

Evaluation Of Physical Facility For The Management Of Maternal Nearmiss Cases In Selected Secondary Healthcare Facilities In Lagos State,Nigeria

Babalola,Abiola.", Sotunsa,John.?, Sowunmi, Christiana., Ojo Ajibola“.

Department of obstetrics and gynecology, Babcock University Teaching hospital, Iftisan-Remo, Ogun. state, Nigeria)

Nigeria)

(Department of moternal and Child Heoith, School of Nursing Science, Bobcock University, Allison-Remo, Ogun. state, Nigeria)

Corresponding Author: Babalola, Abiola.

Abstract

Background: *The healthcare infrastructure has a serious impact in combatting challenges with high maternal mortality rate facing the country because facility related issues such as availability of equipment, infrastructure, inadequate healthcare facilities, citing of healthcare facilities, availability and adequacy of essential obstetric drugs, medical consumables and infection control has great effect in the management and prevention of maternal death and complications. This study was conducted to evaluate availability of these facilities for the management and prevention of maternal complications to evaluate this condition.*

Objectives: *The objective of the study is to evaluate the physical facilities of maternal healthcare services in Lagos State secondary health facilities for the management of maternal near-miss cases.*

Methods: *We undertook a cross-sectional study of 20 maternal healthcare facilities at secondary level who managed maternal near-miss cases over 6 months. Facility infrastructure related to screening, identification and management of maternal complications were evaluated using facility checklists.*

Results: *Evaluation of physical structure revealed that, out of the 20 facilities surveyed 12 (60%) had adequate good working facility and are ready to manage obstetrics complications, only 2 (5%) have adequate functioning ambulance, 19 (95%) do not have intensive care unit. The facilities have adequate basic equipment and supplies and also essential drugs for obstetric case.*

Conclusion: *With 60% of the facility adequately equipped to manage obstetric emergencies, it is then recommended that Lagos State government should improve facilities for maternal healthcare and enhance transportation and communication service for prompt referral and better management of obstetrics complications*

Key Word: *Evaluation Maternal healthcare, Maternal Near Miss Secondary Facility*

Date of Submission: 16-03-2020

Date of Acceptance: 01-04-2020

I. Introduction

It is difficult to offer maternal healthcare service and manage obstetric complication without adequate infrastructure. Facilities offering maternal healthcare service must be physically ready to prevent, identify and manage obstetrics complication to reduce preventable maternal death and achieve SDG goal by 2030. According to WHO (2011)¹ pregnancy related complications are preventable if appropriate measures are taken and adequate care is available. Unfortunately, thousands of women die annually due to pregnancy related complications with a very large percentage of cases coming from developing countries such as Nigeria. While some women die, some narrowly escape death either by chance or through the quality of care they receive (WHO 2014)². Maternal near miss is described as cases of acute obstetric complications that threatened a woman's survival but did not result in her death either by chance or quality of care given.

Lagos State is an urban state. It contributes 24% of maternal mortality in Nigeria. Lagos State has an estimated Maternal mortality ratio of 450 per 100, 000 live births and majority of this maternal death as in rest of the world are preventable (Oye-Adeniran, Odeyemi, Gbadegesin, Ekanem, Osilaja&Akin-Adenekan 2014)³. A previous study done in Lagos by Okonufua, Imosemi, Igboin, Adeyemi, Chibuko, Idowu, &Imongan (2017)⁴. Revealed that failure to address the facility related causes of maternal mortality (this includes delay in treatment, poor use of treatment protocols, Lack of equipment and lack of skill by personnel) possibly accounted for the persistently higher maternal mortality ratio in the hospital

According to Adewole, (2018)⁵ maternal mortality remains unacceptably high in Nigeria, ranking among the highest in the world and the effort to reduce these deaths have been slow as many of the contributory factors remain unaddressed. According to Mojekwu in 2012⁶ the Nigeria health system as a whole has been plagued by problem of quality service including unfriendly staff attitudes to patients, inadequate skills, decaying infrastructure, chronic shortage of essential drugs, irregular electricity and water supply he concluded that the health sector as whole is in dismay. Harrison (2009)⁷ documented that a 2003 study revealed only 4.2 percent of public facilities in Nigeria are of internationally acceptable standards for critical obstetric care and also Ijaluola, Fatusi, Orji, Adeyemi, Owolabi, Ogofeiti & Adeniyi (2007)⁸ reported that only 1.2% of the facility in Nigeria met criteria for basic emergency obstetric care, the researcher observed that these may be responsible for many preventable pregnancy related complications in Lagos State even with the availability of many healthcare facilities.

