

## Maternal Mortality in Jabalpur Medical College – (A 15 Years Study)

Shashi Khare, Kavita N. Singh, Sanjaya Kalkur

*Department of Obst. & Gynaecology, N.S.C.B. Medical College, Jabalpur (M.P.)*

### Summary

Present study is an analysis of maternal deaths occurring over 15 years from 1985 to 2000 in Department of Obstetrics & Gynaecology, NSCB Medical College, Jabalpur. The data has been analysed in two groups, to observe changing trend. The cumulative MMR has declined by 526/100000 I.B. 61.65% in Group I and 66.7% in Group II are in age group 21-30 years. Incidence of deaths in primigravidas was high in both the groups. 60.2% (Group I) and 67.7% (Group II) were from rural areas. 85.15% and 84.83% were emergency cases respectively. Direct causes were 47.42% and 46.81% respectively in the two groups and indirect causes are 44.74% and 51.04% respectively.

### Introduction

The ultimate tragedy of maternal mortality can be prevented by a continuous assessment of all such cases. India has one of the highest maternal mortality in the world (UNICEF 1991, Sadi Acsadi, 1990) with 10% of women in reproductive ages dying from pregnancy related causes. High incidence of maternal mortality reflects poor and non availability of maternal services.

Present study is planned to review and analyse various causes and factors, contributing to maternal mortality in study area in last 15 years.

### Material and Method

N.S.C.B. Medical College Jabalpur is a tertiary care centre in Central part of India. Patient population is mainly from low socioeconomic group, rural and urban slum areas and referrals from private clinics and adjoining district hospitals. Maternal mortality statistics

for 15 years between January 1986 to December 2000 have been retrospectively reviewed. This period is divided into two groups, first ten years between 1986 to 1995 and next five years between 1996 to 2000, to observe changing trends. Cause of maternal mortality is reviewed under two broad categories of direct and indirect. MMR for each year is calculated from the number of maternal deaths and number of live births per year.

### Observation and Discussion

In our hospital usually number of high risk referrals exceed number of normal delivery because our hospital is situated 8 km from the city and there is general tendency in population first to go to private set up. Many come in late terminal stage contributing to high maternal mortality figures. MMR in our institution is 2642.77/100000 live births.

In the present study the data has been analysed in two groups viz of 1986 to 1995 (Group I) and 1996 to

2000 (Group II) to observe changing trends.

Table I shows overall maternal mortality figures of last 15 years. There is a decline in group II by 524 / 100000 LB. Fig I shows changing trends of yearly maternal mortality.

Table II - Shows insignificant difference in status of antenatal care in both groups. 60.2% in Group I and 67.7% in group II are from rural area. 31.13% and 28.6%

cases in group I and II are of less than 20 years of age. 61.65% and 56.7% are of 20 to 30 years of age. Nulliparous patients are 38.14% and 34.96% respectively in group I and II.

Table - III reflects that major killer amongst direct causes are, toxemia, sepsis, haemorrhage and obstructed labour. In indirect causes, severe anaemia, hepatitis, heart disease and malaria are major contributors.

Table - I: Maternal Mortality 15 years

Year	No. of maternal Deaths	Total birth	MMR / 100000 LB
1986-1995 (Group I)	485	17234	2814.20
1996-2000 (Group II)	192	8383	2290.34
Cumulative	677	25617	2642.77

