

ORIGINAL RESEARCH ARTICLE

Identifying Obstetrical Emergencies at Kintampo Municipal Hospital: a perspective from Pregnant Women and Nursing Midwives

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Abstract

A hospital based cross-sectional qualitative study was conducted at Kintampo Municipal Hospital in Northern Ghana, to identify obstetric emergencies and barriers to emergency care seeking; examine the perspective of midwives regarding their role in maternity care and management of obstetric emergencies, and explore women's knowledge and response to obstetric emergencies. Study subjects comprised of 2 emergency obstetric cases, 29 antenatal focus group discussants and 5 midwives at the maternity unit. Data was collected from 23rd March to 9th April, 2012 using in-depth interviews, focus group discussions and record reviews. The most common obstetric emergencies were hemorrhage, eclampsia and anemia. Potential obstetric complications were poorly understood by antenatal women and known barriers limited access to emergency obstetric care. Service challenges included insufficient staffing and well as inadequate equipment and physical space in the maternity ward. Local community efforts can address communication and service access gaps. Government intervention is required to address service provision gaps for improved maternity care in Kintampo (*Afr J Reprod Health 2013; 17[2]: 129-140*).

Résumé

Nous avons mené une étude qualitative transversale auprès d'un hôpital municipal à Kintampo au nord du Ghana, afin d'identifier les urgences obstétricales et les obstacles à la recherche de soins d'urgence ; pour étudier le point de vue des sages-femmes au sujet de leur rôle dans les soins de maternité et dans la gestion des urgences obstétricales, et pour explorer les connaissances des femmes et la réponse aux urgences obstétricales. Les sujets d'étude comprennent 2 cas obstétricaux d'urgence, 29 commentateurs de groupes de discussion cible prénatals et 5 sages-femmes qui travaillent à la maternité. Les données ont été recueillies à partir du 23 mars au 9 avril, 2012 à l'aide des entrevues en profondeur, groupes de discussion cible et l'examen des dossiers. Les urgences obstétricales les plus courantes étaient l'hémorragie, l'éclampsie et l'anémie. Les complications obstétricales potentielles ont été mal comprises par les femmes enceintes et les obstacles connus ont limité l'accès aux soins obstétricaux d'urgence. Les défis auxquels font face les services comprennent le manque de personnel ainsi que d'équipements et l'espace physique dans la maternité. Les efforts des communautés locales peuvent combler les lacunes d'accès à la communication et au service. L'intervention du gouvernement est nécessaire pour combler les lacunes dans la dispensation de services pour permettre l'amélioration de soins de maternité à Kintampo. (*Afr J Reprod Health 2013; 17[2]: 129-140*).

Keywords: Obstetric complications, maternal mortality, rural, Ghana

Introduction

In Ghana, the incidence rates of maternal and infant mortality are alarming¹⁻³. According to a recent systematic review, the current maternal mortality rate was estimated at 540 per 100 000

live births (95% confidence interval 895.0–1113.2) while the infant mortality rate in Ghana is 50 in 1,000 births²⁻⁴. While there is a lack of conclusive evidence to support a specific etiology, many of these deaths correlate with the poor identification and management of obstetric emergencies⁵. In

rural areas, the rates are even higher than in urban areas⁶. In sub-Saharan Africa, several contributing factors have been postulated to explain the poor identification and management of obstetric emergencies including lack of access to emergency obstetric care, lack of education regarding what constitutes an obstetric emergency, and ill-prepared, under-staffed health care providers⁷⁻⁸. For instance, it has been reported that on the average, two doctors and eleven nursing and midwifery personnel serve a population of 10,000 in sub-Saharan Africa compared to 32 and 79 serving the same population in Europe between 2000 and 2007⁹⁻¹⁰. In 1991, Deborah Maine posited that delays in the management of obstetric complications are the major determinants of maternal mortality in developing countries¹¹. These delays result from barriers, which exist at the individual (40%), community (20%), and health system (40%) levels¹²⁻¹³. To date, there is a dearth of information that clearly highlights women's and midwives' perspectives on obstetric emergencies and how these perspectives affect the management of obstetric emergencies.

