



## Emergency Obstetric Indices at the Federal Medical Centre Makurdi

Authors

**Dr Ochejele Silas BM BCH, FWACS<sup>1</sup>, Dr Omeche Adama BM BCH<sup>2</sup>,  
Dr Attah Dangana Iliya<sup>3</sup>, Dr Patience Odusolu<sup>4</sup>,  
Dr Patrick Haruna Daru BM BCH, FWACS<sup>5</sup>**

<sup>1</sup>Consultant, Obstetrician/Gynaecologist, Federal Medical Centre, Makurdi

<sup>2</sup>Chief Medical Officer, University Of Agriculture Health Services, Makurdi

<sup>3</sup>Federal Medical Centre Jalingo

<sup>4</sup>University of Calabar Teaching Hospital

<sup>5</sup>Consultant Obstetrician /Gynaecologist

Jos University Teaching Hospital, Jos Nigeria

Correspondence Author

**Dr Ochejele Silas, BM BCH, FWACS**

Consultant, Obstetrician/Gynaecologist, Federal Medical Centre, Makurdi

### Abstract

**Context:** *The Federal Medical Centre Makurdi is the only tertiary health institution in Benue State. Maternal deaths are a frequent occurrence in the centre thereby necessitating this study.*

**Objective:** *To determine the maternal mortality ratio, the case fatality rate and the contribution of direct obstetric complications to these deaths.*

**Subjects and Methods:** *A four – month descriptive study of obstetric service data from 1<sup>st</sup> January to 30<sup>th</sup> April 2004.*

**Results:** *During the study period, there were a total of 363 deliveries (52% unbooked, 48% booked, 20% DOC.) and 16 maternal deaths (94% were direct) giving a maternal mortality ratio of 4,408 / 100,000 deliveries. 14 (87.5%) of the deaths were unbooked obstetric emergencies. The overall case fatality rate (CFR) was 21%. The contribution of each direct obstetric complication to the direct maternal deaths was as follows: obstructed labour/ Ruptured uterus (53.3 %), postpartum haemorrhage (13.35%), puerperal sepsis (13.35 %), Eclampsia (6.68 %), induced Abortion (6.68 %). The cause- specific CFR was in this order. Ruptured uterus 100%, Puerperal sepsis 100%, Abortion 25%, Severe Pre-eclampsia/Eclampsia 20%, Obstetric haemorrhage 12.5%, Obstructed labour 11.4%. The caesarean section rate was 15 %. Facilities to provide life saving functions were lacking and staff commitment was low.*

**Conclusion:** *Quality improvement and institutional capacity building for effective emergency obstetric care is urgently recommended to prevent these deaths.*

**Keywords:** *Emergency obstetric indices, Federal Medical Centre Makurdi, Nigeria.*

### Introduction

Benue state is one of Nigeria's 36 states and it is situated in North-Central Nigeria. It has a

population of 3.8 million people and estimated 152,000 deliveries annually. 15% (22,800) of these is expected to be complicated<sup>1</sup>. The Federal

Medical centre is the only tertiary health institution in the state and it is expected to be a high quality emergency obstetric care (EmOC) facility. To improve the quality of emergency obstetric services for women who experience life-threatening complications, a base line data is required. This study was necessitated by the frequent maternal deaths in the centre and it is aimed at reducing maternal mortality with the objective of determining the maternal mortality ratio, the case fatality rate and the contribution of direct obstetric complications to these deaths.

### Materials and Methods

The four months descriptive study was carried out using routine obstetric services data, from 1<sup>st</sup> January to 30<sup>th</sup> April 2004. Data was collected from the medical records, theatre, labour ward, postnatal ward and gynaecology wards and from the patients and their case notes. Direct observation and staff interview were also used. Working definitions of direct obstetric complication was derived from “IMPAC /WHO/ FIGO “save the mothers projects”<sup>2</sup>. The diagnoses of the deaths were clinical.

### Results

During the study period, there were a total of 363 deliveries. 189(52%) were unbooked while the minorities 174(48%) were booked. There were 35 perinatal deaths (25 stillbirths and 10 Early neonatal deaths) giving the perinatal mortality rate of 96 / 1000 deliveries (69 stillbirths and 28 Early neonatal deaths / 1000 deliveries respectively). There were 16 maternal deaths giving a maternal mortality ratio of 4,408 / 100,000 deliveries .15 (94%) of the deaths were direct giving a CFR of 21%. 2(13.3%) of these deaths occurred within 24 hours of admission. 14 (87.5%) of the deaths were unbooked obstetric emergencies while 1(6.3%) was booked. There were 56 caesarean sections giving the caesarean section rate of 15%. Total direct obstetric complications for the period were 71, which constituted 20% of the deliveries.

Ruptured uterus and puerperal sepsis had an unacceptably high CFR of 100% each. While the corresponding figures for abortion, severe PIH/Eclampsia, obstetric haemorrhage, obstructed labour, and ectopic pregnancy were 25%, 20%, 12.5%, 11.4% and 0% respectively.

Table 1 shows the contribution of each of the complications to the maternal deaths. Obstructed labour/ruptured uterus was the commonest cause of death (53.34%). 100% of these had puerperal sepsis while 87.5% had postpartum haemorrhage. The only patient who died without postpartum haemorrhage had obstructed labour and died before caesarean section was done. The remaining patients died after surgery (caesarean section/laparotomy for obstructed labour/ruptured uterus respectively).