Maternal healthcare services has received increasing attention around the world because poor quality services is often responsible for maternal death worldwide, there is need to improve maternal healthcare system in Nigeria as this is a vital aspect of sustainable development goal . maternal healthcare services include an extensive scope of healthcare services mothers are given before pregnancy, during pregnancy, delivery and postpartum (Olonade, Olawande & Alabi 2019)⁹ further stated that all pregnant women in Nigeria must have unhindered access to healthcare however the healthcare system in Nigeria is crippled with the challenges of quality services.

The researcher observed from records that, despite effort to reduce maternal death and complications and with availability of many healthcare facility in the State, maternal mortality rate is still very high. The current study aims to evaluate the physical facilities of maternal healthcare services in Lagos State secondary health facilities for the management of maternal near -miss cases. Our interest is to report on the state of infrastructure available to reduce maternal deaths and determine facility readiness to manage severe obstetric complication.

II. Materials and Method

The study adopted a descriptive cross-sectional design method to evaluate maternal healthcare. Total enumeration of all public secondary healthcare facilities offering maternal healthcare services which had managed maternal near-miss cases in the last 6 months was done. A facility base assessment checklist adapted from the one developed by Pathfinder International for healthcare facility survey and World Health Organization was used. The instrument was design to assess if the facilities that meet standard guideline for infrastructure and equipment. The checklist contain 2 section and 18 items, section A contain the general information about the facilities and section B the physical structure. The quality score ranges from 0 to 2, the facility were scored 2, if the equipment were available and functioning/adequate; 1, if the equipment were available but not functioning /adequate and 0, if the equipment was not available at all., The total score was then summed up and put in percentage. Pilot study was conducted in 5 facilities that were not included in the study. The checklist was pretested and overall reliability index of 0.801 Cronbach's Alpha was obtained. Each facility was visited just once and the assessment took three to four hours on average at each facility. It comprised interviews with the most senior nursing officer offering maternal healthcare service available on the day of the survey, observation of availability and functionality of equipment and availability of supplies, medicines and commodities. Data were analyzed and presented in tables. Ethical approval was gotten from Babcock University Health Research Ethics Committee (BUHREC) and permission to conduct research received from Lagos State Health Service Commission.

III. Result

Table 1 and 2 presented the report of the facilities assessment, equipment and supply, the score obtain were sum up and presented in percentage.

Table1: Physical structure available for maternal healthcare service in Lagos State Secondary Healthcare Facilities (No of facilities n=20)

Physical Facilities	Adequate/Available In good working condition	Average/ inadequate	Not available
Facility offer 24 hours service and good road network	20 (100%)	0	0
Waiting /Reception Area with toilet for patients and relations	13(65%)	7(35%)	0
Electricity /Generator Set (for backup)	20(100%)	0	0
Electric Fan on the ward	20 (100%)	0	0
Regular water supply	20(100%)	0	0
Centralize oxygen supply	16(80%)	4(20%)	0
Good light source (e.g adjustable lamp)	20 (100%)	0	0\

Laboratory and blood bank	20 (100%)	0	0
Pharmacy with uninterrupted supply of essential obstetric drugs	20(100%)	0	0
Adequate Functioning Ambulance	1(5%)	19(95)	0
Functioning Autoclaving machine for sterilization	20(100%)	0	0
Facility for intra and intercommunication e.g mobile phone	20(100%)	0	0
Functional Operating theater	20(100%)	0	0
Diagnosis service(Ultrasound Scan, X-ray, ECG)	18 (90%)	2 (10%)	0
Maternal wards (minimum of 30 beds)	14 (70%)	7(30%)	0
Computer with internet facility	0	0	0
Surgical Recovery Room with equipment to monitor patient	12 (60%)	0	8(40%)
Well Equipped High Risk Maternal ward	4(20%)	5(25%)	11(55%)
Intensive care unit	1(5%)	0	19(95%)
Designated Room for emergency obstetric cases (to triage patient)	8(40%)	12(60%)	0
Consulting Room with examination Couch	18(90%)	2(10%)	0
Delivery Room	20(100%)	0	0