An obstetric emergency is defined as a life threatening medical condition that occurs during pregnancy, labor, or the post partum period¹⁴. The World Health Organization posits the following conditions as obstetrical emergencies: Ectopic or tubal pregnancy, placenta abruptio and previa, pre-eclampsia or pregnancy induced high blood pressure, eclampsia, and premature rupture of membranes or PROM, amniotic fluid embolism, inversion or rupture of uterus, placenta accreta, prolapsed umbilical cord, and shoulder dystocia, postpartum hemorrhage and postpartum infection. To date, the actual number of women in Ghana who access a healthcare facility and are subsequently diagnosed with an obstetric emergency is unknown. Notwithstanding, anecdotal evidence, does however, suggest that many rural women do not have access to healthcare facilities, midwives, and doctors⁶⁻⁸. In one study, it was noted that skilled healthcare professionals would rather practice in urban areas and thus incentives may have to be utilized in order to attract those person to work in rural settings⁶⁻⁸. Although efforts have been made to expand access to health care services to pregnant

women in Ghana, many women, irrespective of geographical locale, still do not have access to emergency obstetric care¹⁴⁻¹⁵. Some women are not well informed about their pregnancies and thus are unable to recognize the onset of an emergency¹⁴⁻¹⁶. Identifying and managing obstetric emergencies is often quite complex. For instance, even if a woman were able to detect an emergency, she may not be able to obtain the necessary transportation to get to the health facility or there may not be a health facility in proximity to her residence¹⁷⁻¹⁸.

The specific objectives of this study were tripartite. First, we sought to identify obstetric emergencies at Kintampo Municipal Hospital (KMH) and determine which factors (individual, community, or system) correlate with poor health outcomes defined as infant mortality, maternal mortality, or both. Secondly, we delved into the feelings and attitudes of midwives towards their role in delivery of obstetric healthcare services and management of obstetric emergencies. Lastly, we explored women's knowledge of obstetric emergencies and their experiences accessing care during a defined obstetric emergency.

Methods

Study area

The study was conducted at Kintampo Municipal Hospital (KMH) located near the geographical centre of Ghana. Kintampo is located in the Brong Ahafo Region of Ghana²⁰. It lies in the forest savannah transition belt and has an estimated population of 111,122 comprising 49.1% male and 50.9% female, with a growth rate of 2.6%²⁰. Most of the municipality is essentially rural and subsistence farming is the primary occupation. The main indigenous ethnic groups are of the Bono, and the Mo origin. There is also a large permanent immigrant population from the northern regions of Ghana who are mostly farmers²⁰⁻²¹. A few Dangbes and Ewes who are mainly fishermen are settled along the banks of the Black Volta. The Kintampo community is among one of the poorest in the country and the main sources of income are form trading, hair- dressing, and sewing²⁰⁻²¹. There is a very high illiteracy rate among women in the community.

The Kintampo Municipal Hospital is a primary referral centre that serves all the sub-municipal health facilities. It offers a broad range of primary and acute maternal and child health care services including antepartum, intrapartum, and postpartum care, immunizations, and neonatal intensive care services. Despite the relative availability of healthcare services at the hospital, many women in the area do not utilize or access them.

Study design

The study was designed as a cross-sectional study utilizing the constructivist paradigm, which allowed the researchers to draw upon the subjective meanings and experiences of the women and healthcare workers at the Kintampo Municipal Hospital. This paradigm encouraged the researchers to work and engage with study participants rather than simply observing them¹⁹. It also allowed for full and uncompromising recognition of how the study participants' experiences created meaning for them and influenced their behaviors and life choices. Focused ethnographic research methods were used to obtain data during several interviews and focus group discussions. While traditional ethnographic research methods aim to study an entire society, focused ethnography attempts to learn and understand a particular cultural phenomenon, which reflects the knowledge and system of meanings guiding the behavior and life style choices of a specific cultural group¹⁹. This study was developed via a joint healthcare initiative sponsored by General Electric Corporation and the National Medical Fellowship Program. The goal of this initiative is to identify and reduce healthcare disparities worldwide, specifically in African countries.

