



Assessment of the Availability and Accessibility of Emergency Obstetric Care Services in Murtala Mohammed Specialist Hospital, Kano, Nigeria

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ABSTRACT

Background: The availability of emergency obstetric care services is measured by the number of facilities that perform all the signal functions in relation to the size of the population. When personnel have carried out the seven signal functions of basic emergency obstetric care services in the 3-month period before the assessment, the facility is considered to be a fully functioning basic facility. This study assessed the availability and accessibility of Emergency Obstetrics Care (EmOC) Service provision.

Methodology: A cross-sectional descriptive study was carried out in Murtala Muhammad Specialist Hospital among 246 women presenting with obstetric emergency using client exit interview, check list and record review from an adapted UNDP/WHO/UNICEF EMOC performance standard for hospital. Data analysis was done with SSPS version 20 and Permission was obtained from the hospital and consent from the clients.

Result: The study revealed that the laboratory was in good shape with a score of 11 out of the 15 points. In the labour ward, the percentage availability was 63.3%. In the theatre, percentage availability was 85.4%. The hospital offers comprehensive EmOC service. The Obstetrics and Gynaecology department had only 11 medical doctors, 126 nurse-midwives training, 1 anaesthesiologist, 1 pharmacist and few other auxiliary workers. Out of the total of 204 health personnel in this department, only 13 (6.4%) were trained in EmOC service.

Conclusion: The human resources availability and equipments needed for the provision of EmOC services were inadequate when compared with the performance standard adopted. Geographical access was poor as majority of the respondents had to travel over long distances to utilize the facility. Therefore, there is need for the staff to be trained on EmOC among others.

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INTRODUCTION

Emergency obstetric care (EmOC) refers to the care of mothers and newborns during pregnancy, delivery and the postpartum period. Women in emergency situations must have access to EmOC, as it is essential to saving lives everywhere in the world.^{1,2} Many United Nations (UN) agencies have highlighted the significance of reducing maternal death, and it has been shown that access to EmOC is an important component in achieving this goal.²

Worldwide, 75% of maternal deaths are due to five major causes (all of which are treatable) which include: haemorrhage, obstructed labour, sepsis, eclampsia and unsafe abortion.³

The components of basic EmOC (BEmOC) include: treatment for sepsis, treatment for Eclampsia, treatment for prolonged or obstructed labour, post-abortion care (PAC), treatment for incomplete miscarriage, removal of the placenta, assisted delivery using forceps or suction.

Comprehensive EmOC (CEmOC) services include the services listed above, and also: surgery (specifically, Caesarean section), anaesthesia and Safe blood transfusion observing universal HIV precautions.¹ A Basic EmOC (BEmOC) facility is one that performs all the six functions listed above, while a Comprehensive EmOC (CEmOC) facility is one that performs BEmOC function plus surgery (caesarean section) and safe blood transfusion.

In terms of service provision, about half (49.8%) of the Primary Health Care (PHC) facilities in Nigeria provide antenatal care services, while 42.9% and 43.9% provide delivery and postnatal services respectively.⁴ Access to essential obstetric services have been shown to be clearly linked with maternal mortality situation as approximately up to 15% of pregnant women may develop emergency conditions that could need such services for effective intervention. The availability and accessibility of EmOC service, thus deserves particular focus in the review of maternal mortality situation.³

Findings from a recent study conducted by the Nigerian Federal Ministry of Health (FMOH) and the United Nations Fund for Population Activities (UNFPA) between 2002 and 2003,⁵ which used internationally-defined EmOC signal functions 6 for BEmOC services and 7 for CEmOC service shows inadequacy in the availability and utilization of EmOC services with only 18.5% of facilities offering maternal health care services meeting the EmOC criteria. Only an estimated 5.9% of pregnant women delivered in EmOC facilities, indicating a high level of unmet need for EmOC service as appropriately 15% of pregnant women are generally expected to develop complication which could require EmOC services.⁶ The met need for EmOC is still low (19.8%) as EmOC is available in only 994 health facilities nationwide out of the 17,076 health facilities which are unevenly distributed.⁵ According to another study done on EmOC facilities in Nigeria, it was found that quality of EmOC was poor, there was lack of relevant equipment for delivering of EmOC services and lack of skills on the part of available personnel to perform critical EmOC function.⁶ Similar study of

