A 5 year retrospective study of pattern of maternal mortality in a tertiary care hospital in South India

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Abstract

Introduction: Maternal mortality remains one of the most daunting public health problems in India. Even today 20% of global maternal deaths occur in India. The total maternal deaths in India are around 63,000 a year, approximating one death every minute. Materials and Methods: A retrospective analysis of 78 cases of maternal mortality over a period of 5 years from January 2007 to January 2012 in tertiary care hospital were analyzed with special emphasis on parity, cause of death, time interval from admission. Results: Hemorrhage was the leading cause of maternal death accounting for 26.92% followed by sepsis 23.08%. Pre-eclampsia contributed to 20.51% of maternal death. Anemia was responsible for 17.95% deaths. The age group in which most (74.36%) maternal deaths occurred was 21-30 years group. When the parity of the women was compared, it was seen that most maternal deaths was in multi-para accounting for more than half the maternal deaths (56.41%). Most of the women (62.5 %) died within 24 hours of admission followed by many women dying in the next 24-48 hours being 12.5%. Conclusion: The maternal mortality rate at referral hospitals in India is very high. Accurate estimation of maternal mortality depends mainly on a sound vital registration system and proper reporting of maternal death. Most of the deaths in our study have been avoided, if they had registered and received proper antenatal care, early diagnosis, timely intervention and early referral with well equipped transport facilities. Keywords: Maternal mortality, pattern, tertiary care hospital

INTRODUCTION

Maternal mortality is one of the most important burning issues in our country. For every minute one mother is dying due to pregnancy and child birth related issues. A woman in developing country has 30 to 40 times greater risk of dying due to pregnancy and child birth than her counterpart in developed country.¹ In the developing world, “A pregnant woman has her one foot in the grave” as stated by Gwyneth Lewis in’ Beyond the number’. Maternal mortality is defined as the death of any woman when pregnant or within 42 completed days following termination of pregnancy, irrespective of duration or site of pregnancy but not from accidental or incidental death. Maternal mortality rate is defined internationally as the maternal mortality rate per one lakh live births. Maternal mortality remains one of the most daunting public health problems in India. Even today 20% of global maternal deaths occur in India.² Globally 1 % of deaths occur in developed world while 99 % occur in developing countries.³,⁴ The total maternal deaths in India are around 63,000 a year, approximating one death every minute. It is being estimated that half of all death from pregnancy could be prevented with better prenatal care, quality of care and life style habits. One of the six health related millennium development goals set by WHO is to reduce the maternal mortality ratio.⁵ Most of the deaths occur within one week and it is 100 times likely to occur on the first day after birth of the child. In India current MMR is

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212 per lakh live births (census of India sample registration system 2011). Institutional mortality rates are 2-10 times higher as compared with field surveys because most of the seriously ill patients are referred to the nearest tertiary care centers. Maternal mortality is the tip of iceberg, there is a large base of the severe acute maternal morbidity, the identification and analysis of which will tell the story of true complications. It can be reduced by adequate antenatal care and appropriate interventions at the right time.

MATERIAL AND METHODS

A retrospective analysis of 78 cases of maternal mortality over a period of 5 years from January 2007 to January 2012 in Katuri Hospital, Guntur(A.P.) were analyzed with special emphasis on parity, cause of death, time interval from admission. Ethical Clearance has been obtained from the institute ethical committee.

RESULTS

There were 78 maternal deaths during the period from January 2007 to January 2012 in the hospital. Hemorrhage was the leading cause of maternal death accounting for 26.92% followed by sepsis 23.08%. Pre-eclampsia contributed to 20.51% of maternal death. Anemia was responsible for 17.95% deaths (Table 1). The age group in which most (74.36%) maternal deaths occurred was 21-30 years group. This was followed by <20 years (15.38%) and >30 years age groups (10.26%) (Table 2). When the parity of the women was compared, it was seen that most maternal deaths was in multi-para accounting for more than half the maternal deaths (56.41%). (Table 3) The women who came to our hospital, most of them were referred. 35.90% were delivered in our hospital (Table 4). Most of the women (62.5 %) died within 24 hours of admission followed by many women dying in the next 24-48 hours being 12.5%. Few women died after 48 hours accounting for 24.99 %.

DISCUSSION

Maternal mortality is the death of a woman in relation to pregnancy. According to WHO “A maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of pregnancy, from any cause related or aggravated by pregnancy or its management”. The present study revealed that 23.07 % maternal death was due to indirect obstetrical causes, 76.93 % due to direct cause. Other studies have shown variations in direct obstetrical death from 68.7 % in a study by Kulkarni et al and 60 % by Salhan et al. Direct obstetric deaths accounted for 76.93 % of all deaths in our study that included hemorrhage 26.92 %, severe pre-eclampsia 20.51 %, sepsis 23.08 %, abortion 6.42 %. Hemorrhage especially during post partum is sudden, unpredictable and more dangerous when woman has pre-existing anemia. Globally 25 % of all maternal deaths are due to hemorrhage. Other studies show variation between 9.72 % and 27.5 %. In our study the rate of deaths due to hemorrhage was 26.92%. This is due to lack of proper antenatal care, poor nutritional status, home deliveries and late referrals. Sepsis which is a direct consequence of poor hygiene during delivery, account for 15 % of maternal deaths globally. In our study it was 23.08 %. Globally, indirect cause of maternal deaths account for 20 % of all maternal deaths, particularly from anemia, malaria, HIV, etc. Other studies show their range between 17.2% and 40 %. In our study it was 23.07 % and included deaths due to anemia 17.95 %, ARF 1.28 %, cardiac failure 1.28 % and malaria deaths 2.56 %. This was similar to in a study by Chhabra et al. [9] in which the main indirect cause of death was anemia (13.9%).
The study showed that 74.36% of women died between the age group 21 and 30 years, as highest number of women belong to this age group. Similarly, multigravidas contribute 56.41% of maternal deaths. Admission death interval of our study revealed that 62.5% of women died within 24 hours of admission, probably due to poor general condition of women at the time of admission and late referrals.

**CONCLUSION**

The maternal mortality rate at referral hospitals in India is very high. Accurate estimation of maternal mortality depends mainly on a sound vital registration system and proper reporting of maternal death. Solutions of the issues comprises of 3Ds: Delay in diagnosis, immediate treatment and decision to transfer, delay in transport for reaching to proper hospital and delayed therapy. The classical triad of maternal mortality causes in our study remained hemorrhage, eclampsia and sepsis. Most of the deaths in our study have been avoided, if they had registered and received proper antenatal care, early diagnosis, timely intervention and early referral with well equipped transport facilities.

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**REFERENCES**


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