IOSR Journal of Nursing and Health Science (IOSR-JNHS)
e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 12, Issue 2 Ser. III (Mar. – Apr. 2023), PP 38-41
www.iosrjournals.org

Availability of Emergency Obstetric Care in the Management of Obstetric Emergencies in Selected Secondary Health Facilities in Oyo State, Nigeria

Sowunmi, Olanrewaju Christiana, *Ph.D., Professor, School of Nursing Science, Babcock University, Ilisan-Remo, Ogun State, Nigeria.*
*OLAJIDE, Adetunmise Oluseyi, *MSc, Lecturer, Faculty of Nursing Sciences, Ladoke Akintola University of Technology, Ogbomoso, Oyo State, Nigeria.*
Iwaola, Olufunke Mercy, *Lecturer, University of Medical Sciences, Ondo State, Nigeria.*
Ojo, Eunice Abimbola, *School of Nursing, Lecturer, Babcock University, Ilisan-Remo, Ogun State, Nigeria.*
*Corresponding Author: *OLAJIDE, Adetunmise Oluseyi, Msc, Lecturer, Faculty of Nursing Sciences, Ladoke Akintola University of Technology, Ogbomoso, Oyo State, Nigeria.*

Abstract
The availability of services and equipment for managing emergency complications that may arise during pregnancy and childbirth is essential in reducing the high maternal mortality that is reported especially in developing countries. This study assessed theavailability of emergency obstetric care in the management of obstetric emergencies in selected secondary health facilities in Oyo state, Nigeria. A descriptive research design was used and eleven secondary health facilities that have maternity centers were selected using a proportionate and simple random technique. An adapted checklist was used as an instrument of data collection and data were analyzed using Statistical Package for Social Sciences version 25. The findings of the study reveal that Out of the eleven (11) health facilities, 8(72.7%) do not have parenteral antibiotics, 7 (63.6%) do not have parenteral anticonvulsant, 9 (81.8) do not have equipment for removal of retained product of abortion, 10 (90.9%) do not perform assisted vaginal delivery. However, 10(90.9%) had uterotonic drugs, 7 (63.6%) has the equipment to perform manual removal of placenta, 8(72.7%) had the equipment to perform basic neonatal resuscitation and each of the eleven (100%) facilities has a theatre for cesarean section. It is recommended thatthere should be the provision of equipment needed for the utilization of Emergency Obstetric Care services while drugs needed for managing obstetrics emergencies should be made available on the wards for emergencies in the quest to reduce maternal mortality.
***Word count**: 232*
***Keywords**: Availability, Emergency Obstetric Care, Nigeria, Oyo State, Secondary health facilities,*

Date of Submission: 14-03-2023 Date of Acceptance: 30-03-2023

I. Introduction

The World Health Organization (WHO) stated that to reduce maternal mortality, it is necessary to provide efficient and inexpensive treatment as well as guidelines for healthcare providers (WHO, 2019). The utilization of professional birth attendants who can address obstetric difficulties in a timely and efficient manner, as well as the use of Emergency Obstetric Care (EmOC), will influence whether a woman dies or survives obstetric emergencies or complications. As a result, skilled birth attendants are required to reduce maternal mortality(Okonofua et al., 2019). One of the strategies to meet the SDGs of reducing maternal death to 70 per 100,000 live births by 2030 is to work on the usage of EmOC. Emergency obstetric care and newborn care are two vital lifesaving functions provided by a health facility 24 hours a day, seven days a week, and are referred to as signal functions. Basic and Comprehensive are the two main components of EmOC(Okonofua et al., 2016).

EmOC is defined as care delivered in health facilities to manage direct obstetric emergencies that cause the great majority of maternal mortality throughout pregnancy, birth, and the postpartum period(Banke-Thomas et al., 2017). Unanticipated pregnancy complications can be prevented by using basic emergency obstetric care as most obstetric and infant complications can be dealt with at the basic EmOC level while only a few others may necessitate Comprehensive EmOC and such cases can be referred to facilities where comprehensive emergency obstetric care can be rendered when necessary(Bhandari & Dangal, 2014; Daniels & Abuosi, 2020). Basic EmOC includes the use of antibiotics, oxytocin, and anticonvulsants, as well as assisted vaginal birth, manual placenta removal, manual removal of retained abortion or miscarriage products, and stabilization and referral of obstetric emergencies not treated at the basic level. Comprehensive EmOC services encompass all the services given at the basic level, as well as cesarean section and blood transfusion(Hussein et al., 2016).

