

BMJ Open Perspectives of healthcare workers on the challenges with obstetric referrals in rural communities in Ghana: a descriptive phenomenology study

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ABSTRACT

Objective We explored and document healthcare workers' (HCWs') perspectives on the challenges encountered during obstetric referrals.

Design The study adopted a qualitative research approach and a descriptive phenomenology design. HCWs permanently working in 16 rural healthcare facilities in the Sene East and West Districts composed of the target population for this study. Using a purposive sampling technique, participants were recruited and enrolled in in-depth individual interviews (n=25) and focused group discussions (n=12). Data were analysed thematically using QSR NVivo V.12.

Setting Sixteen rural healthcare facilities in the Sene East and West Districts, Ghana.

Participants Healthcare workers.

Results Areas related to patient as well as institutional level issues challenged the referral processes. At the patients' level, financial constraints, fears associated with referral and patients' non-compliance with referrals were identified as challenges that delayed the referral process. With regard to institutional challenges, the following emerged: referral transportation challenges, poor attitudes of service providers, low staff strength and healthcare bureaucracies.

Conclusion 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 healthcare 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.

INTRODUCTION

Improving maternal health has been a key issue on the global front for the past two decades.¹ This has been demonstrated

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ By adopting qualitative research design, the study provides deep and contextual understanding of the challenges that affect obstetric referrals in rural Ghana.
- ⇒ The discussion of the study findings guided by Thaddeus and Maine's 'three delays model' provides a solid theoretical foundation to ground our findings.
- ⇒ Nevertheless, the findings may not be reflective of obstetric referral challenges in urban settings as we focused only on rural healthcare facilities.
- ⇒ The study did not include the perspectives of patients.

through the priorities of the Millennium Development Goals target 5 and now the Sustainable Development Goals (SDGs) target 3.1. Despite these global efforts to improve maternal health, maternal mortality remains high. Each year, nearly 289 000 mortalities associated with pregnancy and childbirth related complications are reported worldwide.² Sub-Saharan Africa and Southern Asia account for the regions with the highest burden of maternal mortality.³

In Ghana, improving maternal health outcomes remains an important public health concern. Successive governments have shown commitment to improving different dimensions of maternal health. For instance, in 2008, free maternal health services were introduced as a policy to facilitate skilled birth attendance and institutional birth deliveries.^{4 5} Additionally, Community-based Health Planning and Services (CHPS) was introduced to serve as a point of primary healthcare for pregnant women.^{2 6} Although CHPS provide primary healthcare as well as family planning, antenatal and postnatal care,

they often lack the capacity to provide birthing services or deal with obstetric complications.² In Ghana, the predominant obstetric complications include eclampsia, obstructed labour, haemorrhage and sepsis,^{2,7} all of which require interventions that are beyond the competencies of staff within a primary health facility. As such, obstetric referrals have become an important strategy to alleviate obstetric emergencies among women.

Despite the importance of obstetric referrals in promoting better maternal health outcomes, evidence suggests there are challenges that affect the referral process. This study uses Thaddeus and Maine's 'three delays model' (TDM) as the conceptual framework. The model postulates that delays occur at the point of deciding to seek healthcare (type I); at the point of reaching the health facility (type II); and at the point of receiving quality care (type III).⁸ Related studies have also applied the TDM to understanding obstetric referral challenges.^{7,8} For instance, Afari *et al*⁷ found challenges with transportation, communication and standard of care. The findings from these studies have highlighted the need to eliminate delays at the various levels of the TDM to improve obstetric referrals.

Nevertheless, deaths related to obstetric complications remain 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 SDGs 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 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. Hence, the question remains that: (1) what challenges impede obstetric referrals in rural settings in Ghana?; (2) how does the TDM explain the existing obstetric referral challenges?. The present study, therefore, seeks to explore and document healthcare workers' (HCWs') perspectives on the challenges encountered during obstetric referrals.

METHODS

Operational definition of obstetric referral

Referral refers to the upwards movement of healthcare 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.

Study design and source of data

The study adopted a qualitative research approach and aligns with the interpretivist philosophy. Specifically, descriptive phenomenology design was used. This research design allowed us to articulate and comprehend the most essential meaning of the challenges that confront obstetric referrals from the perspective of those directly involved (ie, HCWs). Data used in this study are primary data from fieldwork conducted between 1 August and 31 October 2021.

