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BATTLING MATERNAL MORTALITY IN A MILITARY HOSPITAL IN CALABAR, NIGERIA: A TWO YEAR REVIEW

Sylvester Abeshi [1]; Forwah Jacques N[1]; Chiejina O Godwin[1] Cbabiya Bala [2]; Ina Margaret M [2];
[1]Department of Obstetrics and Gynaecology, University of Calabar, Nigeria
[2]Nigerian Navy Reference Hospital, Calabar, Nigeria

Abstract: The number of daily maternal death daily in Nigeria is put at 225. Maternal mortality remains a major health challenge in many countries of the world especially in Sub Saharan Africa and many other developing countries. Most causes of death in Africa are not only from infectious diseases but lack of attention and prompt intervention to preventable causes. The emergence of Covid-19 in the first quarter of 2020 has worsened any gains achieved prior to this period. The aim of this study is to examine the factors responsible for the drastic reduction in maternal mortality in a military facility and make recommendation for its extension to other health institutions where women are cared for with the aim of reducing maternal morbidity and mortality on a wider scale. Prioritization of government's budgetary interest and involvement of public-private partnership (PPP) is the main factor militating against good or proper and enduring health care in Nigeria.

A total of 2,975 women registered for antenatal care (ANC) in this facility over the 2year period under review. 2,716 (91.3%) delivered in the facility, while 259(8.7%) delivered elsewhere. 1,141 (42.0%) had Caesarean section (CS), while 1,575(58.0%) had vaginal deliveries, (both spontaneous and assisted). There were 23 still births (both macerated and fresh). Only one maternal death (maternal mortality) was recorded over the period under study, giving a maternal mortality rate of 36.8 per100, 000 or 0.37 per 100 Pregnancy is not a disease condition, though it can be worsened by an already existing disease condition. A lot of women have died because of complications or mismanagement of conditions that could have been prevented or treated by prompt intervention. Lacks of functional equipment, lack of skilled manpower or delay in intervention are some of the reasons for increase in maternal mortality, especially in sub Saharan Africa.

Index Terms: battling maternal mortality, maternal near miss, military hospital, Calabar

INTRODUCTION

The United Nations Children's Fund (UNICEF) has said a new global maternal mortality report showed that 82,000 women in Nigeria die from pregnancy and childbirth-related complications every year (UNDESA 2020 report). It is a known fact that one of the major indicators of a country's level of education, wealth and societal development is its state of health, most especially maternal health, which also serves as an indicator of health-care delivery system performance. Emphasis on reduction of maternal mortality is top on the agenda of many global efforts, such as the safe motherhood initiative [(1)] Reduction of maternal deaths by 75% before 2015 was a cardinal goal in the millennium development goals [(2.3)] It is however pertinent that these goals have not been realized by many developing nations because of their poor budgetary allocations to the health sector. It is also rather unfortunate that a large number of the pregnant women in Nigeria and other developing countries continue to struggle to survive pregnancy, labour, and the post-delivery periods.

Even where most of these deaths are preventable, the problems of cultural taboos, poverty, decaying infrastructures at point of delivery or health facilities, ignorance on the part of the patient, attitudes of most healthcare providers and activities of traditional birth attendant (TBAs), difficulty in accessing the few available health-care facilities, shortage of trained and skilled workforce will confront the woman, if she is able to overcome other major obstacles. Socio-cultural norms, religious beliefs, poverty, and delay in taking decision by the patients or health providers are other factors contributing to maternal deaths [(4)]

The death of a woman during pregnancy or in pregnancy related circumstances has tremendous emotional impact not only on the attending health-care provider but also on the family and community at large. As a result, maternal mortality continues to generate serious public health concerns because of its social, economic, and political implications. It was estimated that in 2015,

approximately 303,000 women died of pregnancy related causes worldwide. [2] Ninety-eight percent (98%) of these deaths occur in developing countries, and for every woman who dies, at least 30 others suffer significant injuries and often, permanent disabilities [5] Most of these women who died were from developing countries and most causes of deaths were preventable.[2 ,3] Although the highest maternal mortality rates are reported in the Sub-Saharan Africa, many women still die in comparatively developed Latin America mostly due to lack of access to professional care. These women must have relied on family members or not very skilled health care provider for help. In the same year 2015, maternal mortality rate in Nigeria was put at 814 per 100,000 live birth by the United Nations Statistics Division, while that of neighboring Niger Republic was 590 per 100,000, Togo 360/100,000, and Angola 450/100,000 [6] This makes Nigeria the country with the second highest cases of maternal mortality in the world after India.

