MATERNAL MORTALITY IN A TERTIARY CARE CENTRE

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ABSTRACT: Maternal Mortality in A Tertiary Care Centre. **OBJECTIVE:** To study maternal mortality and the complications leading to maternal death. **METHODS:** A retrospective study of hospital record to study maternal mortality and its causes over 3 years from January 2010 to December 2012. **RESULTS:** There were a total of 58 maternal deaths out of 2823 live births giving a maternal mortality ratio of 2054.55 per one lakh live births. Unbooked and late referrals account for 77.58% of maternal deaths. The majority of deaths around 75.86% were in 20-30 years age group. Haemorrhage was the commonest causes of death (24.12%) followed by sepsis (18.96%) and pregnancy induced hypertension 15.51% Anemia contributed to the most common indirect cause of maternal morality. **CONCLUSION:** Haemorrhage, sepsis and pregnancy induced hypertension including eclampsia were the direct major causes of death. Anaemia and cardiac diseases were other indirect causes of death.

KEY WORDS: Maternal mortality, Postpartum haemorrhage, Sepsis, Eclampsia, Anaemia

INTRODUCTION: It is shameful that India, one of the fastest growing economies is amongst the five countries with worst maternal mortality rates at 250-300 per/lakh live births. The situation is unlikely to improve unless measures are taken on a war footing1.The index of quality of health care delivery system of a country as a whole or in part is reflected by its maternal mortality rate. With 16% of world's population, India accounts for over 20% of the world's maternal deaths. The maternal mortality in India declined from 254 during 2004-2006 to 2302. In Punjab the MMR is 172/ lakh live birth. For improvement in maternal mortality a planned strategy is required by Union Government. The real change will come only with involvement of public health sector from villages to metros1.The aim of the study was to assess MMR in the tertiary centre and find out causes leading to maternal deaths.

MATERIAL AND METHODS: The study was conducted by reviewing records for maternal deaths in Guru Gobind Singh Medical College, Faridkot from January 2010 to December 2012.

Every maternal death was scrutinized from various aspects like direct cause of death, age, locality, antenatal care and gestation age.

RESULTS: During the study there were 58 maternal deaths out of 2823 live births giving a maternal mortality ratio of 2054.55 per lakh live birth (table 1) 46.5% of these deaths were in postnatal period, 77.58% were unbooked and 65.51% were from rural areas.

75.86% deaths were in 20-30 years of age group and 72.41% were in multigravida as shown in Table 2.

Table 1

Year	Maternal Deaths	Live Births	MM. Ratio per/lac live births
2010	8	957	835.94
2011	19	803	2366.12
2012	31	1063	2916.20
Total	58	2823	2054.55per lac

Table 2: Maternal deaths and its characteristics

	Maternal Deaths	**Percentage**
Age		
10-20 years	N	
>20-30 years	4	7
>30-40 years	1	2
>40 years	1	1
Parity		
Primi	1	2
Multi	4	7
Antenatal care		
Booked	1	2
Un-booked	4	7
Locality		
Rural	3	6
Urban	2	3
Gestation (weeks)		
<20	7	1
20-37	1	3
>37	6	1
Post Partum	2	4

As shown in Table 3 Haemorrhage was the most common cause of death accounting for 24.12% of

the cases which included atony, APH and uterine rupture followed by sepsis (18.96%) and pregnancy induced hypertension including eclampsia (15.5%).

DIC was the cause of death in 8.6% of cases and amniotic fluid embolism and pulmonary embolism were the suspected causes in 1.72% and 5.17% cases respectively .Anaemia contributed to the most common indirect cause of death. Other indirect causes which contributed to maternal mortality were cardiovascular diseases and hepatitis in 5.17% each. Acute renal failure contributed to 3.44% of cases. Only one case of malaria (1.72%) was reported to be cause of maternal mortality.

Table 3: Causes of Maternal Deaths

DIRECT

	Maternal deaths	**Percentage**
Haemorrhage	14	24.12
Atony	6	10.34
Antepartum haemorrhage	6	10.34
Uterine rupture	2	3.44
Ectopic	0	-
Following caesarean	0	-
Molar pregnancy	0	-
DIC	5	8.6
Adherent placenta	0	-
Sepsis	11	18.96
Pregnancy Induced Hypertension	9	15.51
Amniotic fluid embolism	1	1.72
Pulmonary embolism	3	5.17
Acute uterine inversion	0	-

INDIRECT

Anaemia	7	12.06
Cardiovascular disease	3	5.17
Hepatitis	3	5.17
Asthma	0	-
Epilepsy	0	-
Acute renal failure	2	3.44
Terminal stage of malignancy	0	-
Malaria	1	1.72

DISCUSSION: The maternal mortality rate in present study is 2054.55 per/lakh live births which is ten times the maternal mortality for the whole country. Other studies from tertiary care institutions reported mortality rate of 371-4286 per one lakh live births due to large number of referred cases[3]. The higher incidence of deaths is due to late referral of cases from periphery and delayed intervention. Most deaths occurred in 20-30 years age group as in other studies[4].
Haemorrhage and sepsis were the major direct killers and were comparable to other studies[5].
Many of the lives could have been saved if all deliveries and abortions were performed by qualified medical personnel[3].Hypertension or eclampsia – related deaths accounted for another 15.51%causes of deaths which is similar to other studies by unicef[6].

Indirect cause of death included anaemia accounting for 12.06% deaths. Pre- existing anaemia worsens as pregnancy advances leading to heart failure and death. It also exponentially increases the maternal mortality due to haemorrhage and sepsis by decreasing the ability to resist infection

CONCLUSION: Maternal health refers to the health of women during pregnancy, child birth and post partum period. While motherhood is often a positive and fulfilling experience, for many women it is associated with suffering, ill health and even death.

India and Nigeria accounted for a third of the deaths of pregnant women globally in 20107. Latest UN figures said that even as maternal deaths declined by nearly half in the past two decades due to improvement in health system and increased female education, many studies report an increase in maternal mortality ratio. It can be due to improved identification of pregnancy related deaths and changes in coding and classification8.

A systematic review of cause of death stressed the need for increased emphasis on prevention and treatment of obstetric haemorrhage and noted that most post-partum deaths should be avoidable by appropriate management

While unpreventable maternal death rate was highest in referral facilities, the presentable maternal death rate was 14 times lower in referral facilities than in transferring facilities. Reducing single obstetrician only delivery patterns and establishing regional 24 hours obstetrics facilities for high risk cases may decrease the maternal mortality9.Identifying and referring women with complications of pregnancy at the earliest to tertiary care or higher centre was crucial in bringing down maternal mortality.

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