

# Level of delay in maternal care responsible for maternal death in tertiary care hospital

Shyamkumar Sirsam<sup>1</sup>, Srividya Dharmarao Tadr<sup>2\*</sup>

<sup>1</sup>Professor, <sup>2</sup>Junior Resident, Department of Obstetrics and Gynecology, Government Medical College, Akola, Maharashtra, INDIA.  
Email: [srividyatadru@gmail.com](mailto:srividyatadru@gmail.com)

## Abstract

**Background:** Number of studies were carried out to find out factors responsible for maternal death in India. In spite of efforts taken to reduce maternal mortality it remains high till this time. Hence the present study was conducted at tertiary care hospital to find out level of delay in maternal care responsible for maternal deaths. **Materials and method:** It was an Observational (Retrospective) study. It was conducted in cases of maternal deaths who were admitted at tertiary care hospital from July 2013 to June 2018. Thorough analysis of the individual case record of all the cases of maternal mortality was undertaken with respect to factors like age, cause of death (direct/ indirect) and contributory factor. **Results:** It was found that most of the patients 138 (89.03%) were referred from other health facilities and 17 (10.96%) patients were directly admitted. Most of the patients 81 (52.25%) were referred from DH (District hospital), followed by 22 (14.19%) were referred from RH. Majority of maternal deaths 60 (38.71%) were due to delay in seeking care and reaching health facility in time (I + II) collectively. **Conclusion:** It was found that most of the patients 138 (89.03%) were referred from other health facilities. Most of the patients (52.25%) were referred from DH (District hospital). Majority of maternal deaths (38.71%) were due to delay in seeking care and reaching health facility in time (I + II) collectively.

**Key Word:** Maternal death, level of delay, type of admission.

## \*Address for Correspondence:

Dr. Srividya Dharmarao Tadr, Junior Resident, Department of Obstetrics and Gynecology, Government Medical College, Akola, Maharashtra, INDIA.

Email: [srividyatadru@gmail.com](mailto:srividyatadru@gmail.com)

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## INTRODUCTION

About one woman dies every two minutes and for every woman who dies, 20 or 30 encounter complications with serious or long-lasting consequences. Most of these deaths and injuries are entirely preventable.<sup>1</sup> The majority of these deaths are avoidable. Maternal health is a very sensitive issue which has not only affected on the social and economic development of a country but also on the rights of the highest attainable standard of health of an individual. Maternal mortality is the last episode in the long story of a

woman's pain and suffering. Everyday approximately 830 women die from preventable cause of maternal mortality. 99% of all maternal deaths occur in developing countries.<sup>2</sup> Specialized critical care is not available to severely ill women at many places, either because of lack of infrastructure, or the staff not being geared to take care of emergencies. UNICEF reported that for every woman who dies from a pregnancy related cause, around 20 experience sickness. Studies of case fatality among severely ill have revealed highest fatality in resource poor settings of South Africa 1:5 closely followed by India 1:11, markedly less in developed countries.<sup>3</sup> Number of studies was carried out to find out factors responsible for maternal death in India. In spite of efforts taken to reduce maternal mortality it remains high till this time. Hence the present study was conducted at tertiary care hospital to find out level of delay in maternal care responsible for maternal deaths.

## MATERIALS AND METHOD

It was an Observational (Retrospective) study. It was conducted in cases of maternal deaths who were admitted at tertiary care hospital from July 2013 to June 2018.

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- Patients with maternal mortality as per definition and admitted to tertiary care hospital were included in the study.
- The data was collected in pre-designed proforma from the case papers of medical record section from the year July 2013 upto June 2018.
- Levels of delay, places from where patients was referred, type of admission was identified .

Study design: Observational study (Retrospective)

### SELECTION OF PATIENTS

#### Inclusion Criteria

All antepartum, intrapartum and postpartum deaths within 42 days of delivery admitted at tertiary care hospital.

#### Exclusion Criteria:

- Postpartum deaths after 42 days of delivery.

