Original article

Maternal Mortality: Five Year Experience in Tertiary Care Centre

*Jadhav CA , Gavandi Prabhakar , Shinde MA , Tirankar VR

Obstetrics & Gynaecology Department, Dr V M Government Medical College, Solapur , India
*Correspondence mail: drchand007@gmail.com

Abstract:

Introduction: MMR acts as a litmus paper of general health of a country and is a measure of risk of death once a woman becomes pregnant. Pregnancy is not a disease and pregnancy related mortality is almost always preventable, yet more than half a million women die annually worldwide, due to pregnancy related complications. Hence maternal mortality is a very difficult medical, social, emotional and medico legal situation in the third world countries like ours.

Methods: This study includes Maternal Mortality occurred in Obstetrics and Gynaecolgy Department from 1st Jan 2007 to 31st Dec 2012

Result: MMR of present study is 395/100000 live births. Most of dying mothers were illiterate in age group of 20-24 years. Mortality is more in urban slums with lower socioeconomic class.Haemorrhage being the commonest direct cause of mortality while anaemia being indirect cause.

Conclusion: There should be urgent need to address the issue of integrated maternal services with emphasis on primary health care.

Keywords: MMR, Maternal mortality.

INTRODUCTION

[1]Parturition is a simple natural process, which can take a turn making it "lethal" for any patient, as it is rightly said 'NORMAL DELIVERY' is a retrospective diagnosis. Pregnancy and childbirth is a universally celebrated event. Yet for many thousands of women it is a private hell that may well end in death. In most of the developing countries, maternal deaths are the tip of iceberg, which signal everyday tragedies of women's lives and reflect how world's poverty has been feminized. [2]The current maternal mortality rate (MMR) in Maharashtra is 104/100000 live births, ranking 3rd in India. There is scope for reducing it as majority of the causes of MMR are preventable and curable.[3]Reducing the maternal mortality rate upto 109 by 2015 is one of the eight priorities of Millennium Development Goals set by Member States of the United Nations. A woman dies as a result of complication arising during pregnancy and childbirth every 90 seconds in the world, and every 7 minutes in India. The majority of these deaths are avoidable. At current rate of decline, predicted MMR for 2015 is 149. Maternal death is defined as the[4]"Death of a woman while pregnant or within 42 days of termination of pregnancy from a cause related to or aggravated by pregnancy or its management but not from accidental or incidental causes"

MATERIALS AND METHODS

The study population included all deliveries i.e. women admitted in the hospital during pregnancy, childbirth or within 42 days of termination of pregnancy from any cause related to or aggravated due to pregnancy during the period of 5 years from 1st Jan 2007 to 31st Dec 2012. The present study is a prospective and retrospective study of Maternal Mortality occurred at Obstetrics and Gynaecology Department of Dr V M Government medical college Solapur Maharashtra.

RESULTS: Total no. of live births during the study period was 39,905 while total no. of maternal deaths were 158 deaths . Maternal Mortality Ratio was ***395 / 1, 00,000 live births .*** [5]MMR in the present study is 395/100000 live births which is comparable to studies conducted in the states of Punjab, Himachal Pradesh, West Bengal, Uttar Pradesh, which is more than 300 /100000live births. In India, studies in Tamil Nadu and Mumbai the MMR were low i.e. 90 and 131 respectively .This higher MMR could be because ours is a tertiary referral hospital where most high risk cases are referred and treated.

Table No. 1 : Year wise maternal deaths and live births :

Year	Maternal Deaths	Live Births	MMR/100,000 live births
2007	21	6041	347
2008	24	6463	371
2009	16	5874	272
2010	40	7358	543
2011	23	6557	350
2012	34	7612	446

Table no.2: Age wise distributions of maternal deaths

Age (years)	No. of cases	Percentage
≤19	15	9.49
20 – 24	67	42.40
25 – 29	51	32.27
≥ 30	25	15.82

Table no.3: distribution of maternal deaths according to their literacy status, place of residence, socioeconomic status, and antenatal supervision:

Literacy status	No. of cases	Percentage
Illiterate	64	40.50
Primary school	43	27.21
High school	29	18.35
Pre – university	14	8.86
Graduate	8	5.06

Place of Residence		
Urban	102	64.55
Rural	56	35.44

Class		
Lower lower	39	24.68
Upper lower	74	46.83
Lower middle	24	15.18
Upper middle	21	13.29

Antenatal supervision		
Booked	124	78.48
Unbooked	34	21.51

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Table No. 4: Distribution of maternal deaths according to their gravid/parity status

