

Third Delays in the Management of Obstetric Emergencies: A Qualitative Study of Arua Regional Referral Hospital - Uganda

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Abstract

Introduction: The third delay is the delay in receiving adequate and appropriate treatment at the healthcare facility by mothers during and after pregnancy. Many factors attribute to this; shortage of staff, insufficient training, antibiotic unavailability and equipment among others.

Objectives: The purpose of the study was to ascertain the preparedness of Arua regional referral hospital to handle referred emergency obstetrics cases.

Methods: A qualitative contextual descriptive phenomenological design was used. A sample of six (6) carefully selected mothers and four (4) midwives were used. Triangulation of methods was used to enhance quality. Transcriptions of the interviews was analyzed using descriptive thematic analysis

Findings: As per WHO criteria, Arua Regional Referral Hospital was rated as a fully functional EmOC facility. Out of the 6 respondent mothers, two had received Emergency Obstetric Care three times from the facility while the rest of them received EmOC more than 5 times. When asked about history of having been referred out, none of them was referred out. Again, when asked about the outcome of all their deliveries, four out of 6 had good maternal outcomes whereas 2 had bad maternal outcomes.

Conclusion: Arua RRH remains an EmOC Health Facility, falling in keeping with the World Health Organization standard as well as the Uganda national standard, although some improvements are still wanting.

Recommendation: The hospital needs to embark on training other surrounding health facilities on EmOC.

Keywords: Third delays, Emergency Obstetric Care (Basic and Comprehensive), Signal function, triangulation of methods, phenomenological study design and member checks.

Introduction

Introduction to the study topic, background to the study area, statement of the problem, research question, conceptual framework, research objectives and justification for the study are covered in that order

Introduction to the study topic

According to World Health Organization [WHO, 2015], three-delay model focuses on the three major factors affecting the outcome of emergency preparedness during pregnancy. These factors, in their respective orders, are the lengths of the delays in the decision to access healthcare, delay in the identification of healthcare facility and transport to the said facility and delay in receiving adequate and appropriate treatment at the facility. In their work on substandard emergency obstetric care in a regional hospital in Tanzania, Bjarke et al., (2010) argued that if the internal health facility delays are a major contributing factor to maternal deaths then the delays must be reduced. This reduction must be to an acceptable level before the other delays are addressed. The Borgen Project (2016), a non-profit organization addressing poverty and hunger, argued that in the third delay (**delay in the provision of adequate care**), postpartum hemorrhage accounts for 27% of maternal deaths while obstructed labor constitutes 8%. They further stressed that in developing countries, a shortage of staff, insufficient training, inadequate sanitation and antibiotic unavailability among others means health facilities are often ill-equipped to respond to a mother's needs during and after her pregnancy.

It is important to note that Goal Three, Target 3.1 of the 2015 Sustainable Development Goals seeks to "reduce the global maternal mortality rate to less than 70 per 100,000 live births by 2030" (United

Nations Development Program[UNDP], 2017). Therefore, achieving this goal may need a lot more in tackling the three delays that play a central role in the causes of maternal mortality (WHO, 2016). Yet in another study, it was found that 25.7% of the delays in receiving obstetric care were related to quality of medical care at the health facility (Rodolfo et al., 2014). This finding is similar to that of Mismay & Morrow (n.d.) who's work on delay and seeking of emergency obstetric care in Eritrea, showed that delay due to poor quality of services at healthcare facility was at 25%

In the third delay, which is barriers to the receipt of timely and appropriate obstetric care at the facility level, there are basically six (6) factors. They are; Drugs and equipment factors, Policy and guidelines factors, Human resources factors, Facility infrastructure, Patient-related and Referral-related factors. In fact, in a study on why women are dying when they reach hospital on time, it was found that the most commonly cited barriers were inadequate training/skills mix (86%); drug procurement/logistics problems (65%); staff shortages (60%); lack of equipment (51%) and low staff motivation at 44% (Hannah, Alice & Stephen, 2013). Another study also found that shortages of staffs, essential equipment, medicines and blood as well as inadequate management, late or wrong diagnosis and incorrect actions were the commonest third delays in Eritrea (Mismay & Morrow, n.d.).