Table 2: Availability of Equipment and Supply, (number of facility (n=20)

Equipment /Supply	Adequate/Available in good working condition	Average/ inadequate	Not available
Consumables like sutures, needle and syringe, fluid and blood giving set	20 (100%)	0	0
Mobile screen for privacy	20 (100%)	0	0
Vital signs apparatus and pulse oximeter	18 (90%)	2(10%)	0
Equipment for Resuscitation e.g Ambubag, airway, facemask	13 (65%)	7(35%)	0
Suctioning apparatus	17 (85%)	3(15%)	0
Strips for urinalysis	20 (100%)	0	0
Electronic cardiac monitor	8 (40%)	12(60%)	0
Sterile instrument to conduct delivery	20 (100%)	0	0
Vacuum extractor	15 (75%)	5(25%)	0
Manual vacuum aspiration kit	20 (100%)	0	0
Delivery beds with rods and stirrups for lithotomy position	18 (90%)	2(10%)	0
Treatment Protocol	20 (100%)	0	0
Anti-shock Garment	20 (100%)	0	0
Pathograph	20(100%)	0	0
Stationaries like nurses treatment chart, record books and Report books	15 (75%)	5(25%)	0
Personal protective equipment	20 (100%)	0	0
Infection control materials e.g hand washing materials, antiseptic lotion.	20 (100%)	0	0
Waste segregation materials like waste receptacle with cover and colour code bin liner , sharp boxes	14(70%)	6(30)	0

IV. Discussion

Twenty-four-hour services: Round-the-clock services are necessary to provide pregnant women with skilled care during Labor and delivery, including the management of obstetric complications to prevent death from near miss cases because pregnancy complication might occur any time of the day. From the survey all the facilities in the study offer 24 hour maternal healthcare services this in line with WHO recommendation for saving mothers giving life.

General Infrastructure in the Facilities: All hospitals reported that backup generators were available in case of electricity failure , the survey reveal availability of Running water, fan/Air, oxygen supply , good light source, toilet for staffs, and patients .This is in line with JHPIEGO requirement for healthcare facilities that all health facilities must have a reliable supply of safe water for sanitation and hydration Health staff must be able to wash their hands to prevent the spread of infection, and patients need to have access to toilets in the maternity ward. (JHPIEGO 2011)¹⁰

Waiting /Reception Area with toilet for patients and relations: little above half of the facilities in the study has a designated Reception area with toilet facilities for Maternal healthcare service. This is important to prevent spread of infection and promote hygiene in the hospital. According to the WHO standard facility must have reception area for Antenatal, postnatal and family planning.

Operating theater and Surgical Recovery Room: All hospitals reported having an operating theater open at all times and well equipped according to WHO standard to manage obstetrics operation. However, only 60% had a functional recovery room where patient can be closely monitored after surgery, others made use of the theater corridor, or available wards. Surgical recovery room is essential for management of obstetrics cases in other to prevent immediate postpartum death. According to Oye-Adeniran et.al, (2014)³ over half of the maternal deaths in Lagos State occur during labour and immediately postpartum. He stated that preventing this avoidable maternal death requires quality maternal healthcare. the report from these study indicate that this is a major lack and may be a major contributor to maternal mortality and morbidity. Because Patient needs to be closely monitor with adequate equipment postoperatively for early identification, prevention and management of postoperative complications and deaths.

Emergency Room: 60% had a designated well equipped emergency room to triage women with obstetrics complication and also give immediate care. Others made use of general emergency room and this is very low compared to the number of delivery and number of maternal near-miss cases recorded in the health facilities.

Maternal wards (minimum of 30 beds) : all the facility visited have wards for the management of obstetrics cases but 30% lack adequate bed space below the UN recommended number of beds for their average annual birth, and WHO standard 1991(30-32 beds for every 1,000 delivery) Lack of bed space to care for patient may affect delivery of quality care and reduce pregnant women access to health service hereby increase mortality rate.

Intensive Care Unit: This is one of the major lack identified during the study, 95% of the facilities that managed obstetric complication lack intensive care unit for women that needs such care, this may be contributory factor to high maternal mortality in the state, women with life threaten condition may needs intensive care for effective management and better outcome.