Researcher characteristics and reflexivity

In this study, the team comprised midwives and nurses (VMD, ABBM, NL, JRL), a population health scientist (JO), health directors (AK, JM, AO) and biostatisticians (PA, EKN). As a result, they had no influence on the study participants, or the general dynamics of the data collection. The study's location, methodology and conclusions were all independent of the interviewers. Also, by situating the study within the frame the TDM, we were able to limit the likelihood of introducing biases into the interpretation of the participants' perspectives.

Study setting

This study was conducted in the Sene East and West District of Ghana. Sene District is located in the Bono East region. The district lies between longitudes 0°15'E and 0°15'W, and latitudes 7°N and 8°30'N.¹⁰ Sixteen healthcare facilities were sampled across the Sene District. Nine of these facilities were from Sene West District while the remaining seven facilities were from Sene East District. The healthcare facilities included in this study ranged from CHPS compounds to health centres. They are typically staffed by one community health nurse and they provide basic emergency obstetric and newborn care. In Sene West, a total of 407 deliveries and 558 deliveries were reported in the year 2020 and 2021. Between January and March 2022, 184 deliveries had been reported in Sene West. However, there were only 16 midwives as of the end of March, 2022 (Sene West District Health Service Records, 2022). In Sene East, a total of 620 deliveries and 728 deliveries were reported in the year 2020 and 2021. Between January and March 2022, 174 deliveries had been reported in Sene East. However, there were only 18 midwives as of the end of March 2022 (Sene East District Health Service Records, 2022).

Study population and sampling

HCWs comprising community health nurses, general nurses and midwives permanently working in the 16 rural health facilities in the Sene East and West Districts composed of the target population for this study. We purposively sampled all 16 rural health facilities within the districts (see [table 1](#)). This sampling technique was used because it allows the researchers to select participants who have relevant knowledge and experience in

Table 1 Breakdown of study area

Districts	Facilities
Sene West District rural facilities	▶ Bantema CHPS Compound ▶ Drobe CHPS Compound ▶ Lemu CHPS Compound ▶ Suntah Clinic ▶ Central KD Medical Centre ▶ Kyeamekrom CHPS Compound ▶ Tato Bator CHPS Compound ▶ Lassi Health Centre ▶ RCH
Sene East District rural facilities	▶ Kajaji Health Centre ▶ Kojokrom Health Centre ▶ Bassa Health Centre ▶ Premuase CHPS Compound ▶ Nyankontre CHPS Compound ▶ Bodinka CHPS Compound ▶ Asuoso CHPS Compound
CHPS, Community-based Health Planning and Services.	

the area of obstetric referrals in rural Ghana, and can provide rich and in-depth data on the research question.¹¹ In all, 37 HCWs participated in this study. Two FGDs were conducted; each group was composed of six participants. The inclusion criteria were that the prospective participant must be directly involved in the management of obstetric cases and obstetric referrals. Regarding the sample size for the IDIs, data were collected until the point of saturation.¹² 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.

Data collection

Data were collected between 1 August and to 31 October 2021. The study used an in-depth interview (IDI) guide and focus group discussion (FGD) guide as the data collection instruments (see online supplemental file 1). These guides were pretested and validated. A research assistant (RA) with experience conducting IDIs and FGDs and proficiency in both English and Twi languages was trained in use of the data collection instruments. On average, a maximum of two interviews were conducted per day. Both IDIs and FGDs were conducted in English or Twi depending on the participants' preferences. An information sheet and informed consent sheet was provided to participants. The information sheet detailed the purpose of the study as well as the possible benefits, risks and duration of the study. All the participants consented by signing prior to the start of the interview. The IDIs lasted between 40 and 60 min whereas the FGDs lasted approximately 105 min. Both IDIs and FGDs were conducted at the respective premises of the health facilities. The venue was decided by the participants. All of the sessions were audio recorded using a tape recorder. Some specific questions from the IDI and FGD guides include: *how do you refer obstetric cases?*; *what challenges do*

you often experience during obstetric referrals?. After each day's interview, the audio data were transcribed verbatim and encrypted to prevent unauthorised access to the data.