Emergency obstetric care at facility level is divided into two; Basic emergency care and Comprehensive emergency care services. Mothers must be assured of both services. The services are for all kinds of complications during pregnancy, childbirth and early postpartum period and their neonates. Basic emergency obstetric care refers to lifesaving services for maternal complication being provided by a health facility or healthcare professional. It includes administration of parenteral antibiotics, oxytocin and anticonvulsants drugs for pre-eclampsia and eclampsia, manual removal of placenta and retained products and assisted vaginal delivery. In the same way, comprehensive emergency obstetric care covers all above basic care plus two other services, that is, performance of caesarean section and blood transfusion (Bhandari & Dungal, 2014)

Emergency Obstetric and Neonatal Care (EmONC) intervention uses standard medical practices for the management of the seven life-threatening complications that can lead to maternal deaths. This intervention is provided through a set of services called signal functions. This consist of parenteral antibiotics, anticonvulsants, uterotonics, manual removal of placenta and retained products, newborn resuscitation, assisted vaginal delivery, cesarean sections and blood transfusion. Therefore, it is important to note that availability and accessibility of EmONC depends on having in place four basic and one comprehensive EmONC for at least every population of 500,000 (Tannia, 2015). Summary are in the table below

Table 1. Signal functions for basic and comprehensive EmONC

Basic EmONC Functions	Comprehensive EmONC Functions
Parenteral Antibiotics	All Basic EmONC +
Parenteral Anticonvulsants	Cesarean Section
Parenteral Uterotonics	Blood Transfusions
Manual Removal of Placenta	
Newborn Resuscitation	
Removal of Retained Products	
Assisted Vaginal Delivery	

Adopted from: WHO (2009); Monitoring Emergency Obstetric care: A Handbook.

Statement of the problem

The 'Third delay' in receiving EmOC remains a major challenge in many health facilities in Uganda. This has greatly affected the provision of both basic obstetric emergency care and comprehensive obstetric emergency care services, in the country. Sustainable Development Goal (SDG) 3, target 3.1 stresses on the reduction of the global maternal mortality ratio to less than 70 per 100,000 live births by 2030 (United Nations Development Program [UNDP], 2017). If Uganda is to contribute to this global development agenda, then a lot still has to be done to bridge these delays. Arua regional referral hospital, as a referral site for many health facilities, needs to set the pace in EmOC services.

The main problem, as of now, is the inability of many rural health facilities to provide comprehensive obstetric emergency care services (caesarean section and blood transfusion) due to lack of resident doctor (s) and other factors. Other gaps, especially for basic EmOC, are due to shortages of resident midwives/staffs, frequent stock out of essential medicines and lack of adequate referral means of transport/Ambulance; among others. The solutions to these problems lie in addressing the associated causes.

The effects of the problems are inadequate positive contribution to the global SDG 3, target 3.1 of reducing global maternal mortality ratio to less than 70 per 100,000 live births by 2030. Therefore, poor patient outcome will persist due to this undue delay, which is even preventable.

The researcher, therefore thought of assessing the preparedness of Arua regional referral hospital, to handle referred obstetric emergency cases, emanating from the surrounding poorly functional rural health facilities in line with EmOC.

Research questions

The study sought answers to the following research questions;

- I. What was the quality and use of signal functions, over the last three (3) months, in the provision of Emergency Obstetric and Newborn Care in Arua regional referral hospital?
- II. What were they lived experiences of mothers who received obstetric emergency care services in Arua regional referral hospital?

Conceptual framework

It is important to recognize that there are complex and interlinked issues which prevent mothers from accessing quality obstetric care. It is equally important to understand the concerns around maternal mortality reduction. On the demand side barriers, better perceived quality of care and benefits, minimal formal/ informal payments as well as good socioeconomic and educational status of mothers tend positively influence mothers to come to the health facility for services. Similarly, when the factors on the supply side are good or improved, third delays are minimized. Therefore, improvements on either sides lead to good maternal outcomes and the reverse is quite detrimental to maternal outcomes in case of little or no improvement done. Refer to figure 1 below.

In conclusion, as per figure 2 below, the intervals between critical events and actual receiving of definitive Emergency Obstetric Care (EmOC) by a mother, is what constitute Third Delays. Strategies in reducing the time spent between these intervals of events is the way to go if improvement is to be made.

