STUDY OF MATERNAL MORTALITY

by

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Maternal mortality in India is 10 times more than that in western countries and many cases are not reported at all. Rewa region is still a step further down in the country itself and no systemic work so far was carried out on maternal mortality. Therefore, this study has been taken up to assess the various causes, so as to ward off atleast the "avoidable deaths".

This study pertains to the maternal deaths occurring in the Department of Obstetrics and Gynaecology, S.S. Medical College and G.M. Hospital, Rewa (M.P.) over a period of 5 years. The criteria for selection of cases are based on definition adopted by a Committee on Maternal Mortality appointed by "International Federation of Gynaecology and Obstetrics".

Observations

Incidence

During this period 7,604 cases were delivered in G.M. Hospital, Rewa. One hundred maternal deaths, giving an incidence of 13-15 per 1,000 total births were encountered.

In Table I, maternal deaths are classified according to F.I.G.O. Committee.

TABLE I
Classification of Maternal Deaths

Causes	No. of cases	Percentage
Direct obstetric	58	58.0
Indirect obstetric	37	37.0
Non-obstetric	4	4.0
Undetermined	1	1.0

Age

Table II details of the age distribution of maternal deaths. It is evident that number of deaths occurred in the age group of 20-25 years.

TABLE II
Age Incidence

Age in years	No. of cases	Percentage
Below 20	12	12.0
20-25	49	49.0
26-30	27	27.0
31-35	5	7.0
36-40	7	5.0

Parity

Maternal mortality was found to be high among primiparas and grand multiparas (Table III).

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TABLE III
Relationship of Maternal Deaths with Parity of the Patients

Parity	No. of cases	Percentage
Para I	43	43.0
Para II	10	10.0
Para III	14	14.0
Para IV	8	8.0
Para V or more	25	25.0

Antenatal Care

It has been noted in the present study that all the cases of maternal deaths were unbooked and they had neither attended any antenatal clinic nor sought medical advice before being admitted in this hospital.

Period of Stay in the Hospital before Death

In our series, 44 per cent cases died within 24 hours of admission and they were the cases admited in moribund condition. 22 per cent of the cases which died within 1-2 days stay in the hospital were also admitted in deteriorated conditions.

History of Intereference before Admission

In this series, only 5 cases could be detected which were already interefered either by local 'Dais' or by the doctors in Primary Health Centre or District Hospitals.

Locality

TABLE IV

Locality	No. of cases	Percentage
Rural	85	85.0
Urban	15	15.0

Causes of Maternal Deaths

TABLE V
Major Causes of Maternal Deaths

Causes of Maternal deaths	From 1971 to 1975					Total cases
	1971	1972	1973	1974	1975	
Haemorrhage	2	3	5	4	3	17
Infection	3	6	7	2	4	24
Toxaemia	1	4	4	3	Nil	11
Anaemia	2	Nil	7	1	13	23
Obstructed labour	Nil	Nil	1	2	1	4
Pulmonary embolism	3	1	2	2	2	10
Others	3	2	3	Nil	3	11
Total	14	16	29	15	26	100

During the period of study, 58 per cent of total deaths were due to direct obstetric cause.

Direct Obstetric Deaths

TABLE VI
Causes of Direct Obstetric Deaths

Cause of death	No. of cases	Percentage
Infection	18	31.04
Haemorrhage	17	29.31
Toxaemia	11	18.97
Pul. embolism	7	12.07
Obstetric shock	4	6.90
Cerebrovascular accident	1	1.71
Total	58	100

Indirect Obstetric Deaths

TABLE VII
Causes of Indirect Obstetric Death

Caue of death	No. of cases	Rate
Anaemia	23	62.16%
Tuberculosis	5	13.51%
Hepatic coma	3	8.11%
Cardiac lesion	2	5.41%
Urinary tract infection	1	2.70%
Bronchial asthma	1	2.70%
Others	2	5.41%
Total	37	100%

Indirect obstetric deaths occurred in 37% of cases. Anaemia constitutes greatest single indirect cause of maternal death being responsible for 23 deaths.