Data management and analyses

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. Transcripts from all the IDIs and FGDs were then vetted by the first author (VMD) before being imported into QSR NVivo V.12 for analysis. Data were analysed following Collazi's descriptive phenomenological method of analysis which includes the process of familiarising with the data, identifying significant statements, formulating meanings, generating themes and verifying the data.¹³ Themes were generated using the nodes function in QSR NVivo V.12 to highlight compelling extracts. ABBM who is an expert in qualitative research coded six of the interview transcripts from the IDIs and FGDs while JO coded the remaining transcripts. ABBM then reviewed the coding conducted in the analysis for comparison. This corresponded to that of the lead author in that the same main issues for discussion arose, thus, enhancing the credibility of the findings. The emerged themes and subthemes were discussed and reviewed by all the authors.

Rigour

Reliability was ensured in this study by following acceptable standards and methods of phenomenological studies. Detailed description of the study contexts and methods allowed transferability and confirmability of the study findings. To ensure credibility, we conducted member-checking with five of the participants; this was done 1 week after transcription so that participants could affirm the transcripts accurately reflected the interview content. No participant offered corrections or expressed concerns about the content of the interviews. Field notes, which included the participants' nonverbal cues, concerns and interviewers' reflections, were recorded after each interview and referred to during the analysis. The RA who carried out the interviews is a health-care researcher by training with extensive experience conducting IDIs and FGDs. However, the RA does not work in the study settings and had no direct relationship with the participants.

Patient and public involvement

Patients, the public and study participants were not involved in the design of the study. However, HCWs including community health nurses, general nurses and midwives participated in the conduct of the study as participants. The results from our research are intended to be disseminated to the participants and the public through scientific publications, lay reports, social media, and conferences.

Table 2 Participants' sociodemographic characteristics

Characteristics	n	%
Sex		
Female	49	76.6
Male	15	23.4
Education status		
Certificate	22	34.4
Diploma	38	59.3
Postbasic	2	3.1
Other	2	3.1
Qualification		
Community health nurse	12	18.8
General nurse	4	6.3
Midwife	35	54.7
Other	13	20.3
Years/months worked at facility		
Months	29	45.3
Years	35	54.7

RESULTS

Sociodemographic characteristics were collected on all participants (see [table 2](#)). The majority of participants were women (76.6%) and were educated at a certificate (2 years postsecondary school) or diploma (3 years postsecondary school) level. The content of the certificate programme is limited whereas that of the diploma programme is detailed.

[Table 3](#) shows the emerging themes from the study analysis. Two levels of challenges emerged at the patient and institutional level. These challenges encountered during obstetric referrals further resulted in type I, II and III delays.

Patient level challenges

Participants reported several challenges with timely obstetric referrals from the patients' contextual and personal factors. Themes that emerged from the data on patient level challenges included: (1) financial

Table 3 Emerging themes

Level of challenges	Themes
Patient level challenges	Financial constraints Fears about referral Patients' non-compliance to referral
Institutional level challenges	Referral transportation challenges Poor attitudes of service providers Low staff strength Healthcare bureaucracies

constraints; (2) patients' fears and misperceptions about obstetric referral and (3) non-compliance.

Financial constraints

Regarding the issue of financial constraints, participants reported that patients were often financially handicapped. As such, they found it difficult to afford the cost of transportation to facilities where they are referred. Some participants also noted that when women are referred, they often do not have sufficient financial resources to struggle to comply with referral, hence, causing a type II delay as underscored by Thaddeus and Maine.