- Maternal deaths at centres other than tertiary care hospital.
- Maternal deaths during transportation from periphery to tertiary care hospital.

Thorough analysis of the individual case record of all the cases of maternal mortality was undertaken with respect to following factors:

- Type of admission
- Centers from which patient was referred
- Level of delay in maternal care

**Statistical Analysis:** Data was analyzed using software SPSS version 20. Being a retrospective observational study, frequency and percentage calculations were used in the statistical analysis.

## RESULTS AND OBSERVATIONS

Table 1: Type of admission

Type of admission	No. of Patients	Percentage
Referred	138	89.03
Direct admission	17	10.96
<b>Total</b>	<b>155</b>	<b>100</b>

It was found that most of the patients 138 (89.03%) were referred from other health facilities and 17 (10.96%) patients were directly admitted.

Table 2: Referred from

Referred from	No. of Patients	Percentage
PHC	8	5.16
RH	22	14.19
SDH	8	5.16
DH	81	52.25
PRIVATE HOSPITAL	19	12.25
Direct Admission	17	10.96
<b>Total</b>	<b>155</b>	<b>100</b>

Most of the patients 81 (52.25%) were referred from DH (District hospital), followed by 22 (14.19%) were referred from RH, 19 (12.25%) were referred from private hospital while 8 were referred from PHC and SDH each. 17 patients were directly admitted to the hospital.

Table 3: Level of delay

Level of Delay	Levels	No. of Patients	Percentage
Delay in seeking care	I	51	32.90
Delay in reaching health facility in time	II	1	0.65
Delay in receiving adequate care in facility	III	8	5.16
Delay in seeking care and reaching health facility in time	I + II	60	38.71
Delay in reaching health facility in time and receiving adequate care in facility	II + III	10	6.45
Delay in seeking care and receiving adequate care in facility	I + III	3	1.94
Delay in seeking care, reaching health facility in time and receiving adequate care in facility	I + II + III	20	12.90
No Delay	0	2	1.29
<b>Total</b>		<b>155</b>	<b>100</b>

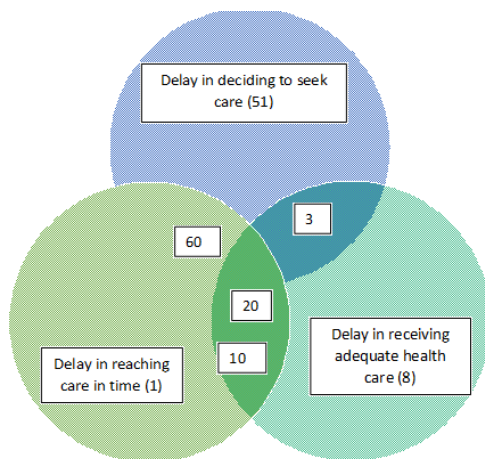


Figure 1:

Majority of maternal deaths 60 (38.71%) were due to delay in seeking care and reaching health facility in time (I + II) collectively, following to that 51 (32.90%) maternal deaths due to delay in seeking care (I), 20 (12.90%) maternal deaths due to delay at all three levels (I + II + III), 10 (6.45%) maternal deaths due to delay in reaching health facility in time and receiving adequate care in facility (II + III) collectively, 8 (5.16) maternal deaths due to delay in receiving adequate care in facility (III), 3 maternal deaths were delay in seeking care and receiving adequate care in facility, 1 maternal death was due to delay in reaching care in time whereas 2 maternal deaths did not find any level of delay.