Non-Obstetric Death

Four cases in this group included 1 case of intestinal obstruction with peritonitis and 1 case of brain tumour. In 1 case blood transfusion reaction caused the death and in other case of ovarian cyst with pregnancy the patient expired due to cardiac arrest during recovery from anaesthesia after ovariotomy.

In the present series, only one autopsy could be done as in other cases the relatives of the patients did not give consent for the postmortem.

TABLE VIII
Avoidable and Unavoidable

Factor	No. of cases	Percentage
Avoidable	68	68%
Unavoidable	32	32%

It is evident from the above Table and figure 3 that majority of deaths (68%) in the present series were avoidable and only 32% were unavoidable.

Discussion

In the present series of 100 cases, the maternal mortality rate is 13.15/1000 total births which is much higher as compared to that of developed countries. However, the rate of incidence in present study is comparable to the incidence in other hospitals of India, having better technical and professional facilities. Gun in 1970 recorded total maternal deaths as 13.7/1000 total births and Dhurandhar (1970) 15.2/1000 live births at Varanasi, 3 per 1000 live births at Delhi and 3 per 1000 live births at Bombay. In Eden Hospital, Calcutta the rate was 4 per 1000 births in 1968 (Konar).

The present study confirms the general observation that pregnancy and delivery carry a higher risk for primiparae and grand multiparae (Heera, 1970). However, the present findings contradict the other observations that pregnancy and delivery carry a higher risk for women over 35 years (Heera and Das, 1973).

This study confirms that the risk of mortality was much higher among unbooked cases when compared to booked cases. Guha (1972) has also recorded 30 deaths in unbooked cases out of total 46 maternal deaths, and Chandiok and Devi (1974) found 95% deaths in unbooked cases.

Deaths due to anaemia in pregnancy is very rare in Western World, but is very common in India and other developing nations. Upadhyay (1975) concluded that about 50 per cent of maternal deaths in villages in India occur due to anaemia in pregnancy.

Deaths due to anaemia are entirely preventable and easily curable if detected in time. Deaths from anaemia can be prevented by reducing the parity by Family Planning services, improving the

diet and routine use of iron during the antenatal period.

Haemorrhage

Haemorrhage remains an important cause of maternal death in the present series being responsible for 17 per cent deaths which is in correlation with the finding of Guha (1972), Heera (1973) and Motashaw and Jadhav (1960).

Toxaemia

Toxaemia accounted for 11 per cent maternal deaths in the present series. Das (1970) reported 9 per cent, Heera (1970) 8.5 per cent, Shah (1961-69) 11.1 per cent, Guha (1972) 8.7 per cent and Chandiok and Devi (1974) 6.2 per cent maternal mortality due to eclampsia.

Pulmonary Embolism

In the present study pulmonary embolism accounted for 10 per cent of maternal deaths. These observations are well compared with those of other Indian workers like Ashar (1965-69) from Bombay who reported 3 out of 140 deaths, Das, (1970) from Delhi 2 out of 65, Devi (1958-68) from Guntur—21 out of 559 deaths and Shah (1961-69) 5 out of 303 deaths.

Obstructed Labour

Obstructed labour accounts for 4% of deaths in the present series as compared to 44% reported by Guha (1972).

Avoidable Factors

The present study of maternal deaths has shown the need for improvement in educating the masses for seeking antenatal and intranatal care, improving transport facilities and teaching and training for those doing obstetric work. The avoidable factors could be reduced to the irreducible minimum. A postmortem helps to know the exact cause of death before we can prevent the mortality. Such autopsy studies are a routine procedure in many countries. Unfortunately, postmortems are not accepted by the public in India. An attempt should be made to increase the number of postmortems by persuasion, by law and by careful presentation of facts to the relatives.

Motashaw and Jadhav (1960) reviewed maternal mortality and found that 98 per cent deaths were preventable. In 1968-72 the same authors found that 75 per cent of maternal deaths could have been prevented. It confirms the findings of the present study that 68 per cent deaths in this series could have been avoided.

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