Maternal mortality is exacerbated by delays in receiving care. To reduce maternal mortality, delay must be prevented. Delay in identifying when to seek emergency care, delay in locating and reaching a medical health facility, and delay in receiving proper treatment are all phases of delay. The third stage of the delay can be avoided if healthcare providers have sufficient knowledge and skills in EmOC coupled with the availability of drugs, equipment, and supplies needed for EmOC(Bongban et al., 2016). Facilities must be prepared to attend to many obstetric emergencies through facilities readiness in making sure there is the availability of equipment and supplies, regular training of staff to manage obstetric emergencies and complications, and availability of protocols. Because even if proper prenatal care is provided and difficulties are diagnosed early, reducing maternal mortality may be a phantasm if EmOC drugs, equipment, and supplies are not available(Bhandari & Dangal, 2014). This study assessed the availability of emergency obstetric care in the management of obstetric emergencies in selected secondary health facilities in Oyo state, Nigeria.

II. Methodology

Research Design

The research utilized adescriptive research designto assess the availability of EmOC in the selected secondary health facilities in Oyo State.

Research Settings

Eleven selected secondary health facilities in Oyo State, Nigeria were used as the settings for the study.

Inclusion and exclusion Criteria

The inclusion criteria for this study include secondary health facilities that have maternity centers in five zones of Oyo state while the exclusion criteria include primary and tertiary health facilities in Oyo State, Nigeria.

Sample size and sampling technique

A proportionate and simple random technique was used to select 30% of the secondary health facilities in Oyo State that were included in the study. Oyo State has five zones, hence 30% of secondary health facilities in each of the zones were randomly selected. Eleven selected secondary health facilities were assessed for the availability of EmOC signal functions.

Instrument of data collection

An adapted World Health Organization EmOC instrument was used for assessing the availability of EmOC at secondary health facilities using EmOC. The instrument has seven sections which assessed the following:

SECTION 1: Assessing the availability of antibiotics in selected secondary health facilities in Oyo State, Nigeria

SECTION 2: Assessing the availability of oxytocic in selected secondary health facilities in Oyo State, Nigeria

SECTION 3: Assessing the availability of anticonvulsants in selected secondary health facilities in Oyo State, Nigeria

SECTION 4: Assessing the availability of services and equipment for manual removal of placenta in selected secondary health facilities in Oyo State, Nigeria

SECTION 5: Assessing the availability of services and equipment for removal of retained products of abortion in selected secondary health facilities in Oyo State, Nigeria

SECTION 6: Assessment of availability of services and equipment for assisted vagina delivery in selected secondary health facilities in Oyo State, Nigeria

SECTION 7: Assessment of availability of services and equipment for neonatal resuscitation in selected secondary health facilities in Oyo State, Nigeria

Validity for quantitative

The adopted checklists for assessing the availability of EmOC services was carefully constructed after reviewing the literature and blending it with the WHO tools for assessing the availability of EmOC services and equipment. The instrument was given to experts in the field for face, content, and construct validity after which all the corrections were effected before the instrument was used for data collection.

Method of Data Collection.

The Hospital management and the heads of nursing services and midwives working in the maternity centres of the selected secondary health facilities were informed about the study. The midwives took the researcher around the maternity section of the secondary health facilities and the adapted WHO checklist was used to assess the availability of parenteral antibiotics, availability of anticonvulsants for pre-eclampsia and eclampsia e,g Magnesium sulfate, availability of uterotonic drugs (i.e., parenteral oxytocin), availability of equipment for manual removal of placenta, availability of equipment for performing removal of retained products (e.g., manual vacuum aspiration), availability of equipment for performing assisted vagina delivery (e.g., vacuum extraction, forceps delivery), availability of equipment for performing newborn resuscitation (e.g., bag and mask), availability of services for performing a blood transfusion, availability of services for performing Surgery e.g., Caesarean section. Additional indicators (Training of health workers on EmONC equipment and availability of EmONC clinical guidelines) were assessed too.

