

A 6-Year Review Of Maternal Deaths In A Teaching Hospital In South-South, Nigeria

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Citation

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Abstract

Objective: To establish the maternal mortality rate, identify causes of maternal deaths and recommend intervention measures to prevent them. **Methods:** The case notes of all maternal deaths at the University of Uyo Teaching Hospital, Uyo over a six year period were reviewed. **Results:** During the period of study, there were 3531 live births and 91 maternal deaths resulting in a maternal mortality ratio of 2,577/100,000 live births. Nulliparous women formed the largest single group (30.1%). 50.7% of the women were aged between 21-30 years while majority (83.6%) were in social classes IV and V. About 26.0% of the women booked for antenatal care, while 74.0% were unbooked. Most of the antenatal clinic defaulters (52.6%) and the unbooked women (81.5%) were brought from traditional birth attendants homes. Majority of the deaths occurred postpartum (72.6%) and within 24 hours of admission in hospital (63.0%). The most common causes of maternal deaths were eclampsia (28.8%), puerperal sepsis (17.8%) and obstetric haemorrhage (11.0%). **Conclusion:** Our maternal mortality rate is one of the highest in the country. Encouraging women in our environment to avail themselves of orthodox antenatal care, abolishing user fees for pregnant women and the training and integration of more professional midwives in our community are advocated.

INTRODUCTION

In spite of accumulated knowledge about why maternal deaths occur and what needs to be done to avert them, about 600,000 women are still dying each year from complications of pregnancy particularly in Africa, south of the Sahara^{1,2}. Also, for every woman that dies, 15-30 more are disabled, sometimes permanently and often times to the extent that future reproductive capacity is either destroyed or put in great jeopardy¹.

Nigeria which has a population of about 135 million people is currently the 9th most populous country in the world and also Africa's most populous country³. However, with a maternal mortality ratio (MMR) of 1,000-1,500/100,000 live births, Nigeria's MMR currently accounts for over 15% of the world's maternal mortality estimates². These figures are alarmingly high particularly when compared with those from developed countries where long before the last decade of the last century, maternal deaths had become very rare events¹.

In Nigeria, reports from several centres have shown regional variation in MMRs with those from the South-east and South-west ranging about 500/100,000 live births and those from Northwest and Northeast about

1,549/100,000-2,000,000 live births⁴. Akwa Ibom State which has a total area of 7,081 square kilometres, a shoreline of 129 kilometres and a population of 3.92 million people⁵ is located in the South-south geopolitical zone of Nigeria. Since its creation on the 23rd of September 1987, there has been no study reviewing maternal deaths in the state. Thus, this retrospective study which was carried out at the University of Uyo Teaching Hospital (UUTH), located in Uyo, the capital of Akwa Ibom State, aims to establish the MMR, identify causes of maternal deaths and recommend measures to prevent them.

MATERIALS AND METHODS

The case notes of all maternal deaths that occurred at UUTH between 1st January 2000 and 31st December 2005 were retrieved from the medical records department for detailed study. Information abstracted included the women's socio-demographic data, booking status, probable cause of death, period of death and duration of stay in hospital. The total number of deliveries was also obtained from the delivery register. The social classes of the women were determined using Olusanya's classification which makes use of the educational status of the woman and her husband's occupation⁶. Generally, the women's relatives refused the

request for autopsy, thus the causes of death were based on clinical diagnosis in all cases. The data were analysed using tables and percentages and the results obtained formed the basis of the discussion.

RESULTS

During the study period, there were 3531 live births and 91 maternal deaths resulting in an overall maternal mortality ratio of 2,577/100,000 live births. Seventy-three (80.2%) case notes were available for in-dept study and data analysis were based on these.

The socio-demographic characteristics of the women are shown in Table I.

Figure 1

Table 1: Socio-demographic characteristics of the women (n=73)

<u>Variable</u>	<u>No (%)</u>
Age	
<30	10 (13.7)
21- 30	37 (50.7)
31-40	17 (23.3)
Not recorded	9 (12.3)
Parity	
P0	22 (30.1)
P2	18 (24.7)
P3	5 (6.8)
P4	4 (5.5)
≥P5	15 (20.5)
Not recorded	4 (5.5)
Marital status	
Married	60 (82.2)
Single	7 (9.6)
Widowed	1 (1.4)
Not recorded	5 (6.8)
Social class	
I	1 (1.4)
II	5 (6.8)
III	6 (8.2)
IV	23 (31.5)
V	38 (52.1)

Their ages ranged from 16-40 years with the modal age group being 21-30 years (50.7%). Nulliparous women comprised the largest single group (30.1%); most of the women were married (82.2%) and were in social classes IV and V (83.6%).

Nineteen women (26.0%) booked for antenatal care (ANC) in conventional health centers (CHCs) while 54 women (74.0%) were unbooked and thus had no formal antenatal care. Ten of the booked women (52.6%) defaulted from ANC and were brought from TBAs in very debilitating conditions. Out of the other nine booked women, three (15.8%) were referred from private clinics while six (31.6%)

had regular ANC and delivered in UUTH. Forty-four (81.5%) of the unbooked women were brought from TBAs while ten of them (18.5%) were brought from spiritual churches. The MMR among the booked women was 312/100,000 live births while it was 1,756/100,000 life births among the unbooked. Majority of the maternal deaths (Table II) occurred post-partum (72.6%), and within 24 hours of admission in hospital (63.0%).