EmOC in Nigeria facilities found out that there was lack of basic equipment like sphygmomanometer, thermometer, weighing scales, delivery kits, waste bins and mucous extractor. Some do not even have a regular water supply and require their patient to provide themselves with water; staffs were demoralized by inadequate and irregular remuneration.⁷ A study conducted in Ahmadu Bello University Teaching Hospital (ABUTH) Zaria, on improving the quality of obstetric care at the hospital showed delay in treating women with obstetric complications and highlighted multiple contributing factors.⁸ A similar study conducted at a state referral hospital in Kebbi state, revealed poor capacity in emergency obstetric care and excessive delays.⁹

In Nigeria the prevention of maternal mortality projects addresses various issues such as improving quality of emergency obstetric care in health facility, promoting inter-sectoral collaboration, improving related services such as blood bank and improving access to services through community based activities. Also, attempt has been made to increase the skill of health care worker at the primary and secondary care levels through training in Live Saving Skills (LSS for Nurse, modified LSS for CHEWS) and expanded LSS initiative for physicians.² There is also the basic obstetric care initiative facility (BOCIF) program aimed at strengthening the capability of the health system to respond to obstetric issues through definition of minimum standards for equipment and skilled staff. And recently a National protocol/guideline called performance standards for emergency obstetric and newborn care to be used in all hospitals in Nigeria has been developed by the FMOH in collaboration with the UNFPA in March 2007 but is yet to be operational. Kano State government has been operates a free antenatal and delivery services in all its hospital since 2001 to aid in the reduction of maternal mortality, it involves providing free cards, free consultations, free basic laboratory investigations, free blood bags, free immunization services, free screening of blood for HIV, free drugs, free treatment for miscarriages, free treatment for ectopic pregnancies, free post operative drugs and free tablet of bathing soap for

the mother and child,¹⁰ yet the maternal mortality in the state continue to increase, because the result of a need assessment on maternal mortality conducted by Society For Gynaecology and Obstetrics of Nigeria (SOGON) in the six geopolitical zones of Nigeria in 2003 indicates extremely rates of maternal mortality in a state such as Kano where, 1000 cases of women who died during pregnancy and child birth over a three-year period were obtained from one hospital alone¹¹ so it becomes necessary to assess the availability and accessibility of EmOC service provision in Murtala Mohammed Specialist Hospital, Kano, Nigeria.

MATERIALS AND METHOD

Study Area: The study was conducted in Murtala Mohammed Specialist Hospital Kano, Kano State, north-western Nigeria, with a population of about 9,401,288¹² and made up of predominantly Hausa-Fulani Muslims.

Study design

The study was conducted using a cross-sectional descriptive study design.

Study population

The study population comprised of patients presenting with obstetric emergency to the hospital during the study period, which included Obstructed labour, Haemorrhages (both antepartum and postpartum), Puerperal sepsis, Complications of abortions, Pregnancy induced hypertensive disorders (eclampsia and pre-eclampsia), Ectopic pregnancy and Ruptured uterus

Sample size

A confidence interval (CI) of 95% was used for sample size determination, using the statistical formula for cross-sectional descriptive studies,¹³

$$n = z^2 pq / d^2,$$

where n= minimum sample size = Standard normal deviate (1.96), p= Utilization rate for emergency obstetric services from a previous study,¹⁴ q= Is the complementary probability of p (1-p) and, d=precision level 5% Minimum sample size = 246

Sampling technique

Simple random sampling by balloting was used to

select 246 women presenting with obstetric emergency which included: obstructed labour, haemorrhages (both antepartum and postpartum) puerperal sepsis, complications of abortions, pregnancy induced hypertensive disorders (eclampsia and pre-eclampsia), ectopic pregnancy and ruptured uterus were selected.

