

Maternal Mortality - Review of 6 Years

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Summary: Maternal deaths occurring at Fr. Mullar's Hospital, Mangalore during the period 1.1.1991 to 31.12.96 were analysed. There were 8895 live births and 27 maternal deaths giving a maternal mortality rate of 303.5 per 100,000 live births. 66.6% were in the age group 21-30 years. 74.1% of women who died hailed from rural areas. 81.5% deaths occurred in unbooked cases. Direct causes were responsible for 55.6% of maternal deaths, indirect for 37% and unrelated causes for 7.4%. Haemorrhage (25.9%) and sepsis (11.1%) were common direct causes of maternal death while, heart disease (14.8%) was the common indirect cause of maternal mortality.

Introduction

Any maternal death is known as a neglected tragedy. A vast majority of these deaths are preventable. Maternal mortality in the developing countries is 5 to 10 times higher than the developed countries. High incidence of maternal mortality reflects poor quality of maternity service, non availability of MCH trained health workers and low socioeconomic status of the community. An analysis of maternal mortality at Fr. Muller's Hospital, Mangalore for the years 1991-96 is presented. This hospital renders obstetric service to booked and emergency cases.

Material and Methods

A retrospective study of all maternal deaths at Fr. Muller's Hospital, Mangalore during the period from 1st Jan. 1991 to 31 Dec. 1996 was carried out. Individual case papers of these patients were scrutinised and factors like age of the patient, parity, residence, antenatal care, period of gestation., mode of delivery, duration of hospital stay and cause of death were noted.

Observations :

In the years 1991-96, the total live births were 8895, of which 27 mothers died giving a cumulative maternal mortality rate as 303.5 per 100,000 live births.

Table 1 :

Yearwise Maternal Mortality Rates

Year	1991	1992	1993	1994	1995	1996	Total
Total	1544	1446	1428	1441	1432	1504	8895
Live Births							
Total Maternal Deaths	2	4	5	4	3	9	27
MMR/100,000 Live Births	129.5	276.6	350.1	277.5	195.8	598.4	303.5

Table II :

Maternal Deaths in Relation to Different Factors

Factors	Number	Percentage
Age in Years		
<20	1	3.7
21-30	18	66.6
31 & above	8	29.6
Parity		
Primigravida	7	25.9
Multigravida	14	51.9
Grandmultipara	6	22.2
Residence		
Rural	20	74.1
Urban	7	25.9
Antenatal Care		
Booked	5	18.5
Unbooked	8	29.6
Referral	14	51.9

As seen from Table II, 66.6% patients belonged to 21-30 years age group. 29.6% of the deaths were in the age group of above 31 yrs. The parity distribution showed a predominance of multigravida (51.9%). Majority (74.1%) of the patients had come from rural areas, 51.9% cases were referred from either private practitioners or primary health centres. Only 18.5% cases were booked.

Majority of the patients (51.9%) had vaginal delivery as depicted in Table III. Caesarean section was done in 14.8% and laparotomy for choriocarcinoma in 7.5% of cases. 14.8% patients died in the antepartum period. Septic incomplete abortion was present in 2 (7.4%) cases.

Table III :
Mode of Pregnancy Termination

Obstetric Outcome	No. of Cases	Percentage
Normal Vaginal delivery	14	51.9
LSCS	4	14.8
Forceps	1	3.7
Abortion	2	7.4
Undelivered	4	14.8
Laparotomy for Choriocarcinoma	2	7.4

Table IV
Time Interval from Admission to Death

Time	No. of cases	Percentage
Within 24 hrs.	12	44.4
25-48 hrs.	5	18.5
49-72 hrs.	2	7.4
After 72 hrs.	8	29.6

Table V :
Causes of Maternal Death

Causes	No. of cases	Percentage
DIRECT	15	55.6
Haemorrhage	7	25.9
Septicemia	3	11.1
Eclampsia	3	3.7
Inversion of uterus	1	3.7
Choriocarcinoma	2	7.4
Cortical venous thrombosis	1	3.7
INDIRECT	10	37
Heart disease	4	14.8
Severe anaemia	2	7.4
Hepatitis	2	7.4
Pulmonary embolism	1	3.7
Malaria	1	3.7
UNRELATED	2	7.4
Organophosphorus poisoning	1	3.7
Brain Tumour	1	3.7

As shown in table, IV 44.4% deaths occurs within 24 hours of admission. Majority of these patients were admitted in a moribund condition.

Table V displays the causes of maternal death. Direct causes were responsible for 15 (55.6%) maternal deaths and 10 (37%) deaths were due to indirect causes. 2 (7.4%) deaths were due to unrelated causes.

Haemorrhage was the commonest cause accounting for 25.9% of deaths. 4 (14.8%) patients died due to postpartum hemorrhage and 3 (11.1%) patients due to abruptio placenta. Sepsis was the second leading cause seen in 11.1% cases. 2 (7.4%) patients died due to septic abortion and 1 (3.7%) patient due to puerperal sepsis. 2 (7.4%) patients died due to widespread metastasis of choriocarcinoma following an abortion.

Amongst the indirect causes, heart disease was the leading cause accounting for 14.8% of deaths. Pulmonary

oedema and congestive cardiac failure were the factors causing death. This was followed by anaemia and hepatitis in 7.4%.

Discussion

The present study shows that there is not much decline in maternal mortality during the last 6 years. Table VI

Table VI.

Author	Period Study	MMR/ 100,000 births	Direct Cause	Hge %	Sepsis %
Juneja & Rai Sucheta Kriplani Hospital New Delhi (1993)	1988-92	371	54.7	18.2	20.3
Nayak & Dalal 1993 B.Y.L. Nair Hospital Bombay (1993)	1983-91	150	74.4	28.2	15.4
Shrotri & Chaudhuri Sasoon Gen. Hospital Pune (1994)	1984-92	460	56.4	19.2	12.3
Sunanda Kulkarni et al HQH Hospital Bellary 1996	1988-95	1721.8	68.7	23.7	20.7
Present Study	1991-96	303.5	55.6	25.9	11.1

Incidence of maternal deaths due to haemorrhage and sepsis was comparable to that found by other authors as shown in Table VI. Deaths due to haemorrhage are avoidable especially those caused by PPH. Early hospitalisation of high risk cases, especially grand multiparas and availability of adequate blood transfusions are essential to prevent such deaths. As these patients died mostly within 12

hours of admission, their early transport is necessary to avoid delay in starting blood transfusion.

Deaths due to septic abortion could be eliminated by encouraging the practice of family planning. Puerperal sepsis could be prevented by hospital delivery and training midwives for the conduction of labour with strict asepsis. The present study shows reduction in proportion of deaths due to eclampsia.

Cardiovascular disease heads the list amongst the indirect causes of maternal deaths, accounting for 4 (14.8%) deaths. This is in sharp contrast to other studies, where its contribution to death is 3.6% (Shrotri et al 1994) and 51.1% (Nayak et al 1993). With prophylactic iron therapy, deaths due to anaemia are far less than those in the past. Infective hepatitis can be prevented by improvement in sanitation.

It is strongly felt that further reduction of maternal deaths is possible by adequate prenatal screening of the high risk cases and their timely referral to apex centres. Maldistribution of health personnel has to be rectified and upgrading of essential obstetric care at the first referral hospital to manage complications in rural areas. It is necessary to strengthen obstetric emergency service and start obstetric intensive care unit.

References

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