Original Article

Gynae & Obs

Frequency of Perinatal Mortality at Bolan Medical Complex Hospital Quetta

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ABSTRACT

Objective: To determine the extent and feto maternal factors contributing to perinatal Mortality.

Study Design: A prospective review study.

Place and Duration of Study: This study was Gynecological and Neonatal Intensive care units of BMCH, Quetta from January 2006 to December 2011

Patients and Methods: A prospective review of all still births from 24 weeks of pregnancy and on words and neonatal deaths within first seven days of life either in obstetric ward or neonatal nursery was done. The details of each mother and new born were recorded on standardized proforma.

Results: The perinatal mortality rate was 99/1000during last 6 years, 102/1000 in 2006, 97/1000 in 2011

Most common maternal cause for perinatal morality was hypertensive disorders of pregnancy 26%, then antepartum hemorrhage 23.8%, birth asphyxia 23%, Congenital anomaly contributed 5.3%, unexplained 7% of all.

Conclusion: Perinatal mortality is a major health problem caused by poor maternal health, lack of antenatal visits, multiparity, prematurity and infections of both mother and new born. Antenatal care, birth spacing, proper referral and standardized management during labour and in nursery can reduce the perinatal mortality.

Key Words: Perinatal Mortality, Neonatal Mortality, Antepartum Hemorrhage, Congenital Malformation.

INTRODUCTION

The perinatal mortality (PNM) is defined as, all still birth equal or more than 24 weeks of gestation (or birth weight of>5oo gm) to a death occurring during the first week of life.

PMR is estimated per 1000 total births which occur in one year period.[1] Perinatal mortality is a sensitive indicator of the quality of service provided to pregnant women and their newborn.[2,3] Perinatal mortality audit in an institution helps to find out not only the status of quality of services but also helps to determine the important cause of perinatal deaths and take measures to reduce it.[4] In first half of the 20th century, perinatal mortality in Europe in north America was as high as it is today in the developing world. A child born in the underdeveloped countries is, on an average, twenty times greater chance of dying before reaching the age of five years than a child born in a developed country.[5] Globally 130 million babies are born every year of which 4 million die in first 4 weeks of life and almost similar number of babies are stillborn.[2,6] Every year, out of 5.3 million births in Pakistan 270,000 newborn die, the rate of neonatal mortality is roughly 10 times higher than in US.[7,8] According to the United Nations Millennium Declaration, mortality among children younger than five years of age should be reduced to two thirds by 2015 but keeping in view the current PMR in Pakistan it seems impossible to achieve the goal by 2015.According to a study at Jinnah post graduate medical centre PMR in 1965-67 was 92 per 1000 and after the passage of 40 years the PMR is more or less the same.[4] Risk factors for higher perinatal mortality rate in developing countries like Pakistan are poor socioeconomic status, early marriages, multiparity, lack of proper antenatal care ,poor referral system of high risk pregnancies, antepartum, haemorrhages prolonged and difficult labor, and birth asphyxia, low birth weight, prematurity, congenital malformation and infections.[6,9,10]

PATIENTS AND METHODS

All perinatal deaths including stillbirths (SBs) and early neonatal deaths (ENNDs) within 0-7 days of birth after 24 weeks of gestation were prospectively analyzed at the Obstetrics and Gynaecology Department of Bolan Medical Complex Hospital Quetta, Balochistan from Jan 2006 to December 2011. The data was collected through a pre- designed proforma including variables such as maternal age, parity, gestational age, complications during pregnancy and /or labour, mode of delivery and details of SBs or ENNDs particularly birth weight, sex, Apgar score and possible cause of death.

Aberdeen (Obstetric) classification of perinatal deaths was applied in the survey for classification of perinatal causes, which is clinical and based on obstetrics risk factors, the mother are instructed to return for follow-up with newborn within the first 4 weeks of delivery or earlier less than 7days of age of newborn if a complication developed in mother or newborn. At or immediately after delivery if the newborn developed complications and needed neonatal intensive facilities were admitted in NICU.

RESULTS

During the study period total numbers of deliveries were 39014 and perinatal deaths were 3889. The average perinatal mortalitiy rate was 99/1000.

IUD`s or still births were 2294(59%) and neonatal deaths were 1594(41%).

During 2006 there were 6039 total deliveries and 621 perinatal deaths occurred so perinatal mortality rate was 102 / 1000 live births.

In 2007 there were 7241 total deliveries and 719 perinatal deaths occurred so perinatal mortality rate was 99/1000 live births.

In 2008 there were 6259 total deliveries and 631 perinatal deaths occurred so perinatal mortality rate was 100/1000 live births.

In 2009 there were 6039 total deliveries and 602 perinatal deaths occurred so perinatal mortality rate was 99/1000 live births.

In 2010 total number of deliveries were 6324 and perinatal deaths were 621 thus PMR was 98/1000

In 2011total deliveries are 7112 perinatal deaths were 695 thus PMR was 97/1000

The majority of perinatal deaths were in preterm infants 1478 (38%), out of this 826 (36%) were stillbirth and 785 (49%) were neonatal deaths.

The mean maternal age was 29.6 years and 873 (38%) of still births and 652 (41%) of neonatal deaths occurred in mothers less than 20 years of age. 803 (35%) of stillbirth and 622 (39%) of neonatal deaths occurred in primigravidae and 940 (41%) of stillbirth and 574 (36%) of neonatal deaths occurred in grand multiparae.

The birth weight distribution of the babies was comparable and 1586 (40%) of the babies weighed less than 2.5 Kg.

