MATERNAL MORTALITY AT ST. CHARLES BORROMEO HOSPITAL, ONITSHA: A SIX YEAR REVIEW

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SUMMARY
Objective: To determine the causes and rate of maternal mortality at St. Charles Borromeo Hospital Onitsha and compare these with other parts of the country.
Methods: A retrospective analysis of maternal deaths over a six year period at St. Charles Borromeo Hospital, Onitsha was done.
Results: Between period January 1995 and December 2000, 6179 births were recorded, the maternal deaths were 49, giving a maternal mortality rate of 793/100,000 births. The ages of the dead mothers ranged from 16 - 46 years, with a mean of 28.43 years, standard deviation of 8.68. Causes of maternal deaths include haemorrhage (37%), septic abortion (17.4%), anaemia (13%), pre-eclampsia/eclampsia (8.7%), genital sepsis (6.5%), while the least were anaesthetic death (2.2%) and cerebral malaria (2.2%). Booked patients constituted (41.3%) while unbooked patients accounted for (58.7%) of the maternal death.
Conclusion: Major causes of maternal death identified in this study are preventable. Measures to reduce maternal deaths include education of the women to use obstetric facilities, early referral of patients to specialist centres, and provision of blood transfusion services.

Key Words: Maternal death, Prevention of maternal death, Causes of mortality

INTRODUCTION:

Since the famous events of the Garden of Eden, which led to the fall of man after he ate the forbidden fruit, the biblical saying "Unto the woman he said, I will greatly multiply thy sorrow and thy conception; in sorrow thou shall bring forth children; and thy desire shall be to thy husband, and he shall rule over thee"[1] appears to have repeatedly come to pass. Women have been bringing forth children in pains and some times at great risks to themselves. Many have died in the process of childbirth while one complication or the other[2] have maimed many more.

The International Federation of Gynecologists and Obstetricians (FIGO) defines maternal death as death occurring during pregnancy or labour or as a consequence of pregnancy within forty-two days after delivering or abortion[3]. Such deaths therefore occur during pregnancy, labour or in the puerperium. The World Health Organisation (WHO) estimates that 585,000 women die every year from pregnancy-related causes, a rate of 430 deaths per 100,000 live births[3,4]. While 6,000 (< 1%) of these deaths occur in the developed countries, 99% occur in the developing ones. The lifetime risk of maternal death for women in a developed country is 1 in 1800, in Africa it is 1 in 16, in Asia 1 in 65 and in Latin America 1 in 130[3]. Also maternal death ratios or rates are estimated from 12/100,000 live births in North America to more than 700 per 100,000 live births in some parts of Sub-Saharan Africa[5,6].

Nigeria constitutes less than 1% of the world's total population; she contributes about 10% of maternal deaths to the world maternal mortality figures. In concrete terms, about 60,000 Nigeria women die every year as a result

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of complications of pregnancy and child birth[7]. Maternal mortality rate in Nigeria is estimated to be in the range of 800 - 1000/100,000 births[2,5].

The main causes of maternal deaths are grouped into medical factors socio-cultural factors, health service factors and finally reproductive factors. The medical factors include obstetric hemorrhage, sepsis, pregnancy induced hypertension, obstructed labour, anaemia, unsafe abortion and malaria. Studies have reported obstetric haemorrhage as the leading cause of maternal death[8,9,10]. Numerous studies have shown that the major causes of maternal death in Nigeria are preventable [10,11,12]. Despite the preventable nature of these causes, maternal deaths have been on the increase in Nigeria[13,15,16]. This observation is indeed worrying and indicates an urgent need to introduce measures aimed at reducing maternal death.

Our health institution lacks data on maternal mortality. We therefore deemed it necessary to conduct this retrospective study. This will enable us know our hospital maternal mortality rate, the causes of these deaths, compare the figures with other parts of the country and proffer solution to the problem.

MATERIALS AND METHODS:

A retrospective analysis of maternal deaths that occurred at St. Charles Borromeo Hospital Onitsha, between the period 1995 and 2000 was done. For this study maternal death is defined as the death of a woman in pregnancy or within 42 days of termination of pregnancy. Those deaths that occurred at home after the patient had been discharged from the hospital are not included.

The case notes of 46 out of 49 of these maternal deaths were recovered from the hospital record's department, labour ward, operating theatre and lying-in ward and analyzed. Information extracted from these records included maternal age, parity, booking status and the cause of death.