When you refer a woman, she will always tell you that the referral point will ask her husband to bring money to pay some things. Since they don't have money it puts some fear in them when they are given the referral forms. In the end, that leads to delay in a woman getting to the referral centre. (IDI, Transcript 001)

Over here, you have to cross the river in order to get to the referral point. On a normal day, you will pay GHS5 in order to access the canoe to get to the river-side. But when we refer women to go to the referral point, they will have to pay for the charge for all the passengers in order to get exclusive right to the canoe and use it to the other side. That will mean that the person might have to GHS200 which is too much for them to pay. So, they refuse to comply with referral directives. (N2, FGD 2)

Fears and misperceptions about obstetric referral

Patients' understanding of referral is basic and critical to the effectiveness of obstetric referrals. The participants indicated that women who visit their facility have fears and misperceptions about referrals that delays their decision to comply and seek referral on time. Some participants stated that women often fear a referral is going to bring more financial burden to them. The financial burden may be associated with cost of transportation, cost associated with settling and interventions at the referral centre and the fear of the unknown. As such, they are usually adamant and non-compliant with referrals. Below are some excerpts that reflect the participants' perspectives:

... they [women] fear that when they get [referred] to the bigger facility, they're going to pay a lot of money or they are going to do CS. As a result of that, whenever you mention transfers and referrals to them, this fear is activated so you have to educate them and encourage them and by the time you're done the time would have gone and even after all this she has to go home to consult relatives or find means of transportation. (IDI, Transcript 006)

For what I've noticed, they [women who come for healthcare] have their own perceptions. Usually, they have that fear that when they go to the receiving facility, they are going to be charged a lot of money which they cannot afford. Maybe it is because either their friends or people they know have experienced

such situations and have paid money. I don't really know and can't explain further. (IDI, Transcript 003)

Non-compliance

Regarding compliance with referrals, participants shared their views that sometimes, pregnant women who are referred to the next level of healthcare do not comply with the referral directives. According to the participants, some patients have certain superstitious beliefs and misconceptions that make them refuse to comply with referral directives. Instead of complying with the referral, patients often go home to perform some ritual or self-care before accepting to be referred. They become compliant only after the initial steps they take have failed them. These things result in delays in referrals.

Sometimes, some of them [the patients] have some beliefs that they must perform some rituals before they go to the health facility. As such, when you refer them, they will go home first to perform those rituals first before they go to where they have been referred. When that happens, it causes unnecessary delays to the referral process. (IDI, Transcript 019)

When a client is not ready to be referred it takes a longer time to convince the person and sometimes you have to call in other relatives to assist in talking to the person to accept the referral and then maybe the ambulance may not be around. (FGD, Rich 1)

One of the participants expressed that, 'you may refer them [the client] and they may not go to where you referred them, it's either they don't go or go to another place' (IDI, Transcript 013).

Institutional level challenges

Four themes emerged from institutional level challenges to obstetric referrals in rural settings: (1) referral transportation challenges; (2) poor attitudes of service providers; (3) low staff strength and (4) healthcare bureaucracies.

Referral transportation challenges

A major challenge that emerged from the data was the problem with distance, transportation and road networks. According to the participants, there is no proper transportation system in place to facilitate referrals. In facilities that are located across rivers, women are forced to use a canoe to cross the river as a means of transporting to the referral centre.

... most of our catchment areas are in the bushes and some even have to cross rivers before they get here so it makes it difficult for referring. (IDI, Transcript 008)

Transportation is a big challenge for us here when it comes to referral. You know that as CHPS compound, we don't have any ambulance or ambulatory services here that can provide patients with oxygen and intravenous infusion while in transit to the receiving facility. So, whenever we have to refer a woman who

is critically ill, it becomes a burden. (IDI, Transcript 011)

Others also reported that due to the transportation challenge, they have to resort to the use of motorbikes and taxis as a way of transporting the referred woman to the receiving centre. According to the participants, this arrangement does not safeguard the health of the woman who is being transferred because of the dangers of motorbike transportation during pregnancy. Also, these taxis and motorbikes which are used as a means of transportation for referrals sometimes delay in reaching the health facility. Here is what some HCWs had to say:

Usually, they come to the facility with taxis or motorbikes. Some of them actually walk to the facility. Therefore, when there is the need to refer them to a higher health facility, it becomes a huge problem. When that happens, we have no choice than to resort to the same means of transport that the came with, that is, the taxi or motorbikes. For those who can walk, we sometimes allow them to walk home and prepare themselves to go to where we have referred them to. These things worsen the patient's condition. (IDI, Transcript 006)

