STUDY TO KNOW MATERNAL CAUSES OF PERINATAL MORTALITY

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Abstract:
Objective: This study was performed to know the maternal causes for perinatal mortality.
Study Design: A cross-sectional study.
Place and Duration: Obstetrics and Gynecology Department, Holy Family Hospital, Rawalpindi. The study was conducted for two year duration from March 2015 to March 2017.
Materials and methods: The study population was consisted of still born deaths and premature and newborn deaths during the study period. For the sake of convenience, 100 cases were selected for this analysis.
Findings: During this period, 8202 deliveries were made and 678 perinatal deaths occurred. Without this study, it was found that for perinatal mortality the maternal causes which are most important were eclampsia, preeclampsia, and obstructed labor.
Conclusion: For neonatal and maternal care the most sensitive indicator is perinatal mortality rate.
Key Words: *Perinatal mortality, maternal risk factors, premature, still born.*

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INTRODUCTION:

The number of stillbirths and the death of the first weekly delivering every week are known as perinatal mortality rate. It is the most sensitive indicator of mother and newborn care. In developing countries, 98% of perinatal deaths occur. For observing progress towards the Millennium Development Goal the sensitive indicator is perinatal mortality rate. Without decreasing perinatal mortality, it is difficult to decrease infant mortality rate, neonatal mortality rate and below-five mortality ratio. Among the major perinatal mortality causes, the most common is high-risk pregnancy. Among the perinatal deaths, still born were 70%. After 24 hours from birth 15.5% and the rest of the deaths took place after 3-8 days of birth. Pregnancy and birth related causes accounted for perinatal deaths are 21%. Women with fewer antenatal visits have lower perinatal death ratio than with more frequent visits. High-risk pregnancy is the common cause of morbidity or mortality before, during, or after birth of the mother, fetus, or newborn. Factors linked with high-risk pregnancies are gestational age, maternal age, during pregnancy complications and delivery, maternal illness, poor economic conditions, no pre-natal obstetric history. The risk of preeclampsia, eclampsia, IUGR and maternal malnutrition has increased in adolescents. > 35-year-old women are at increased risk of hypertension due to pregnancy; diabetes and obesity, preeclampsia, placenta previa and cesarean section. Primi and grand multi were linked to poor perinatal results. Preterm birth constituted perinatal mortality as 27%. Complications during delivery and pregnancy have increased the risk of perinatal mortality by five times, such as obstructed or prolonged labor, hypertensive diseases and abnormal fetal position during pregnancy. 30% of perinatal deaths are associated with these factors. Maternal diseases such as hypertension, diabetes mellitus, TORCH infection, heart disease are also risk factors for a perinatal mortality. Determination of the maternal risk factor by an effective and timely intervention may decrease perinatal mortality. This study was performed to determine the perinatal mortality ratio and to evaluate the maternal causes responsible for perinatal death and to evaluate other relevant factors to formulate the prevention measure. The maternal most important causes for perinatal mortality are eclampsia, preeclampsia and obstructed labour.

MATERIALS AND METHODS:

This cross-sectional study was held in the Obstetrics and Gynecology Department, Holy Family Hospital, Rawalpindi. The study was conducted for two year duration from March 2015 to March 2017. The objective of the study was to know maternal causes for perinatal mortality. The study population here was the whole case of premature and newborn deaths during the study period. A total of 100 cases were studied for convenience sampling. Inclusion criteria were greater than 28 weeks gestational age or less than 1kg Birth weight. The gestational age was <28 weeks and the fetus was removed without congenital anomaly. The data were collected using a pre-designed survey. The relevant information has been collected from medical records. Using SPSS version 14.0 the data were analyzed.

RESULTS:

During this period, 8202 deliveries were made and 678 perinatal deaths occurred. Without this study, it was found that the most important maternal causes for perinatal mortality were eclampsia, preeclampsia and obstructed labor.

Table I. shows that the 82.66 per 1000 births perinatal mortality ratio; the 65.59 was still birth ratio at 1,000 births and 17.06 at 1,000 total births was the early neonatal mortality rate and Table II shows that 73% of still births and early neonatal mortality were 27%.

Table I: Rate of perinatal death, still births & early neonatal death during study period

Total delivery- 8202	
Perinatal death- 678	Perinatal mortality rate- 82.66
Still births- 538	Still births rate- 65.59
Early neonatal death- 140	Early neonatal death rate- 17.06

Table II: Perinatal death among the study population (n-100)

Perinatal death	Number	Percentage (%)
Still birth	73	73
Early neonatal death	27	27

Table III shows that perinatal mortality is associated with lack of education, 45% and lower socioeconomic status 48%, and Table IV: Decision-making duration (45%) is the main reason for entrepreneurial delay. Some patients have multiple causes.

Table III: Socioeconomic and educational status of the patient with perinatal death (n= 100).

Factors		Number	Percentage
Socio economic condition	Lower class	48	48
	Lower middle class	33	33
	Middle class	19	19
Educational status	No education	45	45
	Primary	36	36
	Secondary	14	14
	Higher secondary	3	3
	Higher education	2	2

Table IV: Causes of delay in getting admission (n-100)

Causes	Number	Percentage (%)
Economic	30	30
Distance	26	26
Decision making	45	45
Ignorance	27	27

Table V: 28% of the mothers are below 18 years of age, approximately 61% have primary, 6% have regular prenatal visits, 21% have recurrent pregnancy loss, and 85% of Table VI cases have risk factors .