Data collection

Data was collected from March 23rd to April 9th of 2012 using a mixed-method quantitative, qualitative approach involving in-depth interviews, focus group discussions and record reviews. The qualitative approach was selected for this study as the study subjects were asked to denote and describe their personal experiences. Quantitative data on participant demographics was obtained,

while qualitative themes including midwives' recognition and response to obstetric emergencies as well as women's perspectives identifying obstetrical emergencies and access to emergency obstetrical healthcare services at KMH. Five midwives were interviewed in order to understand their perspective on providing healthcare services, specifically managing obstetrical emergencies at the KMH. The midwives ranged in a variety of parameters including age, length of employment at KMH, and nursing officer rank. Among these, three nurse midwives were interviewed to identify and define the working definition of obstetric emergencies used at KMH.

A concurrent review of the Maternity Ward Admission & Discharge Book was performed to identify the obstetric emergency cases that presented to the hospital. The book was housed in the Maternity Ward Administrative Area and contained the following variables: date of admission, name, occupation, location/ town of residence, admitting diagnosis, final diagnosis, date of discharge, outcome/result. Outcome/results were categorized as poor, satisfactory, and good. Poor refers to unstable vitals or death. Satisfactory and good were used synonymously. In addition, nursing notes were reviewed because not all of the admitted cases were recorded in the Maternity Ward Admission & Discharge Book. The nursing notes, which are maintained in the patient's folder or in another area of the ward, captured the missing cases. Where it was not possible to locate the nursing report, the nurse midwife who was directly involved in the specific case was interviewed.

The focus group discussions engaged the study participants during their routine antenatal clinic visit. During the focus group session, the women were asked to discuss their thoughts and feelings about their pregnancies, their knowledge of obstetric emergencies, what barriers they perceived to accessing care, and how they would respond to a perceived obstetric emergency. The women's maternity booklet, a book that is given to all women who are diagnosed with a pregnancy, viable or non-viable, was also reviewed. Notably, on the back of the booklet, there are pictures that illustrate several different types of obstetric emergency that would require management by a

healthcare professional. Lastly, with the assistance of a physician assistant as an interpreter, two women who had experienced obstetrical emergencies were interviewed to assess their knowledge of their conditions, the symptom(s) that prompted health care seeking, and their experience accessing care at the KMH.

Study Participants

The study participants were identified and drawn from the patient population and staff of KMH and comprised of the following:

Obstetric Emergency Cases

Two women were interviewed to obtain information regarding their experience of accessing and obtaining obstetrical emergency health care services. Both women had been admitted to KMH with a diagnosis of pre-eclampsia.

Focus Group Discussants

A total of four focus group discussions were held on four separate clinic days, utilizing a convenience sample of 29 women who employ antenatal health care services at KMH. Each group consisted of six to eight participants stratified by age: one group of 6 participants aged ≤ 25 years, two groups of seven to eight participants ranging in ages 26-30 years, and one group of eight participants aged ≥ 31 years. They were not sought out prior to the day of the focus group and the focus groups were held at different times during the day. On the day of the focus group, the study participants were selected based on their willingness to engage in a group discussion while they waited to receive antenatal healthcare services. The participants were interviewed in an area that was semi-closed off from the other areas of the hospital. BO conducted all the interviews and focus group discussions. Prior to the initiation of the study, a medical assistant working at the KMH antenatal clinic was recruited to assist BO in translating the research questions to the study participants as she was well versed in the local dialects. Verbal consent was obtained from each study participant. In addition, each participant's

maternity booklet was reviewed and demographic data extracted. Using a pre-scripted interview schedule, the women were asked to discuss a variety of issues including individual and community level barriers to accessing, experiences seeking care during an obstetrical emergency, and overall healthcare utilization patterns. Similarly, each of the five midwives was interviewed using a scripted 30-item interview schedule that was divided into the following sections: demographic information, education, work activities, work satisfaction, and retention. All of the interviews were conducted in private and each participant was informed that their responses would not be shared with the supervising physician or any member of the hospital's administration team.

