ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

PRETERM BIRTH AND ITS OUTCOME IN A TERTIARY CARE HOSPITAL: A CROSS SECTIONAL OBSERVATIONAL STUDY

KEY WORDS:

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Introduction:
Preterm birth is the principal unsolved problem in perinatal medicine. Nearly 15 million infants were born prematurely in 20101 —more than 1 in 10 of all births. Over 1 million babies die of the consequences of being born too soon: one every 30 seconds.

Consequences of preterm birth for surviving infants extend across the life course and include neurodevelopmental, respiratory, gastrointestinal, and other morbidities.

Preterm birth is a unique condition, defined by time rather than a distinct phenotype or pathology. The duration of pregnancy at birth reflects two major correlates of maternal and fetal health: (1) whether the birth was occasioned by a normal or an aberrant pathway, and (2) whether the infant has reached maturity at birth.

Infants born at full term after the spontaneous onset of normally progressive labor are most likely to be healthy and mature. A process that leads to birth before the fetus has fully matured suggests that continued pregnancy may carry some health risk for the mother or the fetus, or both. Thus, premature parturition may provide a health advantage over continued pregnancy for the mother and infant and yet also may compromise an immature infant's health.

Clinical presentations of spontaneous preterm delivery include preterm labor with intact membranes, preterm premature rupture of membranes (pPROM), preterm cervical effacement or insufficiency, and some instances of uterine bleeding of uncertain origin. Indicated preterm births are medically caused or initiated and are actively undertaken in response to maternal or fetal compromise. This categorization scheme has fallen under scrutiny in recent years.

Hence present study was done to assess the maternal and fetal outcomes among pre-term delivery and risk factors associated with pre-term labour.

Aims and objectives:
Aim:
To assess common risk factors associated with pre-term labour and its outcomes.

Objectives:
1. To quantify the causes of preterm birth
2. To identify any changes in risk factors of pre-term birth with increased access to health care
3. To identify cases which need intervention
4. To study perinatal outcomes of preterm births

Materials and methods:
Study site: This study was conducted in the Department of obstetrics and gynaecology RMC GGH, Kakinada.

Study population: All women who were admitted in labor ward with gestational age of 28 to 37weeks

Study design: The current study was a hospital based cross-sectional observational study.

Sample size: 150
Inclusion criteria:
1. All patients admitted in labor room with gestational age of 27 to 32weeks
2. Mode of delivery – vaginal or LSCS
3. Primi and multigravidae

Exclusion criteria:
1. Unwilling patients
2. Pregnancies of gestational age less than 27weeks and more than 37weeks
3. Congenital anomalies
4. Women with unknown LMP and no early weeks scan
5. Women delivering outside of GGH and coming for post-natal care

Methodology:
Women who have delivered between 28-37 wks of gestation at GGH Kakinada were enrolled and after informed written consent demographic details ,socioeconaomic status, ante partum and intrapartum details like gestational age, parity, physical work, habbits such as smoking , alcohol, drugs and co morbidities like preeclampsia, gestational hypertention were recorded in a predesigned proforma Investigations such as complete blood count, liver function test, renal function test, random blood sugar, vaginal and cervical swab for culture and sensitivity were done. Pre-pregnancy health records were obtained.

Statistical methods:
Data was entered in to MS excel 2016 and analyzed. Descriptive analysis was carried out by mean and standard deviation for quantitative variables, frequency and proportion for categorical variables. Data was also represented using appropriate diagrams like bar diagram, pie diagram and box plots.

Pearson chi square test and ANNOVA test were used to correlate variables. Statistical analysis was made with IBM SPSS 20.0 software and P value of <0.05 was considered significant.