High Risk maternal ward: only 20% of the facilities has well equipped high risk maternal ward to specially care for women with near miss case

Computer with internal facilities: All the facilities visited lack computer with internet facilities, and has effect on the proper documentation and record keeping.

Functioning Autoclaving machine for sterilization: All the facilities visited has functioning autoclaving machine, for high sterilization of instrument for delivery.

Laboratory and blood bank: All the facilities under survey has well equipped functional Laboratory and diagnostic service for the purpose of investigation in case of obstetrics emergency and complication, The blood bank had capacity for immediate transfusion whole blood and pack cell were available in all the facilities but only 5% of the facilities store fresh frozen plasma, which may be needed by the women with life threaten event related to haemorrhage.

Pharmacy: All facilities has pharmacy stock with uninterrupted supply of essential drugs for obstetrics cases e.g oxytocin, tab misoprostol, anti-hypertensive, tranexamic acid, magnesium sulphate, oral and parenteral antibiotics, ferrous, folic acid, Inj Tetanus toxoid and infusions .These medications were needed to prevent and manage complications , in over of the facilities it only store in the pharmacy for patient to purchase and not readily available in the maternity wards.

Transportation and communication: During the survey it was discovered that transportation and communication is lacking. 95% of the facility has only one functional ambulance for transporting emergency cases. Only two of facilities has a functional intercom within the hospital but others make use of mobile phone. None of the facilities had bed call button for patients to alert health care giver in Emergency cases, and none of the facilities had computer with internet facility. This findings is corroborated by the study of Fagbamigbe and Idemudia (2015)¹¹ which stated that decay in physical facilities, ambulances and communication gadget contribute a major lack especially during obstetric emergencies.

Consumables like sutures, needle and syringe, fluid and blood giving set: all the facilities visited has regular for consumables in the pharmacy for patient to purchase. This may cause delay in attending to patient in case of emergency.

Vital signs apparatus, resuscitation equipment and suctioning apparatus: These are essential in the management of obstetrics complication majority of facilities visited reported that availability but inadequacy of the equipment.

Electronic cardiac monitoring: This is identify as one of the major lack in the facilities during the survey, majority of the facility has only one or two functional cardiac monitor

Infection control and treatment: All the facilities have personal protective equipment (PPE) and disinfecting lotion to prevent transmission of infection within the healthcare system. All the facility has adequate stock of waste bin, sharp boxes, protective boot, gloves, nose mask, running water and soap for washing hands, hand washing posters, antiseptic and disinfecting lotion were also available, waste segregation materials were not adequately available, the study noted that safe waste disposal were not fully adopted in over 30% of the facility. This finding is contrary to a study on Evaluation of health care facilities conducted in River State which revealed that both the urban and rural facilities lacked adequate facilities for infection control such as, running water, air filter respirators, hand gloves and extractor fans. (Tobin-West and Anastasia 2016)¹².

Availability of treatment protocol: The assessment observed that the relevant guidelines and protocols on maternal healthcare services were available in all the facilities visited, for example guideline on active management of third stage of labour, management of Eclampsia, obstructed labour, shoulder dystocia, management of postpartum haemorrhage, and so on were well displaced in maternity section this is close to the report of Kenya facility assessment by Telca, Franklin and David (2017)¹³ where 69.1% of the facilities have an updated guidance tool for maternal and child health this is very essential in prevention and management of obstetric complication.

From the study it was revealed that 12 (60%) of the facilities visited have adequate facility according to international standard. The mean score for availability of physical facility is 87.23 and the standard deviation is 37.98, Except for ambulance service and intensive care unit where there is an inadequacy, other physical facilities were averagely available. It was revealed that over average of the facilities in this present study were fully prepared to managed obstetric emergency and complication, this similar to study in Ibadan Oyo State by Bamigboye, Fatiregun and Adebisi (2015)¹⁴ but in contrary with the report of Ijaluola et.al, (2007)⁸ who reported that only 1.2% of the facility in Nigeria met criteria for basic emergency obstetric care.

V. Conclusion

This study revealed that majority of the secondary health facilities in Lagos State offering maternal health care service were averagely equipped with adequate physical facilities up to international standard to offer quality maternal care but intensive care, transportation and communication service needs to be improved to manage severe conditions and in case of referral to reduce death from emergency obstetric case. We recommended that government should build designated intensive care unit for maternal healthcare in all the facilities, provide more functional ambulance to transport patient, improve intra and inter communication system, train doctors and nurses offering maternal care, safe disposal of medical waste also build a mini free drug pharmacy attached to the maternity ward and subsidized maternal healthcare service.