Table No.1: Perinatal Mortality Rate

Total No of Deliveries	**39014**
Total Perinatal Deaths	3889
Total Still Births	2294
Total Neonatal Deaths	1594
Perinatal Mortality Rate	99/1000

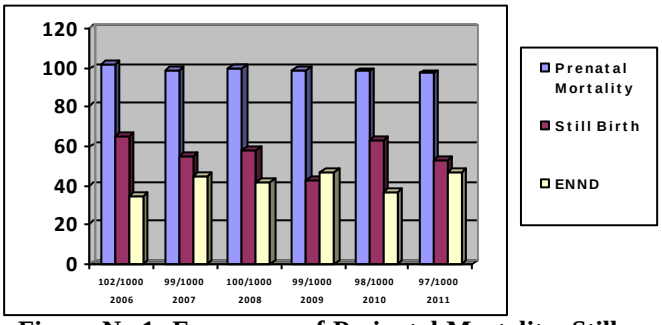

Figure No.1: Frequency of Perinatal Mortality, Still Birth and ENND

The commonest cause (26%) hypertensive disease of the mother, this include pregnancy induced hypertension (19%) and eclampsia (7%) of cases. The second common cause responsible for (23%) of deaths was antepartum heamorrage, (21%) causes of perinatal death were due to maternal factors included patients with obstructed or prolonged labour, ruptured uterus, cord accidents and difficult deliveries where intrauterine anoxia and birth trauma were responsible for the deaths. Diabetes melitis and other medical disorders contributed 6% of deaths. Maternal infection contributed for 6% of cases while congenital malformation, which caused deaths in (5.3%) cases.

Table No.2: Maternal demographic Details

Factors	Still Birth		Neonatal Deaths	
	Total N=2294	%age	Total N=1594	%age
Gestational Age				
Pre Term	826	36%	785	49%
Term	964	42%	573	36%
Post term	504	22%	236	15%
Parity				
G1	803	35%	622	39%
G2-G3	551	24%	398	25%
>G5	940	41%	574	36%
Maternal Age				
<20	873	38%	652	41%
20-35 Year	665	29%	368	23%
>35	756	33%	574	36%
Neonatal				
Weight	933	40%	653	41%
<2.5 KG	559	23%	415	26%
2.5-3.5 KG	802	35%	526	33%
>3.5 KG				

Table No.3: Maternal Risk Faction for PMR

Risk Factor	**No of Patients**	**% age**
Hypertensive disorders	1011	26%
Abruption Placentea	750	19.3%
Placenta Preavia	175	4.5%
Ante partum Hemorrhage	925	23.8%
Pre eclampsia Essential hypertension	739	19%
Eclampsia	272	7%
Mechanical Causes	816	21%
Prolonged, Obstructed Labour	466	12%
Ruptured Uterus	212	7%
Cord prolapse	78	2%
Congenital abnormities	206	5.3%
Maternal medical disorders	200	5.1%
Maternal diabetes mellitus	34	1%
Maternal Infection/sepsis	203	6%
Anemia severe	128	3.3%
Multiple pregnancies	78	2%
Un known	288	7%

Table No.4: Extended wiggles worth classification with percentage

S. No.	Extended Wiggles Worth Classification	Total N=3889	%age
1.	Un explained Ante partum	272	7%
2.	Congenital Malformations	206	5%
3.	Death from intrapartum asphyxia, anoxia or trauma	894	23%
4.	Immaturity	1478	38%
5.	Infection (maternal and fetal)	700	18%
6.	Hydrops ISO Immunization	78	2%
7.	Sudden infant death	260	7%

DISCUSSION

The average PMR since the last 6 years was 99/1000. The results are comparable to the studies in other areas of the country[2,6,12] in 2009, three million babies died in first month of life more than half occurred in 5 countries in which India ranks first where 7.8% of death took place Nigeria ranks second with of 7.2% while Pakistan was on third number it contributed to 6.9% of total mortality.[16,18]

The PMR in developed countries such as Denmark and Sweden is 8.0 per 1000 and 6.5 per 1000 total births respectively while PMR in England was 2.5 per 1000, with regards to gestational age 38% of the babies were born before 37 weeks same findings were found in other areas of country.[4,6,10,11] Extreme of maternal age, primi parity and grand multiparty is a risk factor for both mother and her baby due to associated mechanical and medical disorders. In our study most of the mothers were below 20 and above 40 years of age and were primi and grand multipara. As observed in other studies. [2,7,5,14]

49% of the babies had weight of <2,5 kg either due to prematurity or intra uterine growth retardation as seen in other studies.[16,17,19,20]

Among the maternal factors commonest cause of PMR was hypertensive disorders of mother. Second most common cause was antepartum hemorrhage which is due to multiparity,poor sociocconomic status, hypertension. The higher PNM related to labour difficulties remain in ever know risk factor, as we have seen obstructed and prolonged labour, ruptured uterus 19% of cases, results in intrapartum death, birth asphyxia, meconium aspiration These all are avoidable factors and treatable condition. While medical disorder especially anemia and infections of the mothers were also contributing factor to PMR.[16.17.19]

CONCLUSION

Perinatal mortality is still higher in our set up. Most of the factors are avoidable there is a need for increasing the effectiveness of health care facilities to improve the general health of mothers. proper antenatal visits identification of high risk pregnancy and her referral to concerned faculty good and vigilant peripartum care, neonatal care birth spacing and clinical audit at all levels is mandatory to improve the results

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