RESULTS

TABLE 1: TREND OF MATERNAL DEATHS

YEARS	NO. OF DELIVERIES	NO. O F DEATHS	INCIDENCE/ 100,000 BIRTHS
1995	1128	6	532
1996	893	5	560
1997	999	5	501
1998	931	8	859
1999	1030	15	1456
2000	1198	10	835
Total	6179	49	793

Table 1 shows the maternal mortality rate for the six years period to be 793/100,000 births. There was an increase in the maternal death from the year 1997, which peaked in 1999, with a decline in the year 2000. The age range of the dead mothers was 16-46 years, with a mean age of 28.43 years, SD 8.68. Most maternal deaths occurred between the ages of 15 and 29 years (table 2) and these accounted for 60.8% of all maternal deaths.

TABLE 2: AGE OF MOTHERS AT DEATH

AGE GROUP (YEARS)	NO. OF DEATHS	%
15-19	7	15.2
20-24	11	23.9
25-29	10	21.7
30-34	5	10.9
35-39	7	15.2
40-44	4	8.7
> 45	2	4.3
TOTAL	46	100%

TABLE 3: PARITY OF THE MOTHERS AT DEATH

PARITY	NO. OF DEATHS	%
0	13	28.3
1	8	17.4
2	7	15.2
3	5	10.9
4	6	13.0
5	3	6.5
6	4	8.7
Total	46	100

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Table 3 shows the parity of the dead mothers. Most of them were nulliparous, and in most instances the death resulted from septic abortions. Death in para-1 was high with the least death occurring in para-5 patients. Booked patients accounted for 19 (41.3%) of these deaths, while the unbooked patients were 27 (58.7%).

The causes of maternal death were haemorrhage (37%), septic abortion (17.4%), anaemia (13%) PET/eclampsia (8.7%), genital sepsis (6.5%), infective hepatitis (4.3%), ruptured uterus (4.3%), cerebral malaria (2.2%) and anaesthetic accident (2.2%). Two patients died from complications of AIDS (4.3%): one a result of renal failure while the other had encephalopathy.

DISCUSSION

Maternal deaths are usually reviewed periodically in obstetric Units in order to ascertain whether the deaths are preventable or avoidable so as to improve future obstetric services. Maternal mortality rates vary from place to place and, even in the same place at different times. Our analysis of maternal deaths within the six-year period, showed a maternal mortality rate of 783/100,000 births. This figure is similar to those reported by other workers from Port Harcourt[18] and Ibadan[17]. It is however higher than those reported from Nnewi[11], Enugu[12], Ilorin[10] and Benin City[19]. When compared with rates in Enugu,[13] Ilorin[16] and Zaria[20] at other times it is relatively low. Notwithstanding this, our estimated hospital maternal mortality rate is unacceptably high, being 113 times the rate in the USA[4].

Within the six years period of review, the maternal mortality rate has been fluctuating with no definite trend. The difficult socioeconomic condition of the populace which forces them to hospital only when they are moribund and the incessant strikes by the secondary and tertiary government health institutions may account for this. Most maternal deaths occurred between the ages of 15 and 24 years. This age group has a high incidence of unsafe abortion and its complications; and also a high rate of sexually transmitted diseases.[22,23] The two patients that died from the complications of AIDS, belong to this age group.

Harrison et al[20] in his study of 22,774 pregnancies at the Ahmadu Bello University Teaching Hospital, Zaria reported the influence of age on maternal mortality. They reported maternal mortalities as being higher at the extremes of reproductive life. This finding has been validated by other workers in the country[8,23]. In our study the older age group is not represented. This may be as a result of early child bearing such that women in this part of the country tend to complete their family earlier.

The commonest cause of maternal death identified in this study is haemorrhage. This has been reported from other centres as being the leading cause of maternal mortality[2,10,13,24] while the second is abortion and its complications. Reports from Nnewi[11], and Uyo[24] have identified complications of unsafe abortion as the leading cause of maternal death. This high rate of complicated abortion has been attributed to clandestine abortions performed by quacks and trado-medical personnel. The restrictive abortion laws in the country have probably helped to perpetuate unsafe abortion. Similar to the finding at Ilorin[11]anaemia is the third most common cause of maternal death in this series. Anaemia predisposes to sepsis and cardiac decompensation as the final pathway to death.

CONCLUSION:

As already reported by other studies[2,8,10] our study also shows that the major causes of maternal death in Nigeria are preventable.

We recommend the following measures to reduce the high incidence of maternal deaths. First, women should be educated to make use of obstetric facilities available to them. Early referral of patients to specialists is important when problems develop in peripheral maternities and hospitals. Secondly, donor blood should be readily available in our health institutions through the development of reliable blood banking services. Thirdly, as septic abortion is discouraged, use of contraception

should be encouraged and it should be made available to the group of patients that require it.

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