**Table 1** The contribution of each direct obstetric complication to the direct maternal deaths

Complication	Number of maternal deaths	%
Obstructed labour	4	26.67
Ruptured uterus	4	26.67
Puerperal sepsis	3	20.00
Obstetric haemorrhage	2	13.33
PIH/Eclampsia	1	6.67
Abortion	1	6.67
Ectopic pregnancy	0	0.00
Total	15	100.00

### Underlying factors

Even though this was a tertiary referral centre there were no parenteral antibiotics, anticonvulsants or antihypertensives and intravenous fluids in the maternity and blood was not immediately available for transfusion. No theatre nurses, anaesthetists and laboratory scientists slept in the hospital during the period. House officers were the only doctors who slept in the hospital. There was no oxygen and suction machine in the maternity for neonatal and maternal resuscitation during the period. There was no instrumental vaginal delivery during the period. There was no sphygmomanometer in the maternity.

There was delay in attending to obstetric emergencies as the readiness and responsiveness of the staff were slow.

### Discussion

The maternal mortality ratio (MMR) in this study was 4,408/100,000 deliveries, this is higher than 450,280 and 532 reported from university of Ilorin Teaching Hospital<sup>3,4,5</sup> and 3,392 reported from Abakaliki<sup>6</sup>. It is equally higher than the national average of 800 and ratios obtained from other developing countries: - Namibia 300, Ghana 540, Gambia 540 and Ethiopia 850<sup>7</sup>. When compared with what is available in the developed countries, (Sweden 2, Slovakia 3 and Spain 4 per 100,000 births), it is unacceptably high<sup>7</sup>. The contribution of direct obstetric complications to these deaths was 94 %. This is higher than the 78.6% and 79.3% reported from Lagos and Ilorin respectively<sup>8,5</sup>. It is also higher than the global average of 80%<sup>9</sup>. This was due to the poor quality of EmOC services. Since these complications are treatable, these deaths would have been prevented if the quality of the services were good.

The CFR of 21% is much higher than the maximum international benchmark of 1% and the 0.84%, 0.43% and 0.25% reported from Morocco, Nicaragua and Srilanka respectively<sup>10</sup>. This figure is also higher than the Benue State average of 8% reported from PATHS Emoc survey<sup>1</sup>. The difference from the state figure was due to the under-reporting in the surveyed facilities and the fact that majority of the surveyed health facilities were not receiving women with complications.

Obstructed labour/ruptured uterus was the commonest cause of death (53.34%). This figure is higher than the global average of 8% and the 9% and 15% reported from Lagos and Ilorin respectively<sup>9,8,5</sup>. These deaths were caused by sepsis and postpartum haemorrhage due to poor stabilization prior to and delay in performing surgery because of the underlying factors mentioned above.

The high maternal deaths due to obstetric haemorrhage were due to the fact that blood was not immediately available because laboratory scientists were not sleeping in the hospital while deaths due to puerperal sepsis were due to the non-availability of parenteral antibiotics. Non-

availability of sphygmomanometer, parenteral anticonvulsants and antihypertensives in the maternity accounted for the death of the eclamptic. There was no death from ectopic pregnancy because anesthetists no longer insisted on waiting for blood before laparotomy. The deaths within the 24 hours of admission were due to delay in coming to the hospital and the poor quality of services.

Institutional capacity building is urgently recommended to prevent these deaths.

### References

1. Ujah IAO, Ochejele S, Jogo A., Aida A, Adama O, Heywood A. Et al., Emergency Obstetric care in Benue State. A Survey of the 100 busiest Maternities. Partnership for transforming health systems Benue State. 2003.1, 9.
2. Paxton A., Maine D., Hijab N. AMDD WORKBOOK. Using UN process Indicators of emergency obstetric services. Questions and answers.2003:7-9.
3. Adetoro OO. Maternal Mortality – An 11 year survey of the University of Ilorin Teaching Hospital (UITH), Ilorin, Nigeria. Int. J.O& G, 1987 25:93-98
4. Adetoro OO.; Okwerekwu EE.; Ogunbode O., Maternal Mortality at Ilorin, Nigeria. Trop. J. O & G 1988: Vol., 1:18-21
5. Aboyeji AP. Trends in Maternal Mortality in Ilorin, Nigeria. Trop. J. of O& G 1998 Vol. 15 (1) 15-20.
6. Ibekwe PC., Dijemesi I. Obstetric Indices of Ebonyi State University Teaching Hospital, Abakaliki. Abstracts of the 2003 conference held at Port Harcourt Trop J. of O& G, 2003 Vol. 20, (suppl.1) 32-33
7. Carol B: The State of the world's children 2004. UNICEF, 2003:130- 132.
8. Agboghoroma OC, Emuveyan EE. Maternal mortality in Lagos: A Ten Year Review (1986 1995). Nig. Qt. J. Hosp Med.vol.7(3) July-Sept.,1997: 230-233.

9. WHO. Reduction of Maternal Mortality. A Joint WHO/UNFPA/UNICEF/World Bank Statement.1999:1.
10. Bailey PE. Averting Maternal Death and Disability. Program note: Using UN process indicators to assess needs in emergency obstetric services: Morocco, Nicaragua and Sri lanka. International Journal of gynecology and obstetrics. 2003 80 (2003) 222-230.