Midwives

Five midwives who provided obstetrical care services at KMH's maternity unit were interviewed over the course of three weeks. Each midwife was given a general introduction to the aims of the study and interviewed using a scripted 30-item interview schedule.

Data Analysis

The data obtained during the interviews were written down and later transcribed verbatim into a database that housed all of the data collected during this research inquiry. Each respondent was anonymized and given a number under which all of their responses were coded and analyzed based on the predetermined qualitative themes including midwives' recognition and response to obstetric emergencies as well as the women's perspectives on identifying obstetrical emergencies and accessing emergency obstetrical healthcare services at KMH.

Ethical Considerations

Formal ethical approval was not required for this research inquiry. However, clearance to conduct the study was sought from the hospital management. Individual consent was obtained from study participants by verbal agreement, which is commonly accepted in this study setting.

Results

Demographics of study participants

Table 1 show the demographics of the focus group discussants whose ages ranged from 20 to 40 years with the modal age range being 26-30 years (52%). The five midwives' ages ranged between 25 and 60 years with a mean age of 39 years (SD 15 years). All of the midwives had been working in this profession for between 2 and 3 years except one midwife who had been practicing for 27 years. All of the midwives had attained the same level of education. The women who were interviewed about their experience of obtaining obstetric emergencies at KMH were 18 and 30 years, respectively.

Table 1: Demographics of Focus Group Discussants at Kintampo Municipal Hospital, Kintampo, Ghana, 2012

Table 1 Focus Group Participant Demographics (n=29)		
Variable	#	%
Estimated Age		
>20	1	3%
21-25	5	17%
26-30	15	52%
31-35	6	21%
36-40	2	7%
Marital Status		
Married	28	97%
Widow	0	0%
Single	1	3%
Educational Background		
No education	14	48%
Non-formal education	0	0%
Primary school	1	3%
Junior Secondary School	11	38%
Senior Secondary School	3	10%
Women's Work		
Trading	13	45%
Hairdresser	4	14%
Housewife	3	10%
Seamstress	3	10%
No work	5	17%
Other	1	3%
Number of pregnancies		
1-5	26	90%
6-10	3	10%

Pregnant Women's Perspective on Obstetric Emergencies

During the data collection period there were 18 obstetric emergencies as shown in Table 2. The most common obstetric emergencies were the hypertensive states of pregnancy, followed by ante-partum bleeding and anemia secondary to malaria. Most of these emergencies had a satisfactory outcome; however a few of them did result in maternal and infant mortality.

Based on the in-depth interviews with the two women who had experienced an obstetric emergency and the themes that developed during the antenatal focus group discussions, it is clear that many women in Kintampo do not understand the meaning of an obstetric emergency and do not readily seek out healthcare services for obstetric complications. One of the women who experienced an obstetric emergency insisted that:

"..[She] came to the OPD with a complaint of throat pain and headache. It was there that I learned that my blood pressure was high and I was told that I would need to stay".

The other woman who experienced an emergency recollected with a sigh:

"I was told at the clinic (Zabrama) that I had edema and that I should go to Kintampo Hospital".

There was a consensus among the focus group discussants about an obstetric emergency being any instance during pregnancy that if a woman failed to rush to the hospital, a problem could develop. However they were unable to articulate what problem would develop. In addition, while many of these women attended the antenatal clinics, there seemed to be a lack of connection between the information that they were provided during those visits and the actual behavior that they exhibited when a particular symptom or constellation of symptoms developed. Also, many of the women did not have readily available access to transportation (personal/arranged vehicles) to come to the hospital in the event of an emergency. If a symptom did develop that the women thought might require them to seek out medical attention, they would have to locate and secure a taxi, which in many areas is not always accessible. One focus group discussant said,

