# PATTERN OF FETAL DEATHS AT A UNIVERSITY HOSPITAL OF SINDH

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**Background:** Perinatal mortality is a significant public health problem throughout the world. Its prevalence is quite high in the developing countries on account of number of factors. Most of the causes are treatable and fetal outcome can be improved by provision of good health care facilities during antepartum and intrapartum periods and through public education regarding reproductive health and better utilization of health services. **Objective:** To determine the pattern of intrauterine fetal deaths before or in the process of labor in our tertiary care set up. **Methods:** This descriptive case series was conducted at Department of Obstetrics and Gynaecology (unit-IV) at Liaquat University Hospital, Jamshoro, Sindh,from April 2002 to October 2003. In total, 50 intrauterine fetal deaths from 24 weeks of gestation to full term pregnancy were analyzed. The case records of all the women were evaluated and data collected regarding their age, period of gestation, clinical features, antenatal records, previous obstetrical history, labor, mode of delivery as well as complications during or after the labor. **Results:** Out of 697 deliveries, 50 (7.17%) babies were still born. Of these 84% were fresh still born. The commonest factors were antepartum hemorrhage (30%), mismanaged labor (26%), premature rupture of membranes (26%) and congenital anomalies (16%). **Conclusion:** Majority of fetal deaths in our set up are due to avoidable factors. Hence, there is strong need to improve the quality of care by proper antenatal care, identification of high risk cases and referral to tertiary care hospitals for proper management to prevent morbidity and mortality in this regard.

**Keywords:** Intrauterine; Fetal death; Causes; Prevention; Mortality

## INTRODUCTION

Perinatal mortality is a significant public health problem throughout the world. It is quite high in our region as compared to the rest of the world. This difference is mainly because of poorer socioeconomic status, maternal and paternal illiteracy etc. Biological factors such as higher parental age, short birth intervals and poor obstetrical history are also associated significantly with this mortality.[1] In Pakistan, a demographic survey from squatter settlements of Karachi has reported rate of perinatal mortality as 54.1 per 1000 births[2] while a community based study in Lahore have showed the perinatal mortality rate of 53 per 1000 births. However, a recent study from Nepal has reported perinatal mortality of 10.8 per 1000 total births[3].

The most common factors for fetal deaths in developing countries are antepartum haemorrhage, pregnancy induced hypertension, congenital anomalies, prolonged rupture of membranes, mismanagement of labor and medical problems like diabetes mellitus, cardiac disease etc. The complications of pregnancy and labor are also significantly associated with extremes of ages[4]. Most of the causes are treatable and fetal outcome can be improved by provision of good health care facilities during antepartum and intrapartum periods. This can be further improved by increasing public awareness regarding reproductive health and better utilization of health services. During antenatal period, high risk cases should be selected, properly counseled and referred to proper place where the facilities for proper fetal and maternal monitoring are available.

The purpose of this study was to identify the pattern of fetal deaths, specially risk factors associated with this problem and to improve the approaches to prevent morbidity and mortality in this regard at our tertiary care set up.

## MATERIAL AND METHODS

This study was conducted from April 2002 to October 2003 at Department of Obstetrics and Gynaecology (Unit-IV), Liaquat University Hospital, Jamshoro,Sindh. All the women with gestational period between 26 weeks to full term pregnancy having normal / malformed fetuses and still born babies were included in the study. However, women with gestational period of less than 26 weeks and those who gave birth to live babies at full term pregnancy were excluded from the study. Case records of all these pregnant women having fetal loss during intrauterine period and during delivery were thoroughly evaluated regarding their period of gestation, symptoms, antenatal record, complications, previous obstetrical history, labor, mode of delivery and the fetal outcome. Diagnosis of fetal death was made through history and examination; by listening fetal heart sounds with Pinnard's fetoscope followed by confirmation with ultrasonography. Fetuses were

also examined regarding their gross features; either old or fresh dead, normal or congenitally malformed and their weight. Data was collected on a proforma and analyzed using SPSS 10.0 version.

## RESULTS

During the study period, 697 pregnant women delivered in our unit and there were 50 fetal deaths. Majority of fetal deaths (92%) occurred in women between 20-35 years of age. Ages of the women ranged between 20 to 40 years except one who was below 20 years of age (Table 1). Majority (52%) of women were para 5 and above. Most of the cases (94%) were unbooked. In 72% cases, fetal deaths were between 26-36 weeks of gestation. Only 14 (28%) fetal deaths occurred at term pregnancy. In 46% of cases, fetal weight was less than 1.5 kg. The identified risk factors for fetal deaths were antepartum hemorrhage (30%), mismanaged labor (26%), prolonged rupture of membranes (26%) and gross congenital anomalies (16%) (Table 2)