Facility records, for 12 months preceding the period of the study were reviewed from the labour and delivery registers, the operating theater register and gynaecological ward register. The record review gave information on obstetric emergencies, caesarean section rate, and maternal deaths as well as completeness and correctness of record keeping

Data collection tools

Quantitative data were collected in this study. The tools used included: checklist, client exit questionnaire. The various tools developed for data collection were pre-tested in Abdullahi Wase specialist hospital Kano before actual data collection to ensure the validity of the information collected. The study was conducted over 4 weeks. The interviewers were recruited from the department of pediatrics in the same hospital. A two day training was conducted before the commencement of data collection. Details of each of the data collection tools are given below:

1. Client Exit Questionnaire: For collection of information during the clients exit interview. The Questionnaire is an interviewer administered questionnaire which sought information about patients' personal characteristics, what the client thinks, and feels about the quality of emergency obstetric care services in the hospital. The interview was conducted just before the client exited the hospital after receiving services [an adapted client interview format developed by Engender Health Program for Averting maternal Death and Disability Mailman University (Colombia)] in the quality improvement for EmOC tool book was used.¹⁵

2 Checklist: A comprehensive checklist was developed and consists of the following sections:

Section 1: This sought information on basic physical structure of the facility; general outlook,

toilet facilities, availability of safe drinking water, waste disposal, security, adequate seats, display board showing location of various department, presence of unnecessary people during consultation/procedures, consulting rooms, doors, curtains, ambulance services and etc.

Section II: This sought information on the availability of EmOC service. A guide developed by UNFPA/WHO/UNICEF was adopted. The checklist assessed the availability as well as functionality of key, equipment and supplies in the labour ward, pharmacy, laboratory and the operating theatre

Section III: This section obtained information on the record system in terms of its availability, correctness and completeness of fillings and whether they contain information important to treating obstetric emergencies and maternal death.

Data analysis

Statistical Package for Social Sciences (SPSS) version 20 was used in data analysis. Results were presented in tables.. Key indicators for general physical infrastructures, personnel, equipment and drugs were subsequently identified and scored using performance standard indicators.

The availability or otherwise of the various indicators were scored: 1 for availability and 0 for non-availability. Similarly, availability of emergency drugs and medical supply was scored 1 and non-availability 0. Percentage availability of drugs and medical supply was thus compiled using the following formula:¹⁵

$$\% \text{ availability} = \frac{\text{Number available}}{\text{Total expected quantity}} \times 100$$

Test of statistics was done using Chi Square, with level of statistical significance set at $p < 0.05$

Ethical consideration

Prior to the commencement of the study permission and approval was obtained from the Chief Medical Director of the hospital. For each of the respondent, informed verbal consent was

obtained before administration of the questionnaire and confidentiality was assured.

RESULTS

A total of 246 respondents had exit interview. All the respondents were females; the mean age was 26.5 ± 7.2 years. Majority of the respondents (28.5%) were within the age group of 15-20 years, and most of them (38.6%) had Islamic education while majority of them were fulltime housewives.

The hospital had adequate physical structures in the Obstetrics and Gynaecology department. The hospital scored 88% (15 out of the total score of 17) for the general physical infrastructures as shown in Table I. From the study the hospital laboratory relatively had appreciable amount of basic equipment. Of the 15 different categories of equipment checked, the laboratory had 11 thereby giving a score of 73.3% (Table II).