Competing Interest:

We wish to state in clearly that this study was conducted free of any competing interest.

Limitation of the Study:

The findings of this study are based on data collected from a single visit to these facilities, the availability of different equipment and supplies might vary over time.

Reference

- [1]. World Health Organization. (2011). Evaluating the quality of care for severe pregnancy complications: the WHO near-miss approach for maternal health. Retrieve from apps.who.int/iris/bitstream/handle/10665/44692/
- [2]. World Health Organization. (2014). Partnership for Maternal, Newborn and Child Health. Nigeria: WHO. Retrieved from www.who.int/pmnch/activities/countries/nigeria/en/index1.html
- [3]. Oye-Adeniran B, Odeyemi K, Gbadegesin A, Akin-Adenekimo, Akinsola O, Ekanen E, Osilaja O. (2015). Causes of Maternal Mortality in Lagos State, Nigeria. *Ann trop med public health* 2014;7:177-81
- [4]. Okonofua, F., Imosemi, D., Igboin, B., Adeyemi, A., Chibuko, C., Idowu, A., & Imongan, W. (2017). Maternal death review and outcomes: An assessment in Lagos State, Nigeria. *PloS one*, 12(12), e0188392
- [5]. Adewole, A. (2018). Lagos accounts for 24% maternal mortality rate in Nigeria: <https://theeagleonline.com.ng/lagos>.
- [6]. Mojekwu, J. N., & Ibekwe, U. (2012). Maternal mortality in Nigeria: Examination of intervention methods. *International Journal of Humanities and Social Science*, 2(20), 135-149. Retrieve from <https://pdfs.semanticscholar.org>
- [7]. Harrison, K.A. (2009). The struggle to Reduce High Maternal Mortality in Nigeria *African Journal of Reproductive Health* Vol.13
- [8]. Ijaluola, K.T., Fatunsi A .O., Orji, E.O., Adeyemi, A.B., Owolabi, O.O, Ogofeitini., E.O.,..... & Adewuyi, A.A (2007) unavailability of essential obstetric care services in a local government area of southw-est Nigeria. *Journal of health, population and nutrition*, 25 (1) , 94
- [9]. Olonade, O, Olawale T.I, Alabi, O.J., Imhonopi, D. (2019) Maternal Mortality and Maternal healthcare in Nigeria; Implications for Socio-Economic Development. *Open Access macedonia journal of medical sciences*, 7(5), 849.
- [10]. Jhpiego. Site assessment and strengthening for maternal and newborn health programs. Available
- [11]. at: <http://www.jhpiego.org/files/SiteAssessMNH.pdf> JHPIEGO, Baltimore, USA (Accessed July 13th, 2018)
- [12]. Fagbamigbe, A. F., & Idemudia, E. S. (2015). Barriers to antenatal care use in Nigeria: evidences from non-users and implications for maternal health programming. *BMC pregnancy and childbirth*, 15(1), 95. <https://scholar.google.com>
- [13]. Tobin-West, C. I., & Anastasia, I. (2016). Quality and Rural-Urban Comparison of Tuberculosis Care in Rivers State, Nigeria. *Pan Afr. Med. J.*, 24(60). doi:10.11604/PAMJ:2016.24.60.8497

- [14]. Tecla,S.J., Franklin,B., David, A.,&Jackson,T.K. (2017). Assessing facility readiness to offer basic emergency obstetrics and neonatal care(BEmONC) services in health care facilities of west Pokot county,Kenya.J Clin SimulRes,7, 25-39
- [15]. Bamigboye E, Adebisi AO, Fatiregun AA (2015) An Assessment of Emergency Obstetric Care Services in Oyo State, Nigeria. Ann Community Med Pract 1(2): 1009.

Babalola, Abiola,etal. "Evaluation Of Physical Facility For The Management Of Maternal Nearmiss Cases In Selected Secondary Healthcare Facilities In Lagos State,Nigeria." *IOSR Journal of Nursing and Health Science (IOSR-JNHS)*, 9(2), 2020, pp. 42-47.