ORIGINAL

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PERINATAL MORTALITY

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A B S T R A C T

Objective: The aim of study was to assess perinatal mortality rate in mentioned period and to know the probable cause of the perinatal mortality. **Place & Period:** The study conducted at Gynae Unit III Lady Willingdon Hospital Lahore from January 2001 to December 2002. **Patients & Methods:** All the perinatal mortality occurring during the study period. Data collection done on designed performa. Patients detailed history, management & the probable cause of the perinatal mortality recorded. At the end of the study data was compiled. **Results:** Total number of births in the mentioned period was 7665. The number of perinatal death was 625. The perinatal mortality rate was 82/1000.In the study 560 (90%) cases were unbooked while 115(10%) cases were booked. Four hundred and thirty (69%) were neonatal deaths while 195(31%) cases were stillborn. Most of the patients belong to low socioeconomic group. Regarding the occupation 438 (70%) patients were house wives. Four hundred and sixty four (74%) patients were uneducated. One seventy (27%), 200 patients (32%) were multigravida and 255 (40.8%) patients were grand multigravida. The major cause of perinatal mortality was prematurity in 325 (52%), asphyxia neonatorum in 100(16%) cases, meconium aspiration in 30%) cases & congenital malformations in 40(6.8%) cases. **Conclusion:** Most of the causes of perinatal mortality are avoidable. By providing the proper antenatal care, developing the proper referral system in indicated cases and better peadatric training can reduce the perinatal mortality.

~~**KEY WORDS:** Perinatal mortality, Causative Factors~~

INTRODUCTION

Perinatal mortality is defined as the all babies born dead after 24 weeks of pregnancy (stillbirth) and all live born babies that die in the first week of life, regardless of gestational age at birth (neonatal deaths). About 12.5 million births, less than 9% of the world total take place in countries with under five mortality rates of less than 20/1000, while 42% of worlds birth, can occur in countries with under five mortality rate of more than 140/1000[1]. Two third of causes of perinatal mortality are associated with prenatal period. A child born in an

underdeveloped country has on average twenty times greater chance of dying before reaching the age of five years than a child born in a developed country [2]. Pakistan is one of the countries with a high perinatal mortality rate. There are noreliable estimates of perinatal mortality for Pakistan and most of the data is hospital based. A multicenteric survey from hospital based facilities indicated an overall PMR of 92 per thousand births with the majority of deaths (72%) due to still births[3].

Most recent estimates of infant mortality place it at about 84 per thousand live births and five years mortality rate of 112 per thousand [4] .Recent data however indicate that with increasing poverty, perinatal mortality rate may have climbed up to 104 per thousand live births[5]. Poverty, illiteracy, unhygienic environment, lack of proper antenatal care, big family size, social problems, gender discrimination all lead to poor health of mother and baby. The major causes of perinatal mortality in our set up are prematurity, birth asphyxia, low birth weight, tetanus, infections and malformations. The large number of such cases is easily preventable. The linkage of maternal and new born care is also important because of the common pathway for care and care providers. In Pakistan it is particularly important as majority of primary care for mother is provided by the traditional birth attendants[6].

Antenatal care is like preventive medicine. The quality and effectiveness of antenatal care is judged by the number of antenatal visits and perinatal outcome is directly related to this number. Prenatal care, aims at the identification and special treatment of high risk patients, the one whose pregnancy because of some factors in her medical history or significant development during pregnancy is likely to have poor outcome. The study was conducted to evaluate the perinatal mortality rate and to the probable causes of perinatal mortality.

PATIENTS & METHODS

The study was conducted from January 2001 to December 2002 at Gynae unit III Lady Willingdon Hospital Lahore. The perinatal record performa was designed to record the data. The data form included patients identity, detailed history, including obstetrical history, antenatal record, details of current pregnancy, mode of deliveries (SVD, instrumental delivery, breech delivery, and emergency/elective cesarean section) and the number of live births and the details of the ongoing pregnancy The patients were examined in detail. The patients were categorized as booked patients if they had three antenatal visits.