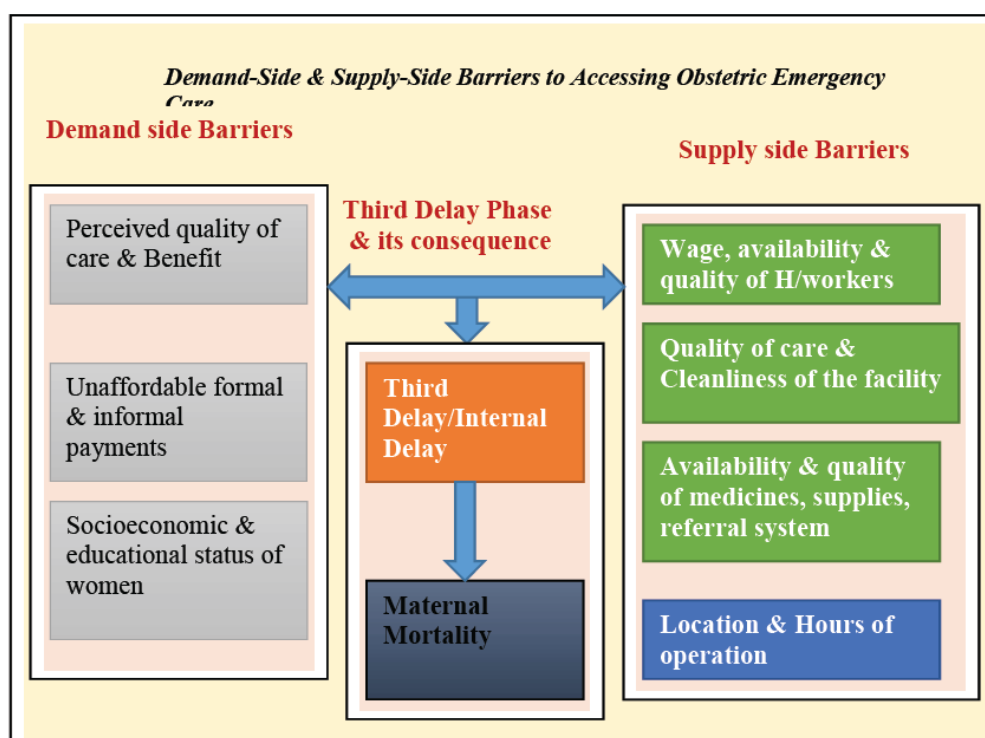


Figure 1. Conceptual framework- demand-side & supply-side barriers to accessing obstetric emergency care & third phase of delay: adopted from thaddeus and maine (1994)

Objectives of the study

This study had both purpose and specific objectives. They are under sub-sections below;

Purpose

The purpose of the study was to ascertain the preparedness of Arua regional referral hospital to handle referred emergency obstetrics cases.

Specific objectives

The study had two specific objectives. These were;

- I. To determine the quality and use of signal functions, over the last three (3) months, in the provision of Emergency Obstetric and Newborn Care in Arua regional referral hospital by October, 2017
- II. To establish the lived experiences of mothers who received obstetric emergency care services in Arua regional referral hospital by October, 2017.

Research methodology

Introduction

This chapter outlines the methodology used for the research, including the theoretical underpinnings, the study design and setting, the research participant selection techniques and consent procedures, data collection, management and analysis.

The study area

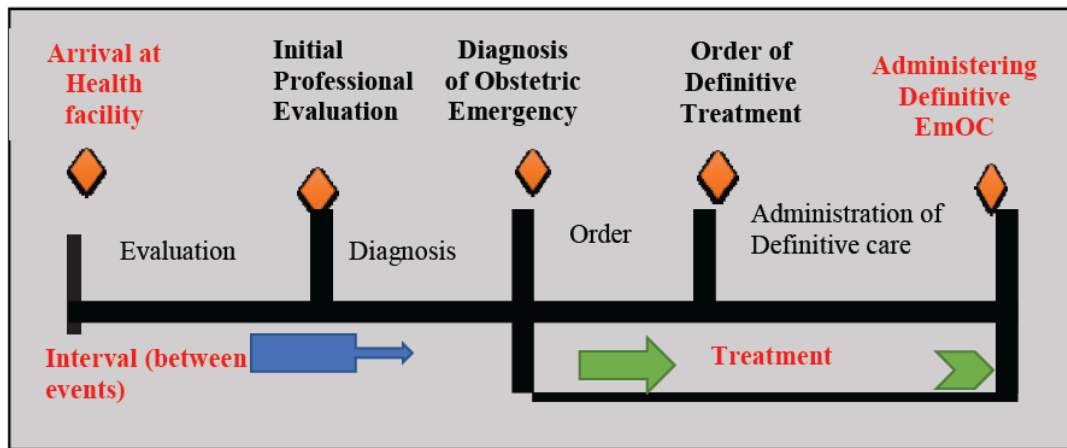


Figure 2. The intervals between critical events and actual receiving of definitive EmOC by a mother



Figure 3. Arua regional referral hospital _ uganda

Arua Regional Referral Hospital is in North Western part of Uganda (West Nile). It serves eight districts; Adjumani, Arua, Koboko, Maracha, Moyo, Nebbi, Yumbe & Zombo. It also serves patients from the Democratic Republic of Congo and The South Sudan. Its catchment population is estimated at: 3,509,195 Ugandans, (UBOS, 2015), excluding refugees. The region has 14 Health Sub-Districts (HSD), 277 health facilities, spread across the districts. Out of the 277, there are 13 hospitals, 9 Health Centre IVs, 106 Health Centre IIIs and 149 Health Centre IIs.