The hospital labour ward lacked some basic equipment like suction machine, complete oxygen

Table I: Physical Structures and Facilities in the Obstetrics and Gynaecology Department of the Hospital

S/NO	Items	Scores		% Availability
		Available	Not-available	
1	Running water	1		
2	Toilet/latrines facilities for patients	1		
3	Electricity	1		
4	Generator set	1		
5	Other emergency lighting	1		
6	Telephone (landline, mobile GSM) or radio transmitter	1		
7	Operating Theatre	1		
8	Pharmacy	1		
9	Laboratory facilities	1		
10	Blood storage facilities	1		
11	Patient records storage	1		
12	Waste disposal pit with cover			0
13	Incinerator			0
14	Ability to boil water	1		
15	Ambulance or vehicle for patients' transport	1		
16	Refrigerator	1		
17	Display board	1		
	Total	15	2	

Table II: Available Equipment in the laboratory

S/N	Items	Scores		% Availability 73.3
		Available	Not-available	
1	Has the facility performed blood transfusion in the past 3 months	1		
2	Group and crossmatch	1		
3	HIV testing kit	1		
4	Hepatitis B testing kit	1		
5	Syphilis testing kit		0	
6	Centrifuge and test tubes	1		
7	Microscope	1		
8	Facilities for bacteriological test	1		
9	Blood Bank Refrigerator	1		
10	Hemoglobinometer or centrifuge for hematocrit		0	
11	Facilities for urinalysis	1		
12	Facilities for VDRL (syphilis)		0	
13	Facilities for blood smear (malaria)	1		
14	Laboratory register	1		
15	Facility for white blood count		0	
Total		11	4	

delivery set, angle poise lamp and some other essential pieces of equipment. The result showed that the hospital scored 19 (61.3%) out a total of 31 equipment assessed. (Table III).

The theatre in the hospital lacked some essential equipment and drugs like spinal anaesthetic agent, local anaesthetic agents, MVA set and even thermometer. The theatre had about 85.4% of the full complement of basic equipment it was supposed to have (Table IV). It was also observed that the hospital had only 61% of the essential drugs required. (Table V).

The study showed that the total number of staff in Obstetrics/Gynaecology department that were engaged in EmOC were 204. Of these, there were 11 medical doctors, 1 pharmacist, 8 pharmacy technicians and assistants, 1 anaesthesiologist, 11 nurse anaesthetists, 126 nurses with midwifery training, 3 nurses without midwifery training, 2 midwives, 6 laboratory scientists, technicians and assistants, 3 CHEWs, 12 clinical assistants and 30

Support staff (drivers, cleaners etc.). Out of the 204 health personnel in the department, only 13 (6.4%) were trained in EmOC. The study revealed that of all the health workers in the department, only 27.3% of the doctors and 8% of nurses who equally had midwifery qualification were trained on EmOC services. The other cadres of health personnel had not yet benefited (Table VI). The result showed that the hospital is an CEmOC facility as it performed all the CEmOC signal functions listed. These functions were performed three months prior to the survey (Table VII).

Also majority 91.5% of the respondent came to the hospital by vehicles, while majority (64%) of the patients had to travel over long distances to utilize the facility 64% of respondents spent more than 30 minutes to reach the facility. (Table VIII).

Table III: Available Equipment in the Labour Ward

S/N	Items	Scores		%Availability 61.3%
		Available	Not-available	
1	Scissors	1		
2	Cord Clamps		0	
3	Cord ties	1		
4	2 dry blankets or towels		0	
5	Ring forceps (sponge forceps)		0	
6	Container for placenta		0	
7	Stitch scissors	1		
8	Needle holder	1		
9	Dissecting forceps	1		
10	Suture material (absorbable)	1		
11	Sterile gauze		0	
12	Sanitary pads	1		
13	Clean drapes and bedsheets		0	
14	McIntosh or rubber sheet	1		
15	Vacuum extractor (ventouse)		0	
16	Outlet forceps (e.g. Wrigley's)	1		
17	Syringes	1		
18	Urinary catheters	1		
19	Suction apparatus with suction tube		0	
20	Oxygen cylinder with facemask, cylinder carrier and key		0	
21	Light source (torch light, lantern etc)		0	
22	Fetoscope (Pinard)	1		
23	Blood pressure cuff	1		
24	Stethoscope	1		
25	Thermometer	1		
26	IV administration set (tubing and needle)	1		
27	Mucus extractor for neonates	1		
28	Delivery table with lithotomic stirrups	1		
29	Partograph		0	
30	Current national service delivery guidelines/protocols for labour and delivery (RH)		0	