Table 2: Obstetric Emergencies at Kintampo Municipal Hospital, Kintampo, Ghana (March 23rd - April 9th, 2012)

No.	Date	Occupation	Age	Town/Locality	NHIS Status	Initial Diagnosis	Final Diagnosis	Date of Discharge	Status
1	23-Mar-12	Housewife	20	Mo-Line	Yes	PPH	Retained Placenta	24/03/2012	Poor
2	29-Mar-12	Housewife	30	Gobabs Takubu Brigade		PIH			NR
3	29-Mar-12	Unemployed	16	DoShadrade	Yes	Eclampsia	Eclampsia	31/03/2012	Good
4	1-Apr-12	Trader	35			Pre-Eclampsia	SVD		Satisfactory
5	1-Apr-12		25			Placenta Previa			NR
6	1-Apr-12		29			Uterine Rupture			NR
7	1-Apr-12	Unemployed	20	Kof Daniel Mampare	Yes	SVD with PPH	PPH		Death
8	3-Apr-12	Trader	28	MPS	Yes	Born Before Arrival/ PPH	SVD		Satisfactory
9	4-Apr-12	Student	19	Papaase	Yes	PIH			NR
10	4-Apr-12	Trader	31	Sunkwa	Yes	Bleeding Per Vagina			NR
11	6-Apr-12	Student	18	Asantekwa	Yes	Malaria	UTI with Malaria	4/6/12	Satisfactory
12	6-Apr-12	Trader	35	Mo-Line	Yes	Bleeding Per Vagina	Complete Abortion	4/7/12	Satisfactory
13	7-Apr-12	Farming	26	Kapenter	Yes	Bleeding Per Vagina	MVA	4/8/12	Satisfactory
14	7-Apr-12	Housewife	40	Kadelseo	Yes	Bleeding Per Vagina	Threatened Abortion Anemia of Pregnancy	4/7/12	Satisfactory
15	6-Apr-12	Student	17	Sawaba	Yes	Malaria	Malaria	4/9/12	Satisfactory
16	9-Apr-12	Housewife	19	Gulumpe		Malaria			NR
17	9-Apr-12	Unemployed	24	Yapala		Septic Abortion			NR
18	9-Apr-12	Student	20	Mary Effah		Inevitable Abortion			NR

NR indicates that the condition of the patient upon discharge was not recorded; Blank spaces indicate missing information from source documents. PPH = Post partum Hemorrhage, PIH = Pregnancy Induced Hypertension, and SVD = Spontaneous Normal Delivery.

“[I] would ride on a motorcycle with [my] husband”

Many of the other women also stated that they would take a taxi. One of the women, who had experienced an obstetric emergency, lived in a village approximately 20 miles from the hospital, making it virtually impossible to access emergency obstetric services promptly. The woman later eloped from the hospital when she was told that she would need to stay in the hospital for continued evaluation and management of pre-eclampsia.

Another theme that was explored during the

focus group was the lack of first-hand knowledge of the high rates of maternal and infant mortality in the community. Only five out of the twenty-nine women indicated that they knew about a woman who died during delivery and only four women acknowledged that they knew about a child that had died during childbirth. With respect to health seeking behaviors, the women stated that they would come to the hospital if they experienced bleeding, loss of liquor, abdominal pain, or a persistent headache. The women did not seem to be affected by system level barriers and many of them were well versed on the layout of the hospital

and location of the maternity ward. The women also placed a great deal of trust in the midwives and physicians who attended to them while in the hospital. As a group they described the midwives and doctors as knowledgeable, responsive, and skilled.