Figure 2

Table II: Booking status, period of death and length of hospital stay of the women N= 74

<u>Variable</u>	<u>No (%)</u>
Booking status	
Booked	19 (26.0)
Unbooked	54 (74.0)
Period of death	
Antepartum	6 (8.2)
Intrapartum	13 (17.8)
Postpartum	53 (72.6)
Postabortal	1 (1.4)
Length of hospital stay	
<24 hours	46 (63.0)
24-48 hours	9 (12.3)
2-5 days	11 (15.1)
>5 days	7 (9.6)

The causes of maternal death are shown in table III. Eclampsia (28.8%) was the leading cause of death followed by puerperal sepsis (17.8%) and obstetric haemorrhage (11.0%) while the least causes were abortion complications (1.4%) and Acquired immune deficiency syndrome (AIDS-1.4%).

Figure 3

Table III: Probable causes of death.N= 74

<u>Variable</u>	<u>No (%)</u>
Direct causes	
Eclampsia	21 (28.8)
Puerperal sepsis	13 (17.8)
Obstetric haemorrhage	8 (11.0)
Ruptured uterus	7 (9.6)
Obstructed labour	6 (8.2)
Ruptured ectopic pregnancy	2 (2.7)
Abortion complications	1 (1.4)
Indirect causes	
Severe anaemia	4 (5.5)
Disseminated intravascular coagulation	3 (4.1)
Liver failure	2 (2.7)
AIDS	1 (1.4)
Unexplained	5 (6.8)

DISCUSSION

The MMR revealed by this study is very high and is one of the highest MMRs ever recorded in this country. When compared to what obtains in the developed world, it is horrifying ¹. This clearly explains why women in our environment regard pregnancy and childbirth as the valley of the shadow of death. Sadly, this may just be a tip of the iceberg as this study was conducted in an urban based hospital and as such may not directly reflect what obtains in our rural communities where majority of the people live and where access to emergency obstetric care (EOC) is poor ⁴. In addition several Nigerian studies have shown that MMRs are much higher in the rural areas ⁴.

Majority of the women in this study were unbooked and thus did not receive any ANC. This is similar to what obtains in most centres in this country ⁷⁸. Lack of privacy, fear of Cesarean section and blood transfusion, fear of spiritual attack from enemies and witches, high cost of hospital fees and lack of transport to hospital have been documented by previous Nigerian authors as reasons for non-utilization of orthodox health services for ANC and delivery by pregnant women ²⁹. Unfortunately, despite the recorded advantages ANC bestows on the reduction of maternal mortality ¹⁰, majority of our women still go through pregnancy without formal ANC therefore denying themselves the opportunity to benefit from the health talks delivered during the clinic sessions which would have made them appreciate the

advantages of delivery in orthodox health facilities where EOC is readily available.

All the antenatal clinic defaulters and most of the unbooked women were brought from TBAs in moribund states. In our environment, TBAs still conduct majority of the deliveries ¹¹. However, these women are mostly illiterate, untrained or poorly trained and acquired their maternity skills through parental legacy or as they say 'divine revelation' ¹¹. Until recently, many health professionals and policy makers had supported the training of TBAs and their subsequent integration into the health care system ¹². However, it is being recognised that training of TBAs may not be a solution to preventing maternal deaths as they do not have the resources or skills to manage life threatening obstetric complications ¹². Recent studies in our environment have shown that TBAs usually refuse to co-operate with the orthodox health care system and also strongly dissuade women from seeking orthodox health care even when obstetric complications arise ¹¹ thus explaining the moribund state of the women at the time they present in hospital.

Most of the women in this study were in social classes IV and V. The poverty rate in Nigeria has increased significantly such that sixty-seven million Nigerians have fallen below poverty level ¹³. These coupled with the recent increase in hospital fees have led our women into patronizing the significantly cheaper services offered by TBAs and the leaders of spiritual churches. Several studies have shown increased rates of acceptance of orthodox ANC and hospital delivery among women of high social class who are also more likely to seek orthodox health care when obstetric complications arise ¹⁴.

Eclampsia was the most common cause of maternal death in our study. This differs from reports from most other Nigerian centres where maternal deaths from obstetric haemorrhage are more common ⁷. Most of the women who died from eclampsia presented in hospital after repeated episodes of convulsions in un-orthodox health facilities. In addition, at the time of this study, magnesium sulphate which has been proven to effectively control seizures, prevent reoccurrence of fits and reduce mortality and is currently the anticonvulsant of choice in eclampsia was not yet available in the hospital ¹⁵. Puerperal sepsis also contributed a significant number of the maternal deaths. This may be readily explained by the poor standard of hygiene and non-use of aseptic delivery techniques that characterize the delivery practices in unorthodox health facilities.

Majority of the women died within 24 hours of admission in hospital. This may probably be a reflection of how critical the condition of these women were at the time of admission.

In conclusion, the MMR in our centre is very high, the most common causes of maternal deaths were eclampsia and puerperal sepsis and majority of the women affected were unbooked and in low social classes. Encouraging our women to avail themselves of orthodox ANC, abolishing user fees for pregnant women, and the training and integration of more professional midwives in our communities are advocated .

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