The study type/design

The study was a health facility-based qualitative contextual descriptive phenomenological design. It was a cross sectional, purely qualitative investigation.

Study population

This formed the total number of people who were eligible to be sampled to participate in the study. The study population was, therefore, the healthcare professionals, particularly midwives, of Arua regional referral hospital and mothers who got emergency obstetric services from the health facility within the month of September, 2017. Therefore, there were 6 healthcare professionals and 80 mothers, as the study population.

Sample size estimation

The population size of healthcare professionals in Arua regional referral hospital, especially Midwives, is known. The researcher intended and had four (4) midwives available in the facility as healthcare professional respondents. One of the four midwives, the most senior with at least 5years

experience, served as a key informant. Similarly, there were six (6) randomly selected respondent mothers who have ever had, at least three (3) emergency obstetric care services from Arua regional referral hospital. These services must have been received at different times of pregnancy

Sampling techniques

A purposeful sampling technique was employed for the midwives. The mothers were randomly selected using the register for the month of September, 2017. A home visit was made for the 6 selected mothers to capture data on a variety of obstetric emergency care services received. The three (3) areas of variabilities used included; 2mothers who had been either referred in or out of the facility, 2mothers who have ever had good maternal outcomes from the facility and 2mothers who have ever had poor maternal outcomes. All the eight (6) mothers needed to have had at least three (3) obstetric emergency cares received in three (3) different pregnancies.

Definition of variables

Variables and indicators for use of Basic and Comprehensive signal functions are as below;

Table 2. Variables and indicators for use of basic and comprehensive signal functions

Dependent Variables for Use of Basic and Comprehensive Signal Functions	Indicators
a. Parenteral Antibiotics	Medicine order records, Dispensing logs
b. Parenteral Anticonvulsants	Medicine order records, Dispensing logs
c. Parenteral Uterotonics	Medicine order records, Dispensing logs
d. Manual removal of placenta	Procedure records
e. Newborn Resuscitation	Procedure records
f. Removal of Retained Products	Procedure records
g. Assisted Vaginal Delivery	Procedure records
h. Cesarean Section	Procedure records
i. Blood Transfusions	Records

From the list of dependent variables in table 2 above, 'YES' or 'NO' responses were elicited for each variable backed by explanations.

Note: For the determination of EmOC Status of the health facility, the investigator used question on the performance of each signal function, as per WHO guidelines. Refer to the table 3 below. Check only one category below.

Table 3. EmOC status categorization of the health facility

Responses Obtained (From table 4)	EmOC Status Categorization
If all questions a–i = Yes, tick/performed in past 3months	Categorized as Comprehensive EmOC Facility
If all questions a–g = Yes, tick/performed in past 3months	Categorized as Basic EmOC Facility
If any questions a–g = No, tick	Categorized as Non-EmOC Facility

Adopted from: WHO (2009); Monitoring Emergency Obstetric Care: A Handbook

Table 4. Variables and indicators for lived experiences of mothers

Variables	Indicators
Perceived quality of care & benefits received	Met expectations
Formal/informal payments made	Payment grievances raised

Mothers' satisfaction	Expressions of satisfaction/dissatisfaction
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Data collection

The following tools were used; pre tested Semi-structured interview guide was prepared in two languages; English and Lugbara, the local language. Similar interview guide was also used for the mothers. Researcher conducted face-to-face in-depth interviews using the designated guides for each respondent healthcare professional and mothers. Observation was made for purpose of clarity on the dependent variables.

Data management, analysis and presentation methods

Data was cleaned, edited, coded and tallied manually. The data was analyzed and presented on tables and also qualitatively described. Transcriptions of the interviews was analyzed using descriptive thematic analysis.

Ethical considerations

A number of ethical considerations were taken care of; Permission from relevant offices was sought, Informed consents from the respondents were obtained before enrolling them into the study. Confidentiality of data collected was maintained. Participation of the respondents was voluntary, with the respondents being free to pull out of the study, for whatever reason(s) and their decisions to do so would be respected.