Transportation is the main challenge that we face with respect to how timely our referral system is. It is very difficult to get means of transport to the hospital, and maybe if the husband comes and he is not having a motor bike, then it becomes difficult to transfer the person. In such instances, we have to call to the district for an ambulance or go for a taxi that can transport the woman. Often, these taxis and even the ambulance delay to get here. In the end, the entire referral system is overly delayed mainly because of transportation difficulties. (IDI, Transcript 004)

Poor attitudes of service providers

A major challenge that directly emanated from the HCWs was the issue of the attitudes of HCWs at the receiving healthcare facilities. The participants asserted that some patients sent to the receiving facilities return to the referring facility on the basis of poor treatment and delays at the receiving point. Where the client has personally not experienced such poor treatment from HCWs at the receiving facility, they take cues from their friends and family who might have been victims of delays and poor quality of service at the receiving facility.

Some of the people who go to the referral centres come back with complains that when they went there, they were not received well and that, they don't appreciate the kind of treatment they got from the midwife. So, they will go into the community and tell other women in their condition that if they go on referrals, they will not have immediate care so it's not necessary to go and this makes them reluctant to go on referrals. (IDI, Transcript 002)

Another participant expressed that the nature of their relationship with the patients does not allow the client to freely express themselves or take part in the referral decision-making. 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. For instance, one of the participants stated that ‘some of our colleagues do not practice patient centred care. And so, they don’t involve the patient to know whether they have the means to go to the referral facility’ (IDI, Transcript 007).

Another participated narrated:

... at the referral facility, there are many decisions that have to be made in relation to the care that the patient must receive. But there again, the patients complain that they are not involved in any decision. The service providers at the referral centre just do what they think is necessary for them. (N5, FGD 2)

Low staff strength

The effectiveness of referrals hinges on the availability of sufficient HCWs. Nevertheless, our study shows that the staff strength relative to referral was overwhelming. As a result, it is difficult for HCWs to decide who will accompany a patient who need to be referred.

... we lack sufficient staff to facilitate the referral process. Due to that, it is difficult to decide who will follow the client to the referral centre. (IDI, Transcript 003)

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 in receiving care.

I will say staff strength can be one of the reasons for delay. Sene medical centre is one of our referral centres and they have one medical officer so if he’s already at the theatre and the client arrives the person will have to wait for him to finish before she would be attended to. (IDI, Transcript 017)

Healthcare bureaucracies

The study also identified health bureaucracies that challenge the referral process. According to the participants, they have to consult their superiors and other staff before deciding whether a case is fit for referral. In such instances, there are often disagreements that tends to foster a type II delay in receiving care during the process of discussing the reasons for referral, calling and alerting the receiving facilities. Some HCWs expressed the following:

Sometimes, among the staff, there is confusion. One staff will say this client does not need referral another

staff will say that she needs referral. By the time they sit there to deliberate on the issue it prolongs the referral. (N2, FGD Kyeamekrom)

Let’s say a patient is having high BP so I want to refer but then a colleague will that we should stop the referral and give her metadopine for the BP to come down. We will try this and if it works then there’s no need for us to refer the patient but if it doesn’t then there will be referral. By then we would have delayed the process. (N5, FGD Kyeamekrom)

DISCUSSION

Consistent with the TDM by Thaddeus and Maine,⁸ we found there are different levels of challenges that affect the timeliness of obstetric referral in Ghana’s healthcare facilities. Mainly, challenges related to the patient as well as institutional level issues challenged the referral processes. At the patients’ level, financial constraints, fears about referral and patients’ non-compliance with referrals were the challenges that delayed the referral process. These findings are congruent with previous studies that have reported that individual level factors such as patients’ fears and misperceptions about referrals was a trigger for non-compliance and consequently delays in the referral process.^{14 15} Similarly, Pembe *et al*¹⁶ also reported financial constraint is a major challenge to timely obstetric referral. These challenges proliferate type I delays as posited by Thaddeus and Maine,⁸ that is, delays for women to make the decision to seek healthcare. Our findings underscore the need to demystify obstetric referrals and build women’s appreciation for the need to comply with referral directives. Rural healthcare facilities can be supported to strengthen health promotion and education at their facilities, emphasising on the importance of obstetric referrals and the timeliness of referrals. Swifter communication through the implementation of telemedicine platforms such as the use of WhatsApp could potentially help to improve communication flow and timely discussions with superiors. Such interventions could effectively contribute to decreasing delays in obstetric referrals.

