Factors Associated with Perinatal Mortality:
A Descriptive Observational Study

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**Abstract**

Objective: The objective of this study was to find out various causes of perinatal mortality and the factors associated with perinatal death.

Methods: A descriptive observational study done in a teaching hospital (Referral hospital at district) attached to Jawaharlal Nehru Medical College, Belgaum. All perinatal deaths during the period between December 2007 to May 2009 were included in the study.

Results: There were 3904 deliveries and 193 perinatal deaths during the study period. Perinatal mortality rate (PNMR) was 49.4/1000 births. The stillbirth rate was 43/1000 births. Antepartum hemorrhage and severe pre-eclampsia were the common causes of perinatal deaths.

Conclusion: Antepartum hemorrhage and pregnancy induced hypertension are leading causes of perinatal deaths. Majority of these complications occur in the later part of pregnancy increased vigilance during antenatal care can reduce these deaths.

Keywords: Perinatal deaths, causes, factors, antenatal care, perinatal morbidity, mortality.

**INTRODUCTION**

Perinatal mortality is taken as an index of the efficacy of not only antenatal and intranatal care, but also of the socioeconomic condition of the community.1 Perinatal mortality rate in developing countries is three to five folds higher than that in developed countries.2 The current perinatal mortality rate (PNMR) in India is 49 per 1000 births as per the NFHS. The advent of effective antibiotics, establishment of organized blood transfusion services, introduction of routine antenatal care and neonatal facilities has led to a decreasing perinatal mortality. Though this decrease in evident even in India, perinatal mortality is still high as compared to developed countries.2 According to World Health Report (2001), perinatal mortality accounts for more than four percent of deaths in the world, most of them occurring in developing countries. This hospital based study was undertaken to know the causes of perinatal mortality and thus help in its prevention.

**METHODS**

A prospective hospital based descriptive observational study. All perinatal deaths over a period of 18 months (from December 2007 to May 2009) in a teaching hospital were included. Stillbirth defined as fetal death more than or equal to 28 weeks gestation and early neonatal death (END) defined as death occurring in the first seven days of birth. Maternal details like age, parity, registered (minimum three visits) or unregistered were noted. Mode of delivery, gestational age and birth weight of fetuses were recorded. Autopsy was performed in those, whose parents provided informed consent. The data obtained was tabulated and analyzed using rates, ratios and percentages.

**RESULTS**

During the study period there were 3904 total number of deliveries with 193 perinatal deaths (168 stillbirths and 25 early neonatal deaths). The perinatal mortality rate (PNMR) was 49.4 per 1000 births and the stillbirth rate was 43 per 1000 births (Table 1). The autopsy rate was 58.5% (n = 113).

Out of 193 perinatal deaths 153 (79.2%) were unregistered. Most of the women were in the age group 20 to 30 years (82%). Nearly fifty percent (48.7%) of the women were illiterate and 57% belonged to lower socioeconomic class (Income less than Rs. 2500.00). Most of the babies were delivered by vaginal route (66.8%; n = 129) (Table 2).

According to gestational age, most of the perinatal deaths were preterm and only 18.6% were term (Table 3).

Perinatal mortality was highest in low birth weight babies (< 2,500 gm) (Table 4).
The PNMR in the present study was high 49.4 per 1000 births which was comparable to other studies.1-3 The stillbirth rate was 43 per 1000 births in comparison with other studies.2,4,5 since this hospital teaching institute majority of these deaths occur in those who present late. 

As observed in many of the studies nearly 80% (79.2%) of these perinatal deaths occurred among unregistered group in this study.1,2,6,7 This is one of the areas in developing country like India needs efforts to implement effective antenatal care. The associated factors like socioeconomic status and female literacy had influence the adverse pregnancy outcome. Women’s education was inversely associated with perinatal deaths as observed in this study (48.7% women were illiterate and 57% belonged to lower socioeconomic class).2 In the present study, Similar findings were noted in other studies.2,6,9 Education automatically increases awareness and helps in overall improvement. Perinatal deaths were more in multigravidae compared to primigravidae as noted in other studies.2,8,10 Close monitoring is very essential even in multigravidae as obstetric complications increase with increase in parity. 

Low birth weight (LBW) is an important cause of deaths in this study as observed in many of the studies.1,3,4,5 The factors responsible for these can be identified during the antenatal period as most of these can present with conditions that may be associated LBW. 

Abruptio placenta and severe pre-eclampsia were the important cause of perinatal mortality. Similar findings were noted in other studies.1,4 Though there are no strageties at present to prevent these conditions but severity of its effect and mortality can reduced by effective antenatal care, intranatal care and good neonatal care.

**DISCUSSION**

Perinatal death is a traumatic experience for both mother and the obstetrician. Despite advances in fetomaternal medicine, perinatal death rate continues to be high.
Effective antenatal care with early registration and increased visits in later part of pregnancy along with proper intranatal and neonatal care can reduce the perinatal deaths. Early registration helps in proper evaluation and identification women at risk. Improving the women’s education not only improves effective ANC but also improves awareness specially during emergencies.

CONCLUSION

Effective antenatal care is still lacking among the pregnant women. Improvement in education and socioeconomic status are the key components of good pregnancy outcome are still lacking. Skilled health care provider (in antenatal, intranatal and neonatal care) with proper referral system and increased awareness in women are essential to reduce perinatal deaths.

REFERENCES