

MATERNAL MORTALITY (An Analytical study)

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SUMMARY

The present study is a retrospective analysis of maternal mortality over three consecutive calendar years from 1990 to 1992 at Sri Guru Govindsinghji Memorial District Hospital, Nanded (SGGSMH) attached to Govt. Medical College, Nanded, Maharashtra. There were 5917 deliveries and 81 maternal deaths during this period giving maternal mortality rate of 13.68 per 1000 live births. Majority (84%) of women were from rural area and unregistered. 74.5% Vaginal delivery either hospital or home 7.5% were undelivered and 15.5% had operative delivery. Most (60%) of the patients died within 24 hours of admission and 32% died within 7 days. Direct causes of maternal mortality were observed in 80.3%, indirect in 17.2% and others in 2.4%. Direct causes were mainly PIH (39.6%), sepsis (29.6%) and haemorrhages in (11.1%). Viral hepatitis was observed in 14.8%.

From this study it is evident that majority of the women needed antenatal registration, early referral and utilization of available health services. Emphasis is required on the preventable causes like eclampsia, anaemia and sepsis to reduce maternal mortality in rural India.

INTRODUCTION

Maternal mortality rate (MMR) is considered as one of the health indicators

to find out the quality of obstetric care in a community. Health care system for expectant mothers includes antenatal, intranatal and postnatal care. MMR is very high in developing countries. Multicentric study in India based on 22

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teaching hospitals (Rao, 1980) has reported maternal mortality rate as 703 per 1,00,000 births. MMR varies in different parts of India. Major causes for maternal mortality are direct in the form of sepsis, haemorrhages and PIH. Indirect causes are mainly anaemia, viral hepatitis, and heart disease. In order to find out the causes of maternal mortality in SGGSMH District Hospital, attached to Govt. Medical College, Nanded this retrospective analytical study was undertaken. Dead bodies admitted in emergency are not included in the study.

OBSERVATIONS

Total number of deliveries during January 1990 to December 1992 were 5917 and total maternal deaths were 81 (Table I). Majority of the patients were from rural area, with low socio-economic condition and were unregistered. Table II shows agewise distribution. Young mothers were 60%, teenage 10% and more

than 30 years of age 30%. Minimum age was 18 years and maximum was 45 years. Primiparae were 50%, Multiparae 44% and grandmultiparae 6% (Table III). Majority of the patients (74.5%) had vaginal delivery either spontaneous or induced and home delivery was observed in 18%. Caesarian section was done in 13% and laparotomy for rupture uterus in 2/5% of cases as depicted in Table IV. Obstructed labour and eclampsia were the main indications for LSCS. Undelivered (7.5%) patients were mainly of hepatic coma, eclampsia, and APH. Septic incomplete abortion was present in 2 cases. Nearly 59% of mothers died within 24 hours of their admission to the hospital (Table V). Causes of maternal mortality observed are shown in Table VI. Direct causes were 80.4%, indirect (17.2%) and other 2.4%, PIH in the form of eclampsia was observed in 39.6%. Sepsis in the form of chorioamnionitis, puerperal sepsis, and septic abortion was present in 29.6%.

TABLE I
Yearwise Maternal Deaths

Calendar year	Deliveries	Maternal deaths		Total
		Urban	Rural	
1990	1920	2	18	20
1991	2122	9	26	35
1992	1875	2	24	26
Total :	5917	13(16%)	68(84%)	81

TABLE II
Agewise Distribution

Age (Years)	Year			Total (%)
	1990	1991	1992	
19	1	5	2	8 (10)
20-29	11	25	13	49 (60)
30 & above	8	5	11	24 (30)
Total :	20	35	26	81

TABLE III
Paritiwise Distribution

Age (Years)	Year			Total (N)
	1990	1991	1992	
Primipara	9	16	15	40 (50%)
Multipara	10	16	10	36 (44%)
Grandmultipara	1	3	1	6 (6%)
Total :	20	35	26	81

TABLE IV
Obstetric Outcome

Sr. no.	Obstetric outcome	No.of cases	%
1)	Vaginal delivery	60	74.5
2)	LSCS	11	13.0
3)	Laparotomy for rupture uterus.	2	2.5
4)	Undelivered	6	7.5
5)	Abortion	2	2.5

TABLE V
Time Interval Since Admission
Death

Sr. No.	Time	No. of cases	%
1)	Within 24 hours	48	59.3
2)	Within 7 days	26	32.0
3)	More than 7 days	7	8.7
Total:		81	

TABLE VI
Causes of Maternal Mortality

Sr. No.	Causes	No. of cases	%
A)	DIRECT	65	80.4
	i) Sepsis	24	29.6
	ii) Haemorrhage	9	11.2
	iii) Pregnancy induced hypertension (PIH)	32	39.6
B)	INDIRECT	14	17.2
	i) Hepatitis	12	14.8
	ii) Severe Anaemia	2	2.4
	iii) Heart disease	NIL	-
C)	OTHERS	2	2.4
	i) Gastro-enteritis	1	1.2
	ii) Aspiration Pneumonia.	1	1.2

Haemorrhages in the form of APH (4 cases) and PPH (5 cases) were observed in 11.2%. Indirect causes were mainly viral hepatitis in 12 cases (14.8%) and severe anaemia in two cases (2.4%). Although severe anaemia was present in only 2 cases all the patients had mild to moderate degree of anaemia and Hb level ranged from 6 to 8 gm.

DISCUSSION

Maternal mortality is defined as death of women while pregnant or within 42 days of termination of pregnancy irrespective of duration and site of pregnancy (WHO 1976), MMR is defined as maternal death per hundred thousand live births (WHO 1988) MMR in teaching hospitals in India ranges from 300 to 3400 per hundred thousand births and is 10 to 20 times higher than in developed countries (Juneja & Rai 1993).

Although present study is over a short period, it reflects the obstetric care in rural area. Two main leading causes are PIH (39.6%) and sepsis (29.6%) which by and large are preventable, through antenatal, intranatal and postnatal care. Antenatal care has helped to reduce severe anaemia and puerperal tetanus. Though pregnancy is physiological, rural mothers are always anaemic and do not withstand the unexpected complications due to pregnancy, child birth and lactation. Available data on maternal mortality have shown that preventable factors are present in 50-90% of cases. Rao (1980) has reported 70.90% avoidable causes of maternal deaths. In the present study direct factors were present in 80% of maternal death. Observations made in Libya and

India show that viral hepatitis has fatality rate of 13.20% in pregnancy when compared to 1.6% in non-pregnant women (Christie et al 1976, Bhaskar Rao and Mallika 1977). In the present study viral hepatitis was present in 14.8% of the cases. However viral hepatitis is an epidemiological outbreak health problem and difficult to compare with various data; Rao (1980) 42.10%, Panat and Mehendale (1987) 29.40%). From the present data it can be concluded that a great deal is required to improve the utilization of available health services to expectant mothers from rural areas. Emphasis on timely referral of at risk patients, provision of suitable communications, visiting emergency squad consisting of skilled persons, availability of blood transfusion, use of appropriate and adequate antibiotics at upgraded PHC's are some of the measures which require urgent workup and implementation at remote places through District Hospital and upgraded PHC's in co-ordination with social workers and TBA. There should be precision in death

registration and reporting as still many maternal deaths are unregistered in rural areas. This will help in reporting correct data on maternal mortality and subsequent required intervention to reduce maternal mortality.

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