

Perinatal mortality - A hazardous dilemma

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Objective

To determine the frequency and risk factors of perinatal death in women attending Liaquat University Hospital, Hyderabad, Pakistan..

Methods

This retrospective study was carried out at Liaquat University Hospital, Hyderabad from January 1, 2007 to December 31, 2007, and all still births and early neonatal deaths from record books of labour room and operation theatre were recorded. The fetal out come in terms of weight, maturity and gross congenital anomalies were noted. The cause of death was assessed in each case. Data was analyzed on SPSS 11.0

Results

Out of 2778 total births during the study period, 2576 were live births, 157 were still births and 45 were early neonatal deaths (ENNDs). Perinatal mortality rate was 72.7%. 512 babies weighed <2.5 kg, out of which 128 had perinatal deaths (PND). 2150 babies were of 2.6-4 kg, among them 72 had PND. Out of 548 births which occurred

before 37 weeks, 117 had PND; among them, 98 deaths occurred in babies delivered before 32 weeks. Immaturity was the most common cause for PND followed by fetal distress and congenital abnormality. Among total number of women, 1892 were unbooked and remaining had 3 or more antenatal visits. Higher numbers (185) of PND were observed in unbooked women. 117 women whose babies had PND belonged to rural areas. Anemia was the most common risk factor in these women followed by obstructed labor and abruptio placentae.

Conclusion

Perinatal mortality was high in our study. Most of the women in our study were unbooked and belonged to rural areas, where basic facilities for health are not available. Women had no proper antenatal visits as well as referral was late. (Rawal Med J 2009;34:195-198).

Key words

Still birth, perinatal death, early neonatal death.

INTRODUCTION

Perinatal mortality rate (PMR) indicates quality of care provided to women in pregnancy, at and after child birth and to the new born in the first week of life.¹ It is a sensitive indicator of maternal and child health care.² The perinatal mortality (PNM) is taken as an index of the efficiency of not only antenatal care, but also of the socio-economic condition of the community.³ Thus, the primary reason for studying the dead is to save the living.³ PMR is a well recognized mirror reflection of the maternal environment during pregnancy, labor and delivery.⁴ WHO has estimated that the number of perinatal deaths worldwide is greater than 7.6 million, with 98% of these deaths occurring in the developing countries.⁴ If the care falls below the accepted standards, action is required to implement changes in the clinical practice.⁵ Regular audit of PNM helps in assessing preventive factors and thus helps in reducing PMR in an institution.⁶ As the cause of

death and disease during the intrauterine life and early neonatal period is common in many cases, we decided to study them together.

PATIENTS AND METHODS

This was a retrospective study of all still births and early neonatal deaths that occurred at Obstetrics and Gynecology department of Liaquat University hospital Hyderabad from January 1, 2007 to December 31, 2007. Data on all still births and early neonatal deaths was collected from record books of labor room and operation theater. Vital antenatal data including age, socio-economic status, obstetric history and antenatal records was noted.

Assessment was also made about the type and mode of delivery, type of presentation and any risk factors present. The fetal out come in terms of weight, maturity and gross congenital anomalies was noted. The cause of death was assessed in each case. Data was analyzed on SPSS v 11.0

Fetal distress was presumed on the basis of non reactive CTG (presence of decelerations, loss of variability, bradycardia), and meconium stained liquor. Facility of fetal scalp PH was not available in the hospital. Cord prolapse meant cord out of cervix or vagina before full dilatation of cervix when baby was still inside uterine cavity. Cord Problem meant when true knot in the cord was seen causing fetal distress.

RESULTS

Out of 2778 total births in the one year study period, 2576 were live births, 157 were still births and 45 were early neonatal deaths (ENNDs). PMR was 72.7 % (Table 1)

Table 1. Incidence of perinatal mortality.

Total births	2778
Live births	2576
Still birth	157
Early neonatal deaths	45
Still birth rate per 1000	56.5
Early NND rate per 1000	16.19
Perinatal mortality rate per 1000	72.71

512 babies weighed <2.5 kg, out of which 128 had perinatal deaths (PND). 2150 babies were of 2.6-4 kg; among them 72 had PND (Table 2). Out of 548 births which occurred before 37 wks, 117 had PND. Among them, 98 deaths occurred in babies delivered before 32 weeks (Table 2).