Midwives' Perspective on Obstetric Emergencies and their role in Delivering Healthcare Services

The midwives collectively identified several of the conditions that they considered to be an obstetric emergency including ectopic or tubal pregnancy, antepartum bleeding such as placenta abruptio and previa, pre-eclampsia or pregnancy induced high blood pressure, eclampsia, premature rupture of membranes (PROM), rupture of uterus, placenta accreta, prolapsed umbilical cord, postpartum hemorrhage and postpartum sepsis or infection. Their training included the provision of antepartum, intra-partum, and post-partum care, caring for sick pregnant women and providing neonatal health care services. They acknowledged having received training in managing obstetric emergencies while they were receiving their midwifery training and this included obtaining vitals, setting peripheral lines, and contacting the supervising doctor in the event of an emergency. In addition, at KMH, they were provided with on-the-job training and workshops to enhance their clinical skill sets. One midwife affirmed this, saying:

"Yes, we receive on-the-job training. Three months ago we received training related to the neonatal intensive care unit".

The midwives experienced a number of challenges to performing their responsibilities including language barriers when communicating with patients, lack of essential resources to perform some of their tasks, and a lack of physical space in the maternity ward. Several nurses stated that,

"Many patients come to the maternity ward that we cannot communicate with due to language differences such as the Fulani".

With respect to the available midwives, one midwife highlighted the fact that:

"There is a shortage of midwives. Many times a midwife will work alone to cover the labor area, the maternity area, and the post surgical area".

Another midwife mentioned that, *"There is lack of a good infrastructure here, the maternity ward is chaotic, and the design of the department is not conducive ...at the big hospitals there are different departments for different conditions."*

In terms of work satisfaction, the midwives affirmed that they were frequently understaffed and lacked the appropriate resources such as medication and equipment required to care for their patients. Despite these circumstances and experiences, they confirmed that there was a low turnover in the field of midwifery and they did feel supported by their colleagues and the physicians that they worked with. Lastly, regarding retention, the midwives stated that they were satisfied with their job responsibilities despite the lack of stress-relieving activities. They all agreed that the physical space and number of beds in the maternity ward should be increased to meet the demand; adequate obstetric consumables should be kept in stock, on the job training opportunities and additional incentives should also be offered to the midwives. To this end, two midwives concluded that:

"KMH should reconstruct the [maternity] ward and increase the number of beds in the ward and also obtain enough equipment, provide motivation/incentives as well as accommodation for the staff... the hospital should provide more workshops and in-service teaching [opportunities]."

Barriers to Accessing Obstetric Health Care Services

Based on the findings from the focus group and the in-depth interviews with the midwives, several ideas were posited to understand the high rates of morbidity and mortality associated with obstetric emergencies using KMH's patient population as a proxy. Figure 1 show the ideas categorized at three levels: individual, community and system barriers.

Individual level factors identified were high rates of illiteracy, poor interpretation and recognition of obstetric emergencies, poverty and

lack of personal or arranged transportation to the hospital, as well as language and cultural barriers. Community level factors suggested were the lack

Figure 1

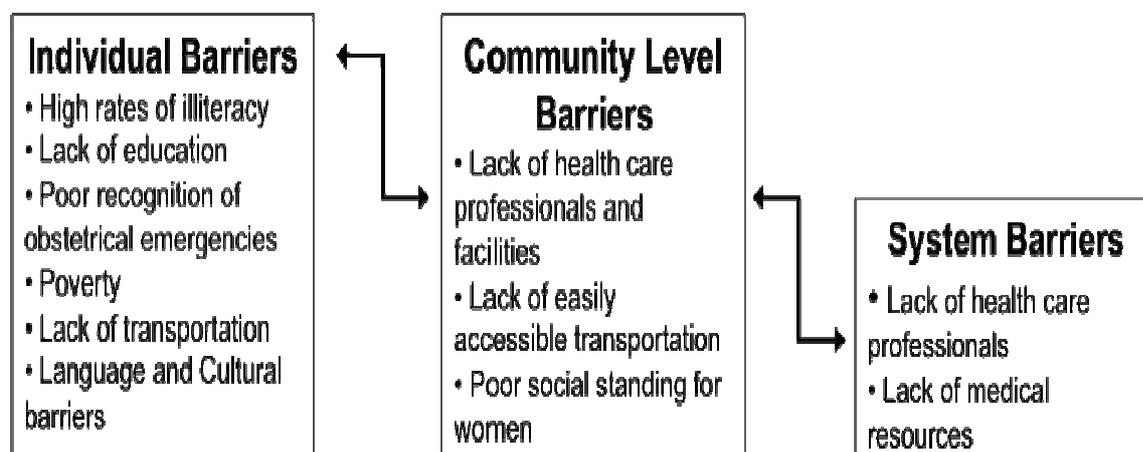


Figure 1: Barriers to accessing emergency obstetric care from indepth interviews with midwives and antenatal women at Kintampo Municipal Hospital, Kintampo, Ghana, 2012.