Gravida /Parity	No. of cases	Percentage
1	78	49.36
2	34	21.51
3	39	24.68
4 & above	10	6.32

Table No. 5: Admission-Death Interval of Maternal Deaths

Admission- Death interval	No. of cases	Percentage
≤ 6 hours	11	6.96
7 – 24 hours	63	39.87
25 – 48 hours	24	15.18
49 – 72 hours	14	8.86
>72 hours	46	29.11

Table No.6 Direct Causes of Maternal Deaths

Cause of Death	No. of cases	Percentage
Haemorrhage	44	27.84
Hypertensive disorder in pregnancy	17	10.75
Sepsis	5	3.16
Uterine Inversion	2	1.26
Obstructed labour	1	0.63

Table no. 7 indirect causes of maternal death

Cause of Death	No. of cases	Percentage
Anaemia	52	33.33
Heart disease	17	10.75
Hepatic disease	12	7.59
Pulmonary disease	02	1.26
C N S disease	02	1.26
Acute renal failure	04	2.53

In the present study, maximum number of maternal deaths (75.1%) were>20 years and <30 years of age which is comparable to studies by [6]Surendranath Panda et al, [7]Dilpreet Kaur et al and [8]Verma Ashok et al. In the present study, 85.72% of deaths belonged to lower socioeconomic class which is comparable to 93.64% in study by [6]Surendranath Panda et al. 64.55% of maternal deaths belonged to urban slum areas which is comparable to studies by [9]P. Padmanabhan et al (44%) and [10]Amitav Pal et al (40%). This is due to the migration of rural people to urban slums and they stay in poverty and unhygienic conditions.

In our study most of the patients have been illiterate belonging to urban slum areas and lower socio-economic class. Place of residence shows the accessibility to health care services Thus illiteracy, lack of knowledge about health facilities, poor health seeking behaviour of patients & inaccessibility of health care facilities in rural areas and urban slums a play an important role in maternal deaths. Antenatal care service is the right of all pregnant mothers and is a measure of provision of health care services. Complications occur as the patients have irregular antenatal visits and are referred in critical condition to tertiary hospitals. The present study is comparable to a study by [11]L. O. Aghoja et al where >70% of maternal deaths were booked cases. In studies by [7]Dilpreet Kaur et al, [10]Amitav Pal et al and [8]VermaAshok et al more than 80% maternal deaths were unbooked.

In the present study 49.36% of maternal deaths were primigravida which is comparable to study by [6]Surendranath Panda et al (59.09 %.). In the study by [8]Verma Ashok et al, 46.15% of maternal deaths

occurred within 24hours which is comparable to the present study→ 46.83% and also in [7]Dilpreet Kaur et al study maximum maternal deaths (48.10%) occurred within 24 – 48 hours of admission.In studies by [6]Surendranath Panda et al (28.18%), [12]Reena J Wani et al (23.70%), [8]Verma Ashok et al (21.50%), hemorrhage was the main cause of maternal deaths which was > 20% which is comparable to the present study (27.84%). In the present study, 33.33% of maternal deaths were anemic which is comparable to studies by [13]Dileep Mavalankar et al 44.30% and [12]Reena J Wani et al 42%.

There are some strategies to reduce the maternal mortality:

- Health centers should be constructed at rural areas and urban slum areas with trained health workers for timely referral and early detection of high risk cases.
- Initiative from the government would be of paramount importance in this effort by allocation of sufficient funds to all the health institutions including primary health centres and health centres at urban slum areas which are being neglected. Most important is to ensure that the funds actually reach the needy.
- There should be a good health communication system between health centers at urban slums and tertiary care center
- Early registration of antenatal cases and improving nutritional status of women before and during pregnancy.
- Prevention and aggressive treatment of anaemia is necessary.
- Rapid diagnosis and treatment of high risk cases.
- Facilities for mandatory hospital deliveries.
- Constructing well equipped health care facility with trained staff.
- Good health communication system.
- Availability of prompt transport facilities for early referral.
- Instituting integrated maternal health services with emphasis on primary health care
- Accountability in case of the unfortunate event of any maternal death. Taking appropriate remedial measures for preventing lapses noted in the management of these cases will be of immense value in reducing the maternal mortality.

These facilities not only reduce burden on tertiary hospitals but also save life, money and time of poor mothers havingcomplications.Instituting integrated maternal health services with emphasis on primary health care and emergency obstetric care can achieve remarkable improvement in maternal and perinatal outcome . The death of a woman during pregnancy or childbirth is not only a health issue but also a matter of social injustice.

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