Table IV: Available Equipment/Facilities in the Theatre

S/N	Items	Scores		%
		Available	Not-available	Availability
				82.8
	Type(s) of Anaesthesia Provided in the Last 3 Months			
1	Spinal anaesthesia		0	
2	Local anaesthesia		0	
3	Ketamine	1		
4	General anaesthesia	1		
5	Anaesthetic machine	1		
6	Anaesthetics	1		
7	Spinal needles, epidural kits		0	
8	Anaesthesia machine with spare cylinder of oxygen and nitrous oxide	1		
9	Scalpel and blades	1		
	Availability of Staff to Provide Caesarean Section			
10	Are all key staff necessary to provide a caesarean section available 24 hours a day, 7 days a week (e.g. surgeon, theatre nurse and anaesthetist)?	1		
	Caesarean Section Kit with the Following Supplies:			
11	Scalpel and blades	1		
12	Scissors	1		
13	Artery forceps (also used for vasectomy, minilab. and lap.)	1		
14	Needle holder	1		
15	Surgical Needle	1		
16	Doyen's or other pelvic retractor	1		
17	Self-retaining (abdominal wall) retractor		0	
18	Dissecting Forceps, toothed	1		
19	Dissecting Forceps, non-toothed	1		
20	Suction system (suction machine, sterilized suction tubing and nozzle)	1		
21	Kidney basins	1		
22	Gallipots	1		
	Other Operating theatre supplies			
23	Operating Lamp with supply of spare bulbs	1		
24	Adult and neonatal Resuscitator /Amberbag	1		
25	Laryngoscope with battery cells and spare bulbs	1		
26	Endotracheal tubes	1		
27	Curette	1		
28	Antiseptic solutions	1		
29	MVA set		0	
30	Suture material	1		
31	IV fluids	1		
32	IV administration set (tubing and needle)	1		
33	Sphygmomanometer	1		
34	Stethoscope	1		
35	Thermometer		0	
36	Sterilized gloves	1		
37	Sterile gowns	1		
38	Sterilized gauze	1		
39	Sterilized linen packs	1		
40	Stretchers or trolley	1		
41	Operating theatre register	1		
Total		35	6	

Table V: Available Drugs and Consumables used for EmOC

S/NO	Drugs/Consumables	Scores		%
		Available	Non-available	Availability
				61
1	Local aesthetic (e.g., lignocaine, xylocaine)		0	
2	Oxytocin	1		
3	Magnesium sulphate	1		
3	Diazepam	1		
5	Ampicillin or Ampiclox (injectable)	1		
6	Metronidazole (injectable)	1		
7	Gentamicin (injectable)	1		
8	Paracetamol		0	
9	Pethidine		0	
10	Pentazocine	1		
11	Hydralazine (injection) or nifedipine (tablets)		0	
12	IV solutions (e.g. 5% glucose, normal saline or Ringer's lactate)	1		
13	IV administration set (tubing, needle)	1		
14	IV cannulae	1		
15	Adrenaline		0	
15	Adrenaline		0	
16	Atropine	1		
17	Hydrocortisone		0	
18	Calcium gluconate		0	
19	Utility gloves	1		
21	0.5% Chlorine solution	1		
Total		13	8	

Table VI: Distribution of Health Personnel in the Obstetrics & Gynaecology Department Involved the Provision of EmOC