of hospitals and healthcare providers in rural areas, a lack of easily accessible transportation and tangentially a lack of women empowerment. During the focus group discussion, it was painstakingly clear, that many of the women believed that their main “duty” in life was to deliver children. They did not feel that they had a choice in dictating how and when they will become pregnant. Consequently, many of them harbored negative views about the use of modern contraception. This has implications for maternal and infant mortality as studies have shown that the incidence rates of obstetric emergencies increase as the number of pregnancies increases²²⁻²⁵.

System level factors included the shortage of staff and resources at KMH. There were only two physicians at KMH who were able to manage the obstetric emergencies. They were usually not available at the time emergencies arrived and required calling. There were delays associated with their arrival at the hospital as well as organizing the appropriate support staff to address emergent cases. Of the nine midwives employed at KMH, one was on study leave. At any given time, there was only one midwife responsible for the maternity ward, the post-surgical intervention

ward and the labor ward. Neonatal resuscitation staff and resources were also not available. On many occasions, KMH did not have oxygen cylinders available for use in the neonatal intensive care unit or the labor ward. If a child had to be resuscitated, the staff had to rush the child to the theatre.

Discussions

The causes of obstetric complications and deaths in this study were consistent with a previous study in northern Ghana²⁴⁻²⁵. Although access to emergency obstetric health care is an important element in reducing maternal mortality and morbidity, women often encountered difficulties in reaching care. Lack of transportation was one of the key barriers to reaching care and this has been reported in similar studies²⁶. System level barriers such as the shortage of physicians, multi-tasked midwives, lack of resuscitation equipment and consumables failed to create an ‘enabling environment’ required for skilled birth attendance²²⁻²⁵.

An enabling environment comprises a functioning health system which includes effective transportation, drugs, equipment and supplies^{22, 25}.

The shortage of skilled staff for emergency obstetric care reported by the midwives supports earlier evidence²²⁻²⁵. The shortage of staff also compelled a level of multi-tasking which affected the quality of care, especially record keeping. The absence of accurate records makes it difficult to define the burden of obstetric complications and outcomes, as well as evaluate the quality of care. Limited resources in terms of equipment may contribute to maternal/neonatal deaths and crowded spaces may facilitate easy transmission of environmental and infectious pathogens across mother baby pairs. A crowded environment is an occupational hazard and mentally distressing which most likely explains why the midwives were emphatic about the need for an expansion of the available ward space. The geographic distance to the hospital was overcome by using risky forms of transportation such as a motorcycle in some cases. The difficulty with transportation as well as the use of motorcycles has been reported in Uganda and Nigeria^{13, 27-28}. However, motorcycles are prone to accidents, which have severe consequences for the pregnancy.

Women did recognize vaginal bleeding, loss of liquor, abdominal pain and severe headache as a reason for health care seeking and this may be linked to their antenatal education. This is suggested by their definition of an obstetric emergency as being an instance in which if a woman did not rush to the hospital, a problem could develop. However, their ignorance regarding the specific consequences of obstetric complications in the absence of prompt intervention is evidence of limited understanding. It could also explain risky behavior as in the case of the woman who eloped from the hospital after a diagnosis of pre-eclampsia. It is also possible that her behavior may have been caused by fear of the potential cost of hospital stay as well as the need to care for other children at home. The 'norm' of births for women obviously influenced their negative response to modern contraception. This deserves further exploration and a culturally sensitive response to make family planning acceptable in the community since limiting the number of pregnancies will most likely reduce the risks of obstetric complications.