Table 2. PMR in relation to birth weight and gestational

Birth wt.	No. of births	PND	PMR
<2.5 Kg	512	128	250
2.6-4 Kg	2150	72	33.48
>4 Kg	116	2	17.24
Gestational age in Weeks			
24 – 31 weeks	101	98	970.2
32 – 36 weeks	447	19	42.5
37 – 42 weeks	2230	85	38.11

age.

In our study, immaturity was the most common cause for perinatal deaths followed by fetal distress and congenital abnormality (Table 3). Among total number of women, 1892 were unbooked and remaining 886 women had 3 or more antenatal visits.

Causes	PND	Percentage
Fetal distress	29	14.35
IUGR	4	1.98
Cong. Anomalies	13	6.43
Cord Prolapse	2	0.99
Cord Problem	1	0.49
Neonatal sepsis	1	0.49
Hydrops	2	0.99
Immaturity	46	22.72

Table 3. Fetal causes of perinatal death.

Higher numbers (185) of PNDs were observed in unbooked women and 117 women whose babies had PND belonged to rural areas (Table 4). Anemia was the most common risk factor in these women followed by obstructed labour and abruptio placentae (Table 5).

DISCUSSION

Perinatal mortality has been linked to an iceberg where handicap remains the submerged and unknown moiety.⁷ In New South Wales, PMR is 10 per 1000 births⁸ and in UK it is 7.6 per 1000 births.⁷ On the contrary, in Asian countries like India, PMR is 48.6 per 1000 births.⁹ In our study, PMR was 72.11 per 1000 births. A study from Quetta reported PMR of 113 per 1000 births⁴ and a PMR of 106.8/ 1000 births was reported from India.² A PMR of 83.99 per 1000 deliveries has been reported from Nepal.¹ Higher PMR below 20 years maternal age could be attributed to higher incidence of anemia, malnutrition, cephalopelvic disproportion and

prolonged labor in this age group.

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	Total No. of births	PND
Booked	886	17
Unbooked	1892	185
Residential		
Rural	1745	177
Urban	1033	25

Table 4. Socio biological risk factors.

In the present study, PMR was 108.57 below 20 years of age and 136.36 above 35 years of age. Same has been observed by others.³ In the present study, PMR was very high in newborns weighing <2.5 kg and it was low in newborns weighing >2.5 kg. Same was observed by Anjali A et al, that over 70% perinatal deaths occurred among low birth weight newborns.⁹ One of the methods to reduce perinatal mortality is by decreasing the incidence of low birth weight babies and it can be prevented by early antenatal registration, regular follow up, early

identification of high risk factors and timely

Medical risk factors	PND
Anemia	108
Essential HTN	2
Jaundice	0
Malaria	3
Sepsis	1
DM	9
Obstetric risk factors	
PIH/PE	6
Eclampsia	4
Placental abruption	29
Placenta Previa	10
Obstructed labour	29
Scar dehiscence	1

interference to improve perinatal out come.

Table 5. Maternal Risk factors.

Out of 202 PNDs, there were 129 (63.86 %) related to rural areas. 82 (40.59 %) PNDs were seen in primigravidas, 80 (39.60%) in patients with 2-5 children and 40 (19.80%) in patients with more than 5 children. This is similar to a study from Larkana.¹⁰ Anemia and diabetes were the common and most preventable medical disorders in this study. The next common disorders were hypertension, malaria and sepsis. 49 patients had an obstetric factor complicating pregnancy; antepartum hemorrhage was seen in 39 patients, 30 patients suffered from intra partum complications or obstructed labor. There were 98 (48.5%) normal vaginal deliveries, 7 (3.46%) instrumental deliveries and 92 (45.5%) were cesarean sections in our study. In a study from India, out of 482 PNDs, there were 80.97 % vaginal deliveries, 3.32% were instrumental deliveries and 7.64% cesarean sections.⁷ High cesarean section rate in our study was due to higher number of referred and complicated patients who had emergency cesarean sections.

CONCLUSION

High PMR seen in our study was more pronounced in unbooked patients and those who belonged to rural areas. To improve PMR, early Antenatal registration and a minimum of 3 antenatal visits

should be aimed. Early referrals to better equipped facilities should be encouraged in potentially high

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risk patients. Advice should also be given on diet, rest, iron, folic acid and vitamin supplementation.

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