## DISCUSSION

Present retrospective study was carried out in a tertiary care hospital from from July 2013 to June 2018. Patients with maternal mortality as per definition and admitted to tertiary care hospital were included in the study. The data was collected in pre-designed proforma from the case papers of medical record section from the year July 2013 up to June 2018. Levels of delay, places from where patients was referred, and type of admission was identified. **Type of admission:** In present study, most of the patients were referred from various other hospitals to ours (which is a teaching hospital and a tertiary referral centre) for higher and speciality based treatment with facilities of emergency obstetric care, availability of ICU, anesthetist and 24x7 blood bank availability. In this study, it was observed that most of the patients 138 (89.03%) were referred from other health facilities and 17 (10.96%) patients were directly admitted which shows that referrals from else where are in poor general condition which is due to lack of qualified medical attention, delay in referral result in late intervention, lack of transport facility, lack of Blood bank facilities, lack of specialist, lack of lab

facilities at periphery, delay in diagnosing, delay in referral which causes increased mortality. When type of facility from where these patients were referred was evaluated, it was found that most of the patients 81 (52.25%) were referred from DH, followed by 22 (14.19%) were referred from RH, 19 (12.25%) were referred from private hospital while 8 were referred from PHC and SDH each. 17 patients were directly admitted to the hospital. Subdistrict and District Hospital needs to be equipped with trained and skilled doctors, blood bank availability, drugs and emergency obstetric critical care which will reduce the morbidity of the patients referred from these hospitals which will indirectly reduce the maternal mortality in tertiary care centre. Madhuri Badrinath *et al*<sup>4</sup> observed that 97.4 % patients were referred and 2.6 % patients directly admitted. Paul *et al*<sup>5</sup>, also observed that 88% of the patients referred from other health facilities. Purandare N *et al*<sup>6</sup>, observed that out of 30 patient 23 patients were referred from other health care facilities. Mukherjee S *et al*<sup>7</sup>, observed that 67% of the maternal deaths were referred from other health care centres while only 23% were directly admitted. Rajeswari *et al*<sup>8</sup> observed that 68.8% deaths were referral cases whereas rest 31.1% deaths were non referral cases. Tertiary care centre has the maximum burden of complicated referred cases with potential maternal mortality. Admissions of moribund cases referred from periphery have inflated mortality rate, like other teaching institutions of India.

**Level of delay:** In present study, it was observed that majority of the cases 60 (38.71%) were having both levels of delay 1 and 2, 51 (32.90%) were due to type 1 delay (delay in deciding to seek care), followed by level 3 (Delay in receiving adequate health care) 8 cases and lastly level 2 (delay in reaching appropriate health facility in time) while no delay in 2 patients.

## CONCLUSION

It was found that most of the patients 138 (89.03%) were referred from other health facilities. Most of the patients (52.25%) were referred from DH (District hospital). Majority of maternal deaths (38.71%) were due to delay in seeking care and reaching health facility in time (I + II) collectively.

## REFERENCES

1. "Maternal health". United Nations Population Fund. Retrieved 2017-01-29.
2. Maternal Mortality. Fact sheet N°348. Updated November 2015 <http://www.who.int/mediacentre/factsheets/fs348/en/>
3. Chhabra, S., *et al*. Severe Maternal Illnesses and Deaths in Low Resource Settings. (2017) J Gynecol Neonatal Biol 3(1): 1- 5.

4. Badrinath M, Karekal SA. Maternal mortality: a retrospective study. Sepsis. 2015;5:11-11.
5. Paul B, Sen M, Mohapatra Bijeevani K. Facility based Maternal Death Review: Learning from Maternal Deaths in a teaching hospital of Eastern India. International journal of biomedical research, IJBAR, 2013;04(01): pages 12-20.
6. Purandare N, Chandock AS, Upadhya S, Sanjanwala SM, Saraogi RM. Maternal mortality at a referral centre: a five year study. J Obstet Gynecol India. 2007 May;57(3):248-50.
7. Mukherjee S, Mukherjee S, Sarkar R . Six year retrospective study of maternal mortality at a tertiary teaching institute in Uttarpradesh. International Journal of Medical Science and Public Health 2014,3 (3).
8. Rajeshwari Shobha. Maternal mortality in an urban tertiary care hospital of south India. Indian J Obstet Gynaecol Res. 2016;3(1):32-7.

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