

## Profile of Maternal Deaths: Descriptive Clinical Study

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### Abstract

**Introduction:** Globally, an estimated 287 000 maternal deaths occurred in 2010, a decline of 47% from levels in 1990. Sub-Saharan Africa (56%) and Southern Asia (29%) accounted for 85% of the global burden (245 000 maternal deaths) in 2010. **Methodology:** The Proforma prepared contained- name, age of the patient, IP No, Date of admission, date of death, booked or unbooked, presenting complaints and details antenatal care (if any). Obstetric history including marital status, age at marriage, age at first pregnancy primi or multi, history of previous pregnancy and labour, complication during present pregnancy, past and present medical problems. **Results:** According to present study, 40 (93.024%) deaths occurred in third trimester followed by labour complication i.e. Out of 43 cases 40 (93.024%) died in last trimester and 3 cases (6.976%) died in 2<sup>nd</sup> trimester. This emphasizes the need of compulsory screening for high risk pregnancy. **Conclusion:** According to present study, during the study period from December 2011 to May 2013, 15 (28.31%) deaths occurred in 24-72 hrs interval

**Keywords:** Maternal Deaths; MMR; Tertiary Care Hospital.

### Introduction

Maternal mortality is defined as the death of women during

pregnancy or within 42 days of termination of the pregnancy, irrespective of the duration and site of termination of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes [1]. Late maternal death: A late maternal death of a woman from direct or indirect obstetric causes more than 42 days but less than a year after termination of pregnancy. Maternal deaths are divided into two groups [2]:

- **Direct Obstetric Death:** These are the deaths which occur mainly as a result of complications of pregnancy, labour and puerperium, deaths from haemorrhage, sepsis, hypertensive disorder, abortion and embolism are referred to, also as true maternal deaths.

- **Indirect Obstetric Death:** These are the deaths resulting from a previously existing disease which did not have a direct obstetrical cause, but was aggravated by the physiological effects of pregnancy. For Eg. Cardiovascular disease, infective hepatitis, anaemia and tuberculosis.

Globally, an estimated 287 000 maternal deaths occurred in 2010, a decline of 47% from levels in 1990. Sub-Saharan Africa (56%) and Southern Asia (29%) accounted for 85% of the global burden (245 000 maternal deaths) in 2010. At the country level, two countries account for a third of global maternal deaths: India at 19% (56 000) and Nigeria at 14% (40 000). The global MMR in 2010 was 210 maternal deaths per 100 000 live births, down from 400 maternal deaths per 100 000 live births in 1990. The MMR in developing regions (240) was 15 times higher than in developed regions (16). Sub-Saharan Africa had the highest MMR at 500 maternal deaths per 100 000 live births, while Eastern Asia had the lowest among MDG developing regions, at 37 maternal deaths per 100 000 live births [3].

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In developing countries like India, maternal mortality ratio is still very high. Different socio demographic factors are responsible beside the medical factors for this high ratio. Government of India has taken many steps for the improvement of health of pregnant and nursing women and women in reproductive age group. But, the result is not satisfactory enough as far as the maternal mortality ratio is considered. Each year approximately 55,000 women die in India due to pregnancy or child birth-related complications [4]. The MDGs of the United Nations has set the target of achieving 109 maternal deaths per 100,000 live births by 2015 [3,5]. The MMR for India for the years 2007-2009 was 212 per 100,000 live births, down from 254 in 2004- 2006. Trends in MMR for the last 10 years (1999- 2000 to 2007-2009) reveal that there has been a decline of 35%, that is, from 327 to 212 deaths per 100,000 live births on a national level with Empowered Action Group (EAG) states and Assam achieving a reduction of 33% (461 to 308) and southern states attaining a decline of 38% (206 to 127). It is worth noting that Kerala along with Tamil Nadu and Maharashtra have already achieved MDG target in 2007-2009.

## Methodology

The maternal death during the pregnancy and within 42 days of delivery of any cause, irrespective of duration of pregnancy has been included.

The deaths were classified as per FIGOS classification as follows:

1. Direct obstetric causes
2. Indirect obstetric causes
3. Non related causes

This study includes maternal deaths due direct obstetric causes and indirect causes only.

### *Inclusion Criteria*

Death resulting from the complications of the pregnancy itself, labour or the puerperium. From

intervention elected or required by the pregnancy resulting from the chain of events initiated by the complication or intervention or within 42 days termination of pregnancy irrespective of the duration of pregnancy. Deaths resulting from disease present before or developing during pregnancy which was obviously aggravated by the physiologic effects of the pregnancy and causes deaths.

### *Exclusion Criteria*

- Non obstetric deaths: Deaths resulting, from causes not related to the pregnancy nor to its complication or management.  
Eg: Hepatic failure as a result of cirrhosis, malignancies-carcinoma of the breast, gastroenteritis, liver rupture and psoas abscess.
- Death from accidental or incidental cause no way related to the pregnancy. Eg: death from automobile accident and death from suicide.