Results:
A cross sectional observational study was done among 150 pregnant women admitted in the department of obstetrics and gynaecology, RMC GGH, Kakinada

Table 1: Distribution of pregnant women according to maternal age (n=150):

Age (years)	N	%
≤ 20	7	4.7
21 – 25	88	58.7
26 – 30	34	22.7
31 – 35	21	14.0
Total	150	100.0

Table 2: Distribution of pregnant women according to parity (n=150):

Parity	n	%
Primi	98	65.3
Multi	52	34.7
Total	150	100.0

Table 3: Distribution of pregnant women according to antenatal booking status (n=150):

Status	n	%
Booked	58	38.7
Unbooked	92	61.3
Total	150	100.0

Table 4: Distribution of pregnant women according to gestational age in weeks (n=150):

Gestational age (weeks)	n	%
28 – 31	8	5.3
32 – 34	97	64.7
35 – 37	45	50.0
Total	150	100.0

Table 5: Distribution of pregnant women according to type of labor (n=150):

Type of labor	n	%
Spontaneous	105	70.0
Induced	45	30.0
Total	150	100.0

Table 6: Distribution of pregnant women according to risk factors (n=150):

Risk factors	N	%
PROM	51	34.0
Hypothyroidism	23	15.3
Pre-eclampsia	22	14.7
Oligohydramnios	17	11.3
UTI	11	7.3
Previous pre-term birth	10	6.7
Gestational hypertension	6	4.0
Anemia	6	4.0
Miscarriage	6	4.0
Placenta previa	4	2.7
Placental abruption	3	2.0
Cervical incompetency	3	2.0
GDM	2	1.3

Table 7: Distribution of pregnant women according to treatment profile among mothers (n=150):

Treatment profile	N	%
Steroid	136	90.7
Completed doses	46	33.8
2 doses	61	44.9
1 dose	29	21.3
MgSO4	22	14.7
Tocolytics	14	9.3

Table 8: Distribution of pregnant women according to mode of delivery (n=150):

Mode of delivery	n	%
NVD	119	79.3
CS	31	20.7
Total	150	100.0

Table 9: Distribution of pregnant women according to neonatal mortality rate (n=150):

Mortality	N	%
Alive	134	89.3
Dead	16	10.7
Total	150	100.0

Table 10: Distribution of pregnant women according to neonatal cause of death (n=150):

Causes	N	%
Sepsis	7	43.7
Respiratory distress	5	31.3
Hypoxic ischemic encephalopathy	2	12.5
Intraventricular hemorrhage	1	6.3
Necrotizing enterocolitis	1	6.3
Total	16	100.0

Table 11: Distribution of pregnant women according to duration of death from birth (n=150):

Duration of NND	N	%
≤ 2days	3	18.8
3 – 8 days	7	43.7
9 – 14 days	6	37.5
Total	16	100.0

Table 12: Distribution of pregnant women according to birth weight of new born (n=150):

Birth weight (gms)	N	%
≥ 2500	15	10.0
1501 – 2500	94	62.7
1001 – 1500	37	24.7
≤ 1000	4	2.7
Total	150	100.0

Table 13: Distribution of new born according to APGAR score (n=150):

APGAR	N	%
7 – 10 (normal)	129	86.0
4 – 6 (moderately depressed)	17	11.3
0 – 3 (severely depressed)	4	2.7
Total	150	100.0

Table 14: Distribution of new born according to requirement of NICU admission (n=150):

NICU	n	%
Yes	79	52.7
No	71	47.3
Total	150	100.0

Conclusion:

Compared to term birth, preterm birth results in an impressively increased risk of unfavourable perinatal outcomes in terms of newborn morbidity and mortality. Preterm birth has a particularly significant negative impact on the health systems of poor nations. By identifying the pathophysiology particular to that group, a routine goal-oriented population-based clinical audit of the sociodemographic profile, risk factors, and prenatal morbidity and death associated with this condition can enhance clinical results. The results of this study give a broad overview of the etiological causes, perinatal health issues, and management in a tertiary hospital that are connected to preterm delivery in an Eastern Indian context that is semi-rural or rural. According to the findings of our study, governments and healthcare professionals could use this information to take proactive measures for managing and preventing preterm birth in developing nations. Through this study it is observed that with increase in access to health facilities and tertiary care services the risk factors were being

identified early and measures are being taken to prevent preterm birth and to reduce the perinatal morbidity and mortality of preterm babies.

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