Contribution of Direct Obstetric Complications to Maternal Deaths in Makurdi, North-Central Nigeria.

Silas Ochejele [1], Omeche Adama[2] and Patrick H. Daru[3]
[1]Federal Medical Centre, [2]University of Agriculture Health Services, Makurdi, Nigeria and [3]Jos University Teaching Hospital, Jos, Nigeria.

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 1st January to 30th 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: Urgent emergency obstetric care training of residents and provision of parenteral antibiotics, anticonvulsants, oxytocics and safe blood for transfusion is recommended.

Key Words: Maternal Mortality, Direct Obstetric Complications, Nigeria. [Trop J Obstet Gynaecol, 2005, 22: 37-38]

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 [1]. 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 1st January to 30th 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"[2]. 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

Correspondence: *Dr Silas Ochejele, Federal Medical Centre, Makurdi, Nigeria.* ***E-mail:*** *silasfriday@yahoo.com*

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

Discussion:

The maternal mortality ratio (MMR) in this study was 4,408/100,000 deliveries.94% of the deaths were direct and obstructed labour/ ruptured uterus accounted for majority (53%) of these deaths. The CFR is 21% and the caesarean section rate is 15%. Partograph was not used to monitor labour and there were no parenteral antibiotics, anticonvulsants or antihypertensives and intravenous fluids in the maternity. Blood was not immediately available for transfusion and no theatre nurse, anaesthetist and laboratory scientist 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. This descriptive study shows the outcome of the poor quality of services on maternal mortality. The weakness of the study design is the inability to assess the condition of the patient on admission.

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[3,4,5] and 3,392 reported from Abakaliki[6] 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 [7]. 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 [7].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 [8,5]. It is also higher than the global average of 80% [9]. 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[10]. This figure is also higher than the Benue State average of 8% reported from PATHS Emoc survey[1]. 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.

The CFR from obstructed labour/ruptured uterus of 53% is higher than the global average of 8% and the 9% and 15% reported from Lagos and Ilorin respectively [9,8,5]. The study shows that most of the deaths are preventable and the quality of emergency obstetric care is poor with a resulting high maternal mortality. Commitment of the policy makers and health workers to good quality services and avoidance of delay by patients when complication occurs will reduce these deaths. Maternal mortality from this study is high and preventable and this is a call for action. A criterion-based audit is recommended to study the circumstances surrounding each death.

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