Limitations to the study

The major limitation to this study was the narrow degree or extent of statistical generalization as the qualitative sample size is not representative of the entire catchment population. A number of quality measures, including pre-testing and member checks, have been taken care of to improve of the quality of the investigation.

Results

The findings or results of the investigation are organized as follows;

Background findings of the midwives

There were 4 midwives in the facility were unanimously selected, with a senior midwife to act as a key informant. Results of the key informant interview was approved by the other midwives, in what is described as member checks.

Background findings of the mothers

Out of the 6 respondent mothers, two had received Emergency Obstetric Care (EmOC) three times from Arua regional referral hospital and the rest of them received EmOC more than 5times. When asked about history of having been referred in or out, two respondent mothers had ever been referred in while the rest were not. Again, when asked about the outcome of all their deliveries, four out of 6 had good maternal outcomes while two had bad maternal outcomes. Note that the mothers were coded; 'U', 'V', 'W', 'X', 'Y' and 'Z' for purpose of analysis

Findings of categorization of arua regional referral hospital

The key informant was asked about a list of dependent variables to ascertain their practice. The responses were as follows;

"YES" responses were got for all the basic and comprehensive emergency obstetric indicators whereas zero responses were obtained for the "NO" category. Observation, using check lists and member checks confirmed the accuracy of the responses got.

All the 9signal functions were indeed performed in the past three month. Based on this, Arua regional referral hospital was categorize as a fully functional EmOC health facility, in keeping with WHO standard and national standard.

Results on lived experiences of the mothers

When the mothers were asked to share their lived experiences after getting EmOC from Arua regional referral hospital, two out of 6 mothers reported poor perceived quality of care at the facility. Mother 'U' and mother 'Z' had a bad maternal outcome. They were both not satisfied with the quality of care. For example, mother 'U' reported as;

"I'm not convinced with the quality of care here, even if they handle many patients. How can I get a still birth when I came to the hospital early enough? They need to improve."

On the same subject matter, Mother 'Z' reported as below;

"For me, I was operated late. My baby died two days after I was operated. If they were to work on me early, probably my baby would survive. With this, I cannot rate the quality of care but next time they need to do better. I don't want to waste a lot of time because my baby died as a result those delays in the facility. But, I know they are going to improve the system"

However, one mother, 'V' who had good maternal outcome had this to say;

"I had all my six deliveries from here (Arua regional referral hospital). My perception is that quality of care is good, although some midwives are hostile."

The respondent mothers were also asked whether the services they got met their expectation. Five out of six reported that their expectations were met. Mothers 'U', whose expectations were not met was referred in and she had poor maternal outcomes. She further reported as follows;

"My expectations were not met at all. I reached Arua regional referral hospital early but they delayed to take me to theatre until I delivered a still birth and yet they knew the doctors were available. Around."

When the mothers were asked about their satisfaction with services offered to them, five out of six were satisfied. One of the satisfied mother, mother 'X', reported as follows;

"As for me, I thank God that things have been okay always. God has always been helping. There may be some areas that the hospital need to improve on but generally I'm satisfied with the services", Said Mother 'X'

However, the dissatisfied mother had this to say;

"Even if I have always had good maternal outcome, I think the midwives need to improve their attitudes to mothers. They don't talk to mothers in a good way but rather rude to us. For this matter, I'm not satisfied", reports mother 'W'

Discussion, conclusion and recommendation

Discussion

The finding of this investigation is similar to many other studies done elsewhere. Arua regional referral hospital is still able to meet the needs of both clients and referring health facilities. However, on the part of clients from their qualitative interviews, there are still some areas that need to be improved. A study by Helelo, Zungu & Chiegil (2015) found out that Care that is life-saving, safe, timely, responsive and given in a clean environment, where the service providers show humility, respect, equal treatment and encouragement in an effort to meet the clients' needs and expectations, creates a good experience of the mothers. They concluded that Clients' experiences during the provision of EmOC influence their future decisions on whether to seek care or not.

Conclusion

Arua RRH is still an Emergency Obstetric Care (EmOC) Health Facility, falling in keeping with the World Health Organization standard as well as the Uganda national standard. For this matter, it still serves the needs of other neighboring referring health facilities

Recommendation

The hospital needs to embark on training other surrounding referring health facilities on EmOC. This task still falls under the mandate of a regional referral hospital, as per the policy guidelines of Ministry of Health _ Uganda.

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