The causes of perinatal mortality were divided into groups including prematurity, asphyxia neonatorum, neonatal sepsis, abnormal babies, hypertension, diabetes mellitus, antepartum hemorrhage, meconium aspiration, and fetal distress. Regular ollow up of the babies in the nursery was made to keep record in the neonatology department, treatment given & the prognosis in the nursery. In case of still birth record of whether it was macerated still birth or fresh stillbirth. The perinatal mortality w is discussed in detail in monthly perinatal mortality meeting. To improve perinatal care, avoidable factors were discussed in detail.

RESULTS

Total number of births in the mentioned period was7665. The number of perinatal deaths was 625. The perinatal mortality rate was 82/1000. Out of 625 cases 195 (31 %) cases were still birth while 430 (69%) were neonatal deaths, in the study out of 625 patients, 560 (90%) patients were unbooked and 115 (10%) patients were booked. About 75% of patients were in age group between 15-30 years of age. Most of the patients, belong to low socioeconomic class.

Table-I. Age of Mother		
Age (Years)	Number	% age
15-20	218	35%

21-30	250	40%
> 30	157	25%

Table-II. Parity of Mother		
Parity	**Number**	**% age**
Parimigravida	170	27%
Multigravida	200	32%
Grand Multigravida	255	41%

Table-III. Perinatal Mortality		
	Number	**% age**
Received -ve heart sounds	80	13%
Received + ve heart sounds	545	87%

Table-IV. Education of Mother		
Education	**Number**	**% age**
Primary	462	74%
Secondary	125	20%
Higher	38	6%

Regarding the occupation 438 (70%) mothers were house wives .About 462 (74%) patients were uneducated 125 (20%) patients had primary education and only 38 (6%) patients had secondary education (Table-IV). and high perinatal mortality was observed in patients with low socioeconomic class.Regarding the parity, out of 625 cases170 (27%) patients were primigravida, 200 (32%) patients were multigravida while 255 (41%) patients were grand multigravida (Table-ll).

Patients were referred to the hospital after trial of dai /LHV or at some private clinics. Eighty percen patients were referred to the hospital in late labor. Three twenty five (52%) patients were prete;m, 280 (44%) at term and

20(4%) were post term (Table-VI) but due to prolonged trial of labor they presented with fetal distress., while 80(13%) patients were admitted with negative fetal heart sounds (Table-lll).

Table-V. Causes Perinatal Mortality		
Cause of Death	**Number**	**% age**
Prematurity	325	52%
Asphyxia Neonatorum	100	16%
Me conium	30	4%
Respiratory Distress Syndrome	43	7&
Congenital Malformations	40	6.8%
Neonatal Sepsis	50	8%
Diabetes Mellitus	27	4%

Table- VI. Gestational Age		
Maturity	**Number**	**% age**
Per term	325	52%
Full term	280	44%
Post term	20	4%

Table-VII. Weight of new born		
Weight (kg)	**Number**	**% age**
< 1.0	18	2.8%
1.0-2.0	204	32%
2.1-2.5	128	20.5%
2.6-3.0	188	30%
3.1-3.5	40	6%
3.6-4.0	35	5%
> 4.0	12	2%

In the study prematurity was the leading cause of death. Three twenty five (52%) patients had premature deliveries (Table-VI). These patients presented in the hospital in advanced stage of labour where tocolysis was not possible and there was not plenty of time for the steroids cover. If these patients had been admitted earlier, complications of prematurity had been avoided with antibiotic, tocolysis and steroids cover. During the study although few babies with weight of 1 Kg also survived in the nursery but among the weight range of 0.8 Kg to 1.9 Kg had the maximum mortality.

The second leading cause of death in the study was asphyxia neonatorum in 100(16%) babies. The other causes were congenital anomalies in 40 (6.8%) cases, meconium aspiration leading to fetal distress in 30 (4%) cases, hypertensive disorder complications in 43 (7%) cases, diabetes mellitus in 27(4%) cases& neonatal sepsis were identified in 50 (8%) cases (Table-V).