Staff Category	Total Number of Personnel	No. Trained in EmOC	No. Not Trained in EOC
	Frequency (%)	Frequency (%)	Frequency (%)
CHEWs	3(1.5)	-	3(1.5)
CHOs	-	-	-
Clinical Assistants	12(5.9)	-	12(5.9)
Nurses without midwifery training	3(1.5)	-	3(1.5)
Midwives	2(1.0)	-	2(1.0)
Nurses with midwifery training	126(61.8)	10(4.9)	116(56.9)
Doctors (.General Medical Officers, Obstetricians)	11(5.4)	3(1.5)	8(3.9)
Anaesthesiologists:	1(0.5)	-	1(0.5)
Nurse anaesthetics	11(5.4)	-	11(5.4)
Pharmacists,	1(0.5)	-	1(0.5)
Pharmacy Technicians and Assistants	8(3.9)	-	-
Laboratory Scientists, Technicians and Assistants	6(2.9)	-	6(2.9)
Support staff (drivers, cleaners, etc.)	30(14.7)	-	30(14.7)

Table VII: EmOC Signal Functions Provided in the Obstetrics & Gynaecology Department

EmOC Signal Functions
Administer parenteral antibiotics
Administer uterotonic drugs (i.e. parenteral oxytocin)
Administer parenteral anticonvulsants for preeclampsia and eclampsia (i.e. magnesium sulfate)
Manually remove the placenta
Remove retained products (e.g. manual vacuum extraction, dilation and curettage)
Perform assisted vaginal delivery (e.g. vacuum extraction, forceps delivery)
Perform basic neonatal resuscitation (e.g. with bag and mask)
Perform surgery (e.g. caesarean section)
Perform blood transfusion

Table VIII: Accessibility to EmOC services

Category	Frequency(n=246)	Percentages (%)
Means of transportation		
vehicles,.	225	91.5
motorcycle,	19	7.7
bicycle	2	0.8
Average distance travelled by the respondents to the facility		
>5km	88.6	36
<5km	157	64
Average travel time to the facility by the respondents (minutes)		
>30	88.6	36
<30	157	64
Average waiting time (minutes)		
>30	138	56
<30	108	44

DISCUSSION

The delivery of quality care is dependent on the resources available in terms of material, money and manpower to achieve the desired outcome. In this study, the hospital was in a good state which accounted for the high score (73.3%) in terms of physical structure. This was different from the finding in the study done on of EmOC facilities in Nigeria where the facilities were found to be in poor conditions.⁷ The good state of the hospital could be due to the fact that the hospital had just been renovated before the study was carried out. According to the Donabedian¹⁶ concept of quality, equipment is part of the structure and it is a necessity for the provision of quality care. This study revealed that in the laboratory, the score was 11 out of the 15 points according to the performance standard used giving a percentage availability of 73% which is still inadequate. In the labour ward, the score was 19 out of 30 (63.3%). This is inadequate because it is important for all these equipment to be available for effective management of women in labour. In the theatre, the score was 35 out of 41 (85.4%). It was quite different from the finding on EmOC study in Nigeria,² where almost half (43%) of equipment in state government-owned hospitals were lacking. The inadequate equipment for EmOC service found in this study is similar to what was obtained in

other studies done on EmOC in Nigeria,^{5,17,18} where as much as 21.2% of secondary care level facilities lack basic equipment such as sphygmomanometer.