**Table 1. till Births in Relation with Age, Parity, Booking Status, Gestational Period and Fetal weight (n=50)**

| Age in years | Number of Cases | Percentage |
|---|---|---|
| Below 20 | 01 | 02% |
| 20 – 35 | 46 | 92% |
| 35 and above | 03 | 06% |
| **Parity Status** | | |
| Primi | 14 | 28% |
| Para 2 – 4 | 10 | 20% |
| Para 5 + | 26 | 52% |
| **Booking Status** | | |
| Booked | 03 | 06% |
| Un-booked | 47 | 94% |
| **Weeks of Gestation** | | |
| 26 – 30 | 21 | 42% |
| 30 – 36 | 15 | 30% |
| 37 – 40 | 14 | 28% |
| **Weight** | | |
| < 1.5 kg | 23 | 46% |
| 1.5 kg – 2.5 kg | 17 | 34% |
| > 2.5 | 10 | 20% |

**Table 2.Risk Factors for Still Birth (n=50)**

| Risk Factor | Number of Cases | Percentage |
|---|---|---|
| Antepartum hemorrhage | 15 | 30% |
| Mismanaged labor | 13 | 26% |
| Prolonged rupture of membranes | 13 | 26% |
| Congenital anomalies | 08 | 16% |
| Eclampsia | 01 | 02% |

## DISCUSSION

Ante partum fetal deaths have significantly declined in advanced countries but it is a major problem in developing countries especially in South Asia. In this scenario, precise knowledge of the cause of death is needed as the basis for counseling, prevention and treatment of the problem. In this study, out of 697 deliveries, 50 (7.1%) fetuses were still born. It could be mainly because the maximum number of women (94%) were unbooked and were referred from rural areas with complications of pregnancy or labor. These findings are consistent with the results of Verma M et al[5] who at a tertiary care hospital in Indian Punjab found perinatal mortality of 74/1000 live births during seven years period.

However, Dahl LB et al[6] in Norway, conducted medical audit on antenatal, neonatal and post neonatal deaths and found reduction in fetal deaths with the improved ante natal care, better care of low birth weight babies and increase in the level of education in population. In this study, 80% babies were less than 2.5kg in weight and we were also lacking intensive neonatal care facilities at that time in our set up. Majority (72%) of women delivered at preterm period, had unbooked status and came in the emergency. In this study, intrauterine deaths were seen mostly between 20-35 years of age while the rates of fetal death have been reported mostly associated with increasing maternal age[2]. This difference could be because most of the women who are admitted in our set up belong to this age group and the main factors in them were lack of education and antenatal care. Meanwhile, in advanced countries, the literacy rate is high and almost all utilize antenatal care facilities throughout pregnancy and those having risk factors are referred early to tertiary care hospitals where they get thorough investigations, timely intervention and best neonatal care. Women having fetal loss, usually present some form of chromosomal anomalies/ congenital anomalies which are commonly seen in elderly women.

The perinatal committee[5] has also reported perinatal death reduction significantly in booked and hospitalized women**.** The main causes of fetal loss in this study were antepartum hemorrhage, mismanaged labor due to incorrect decision about induction or augmentation of labor by Dai (Traditional birth attendent), Lady Health Visitor (LHV) or a doctor, prolonged rupture of membranes and congenital anomalies. However, less commonly noticed cause was pregnancy induced hypertension i.e. 2%. Juhas ZG et al[7] and Verma M et al[5] have also found that intra uterine growth restriction, asphyxia, and cord complications are the main factors

responsible for intrauterine death. Similarly, Chaoui R et al[8] have reported that congenital anomalies especially heart defects are associated with antenatal deaths. This gross difference in causes of intrauterine deaths could be mainly because of booking status, antenatal care, labor monitoring and the timely second stage interventions. The congenital anomaly rate in this study was high i.e. 16%. All these anomalies were grossly observed. As our institute lacked the facilities for autopsy and chromosomal analysis at that time, so this rate could be even higher, if it had been properly analyzed. The causes of congenital anomalies could be cousin marriages as well as repeated pregnancy due to low contraception prevalence rate, pregnancy in elderly women, malnutrition and the use of drugs during pregnancy. Khoury S et al[9] in their study have also showed that the consanguinity is significantly associated with higher rates of still births and congenital malformation.

Prolonged rupture of membrane was reported in 26% of cases in this study. For this, the cause could be ascend of organism from lower genital tract, intra uterine fetal infection and fetal death as also reported from Northern India[10], where prevalence of genital infection was associated with pre maturity and the adverse fetal outcome.

## CONCLUSION

Fetal deaths in our set up are high when compared with finding of national and international literature. Most of these deaths are due to avoidable factors, which is a challenge for antenatal health care providers. In this situation, there is a strong need of antenatal screening for genital infection to prevent preterm deliveries and provision of neonatal intensive care facilities for preterm babies, chromosomal analysis and autopsy facilities for detection of the causes of various congenital anomalies.

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