Antenatal care was the important determinant of the perinatal outcome. Highest perinatal mortality was observed among the patients who were unbooked and had multiple factors like anemia, infections, poor weight gain in pregnancy. It was observed that consequently many factors could be avoided or better managed like preeclampsia, diabetic complications, and preterm birth. Among the congenital anomalies 28 cases were at term and 12 cases were near term. These cases could be detected earlier and termination of pregnancy can be planned. Among 40 cases hydrocephalus was found in 12 cases, neural tube defects in 16 cases, hydropes fetalis in 4 cases, and multiple anomalies in 8 cases (TableV). Among the referred cases, most of the patients were handled at home by traditional birth attendants for prolonged period and had poor out come.

DISCUSSION

Pakistan is the seventh most populous country in the world. The bulk of the population lives in the rural areas [7].Pakistan has one of the best designs of a structured health system in the world, as it is principally a linked primary care system with a referral pathway from grass root basic health unit to main referral hospitals. But most of the births take place in domiciliary setting so traditional birth attendants are the main stay of the birth services.

In the study early neonatal mortality accounts for almost two third of all deaths. This correlates to an already conducted survey in Pakistan. The survey estimated that 62% of all neonatal deaths take place in neonatal period[8]. In the study the perinatal mortality rate was 82/1000 and 195 deaths were stillbirths. According to previous studies[9,10] there has hardly been any change in the last 25 years. A cohort study shows an overall infant mortality rate of 114 per thousand with 57% of the recorded deaths occurring during the neonatal period. The study also revealed that 35% of all deaths occurred in the first week of pregnancy [11, 12]The overall rate of consanguineous marriage was 46% and it correlates with already published study [13]. The high relation ship between consanguineous and pregnancy wastage has also been reported by the other workers1[4,15].

In order to implement suitable interventions it is important that accurate information of the etiology of the neonatal death is available. The reasons for these early deaths are uncertain. In the study large problems were due to sepsis, low birth weight babies especially in preterm deliveries, asphyxia and its related problems. This is also according to the already published data [16,17]. From the point of view of prevention the above date on causes of neonatal mortality indicate that a large percentage of such deaths are relatively easily preventable. The high rates of infective disorders seen in the neonatal period indicate the multiple factors such as unclean delivery, environmental contamination and lack of exclusive breast feeding. All play an important role. Greater concern was the observation of high rate of birth asphyxia even in a relatively affluent urban setting, indication of the unsatisfactory state of perinatal mortality.

Prenatal care is an important determinant of the fetal outcome. Prenatal care aims at the identification and special reatment of high risk patients; the one whose pregnancy, because of some factors in her medical history or significant development during pregnancy, such as preeclampsia/eclampsia is likely to have poor prognosis. Mortality and major morbidity increases with decreasing the gestationa, age [18].It was also in the study that low birth weight an important factor for the neonatal mortality. Low birth weight complications included late onset septicemia, chronic lung disease, severe intra ventricular haemorrhage, and necrotizing enterocolitis.

To reduce the perinatal mortality it is important that strategy should be planned to provide the community health services. Antenatal care, contraception advice, feeding and weaning practices, supplementation during pregnancy, immunization, safe delivery, proper referral in indicated case is important. The cause of death of neonate is difficult to establish as post mortem facilities are not available.

So it is suggested that by identifying the causative factors for the perinatal mortality steps can be taken to reduce it. As high risk mother has high risk pregnancies and deliver high risk babies, screening in antenatal period is important. High risk pregnancies should be treated preconceptionally or in early pregnancy. The role of ultrasound should be stressed in diagnosis of congenital malformations. The high risk pregnancies should be delivered in the setup with appropriate facilities.

It is also important that in a country where the bulk of infant mortality takes place in neonatal period, both undergraduate and postgraduate pediatric training programs should include sufficient aspects of basic newborn care.

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