Method of Data Analysis

Data analysis was done using Statistical Package for Social Sciences version 25. Descriptive statistics (Frequency, percentages) were used to answer the research questions. The results were presented in tables.

Ethical consideration

Ethical approval was obtained from Babcock University Health Research Ethics Committee with approval number BUHREC640/22 and the Oyo State Ministry of Health with approval Number AD 13/479/44523^{B}. Other ethical principles that were followed according to the World Medical Association (WMA) 2000 declaration of Helsinki

ethical principles for medical research involving human subjects which include: include confidentiality and privacy, voluntary Participation, informed consent, and justice.

III. Findings

Table 1: Facility assessment of the availability of basic and comprehensive EmOC of eleven secondary health facilities in Oyo State, Nigeria.

N= 11 (100%)

	Signal functions	Item(s) assessed	Available and functioning f(%)	Not-available f(%)
1.	Administer parenteral antibiotics	Availability of injectable penicillin Gentamicin Metronidazole Ceftriaxone Ciprofloxacin	3 (27.3)	8 (72.7)
2.	Administer uterotonic drugs	Availability of parenteral oxytocin	10 (90.9)	1 (9.1)
3.	Administer parenteral anticonvulsants for severe pre-eclampsia and eclampsia	Availability of magnesium sulfate	4 (36.4)	7 (63.6)
4.	Manual removal of placenta	Availability of sterile elbow-length gloves	7 (63.6)	4 (36.4)
5.	Remove retained products of conception	Availability of manual vacuum aspiration kit	2 (18.2)	9 (81.8)
6.	Perform assisted vaginal delivery	Availability of vacuum extractor	1 (9.1)	10 (90.9)
7.	Perform basic neonatal resuscitation	Availability of pediatric bag valve mask device or use of Ambu bag	8 (72.7)	3 (27.3)
8.	Perform surgery (e.g., caesarean delivery)	Availability of Caesarean section delivery	11 (100.0)	-
9.	Perform blood transfusion	Availability of blood transfusion sets	7 (63.6)	4 (36.4)
		Availability of laboratory for a blood test	10 (90.9)	1 (9.1)
Additional indicators				
Training of health workers on EmONC equipment			-	11 (100.0)
* Availability of EmONC clinical guidelines			-	11 (100.0)

The outcome of this study shows that 8 (72.7%) of the eleven health facilities do not have parenteral antibiotics in their labor and delivery ward, 7 (63.6%) do not have parenteral anticonvulsant for the management of severe pre-eclampsia and eclampsia, 9 (81.8%) does not have equipment for removal of retained product of abortion like Manual Vacuum Aspiration Kit, 10 (90.9%) do not perform assisted vagina delivery. However, there was the availability of uterotonic drugs in 10 (90.9%) of the facilities had the equipment to perform manual removal of placenta in form of elbow-length gloves, 8 (72.7%) of the facilities had the equipment to perform basic neonatal resuscitation in form of Ambu bag, 11 (100.0%) of the facility has a theatre where Caesarean section could be performed.

IV. Discussion

The study revealed that the majority of 8 (72.7%) of the secondary health facilities assessed do not have parenteral antibiotics in their labor and delivery ward. Parenteral antibiotics are needed to be given prophylactically in the use of EmOC and the management of cases of sepsis. The outcome of this study is different from the findings of a study that was done in Pakistan where the availability of parenteral antibiotics in the facility that was assessed was over 90 % (Kumar et al., 2019). However, another study conducted in Tunisia shows the non-use of parenteral antibiotics in the study settings (Limam et al., 2021). To overcome the challenges of infection that also contribute to maternal deaths, the use of antibiotics cannot be overemphasized and there must be always the availability of parenteral antibiotics in the management of pregnant women for postpartum sepsis and abortion complications (Sikder et al., 2015).