Fig I  
Maternal Mortality Rate per Yec

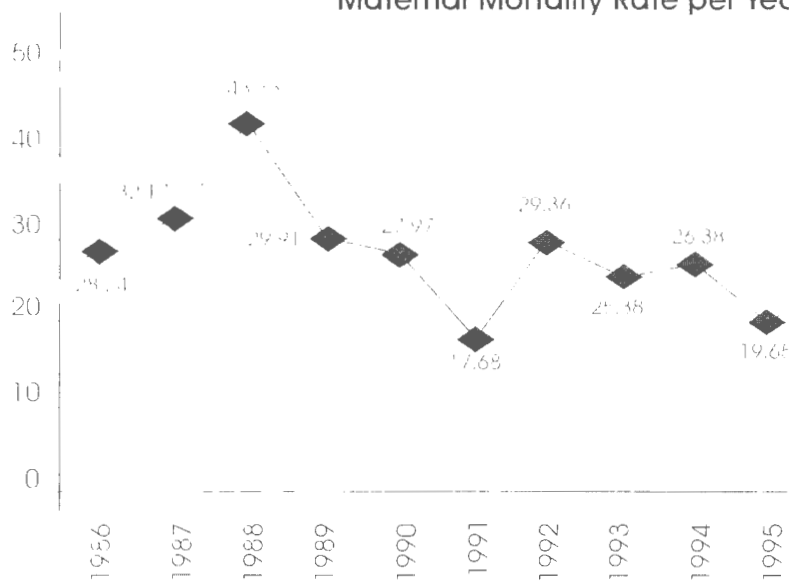


Table - II  
Distribution according to nature of Admission and Residence

Admission Residence	1985-1995 (Group I)		1996-2000 (Group II)	
	No.	%	No.	%
Emergency	413	85.15	163	84.83
Booked	72	14.85	29	15.17
Urban	193	39.8	62	32.3
Rural	292	60.2	130	67.7

There is increasing incidence of toxemia and severe anemia by 3% and hepatitis by 3% and malaria 2% in group II, and death due to haemorrhage, obstructed labour and sepsis has reduced by 2% in group II. ( $P>0.05$ ). While comparing indirect mortality, heart disease was observed at 3.5% in Group I and 1.56% in Group II though the difference was not significant ( $X^2 = 2.59$  :

$P>0.05$ ) but the 95% confidence interval for the reduction is 0.166 and -0.072 reflecting that is the probability of deaths due to heart disease is estimated to be lowered by 16.63% at the best and -7.23% at the worst over the time, probably due to early diagnosis and management of these cases.

**Table III**  
Direct and Indirect causes of maternal death

Cause	1986 - 1995		1996-2000	
	No.	%	No.	%
*Direct	230	47.42	90	46.88
Toxaemia	101	20.82	44	22.92
Eclampsia	90	18.56	37	19.27
Preeclampsia	11	2.27	7	3.65
Sepsis	65	13.40	29	15.10
Postabortal	27	5.57	10	5.21
Puerperal	15	3.09	14	7.29
Obstructed labour	23	4.74	5	2.60
Haemorrhage	46	9.48	15	7.81
Pulmonary embolism	15	3.09	2	1.04
Inversion	3	.62	0	
*Indirect	217	44.74	98	51.04
Severe anemia	112	23.09	50	26.04
Hepatitis	77	15.88	37	19.27
Heart disease	17	3.51	3	1.56
Malaria	11	2.27	8	4.17
*Unrelated	38	7.84	4	2.08
Total	485	100%	192	100%

**Table IV**  
Comparative MMR at different institutions in India

Institution	Year	MMR	Causes in percentage				
			Hge	Toxaemia	Sepsis	Anaemia	Jaundice
Roy Choudhary Et al Safdarjung hospital New Delhi 1990	1979-87	638	18.1	12.72	23.2	13.7	16.8
Bara & Sengupta Eden Hospital Medical College Calcutta 1991	1979-80	1009	23.8	17.9	19.9	15.2	5.9
Ramteke & Pajai VNGMC Yavatmal 1995	1992-96	1048.24	29.25	12.93	12.24	12.93	5.4
Sapre, Joshi KRH Gwalior	1971-96	1448.65	17.17	25.44	12.89	28.87	4.99
Present study S.Khare et al NSCBMCH Jabalpur	1986-2000	2642.77	9.01	21.41	13.41	23.92	16.8

Table IV shows that major causes such as toxæmia, sepsis, haemorrhage anemia are same in different Indian institutes, reflecting poor MCH care all over country and unfortunately most of these conditions are preventable.

#### Comment

These women die because we have not been able to ensure, safe delivery to them, a fact which should, not only pain us but should also make us accountable and guilty – morally, socially and psychologically. It is our duty to improve social, behavioral, political commitments and above all maternal and reproductive health care system. MM can reduce drastically through effective affordable and accessible, high quality maternal care.

#### Reference

1. AC Sadi G.T.F. and G. Johnson Acsadi, Safe Motherhood South Asia Conference Lahore, 1990.
2. Bara S. K. Sengupta A. J. of Obst. & Gyn India 43: 182, 1992.
3. Maitra N, Baxi S, Tulsion A, Chauhan L.N., Hazra M.N., J. of Obst. & Gyn. India, 49, 50, 1999.
4. Ramteke S., Pajai S.P.J. of Obst & Gyn India 46:77, 1996
5. Roy Choudhury, Ganjur, Dewan, J.J of Obst & Gyn India 40:84, 1990
6. Sapre, S. and Joshi V.: J. of Obst. & Gyn. India, 49, 5 3: 1999.
7. UNICEF : Children & Woman in India. A situation Analysis, UNICEF Delhi, 1991.