

**FIVE YEAR STUDY OF MATERNAL MORTALITY  
AT THE INSTITUTE OF OBSTETRICS AND GYNAECOLOGY,  
MADRAS (1981-1985)**

By

A. NAFEESA BEEBI

**SUMMARY**

An analysis of Maternal Mortality for the years 1981-85 at Government Hospital for Women and Children and Institute of Obstetrics and Gynaecology, Madras is presented. The Maternal mortality for five years was 224/100,000 births. The Maternal Mortality Rate has been reduced from 450 per 100,000 (1975) to 140 per 100,000 (1985). 92% deaths occurred in unbooked cases. 62.5% were in the age group 20-30 years. 30% were nulliparous women. 80% of women who died hailed from urban areas. 86.7% belonged to poor socio-economic group. 25% of deaths occurred in less than 28 weeks of gestation. 60% of deaths were due to direct causes. 49% of deaths occurred in the immediate postpartum period i.e., within 72 hours of delivery. 63.5% deaths occurred in teaching hospitals under specialist care, because all were admitted in moribund condition. Hence, the importance of Antenatal care, hospitalisation of high risk cases and improvement of socio-economic status.

*Introduction*

Maternal Mortality in the developing countries is 5 to 10 times higher than the developed countries and hence is a continuing challenge to the obstetricians and paramedical personnel. The advent of antibiotics, better transfusion services and improved anaesthetic technics have helped to reduce the Maternal Mortality in India from 2000/100,000 (1946) to 300/100,000 (WHO, 1984). The stumbling

block for further reduction are the large rural population with no antenatal and intrapartum care and lack of expert obstetric services with flying squad.

An analysis of maternal mortality at the Institute of Obstetrics and Gynaecology, Madras for the years 1981-85 is presented. This is one of the four large maternity hospitals in the city of Madras rendering obstetric and to booked and emergency cases. It registers an average of 16,300 deliveries per year.

In the years 1981-85, the total number of deliveries and abortions were 94,216, of which 211 mothers died giving an MMR of 224/100,000 births. The MMR in

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Obstetrics and Gynaecology and Govt. Hospital  
for Women and Children, Madras-8.*

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this Institution has reduced from 450/100,000 in 1975 to 140/100,000 in 1985.

#### Factors influencing Maternal Mortality

Analysis of the data revealed that 62.5% of maternal deaths occurred in the prime reproductive age of 20-30 years. 19% of deaths were in women less than 20 years and 18.5 over 30 years.

TABLE I  
Age

Age group	Maternal Deaths %
Below 20 years	19%
20-30 years	62.5%
Above 30 years	18.5%

TABLE II  
Parity

Parity	Maternal Deaths %
Nulliparous	29.2%
1-4	60.0%
Above 5	10.8%

Nearly one-third of deaths occurred in nulliparous women. Though 80% of the women who died were from urban areas, 86.7% of maternal deaths were in the poor socio-economic group which plays a large role in contributing to maternal deaths.

Nearly a quarter of death occurred in less than 28 weeks gestation, signalling the need for increased vigil in this period of pregnancy. 55% of maternal deaths under 28 weeks were due to associated causes and 45% were due to direct causes.

TABLE III  
Gestational Age at Death

Gestational age	No. of cases	%
38-40 weeks	99	46.9%
29-37 weeks	61	28.9%
Less than 28 weeks	51	24.2%

Antepartum complications like PIH, eclampsia, APH, Anaemia, heart disease and infective hepatitis were in 56% while 44% developed postpartum complications like PPH, sepsis and pulmonary embolism.

TABLE IV

Time of death	No.	%
Antepartum	48	22.8%
Intrapartum	15	7.1%
Postpartum	148	70.1%

70.1% of deaths occurred in the postpartum period. 12.1% of deaths were associated with abortions out of which 14.2% was due to legal abortions and 80.9% due to illegal abortions and 4.9% due to spontaneous abortions.

TABLE V

Place of delivery	No.	%
Teaching Hospital	134	63.5%
Home	15	7.1%
Nursing Home	6	2.8%
Primary Health Centre	5	2.3%
Non-teaching Hospital	3	1.4%

63.5% of deaths occurred in teaching hospital under specialist care. Only 10% were attended by untrained personnel.

TABLE VI  
Delivery Conducted By

	Number	%
Specialist	118	78.73%
Untrained	15	10.00%
General Practitioner	4	2.67%
Trained	13	8.67%

60% of deaths were due to direct causes and 40% due to indirect causes. 24% (51 cases) of deaths in this study were due to haemorrhages (Postpartum haemorrhage in 23 cases, Antepartum haemorrhage in



TABLE VII  
Causes of Maternal Deaths

Direct Causes	No.	%	Indirect Causes	No.	%
Haemorrhage	51	24.0%	Anaemia	32	14.1%
PIH and Eclampsia	31	14.7%	Heart disease	23	8.9%
Sepsis	26	12.0%	Jaundice	26	9.1%
Pulmonary Embolism	14	6.0%	Medical causes	21	8.0%
A. F. Embolism	7	3.3%	Anaesthetic deaths	2	0.9%
	129	60.0%		104	40.0%

21 cases, rupture uterus in 5 cases (one following previous Lower Segment Caesarean Section) and Ectopic pregnancy in 3 cases). Ten causes of abruptio placentae were complicated by coagulation failure resulting in death.

*PIH and Eclampsia* were the cause of death in 14.7% (31 cases). Eclampsia led to complications like pulmonary edema, cerebrovascular accidents and renal failure leading to death.

*Sepsis*: 12% of maternal deaths were due to sepsis. Induced illegal abortions were the cause in 53.8% of deaths due to sepsis, the rest being associated with caesarean section and normal labour in cases referred from outside  $\pm$  prolonged labour with absent membranes.

*Pulmonary and Amniotic Fluid Embolism* were the cause of death in 6.6% and 3.3% of cases. Pulmonary embolism occurred in 2 cases of Caesarean section.

*Indirect causes*: Anaemia was the commonest indirect cause leading to death in 14.1% (32 cases). Out of 32 cases, 21 had severe anaemia resulting in failure while in 11 cases it was an associated factor for death.

*Heart Disease* was the second important indirect cause. It was seen in 12.3% (26 cases). Out of 26 cases, 17 died undelivered due to failure while the rest died postpartum.

*Infective Hepatitis*: 10.9% (23 cases)

deaths were due to infective hepatitis, of which 18 cases died of hepatic coma and 3 of coagulation failure.

*Other causes*: 10% of deaths were due to medical causes and 0.9% (2 cases) due to anaesthetic accidents.

TABLE VIII  
Perinatal Mortality in Maternal Deaths

	Mature Babies	Premature Babies
	63.6%	36.4%
Live births	71.4%	52.5%
Deadborn	28.6%	47.5%

47.5% of deadborn babies were premature. So it is mainly due to associated causes of death in the mother.

TABLE IX  
Nature of Delivery

Type of Delivery	Number	%
Spontaneous	85	38.8%
Forceps	21	9.9%
Caesarean Section	37	17.5%
Hysterectomy	7	3.3%
Ectopic	2	0.9%

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