### *Method of Collection of Data*

The Proforma prepared contained- name, age of the patient, IP No, Date of admission, date of death, booked or unbooked, presenting complaints and details antenatal care (if any).

Obstetric history including marital status, age at marriage, age at first pregnancy primi or multi, history of previous pregnancy and labour, complication during present pregnancy, past and present medical problems.

If additional information was needed the relatives of the deceased were interviewed. Gestational age at delivery or death, whether died without delivery, place and date of delivery, any intervention during delivery, mode of delivery, and complication of delivery and puerperium. Interval between admission and delivery. Interval between admission and death, date and time of death. A thorough analysis of data collected. Information was obtained from casesheets, laboratory investigations. During the present study, total births include live births, still births and deaths due to abortions are also included, since it is 'one of the important causes of maternal deaths.

## Results

**Table 1:** Maternal mortality in relation to age of the mother

Age group in years	No of Deaths	Percentage (%)
<20	17	32.1
20-25	22	41.5
26-30	7	13.2
>30	7	13.2
Total	53	100

Among 53 maternal deaths during the study period from December 2011 to May 2013 39 (73.6%) deaths occurred below 25 year age group.

**Table 2:** Maternal mortality in relation to socio economic status

Socioeconomic Status	No. of Death	Percentage
Low Class	28	52.83%
Middle Class	23	43.39%
High Class	02	3.774%

According to present study 28(52.83%) deaths were in low SES patients.

**Table 3:** Maternal mortality in relation to gravid state

Gravida	No of deaths	Percentage (%)
Primi	25	58.14
G2	8	18.2
G3	5	11.4
>G3	5	11.4
Total	43	100

According to present study, 25(58.14%) deaths are primigravida among gravid women.

**Table 4:** Maternal mortality in relation to parity

Parity	No. of Deaths	Percentage
Primi	14	53.847%
P2	8	30.769%
P3	4	15.384%
TOTAL	26	100

According to present study, 14(53.847%) deaths are primipara among parous women

**Table 5:** Maternal mortality in relation to trimester

Trimester	No of Deaths	Percentage
1 <sup>st</sup>	0	0
2 <sup>nd</sup>	3	6.976%
3 <sup>rd</sup>	40	93.024%
Total	43	100%

According to present study, 40(93.024%) deaths occurred in third trimester followed by labour complication i.e. Out of 43 cases 40 (93.024%) died in last trimester and 3 cases (6.976%)died in 2<sup>nd</sup>trimester. This emphasizes the need of compulsory screening for high risk pregnancy.

**Table 6:** Maternal mortality in relation to admission-death

A-D interval	No. of Deaths	Percentage (%)
<1 hour	1	1.887
1-12hours	14	26.415
12-24hours	9	16.981
24-72 hours	15	28.301
>72 hours	14	26.419
Total	53	100

According to present study 15 (28.301%) deaths occurred in 24-72 hoursinterval

## Discussion

In present study, among 53 maternal deaths during the study period fromDecember 2011 to May 2013 39(73.6%) death occurred below 25 year age group.In ICMR task force study 2001 analyzed 581 cases, correlates 34.4% during thesame period.

According to present study, during the study period from December 2011 to May 2013, 25 (58.14%) deaths are among primigravida. In study Slicher medicalcollege and hospital primigravida deaths were 31.2% in comparison with deathsafter para 4. So nearly half of all deaths occur in primigravida (46%) thusreflecting vulnerability of first time motherhood. We need to concentrate more onprimigravidaantenatally and intranatally.

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In a review literature, maternal mortality by Dr V. Kamala Jayaram at general hospital, Guntur AP, who analyzed over a period of 6 years from 1992 to 1997 concluded that intrapartum, postpartum deaths were 54.6%. Postpartum and postabortal sepsis was the number 1 killer [6].

Health education is most important, which facilitates awareness regarding the importance of prenatal, intrapartum and postpartum care and also family planning. What is tragic is most of these deaths are preventable. We need to ensure that all women have access to high quality, essential and emergency obstetric services along with provisions for safe abortion and contraceptive services at all level to reduce mortality due to unplanned pregnancies

According to present study, during the study period from December 2011 to May 2013, 15 (28.31%) deaths occurred in 24-72 hrs interval.

### Conclusion

To improve maternal health, barriers that cannot access quality maternal health services must be identified and addressed at all levels of health system.

In order to be successful, policy makers will have to leverage a wide spectrum of resources, both public and private, to address the health needs of the populations.

Realigning human resources through thoughtful

use of public, private transfer, taskshifting and position enhancement may offer the best opportunity for achieving improved health outcomes for women and children in resource-constrained setting

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