Unfortunately, the report also pointed out that this is a reversal of the achievements recorded as at December 2013, when the rate was reported to have dropped to 224 deaths per 100,000 births [7] The continued increase in maternal mortality in Nigeria and other sub Saharan African countries is principally due to the decay in infrastructures at all levels of life. Most health facilities are more or less consulting clinics while serious health threatening cases are referred to centers that most patients cannot afford. Most of the patients with life threatening complications may even die on their way to hospital because of poor and inaccessible terrains. It is a known fact that budgetary allocations to the health sector in Nigeria is far below the world health organization (WHO) recommendations. Corruption is also a major societal problem in the country. Funds meant for health care are usually pocketed by politician and some hospital administrators without recourse to the poor. Majority of politicians and their families prefer to seek medical care abroad and their children are encouraged to seek education outside the country. Hence the health facilities are perpetually in a state of decay. A good number of qualified medical personnel including doctors and nurses leave Nigeria annually to seek jobs in Europe and America because of better condition of service and better life options.

It is established facts that most of the common causes of maternal mortality such as prolonged obstructed labour, haemorrhage, anaemia, severe hypertensive diseases (pre-eclampsia and eclampsia), systemic diseases co existing with pregnancy and sepsis are easily diagnosed and if promptly treated can prevent avoidable maternal deaths. Majority of our pregnant women cannot afford the high cost of service charged by private medical facilities. Poverty is endemic and affects all segments of the society. Where government owned health centers and hospital are available, there is inadequacy of infrastructures and qualified personnel to manage such facilities, leaving the patient at the mercy and doorstep of death. The Nigerian Navy in the past three years decided to complete the hospital that it started in 1973 in Calabar but later abandoned. The hospital is easily accessible and is equipped with modern medical facilities and committed healthcare providers. The aim of this study is to examine the result and outcome from this facility that stands out as a model for other providers, using maternal mortality as an indicator for improved service. The military in almost all countries of the world are a disciplined force. Even in the USA, the presidential hospital is owned by the military.

METHODOLOGY

This was a prospective study carried out at the Nigerian Navy Reference Hospital (NNRH) located in Calabar, south-south, Nigeria. This hospital relocated from its temporary site to the permanent site starting August 1st 2018, when this study started. It was a 2year study, with direct participation of the authors and other hospital staff in the management of the cases recorded. A team of well-trained military and civilian nurses and midwives manage the maternity. Booking for antenatal care is done once a week and routine antenatal care once a week also. There is an emergency clinic which operates daily with 24hour service delivery. Management of the expectant pregnant woman involves combined effort of all cadre of staff. The intervention time for any emergency is not more than 30minutes since there is adequate provision for all staff on duty or on call to stay in. Records of patients were followed up from antenatal care (ANC) till delivery. The mode of delivery, intervention, complications and co morbidities and mortality were recorded over a 2year period 1st August 2018 -31st July, 2020. There is a very functional blood transfusion service and the intensive care unit (ICU) is overseen by a senior consultant anesthesiologist. The special care baby's unit (SCBU) and sick baby's unit (SBU) is managed by a consultant neonatologist.

RESULTS

Table 1- shows distribution of obstetric cases managed at term and delivery

	1st Aug—31st July 2018-2019	1st Aug-31st July. 2019-2020	Total
Total booking	1191	1684	2875
Total delivery	**1312**	**1405**	**2717 (**94.5%)
Vaginal deliveries	**484**	**513**	**997(36.7%)**
Forceps	**1**	**3**	**4**
Vacuum	**3**	**5**	**8**
Episiotomy	**14**	**22**	**36**
Caesarean sections(CS)	**348**	**371**	**1141(42.0%)**
Electives	**98**	**219**	**317**
Emergencies	**112**	**290**	**402**
Maternal morbidities	**12**	**30**	42
Mortalities	**0**	**1**	**1**
Still Births	**11**	**12**	**23**

A total of 2875 women booked for antenatal care in this hospital under period until review. 997(36.7%) had vaginal delivery while 1141(42.0%) had caesarean section. 158 (5.5%) who registered for Antenatal care did not deliver in this facility.

