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Original Research

An Autopsy Study Of Causes Of Gestational Deaths

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ABSTRACT

Background: Pregnancy is not a disease and pregnancy related morbidity and mortality are preventable. The present study was conducted to assess causes of maternal deaths. **Materials & Methods:** The present study was conducted on 18 pregnancy related deaths. General information such as gender, age, demographic profile and histopathological findings were recorded. Causes of deaths were also assessed. **Results:** Age group 16-20 years had 5 cases, 20-24 years had 6 cases, 24-28 years had 3 cases, 28-32 years had 4 cases. The difference was significant ($P < 0.05$). The causes of deaths was direct gestational (11), indirect gestational (5) and non-gestational (2) deaths. The difference was significant ($P < 0.01$). **Conclusion:** Age group 20-24 years had maximum number of deaths. Direct gestation-related maternal death in pregnancy was the main reason.

Key words: Forensic, Gestational, Pregnancy related deaths

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INTRODUCTION

The distinction between maternal death in pregnancy and pregnancy-related maternal death is not always easy. If maternal death occurs during or within 42 days after the termination of pregnancy, the criterion of "gestational death" is met. However, actual "maternal deaths during pregnancy" are only those deaths that can be traced back directly to gestational circumstances, and non-natural causes of death of pregnant women are not counted among them. The death of a woman in childbirth is a tragedy, an unacceptable and wasteful event that carries with a huge burden of grief and pain. Pregnancy is not a disease and pregnancy related morbidity and mortality are preventable. Maternal death has been used traditionally as a measure of quality of health care in a community with 16% world's population India accounts for over 20% of maternal deaths.¹ Recent studies in several states have found that the incidence of maternal mortality was higher than that reported through the traditional vital-records reporting system. These studies raised questions about the extent to which the actual number of maternal deaths in the United States differs from the number reported in national vital statistics.² Maintenance of data on maternal deaths is crucial to the implementation of maternal

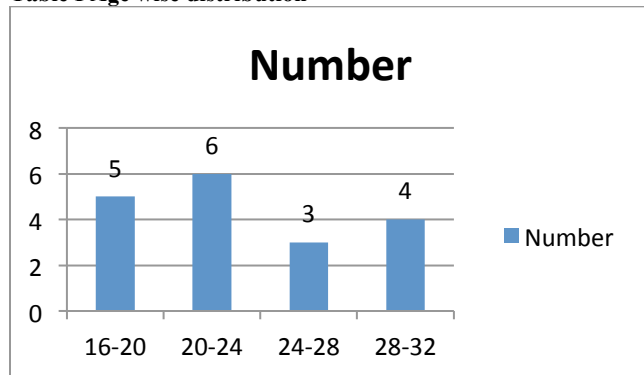
health programs in the country. Information provided by medical autopsies has played an important role in increasing the accuracy of cause-of-death reports and improving clinical practice in the developed world. We carried out this study to understand the magnitude of maternal mortality in this region and also to know the cause of death and to find out preventive factor.³ Maternal deaths can again be divided into direct gestational deaths which are due to complications of gestation (pregnancy, delivery and postpartum) or by gestation related medical interventions, omissions and improper handling.⁴ The present study was conducted to determine causes of maternal deaths.

MATERIAL & METHODS

The present study was conducted in the department of forensic sciences. It included 18 pregnancy related deaths. General information such as gender, age, demographic profile and histopathological findings were recorded. Causes of deaths were also assessed. Results thus obtained were subjected to statistical analysis using chi-square test. P value less than 0.05 was considered significant.

RESULTS

Table I Age wise distribution



Age group 16-20 years had 5 cases, 20-24 years had 6 cases, 24-28 years had 3 cases, 28-32 years had 4 cases. The difference was significant (P<0.05).

Table I Causes of deaths

Causes	Number	P value
Direct gestational	11	0.01
Indirect gestational	5	
Non- gestational	2	

The causes of deaths was direct gestational (11), indirect gestational (5) and non- gestational (2) deaths. The difference was significant (P-0.01).

DISCUSSION

Indirect gestational deaths are caused by pre-existing cardiovascular diseases of non obstetric origin which decompensate due to the physiological effects of pregnancy, birth and postpartum; the heart rate increases by 10–30 bpm, and the cardiac output up to the 32nd week of gestation by 30–50 % etc.⁵ According to the World Health Organization, 55% of maternal deaths occur in Asia, 40% occur in Africa, and only 1% occurs in developed countries. Over 600000 maternal deaths occur each year worldwide. In India, many women dies due to pregnancy-related complications and those who survive suffer from severe maternal morbidity. Maternal death rate in India was 1000 per 100000 live births in 1959 and it decreased to 301 per 100000 live births in 2003. Complete and accurate identification of all deaths associated with pregnancy is a critical first step in the prevention of such deaths. Only by having a clear understanding of the changing trends and the magnitude of pregnancy-related mortality can be comprehensive prevention strategies be formulated to prevent these unanticipated deaths among women.⁶ We observed that age group 16-20 years had 7 cases, 20-24 years had 8 cases, 24-28 years had 4 cases, 28-32 years had 2 cases and 1 case was of age >32 years. The causes of deaths were direct gestational, indirect gestational and non- gestational deaths. It was observed that most common direct gestational causes were

pregnancy induced hypertension followed by pre-eclampsia, amniotic fluid embolism, eclampsia, HELLP syndrome and septic organ failure. This is in agreement with Bedi et al.⁷ Bardale et al⁸ observed that maximum numbers of deaths were recorded in the age group of 21-25 years (52.38%). Analyzing the pregnancy outcome, live birth to child were given by 9 females and 1 died during abortion. Hemorrhage remains leading cause of death (38.09%) followed by indirect causes (23.80%), undetermined (19.04%), sepsis (9.52%) and postpartum pre-eclamptic shock (9.52%). Death records remain an important source of maternal deaths however, using only death certificate suffers from drawback because many times cause of death is not mentioned, especially if death incurred medico-legal autopsy. Under such circumstances review of autopsy reports may prove useful in the ascertainment of maternal deaths and elucidating the emerging trends. Claas et al⁹ found that 8 (61.5 %) women died in-hospital, four (30.8 %) at home, and one woman died in public. Three cases (23.1 %) were “non-gestational deaths,” and one case (7.7 %) remained unclear after autopsy and additional examinations. Of the remaining nine cases, six cases (46.5 %) were “direct gestational deaths,” and two cases (15.4 %) were “indirect gestational deaths.” Pulmonary embolism (PE) is a leading cause of death among pregnant women in the developed world. The fact that PE remains such a threat is a clear indication of the difficulty in diagnosing it. The coexistence of pregnancy makes the workup and management of PE even more problematic, for many reasons.¹⁰

CONCLUSION

Age group 20- 24 years had maximum number of deaths. Direct gestation-related maternal death in pregnancy was the main reason.

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