Based on the results of the study, there is a need to improve service provision at the maternity unit in terms of adequate space, equipment and trained staff. While all pregnant women are offered information on potential obstetric complications, efforts must be made to address the communication gap using local resources. This is one dimension where the traditional or retired midwives who speak the various dialects could be helpful. In partnership, they could be useful and present during health education sessions to bridge the communication gap between women and the midwives. A token from internally generated fund could serve as an incentive.

To address the human resource gap, the Ghana Health Service can ensure an equitable distribution of physicians with expertise in Obstetrics and Gynecology, as well as midwives. The government should invest in the development of more healthcare facilities with accommodation for essential staff in rural areas. Staffing and equipment norms should be complied with in every health institution concerned with the care of pregnant women. Protocols on the management of obstetric emergencies should be available and utilized appropriately in all institutions where women deliver²⁹⁻³⁰. All midwives and doctors should be trained in the use of these protocols using simulation exercises as is currently being done³¹⁻⁴¹. This will give them the opportunity to practice several practical obstetric emergencies scenarios and surgical skills³¹⁻⁴¹. Skills should be provided in anesthesia³¹⁻⁴¹.

Given the issue of transportation and the lack of available healthcare providers and facilities, communities should be guided to provide local transport systems, which are readily available by an agreed means of communication at any time²⁹⁻³⁰.

The health care system must invest in emergency transport services and support drivers with accommodation so that they can be available for pregnant women in need²⁹. Public-private partnerships can be resourceful in the provision of equipment and medical supplies to manage obstetric emergencies. Family planning programs are required to demystify contraception, make options more readily acceptable and less

'demonized' among rural women⁴²⁻⁴⁴. Making family planning acceptable to women clearly goes beyond focusing on women themselves, but may require community level education in order to create an enabling environment in which women can consider and demand modern contraception^{15, 42-44}. Because it is well known that women who are educationally and economically empowered are more likely to make informed choices about their health, consider the use of family planning strategies, and experience fewer pregnancies, women empowerment is critical to addressing the issue of obstetric emergencies. Notwithstanding, women, families and communities at large must be empowered, involved and participate actively in activities, projects and initiatives aimed at improving maternal and neonatal health as well as reproductive health in general⁴⁵.

Limitations to the study include the language and cultural barriers that existed between BO and the study participants. Some meaning may be lost in the interpretation of spoken or unspoken communication. Secondly, documentation was neither consistent in the records reviewed nor available in some instances. This in turn affected the completeness of data reviewed, although efforts were made to interview attending midwives. Other limitations included the inability to interview other providers who play a role in obstetric emergencies, including physicians and traditional birth attendants. Regarding experiences with obstetric emergencies, a larger sample may have provided the opportunity to explore diagnoses other than pre-eclampsia. This was further constrained by the willingness of women to share their stories given the language constraints. Despite these limitations, the findings of this research inquiry can be regarded as first impressions for further research and action. It also offers useful insight for health policy and program planning.

Conclusions and Future Direction

Barriers to accessing and receiving emergency obstetrical healthcare services exist and have a major impact on the lives of many women, children, and healthcare providers in developing countries. While this study was designed to examine the experiences of pregnant women and

midwives in the context of obstetric emergencies, future studies should attempt to not only obtain a larger sample of obstetric cases to identify patterns or situations where women have experienced an obstetrical emergency but to also understand the impact and role that physicians and birth attendants play in the identification and management of obstetrical emergencies. Our goal is that this body of work will encourage and compel health authorities to address health system barriers and engage communities to address community and household level barriers in order to promote safe and healthy childbearing for all women. Continuous support for research inquiries and maternity audits will be required. Lastly, we advocate for the adaptation of cultural and social norms that support and encourage prompt access to quality maternity for all women worldwide.

Contributions of Authors

BO and EAU equally contributed to the initial study concept. All authors contributed to the development of the study design and preparation of the final manuscript. BO collected and analyzed the data with technical support from DP.

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