Table11- Maternal near-miss during period of study

	No. of cases	Frequencies
Haemorrhage	38	42.8%
Sepsis	4	4.8%
Anaemia/transfusion	20	23.8%
Severe pre-eclampsia	16	19.0%
Eclampsia	2	2.4%
Prolonged obstructed labour	4	4.8%
Anesthetic complications	2	2.4%
	84	**100%**

Table 11 shows maternal near miss of all the patients managed during the review period. Haemorrhage contributed majority of maternal near miss cases in the hospital. The least cases were anesthetic and eclampsia.

Table 111- Obstetric profile of women attending ANC in this facility during study periods

Gravidity	frequency	SVD	CS	Mortality
1-2	1229	665	542	1
3-4	1624	856	506	0
>5	122	51	93	0
	2975	**1572**	**1141**	**1**

Table 111 shows the Obstetrics profile of women attending antenatal clinic. Those with one or two previous deliveries constituted majority of women who registered for antenatal care. There was only one maternal mortality over the period constituting about 34per 100000.

Table iv- intervention procedures carried out

Procedure	Frequency	Percentage (%)
Caesarean sections	1141	38.4
Forceps delivery	1	0.03
Vacuum delivery	3	0.10
Episiotomies	14	0.47
Blood transfusions	20	0.67
ICU admission	5	0.17

Apart from vaginal deliveries, interventional procedures were also carried out to reduce risk of mortalities and morbidities. Caesarean section was the major intervention carried out. More than 38.4% of the interventional procedures was caesarean sections.

DISCUSSIONS

Many women in Nigeria often discover that they are pregnant after a missed menstrual period. Many of these pregnancies are therefore unplanned and unintended, ending in majority of cases in illegal and unsafe abortions and thus contributing to a high maternal morbidity and mortality ratio [(8)]. It is well known that the main indicator of society's level of development is its state of maternal health, which also serves as an indicator of health care delivery system performance. Cross River State of Nigeria covers a large area with very difficult geographical terrains. It has a population of about 3,155, 932 people; from the 2004 census, with a population growth rate of 2.99% and 45.5% of the population are rural dwellers.[(9)]

Reduction of maternal mortality is top on the agenda of many global efforts, such as the safe motherhood initiative. Reduction of maternal deaths by 75% before 2015 was a cardinal goal in the millennium development goals [(10)]. These goals have not been realized by many developing nations because of poor budgetary allocations to the health sector. It is rather unfortunate that majority of the pregnant women in Nigeria and other developing countries struggle to survive pregnancy, labour and the puerperium. Even where such deaths are preventable, the problems of cultural taboos, ignorance, poverty, poor infrastructural facilities, difficulties in accessing the few available health care facilities, shortage of trained and skilled manpower will confront the woman. Fear, religious beliefs, poverty and delay in talking decision are other factors contributing to maternal deaths. [(11)] The death of a woman during pregnancy or in pregnancy related circumstances has an emotional impact not only on the attending health care provider but also on the family. As a result, maternal mortality continues to generate serious public health concerns because of its social, economic, and political implications. Every year, approximately 600,000 women die of pregnancy related causes worldwide. Ninety-eight percent (98%) of these deaths occur in developing countries and for every woman who dies, at least 30 others suffer injuries and often, permanent disabilities [(12, 13)]

CONCLUSION

It is a well-known fact that women have no reason to die as a result of pregnancy or child birth. The number of women who die as a result of pregnancy or its management in developed countries is almost zero. In majority of developed countries, an enquiry is usually set to investigate a single maternal death. In Africa and especially sub Saharan Africa, the death of a woman during pregnancy or delivery is considered to be a norm. Some hospitals may even celebrate that they are doing well if a woman does not die because of pregnancy in a single week.

In a recent report in medical world Nigeria, [8] it was reported how UNICEF helps reduces maternal morbidity, mortality in Taraba, a state in northeastern Nigeria. In the report, the executive secretary of the state primary health care development agency (TSPHCDA) asserted that the quantum of support received from the United Nations Children Fund (UNICEF) by the state government have tremendously assisted in reducing both maternal morbidity and mortality rates in the state. The report also stated that in the last three years, the international organization spent over N308 million naira ($810,000USD) on equipment, technical support and capacity building in the state.

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