The outcome of the study also shows that 7 (63.6%) do not have parenteral anticonvulsant (Magnesium sulphate) for the management of severe pre-eclampsia and eclampsia in the labor and delivery ward. A similar outcome to this study was reported in a study done in India where there was poor availability of magnesium sulphate for the management of pre-eclampsia and eclampsia in most of the settings used for the study (Katageri et al., 2018). The poor availability of magnesium sulphate however is hindering the use of magnesium sulphate in the management of pre-eclampsia and eclampsia. To reduce maternal mortality from pre-eclampsia/ eclampsia, the use of Magnesium sulphate has been proven to be efficient, the availability on the ward is therefore vital (Oli et al., 2021).

In addition, the outcome of this study further revealed that 9 (81.8%) do not have equipment for the removal of retained products of abortion like a Manual Vacuum Aspiration Kit. Lack of basic equipment to perform EmOC has been documented to be a barrier to the utilization of EmOC in an earlier systematic review done in sub-Saharan Africa and another study done in Eritrea (Geleto et al., 2018; Zewde, 2022). Furthermore, 10 (90.9%) do not perform assisted vagina delivery. The non-performance of this signal function may be related to the non-availability of the equipment and lack of training on the use of assisted vagina delivery. A similar finding was reported in a study conducted in Tunisia where assisted vagina delivery was documented to be part of unperformed signal functions in the study (Limam et al., 2021).

Also, 11 (100.0%) of the facilities do not have EmONC clinical guidelines or training of health workers on EmONC equipment. Health workers despite having formal training should have regular or periodic training on the use

of EmOC in the management of pregnant women (Cheptum et al., 2016). A systematic review revealed the importance of training in improving the Knowledge and skills of health workers in the management of obstetrics complications (Santhoshkumari & Sharmil, 2022). The outcome of this study was however similar to a study done in Eritrea where the non-availability of guidelines or standard protocols for the practice of EmOC was observed to be a problem militating against the use of EmOC (Zewde, 2022). The above items and equipment that are not available for use for EmOC point to the fact that there are unmet needs for EmOC, and it is one of the reasons why maternal morbidity and mortality are still high. Availability of all the signal functions in terms of equipment and drugs is needed if the unmet needs of EmOC will be met (Edosa, 2021).

However, there was the availability of uterotonic drugs in 10 (90.9%) of the health facility out of eleven health facilities in form of parenteral oxytocin. Studies in Tanzania and Pakistan also documented a high availability of oxytocic in the health facility that was assessed for the presence of signal functions for performing EmOC (Kumar et al., 2019; Maswanya et al., 2018). This present study shows that 7 (63.6%) of the secondary health facilities have the equipment to perform manual removal of the placenta in form of elbow-length gloves. The number of facilities that has equipment for manual removal of the placenta was not too high. There is still a need to improve the provision of materials to remove the placenta. The outcome of this study was a little different from a study done in Tunisia where performing manual removal of the placenta was part of the signal function not done (Limam et al., 2021)

Also, 8 (72.7%) of the facilities have the equipment to perform basic neonatal resuscitation in form of an Ambu bag. The outcome of this study was similar to a study conducted in Tanzania where more than 80% of the hospitals perform basic neonatal resuscitation as a signal function in EmOC (Maswanya et al., 2018). In addition, 11 (100.0%) of the facility has a theatre where a Caesarean section could be performed, this, was against a study conducted in Pakistan that documented poor availability of the Caesarean section in the facilities that were assessed.

V. Recommendations

It is recommended thatthere should be the provision of equipment needed for the utilization of Emergency Obstetric Care services while drugs needed for managing obstetrics emergencies should be made available on the wards for emergencies in the quest to reduce maternal mortality.

References

[1]. Banke-Thomas, A., Wilson-Jones, M., Madaj, B., & van den Broek, N. (2017). Economic evaluation of emergency obstetric care training: a systematic review. BMC pregnancy and childbirth, 17, 1-11.

[2]. Bhandari, T., & Dangal, G. (2014). Emergency obstetric care: Strategy for reducing maternal mortality in developing countries.

[3]. Bongban, N. G., Meyer, D. J., Gatongi, P. M., & Isabella, M. I. (2016). Emergency obstetrics knowledge and practical skills retention among hospital and clinic staff following advanced life support obstetrical training in Cameroon, Africa. Frontiers in Women's Health, 1.