Table V: Maternal factors for perinatal death (n-100)

Factors		Number	Percentage
Maternal age	<18 year	28	28
	19-34 year	65	65
	>35 year	7	7
Parity	Primigravida	61	61
	Multigravida	39	39
Antenatal visits	Regular ANC	6	6
	Irregular	54	54
	No ANC	40	40
Recurrent pregnancy loss	Absent	79	79
	Present	21	21

*(ANC-Antenatal care)

Table VI: Risk factors for perinatal death identified on admission (n-100)

Risk factors	Number	Percentage
Risk factors present	85	85
Risk factors absent	15	15
One risk factor	58	58
Multiple risk factors	27	27

Table VII. Perinatal death is the most important cause of obstructed labor with eclampsia and preeclampsia. Some patients have multiple risk factors, and Table VIII shows that 47% of cases have vaginal delivery and 24% are cesarean sections.

Table VII: Maternal risk factors for perinatal death identified on Admission (n-100)

Risk factors	Number	Percentage
Eclampsia	11	11
Pre-eclampsia	19	19
Heart diseases	1	1
Diabetes	1	1
Bronchial Asthma	1	1
Placenta Praevia	6	6
Cord prolapse	4	4
Obstructed labour	24	24
Ruptured uterus	2	2
Intra uterine death	10	10
Abruptio placenta	5	5
Previous caesarean section	8	8
Others	8	8

Table VIII: Mode of delivery (n-100).

Variables	Number	Percentage
Vaginal delivery	47	47
Ventouse	8	8
Forceps	9	9
Breech extraction	9	9
Caesarean section	24	24
Caesarean Hysterectomy	1	1
Repair of rupture uterus	2	2

Table IX shows that 37.03% of 27 early neonatal deaths occurred with APGAR 4 or fewer points and 14.81% with 0 APGAR score of 5 minutes. At about 7.4% of cases, the APGAR score was between 7 and 10 within 5 minutes, but eventually it was murdered and Table X showed the Fetus was already dead and 41% had fetal distress (% FD 30% and mild FD 11%), more than half of the patients who applied (% 55).

Table IX: At 1 and 5 minutes APGAR score in case of Early neonatal death (n=27)

APGAR SCORE	APGAR SCORE @ 1 MIN. Number	APGAR SCORE @ 1 MIN. Percentage	APGAR SCORE @ 5 MIN Number	APGAR SCORE @ 5 MIN Percentage
0	0	0	4	14.81
1 - 4	10	37.03	14	51.85
5 – 6	14	51.85	7	25.92
7 – 8	3	11.11	2	7.4
9 - 10	0	0	0	0

Table X: Fetal condition at the time of admission

Fetal condition on admission	Percentage
Dead	55
Severe fetal distress	30
Mild	11
No fetal distress	4

DISCUSSION:

Perinatal mortality rates in Pakistan are three to four times higher than in developed countries. Facilities for monitoring prenatal care deficiency, fetal prenatal health and institutional care, and poor neonatal care services cause high perinatal mortality to persist. Perinatal mortality rate is higher in Pakistan. In rural areas, this death rate is higher than in other parts of India. Many factors, such as lack of education, socio-economic and cultural traditions, decision making, are the main cause of delay in application. For this reason, it is important to explore the real causes associated with increased perinatal mortality in this area. Perinatal mortality rate in this study is 82.66 / 1000 births. Goldfield Medical Sciences and Research Institute is a referral hospital for tertiary care. Empty births and early neonatal death are the most common risk factors for eclampsia young age and malnutrition eclampsia are the most common risk factors, contributing approximately 73% and 27% respectively. These perinatal deaths were found to be associated with poor education (45%) and socioeconomic status (48%) deficits, 28% of mothers were 61% cousins, 18% were gravida, only 6% had previous perinatal mortality He had. In this study, 85% of perinatal mortalities were found to be one or more risk factors. Of these, 58% had a risk factor and 27% had multiple risk factors. Eclampsia (11%), preeclampsia (19%) and obstructed labor (24%) were the main risk factors. In this study 47% of cases had vaginal birth and 24% had LSCS. The presentation of the fetus was cephalic in 75% and breech presentation in 17% of the cases. 55% of the cases died, the fetus died, and another 30% had severe fetal distress. Among early 27 neonatal deaths, 37.03% were born with Apgar score of 4 or less and 14.81% had Apgar score from 0 to 5 minutes. Approximately 7.4% of the cases had an APGAR score of 7 to 10 within 5 minutes, but they were eventually killed. Approximately 33.33% of newborn deaths occurred within the next 10 minutes and 88.87% within 24 hours after birth. There were 186 infant deaths; perinatal mortality rate was 64.5 / 1000. Another clinical study conducted in the hospital in Dhaka,

Mirpur, between 1994-1997 the perinatal mortality risk was 5 times higher for women who had bleeding before delivery, 2.7 times higher for women with hypertensive disorders.

CONCLUSION:

Perinatal mortality is a sensitive indicator of the quality of care provided to pregnant and newborn women. The main causes of fetal death in this study are eclampsia, preeclampsia, and obstructed labor. Other causes were home testing, unconscious use of oxytocin, no recognition of contracted pelvis, poor presentation and late admission in critical situations. The main reason for premature death is asphyxia at birth due to difficult birth. The increase in drowning deaths reflects the late derivation of cases of fetal distress resulting in inadequate and inadequate supervision and stillbirth. In order to improve the situation, the target group is encouraged to receive health education and to use inadequate health services. Legislation that requires antenatal care and delivery to the hospital may also be useful.

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