Concerning the institutional challenges, the following challenges emerged: referral transportation challenges, poor attitudes of service providers, low staff strength and healthcare bureaucracies. Our findings mirror earlier studies conducted in Ghana,^{9 14} and Ethiopia¹⁷ that reported the use of commercial vehicles (taxis) and motorbikes as a medium of transportation for patients during obstetric referrals. Again, the findings affirm a report by the Ghana Health Service that shows there were substantial challenges in terms of referral transportation systems.¹⁸ A plausible explanation for this finding is that the Ghana National Ambulance system which was established in 2004 to ease emergency health transport service is not well grounded in rural settings as observed from the perspectives of HCWs in this study. Also, delays in the

arrival of ambulances are mostly linked to the request of confirmation about the client's ability to afford the cost of the ambulance services, which matches findings from Daniels and Abuosi.⁹ The result implies that substantial proportion of women in rural settings who suffer obstetric complications are more likely to have their conditions worsened as a result of delays caused by the poor ambulatory services.

Daniels and Abuosi⁹ postulate that prioritising emergency cases hinges predominantly on the availability of health personnel. Therefore, any inadequacy in staff strength becomes dire for obstetric referrals. The findings from this study revealed that there were insufficient HCWs to complement timeliness of referral services within the Sene District. Similar findings have been reported by Afari.¹⁴ Given the low staff strength in rural health-care facilities, it becomes extremely difficult to ensure that health professionals accompany patients to facilities where they have been referred. Relatedly, we found that some healthcare providers at the receiving facilities exhibit attitudes that do not allow patients to participate in the referral decision-making. Such attitudes are bound to result in both type II and III delays as posited by Thaddeus and Maine.⁸

Evidence from the study shows there are existing health-care bureaucracies that challenge timeliness of obstetric referrals. Participants in this study asserted they had continuous deliberations to come to a consensus that the client has to be referred. The findings are analogous to those found by Ofosu *et al*¹⁹ that found bureaucracies to be one of the major challenges confronting the timeliness of obstetric referrals. We acknowledge that team consultations are not wrong on a *prima facie* basis, as it is critical for ensuring quality referrals.^{20 21} Notwithstanding, long deliberations towards consensus building on obstetric referral creates systemic bureaucracies that exacerbate the perpetuation of type II delays. 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.

Strengths and limitations

By adopting qualitative research design, the study provides deep and contextual understanding of the challenges that affect obstetric referrals in rural Ghana. The discussion of the study findings guided by Thaddeus and Maine's TDM provides a solid theoretical foundation to ground our findings. Nevertheless, we acknowledge that there are key limitations that should be considered. The adoption of qualitative research design does not allow us to generalise the study findings to other rural settings. Also, the study was limited in its scope; thus, we focused only on rural healthcare facilities. Therefore, the findings

may not be reflective of obstetric referral challenges in urban settings. There is also the possibility of social desirability bias and selection bias. However, these challenges do not compromise the authenticity and trustworthiness of our study findings.

CONCLUSION

Using Thaddeus and Maine's TDM, we explored HCWs' perspectives about the challenges encountered during obstetric referrals. Patient and institutional level issues emerged as major challenges to obstetric referrals. 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 healthcare 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.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Consent obtained directly from patient(s).

Ethics approval This study involves human participants and all the methods in this study conform to international ethical standards in the Declaration of Helsinki and Belmont Declaration.¹⁴ The Ghana Health Service Ethics Review Committee (GHS-ERC) (ID: GHS-ERC 004/03/21) approved on 29 April 2021 and cleared the study as ethically sound. An information sheet was given to all participant to brief them about the objective of the study, the procedures, potential risk and benefits, emphasis on the protection of the participants' autonomy, confidentiality and privacy. All participants voluntarily participated in this study. We anonymised transcripts before analysis. Audio records and transcripts (without any identifying information) were stored on a password protected computer. We followed the Standards for Reporting Qualitative Research.²²

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available upon reasonable request. The datasets used and/or analysed during the current study are available from the corresponding author upon reasonable request.

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