[4]. Cheptum, J. J., Gitonga, M. M., Mutua, E. M., Mukui, S. J., Ndambuki, J. M., Koima, W. J., & Hale, I. (2016). Emergency obstetrics training improving skills among health Care Workers in Migori and Nyeri Counties, Kenya.

[5]. Daniels, A. A., & Abuosi, A. (2020). Improving emergency obstetric referral systems in low and middle income countries: a qualitative study in a tertiary health facility in Ghana. BMC Health Services Research, 20(1), 1-10.

[6]. Edosa, D. (2021). Assessment of Availability and Quality of Emergency Obstetric and Newborn Care Service in Southwestern Oromia, Ethiopia, 2017. Advances in Public Health, 2021, 1-8.

[7]. Geleto, A., Chojenta, C., Musa, A., & Loxton, D. (2018). Barriers to access and utilization of emergency obstetric care at health facilities in sub-Saharan Africa: a systematic review of literature. Systematic reviews, 7(1), 1-14.

[8]. Hussein, J., Hirose, A., Owolabi, O., Imamura, M., Kanguru, L., & Okonofua, F. (2016). Maternal death and obstetric care audits in Nigeria: a systematic review of barriers and enabling factors in the provision of emergency care. Reproductive health, 13, 1-11.

[9]. Katageri, G., Charantimath, U., Joshi, A., Vidler, M., Ramadurg, U., Sharma, S., Bannale, S., Payne, B. A., Rakaraddi, S., & Karadiguddi, C. (2018). Availability and use of magnesium sulphate at health care facilities in two selected districts of North Karnataka, India. Reproductive health, 15(1), 69-76.

[10]. Kumar, R., Ahmed, J., Anwar, F., & Somrongthong, R. (2019). Availability of emergency obstetric and newborn care services at public health facilities of Sindh province in Pakistan. BMC Health Services Research, 19(1), 1-7.

[11]. Limam, M., Hachani, F., El Ghardallou, M., Bachraoui, M., Mellouli, M., Mtiraoui, A., Khairi, H., Ajmi, T., & Zedini, C. (2021). Availability, utilization and quality of emergency obstetric care services in Sousse, Tunisia. The Pan African Medical Journal, 38.

[12]. Maswanya, E., Muganyizi, P., Kilima, S., Mogella, D., & Massaga, J. (2018). Practice of emergency obstetric care signal functions and reasons for non-provision among health centers and hospitals in Lake and Western zones of Tanzania. BMC Health Services Research, 18, 1-7.

[13]. Okonofua, F., Ntoimo, L. F. C., Ogu, R., Galadanci, H., Gana, M., Adetoye, D., Abe, E., Okike, O., Agholor, K., & Abdus-Salam, R. A. (2019). Assessing the knowledge and skills on emergency obstetric care among health providers: Implications for health systems strengthening in Nigeria. PloS one, 14(4), e0213719.

[14]. Okonofua, F., Yaya, S., Kadio, B., Owolabi, T., & Ekholuenetale, M. (2016). Unlocking the benefits of emergency obstetric Care in Africa. African Journal of Reproductive Health, 20(1), 9-15.

[15]. Oli, A. N., Nwankwo, E. J., Umeyor, C. E., Umeh, U. S., Okoyeh, J. N., Ofomata, C. M., Okoro, C. C., Otakagu, E. C., Afunwa, R. A., & Ibeanu, G. C. (2021). Emergency medicine: magnesium sulphate injections and their pharmaceutical quality concerns. Heliyon, 7(5), e07099.

[16]. Santhoshkumari, M., & Sharmil, S. H. (2022). Efficacy of capacity building educational interventions in the management of obstetric complications: A systematic review. Journal of Education and Health Promotion, 11.

[17]. Sikder, S. S., Labrique, A. B., Ali, H., Hanif, A. A., Klemm, R. D., Mehra, S., West, K. P., & Christian, P. (2015). Availability of emergency obstetric care (EmOC) among public and private health facilities in rural northwest Bangladesh. BMC Public Health, 15, 1-14.

[18]. Zewde, H. K. (2022). Quality and timeliness of emergency obstetric care and its association with maternal outcome in Keren Hospital, Eritrea. Scientific Reports, 12(1), 14614.