For drugs and consumable used for EmOC, the score was 13 out of 21 (61%) and it is inadequate. It is similar to other studies done on EmOC in Nigeria^{5,7}, where they found inadequate supply of essential drugs such as antibiotics, oxytocics and anticonvulsants. The lack of equipment and inadequate supply of essential drugs are factors that contribute to phase 3 delay associated with maternal mortality. The hospital offers comprehensive EmOC service so it can attend to women with emergency obstetric complication. This is in contrast to the study done in an EmOC in Nigeria where most facilities do not offer EmOC service.²

Resource determines accessibility of care, without which achievement of quality of care cannot be guaranteed. The most important is the human resource, because it is a primary factor in the achievement of output of quality of care. In the health care delivery system, the adequacy of human resource is directly concerned with patient care and is based on the staff-patient ratio. This ratio ranges from the-patient, the pharmacist-patient ratio, the medical laboratory scientist-patient ratio, the nurse-patient ratio and CHO/CHEW –patient ratio. In Nigeria, at the secondary level of care, the doctor-patient ratio is 46/100,000; nurse/midwives-patient ratio is 50/100,000; laboratory staff-patient ratio is 41/100,000; pharmaceutical staff –patient ratio 49/100,000 and CHO/CHEW–patient ratio of 5/100,000.⁹ Out of the total of 204 health personnel in the department, only 13 (6.4%) were trained in EmOC service. This is same with similar studies conducted in EmOC facilities in Nigeria, which revealed a critical shortage of human resources to operate 24-hour of skilled services at the primary level of care while at the secondary level of care (public sector), 15.7% had at least one obstetrician. The picture varied considerably from State to State in the country.^{2,17,18,19} Though human resource are not adequate, securing human resources for maternal health services is a key component in achieving the sustainable development goals.

The study revealed that all the records need for operating EmOC service were available. A lot of deficiencies were observed with respect to completeness and correctness of fillings. For completeness, the score was 2 (25%) out of 8; while for correctness it was 4 (50%) out of 8. This is grossly inadequate. Similar problems relating to record systems such as unavailability of required forms, lack of trained personnel, inconsistency in record keeping, incompleteness and inaccuracies were recorded by some authors,^{5,6} where the authors found inadequacy in completeness and correctness in filling of forms. From the study, it was found that majority (68.3%) of the respondents live more than 5km distance from the facility (Table VIII). This is different from 2008 NDHS where more than 73% of clients are within 5km in urban areas, but it is low in the rural areas where only one-third of them are accessible by seasonal roads.²⁰ The reason for this poor geographical access in the health facility might be due to the fact that the hospital serves as a referral centre so most clients have to travel from far places to utilize the health facility. In terms of financial accessibility, it was good because the state operates a free delivery system in all the hospitals. Women with emergency obstetric complication are given free drugs and treatments including MVA and C/S within 48 hrs of presentation to the hospital, but patient have to pay for blood transfusions and drugs after being discharged home. The average pre-intervention waiting time in this hospital was >.30minutes,(Table VIII) which was high. This is similar to the finding of a study on an emergency paediatric unit (EPU) of Jos University Teaching Hospital where the pre-intervention waiting time was found to be >30 minutes.²¹ In spite of the seeming similarity with this study, it must be acknowledged that there is a need for reduction in waiting time. The long waiting time found in this study could be as a result of large number of patients waiting to see relatively few doctors.

CONCLUSION

From this study, we can conclude that the health resources for the provision of EmOC services were inadequate when compared with the performance standard adopted. There was paucity of requisite equipment, materials, as well as some management

tools like the partograph. Geographical access was poor but, the financial accessibility was good.

RECOMMENDATIONS

1. The Hospital Management Board should improve the skills of health workers in the hospital in EmOC by doing in-servicing training, since only few workers were trained in EmOC services
2. Equipment and tools were assessed to be inadequate in the unit of the hospital. The Hospital Management Board needs to ensure that relevant equipment are provided to the hospital to accompany the training given to workers.
3. The manpower strength in the hospital was found to be inadequate so the Hospital Management Board should employ more personnel especially doctors and nurses for the unit to effectively carry out these services.
4. The hospital can collaborate with donor agencies like UNFPA and USAID to access more funds so that blood transfusion can be made free to patients.

LIMITATION OF THE STUDY

The study was mainly hospital based without the community component. This limited information on the health seeking behavior of the people because not all pregnant women delivered in the hospital

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