract the challenges that poor transportation system poses on obstetric referrals."

VERSION 2 – REVIEW

REVIEWER	Deniele Anite
REVIEWER	Daniels, Anita
	University of Ghana Business School, Legon, Department of
	Public Administration and Health Services Management
REVIEW RETURNED	03-Feb-2023
GENERAL COMMENTS	 Concerning the manuscript title, "Perspectives of healthcare workers on the challenges with obstetric referrals in rural communities in Ghana: a descriptive phenomenology study", the authors have done a very good work by addressing most of the questions that were asked. However, there are a few issues that they may want to address. These include the following: Problem statement- On Page 5, line 27, the statement, "Yet, research on obstetric referral challenges based on validated theoretical models like the TDM remains limited in the context of rural settings in Ghana", has to be justified. Please, the authors need to acknowledge studies already done in this area and indicate what they did or failed to do or what their limitations were which makes this study useful to fill those gaps. In other words, reference should be made to previous works in this area / subject matter to justify the statement above. 2. Methods- Under study population and sampling, the authors indicated that purposive sampling was used to select all the 16 health facilities but they did not indicate or explain why that sampling method was used or chosen. Again, the authors should provide a reference for using the point of saturation to determine the sample size of the study.

VERSION 2 – AUTHOR RESPONSE

Reviewer: 2

Ms. Anita Daniels, University of Ghana Business School, Legon

Comments to the Author:

Concerning the manuscript title, "Perspectives of healthcare workers on the challenges with obstetric referrals in rural communities in Ghana: a descriptive phenomenology study", the authors have done a very good work by addressing most of the questions that were asked.

Response: Thank you.

However, there are a few issues that they may want to address. These include the following:

1. Problem statement- On Page 5, line 27, the statement, "Yet, research on obstetric referral challenges based on validated theoretical models like the TDM remains limited in the context of rural settings in Ghana", has to be justified. Please, the authors need to acknowledge studies already done

in this area and indicate what they did or failed to do or what their limitations were which makes this study useful to fill those gaps. In other words, reference should be made to previous works in this area / subject matter to justify the statement above.

Response: Thank you. We have now shown this. It reads: "Yet, research on obstetric referral challenges based on validated theoretical models like the TDM remains limited in the context of rural settings in Ghana. To the best of our knowledge, there are only two studies [7,9] in Ghana that explored obstetric referral challenges based on the TDM. However, these studies were limited to only the exploration of system-based challenges to obstetric referrals in rural settings, neglecting to explore other non-system based challenges such as barriers emanating from the patient."

2. Methods- Under study population and sampling, the authors indicated that purposive sampling was used to select all the 16 health facilities but they did not indicate or explain why that sampling method was used or chosen.

Response: Thank you for the comment. We have now indicated why this method was chosen. It reads: "This sampling technique was used because it allows the researchers to select participants who have relevant knowledge and experience in the area of obstetric referrals in rural Ghana, and can provide rich and in-depth data on the research question [11]."

Again, the authors should provide a reference for using the point of saturation to determine the sample size of the study.

Response: We have now provided a reference for using the point of saturation to determine the sample size of the study. See Ref. 12.