

10 STUDY OF EPIDEMIOLOGICAL PROFILE OF PRETERM DELIVERIES Dr Sachi Joshi , DrSushmaShah , DrMegha Patel , DrShashwatJani

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ABSTRACT

Objective: To study the epidemiological profile of preterm deliveries

Study Design :Retrospective Observational Study

Duration of Study :1 year : June 2014 to May 2015

Patient and Methods :Data was collected from the case papers of pregnant women and their outcome was studied .

Results :As many as **10%** of products of conception end up being delivered prematurely²

Conclusion : Most common causes of neonatal mortality can be attributed to prematurity or related complications. By studying the epidemiological profile of premature deliveries, causes can be classified **as preventable, partially preventable and non-preventable.**³By identifying preventable causes of preterm deliveries and providing necessary timely interventions, many-a- lives can be saved. Our study was a small step in realizing this dream.

Key words: Pre-term, Sepsis, Outcome, Maternal age, incidence, sex predisposition, Causes, Mortality outcome.

INTRODUCTION

*Preterm is defined as babies born alive before 37 weeks of pregnancy are completed. There are sub-categories of preterm birth, based on gestational age:
extremely preterm (<28 weeks)
very preterm (28 to <32 weeks)
moderate to late preterm (32 to <37 weeks).*

In 2012, WHO and partners published a report "Born too soon: the global action report on preterm birth" that included the first-ever estimates of preterm birth by country⁴. More than three-quarters of premature babies can be saved with feasible, cost-effective care, e.g. essential care during child birth and in the postnatal period for every mother and baby, antenatal steroid injections (given to pregnant women at risk of preterm labour and meeting set criteria to strengthen the babies' lungs), kangaroo mother care (the baby is carried by the mother with skin-to-skin contact and frequent breastfeeding) and antibiotics to treat newborn infections.

OBJECTIVES

1. To find **prevalence rates and causes** of preterm deliveries in a tertiary care hospital in a period of 1 year amongst randomly chosen 1000 deliveries and make necessary interventions to prevent morbidity and mortality
2. To identify the outcome of prematurely delivered babies and look for intra-partum or peri-partum ways to modify them.

METHODOLOGY

Study Model: Retrospective Observational Non-interventional Study of 100 cases year amongst randomly chosen 1000 deliveries.

Study Period: 1st June 2014 to 31st May 2015

Study Site: NHL MMC, Smt. S.C.L. General Hospital

Method: Data was collected from the case papers of pregnant women and their outcome was studied.

OBSERVATION & DISCUSSION

Table 1 : INCIDENCE OF PRETERM BIRTHS

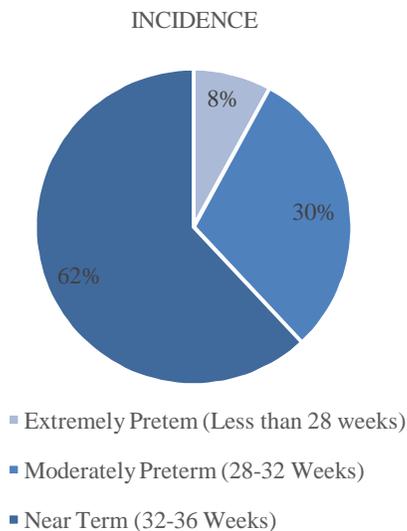
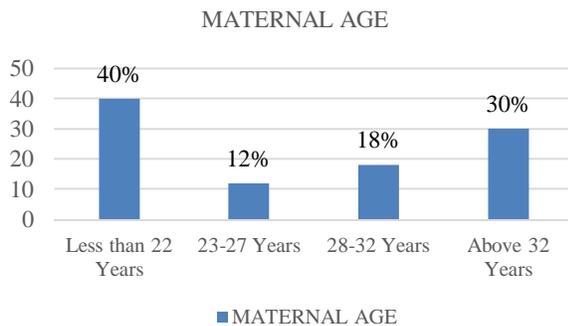


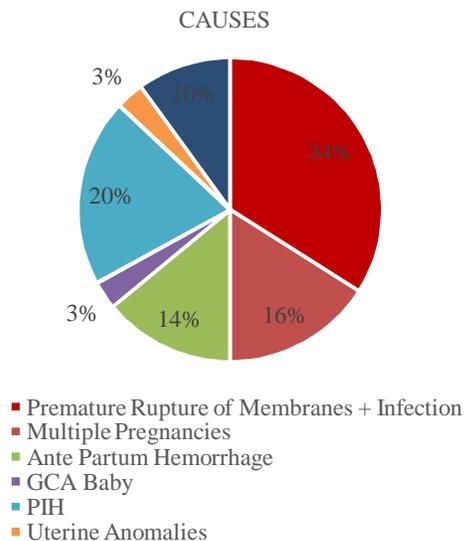
Table 2 : Maternal Age related Distribution of Preterm Births



On graphical representation this shows a **biphasic curve**. A teenage mother as well as an elderly mother are more likely to deliver preterm babies.

Most of the multipara in this study belonged to **low socio economic societies** who are more prone to nutritional deprivation, unhygienic conditions and lack antenatal care which ultimately results in preterm birth. Teenage mother results due to early marriage and lack of contraception knowledge. **Advanced maternal age** is mostly associated with genetic abnormalities, maternal malnutrition, prior preterm births and fetal loss.

Table 3 : Causes of Preterm Labor



Causes can be **medical or obstetrical**, however most often the cause of prematurity remains unknown.

Premature rupture of membranes occurs before 37 weeks and is the highest, PROM mostly results in oligohydramnios and chorioamnionitis both of which result in preterm deliveries.

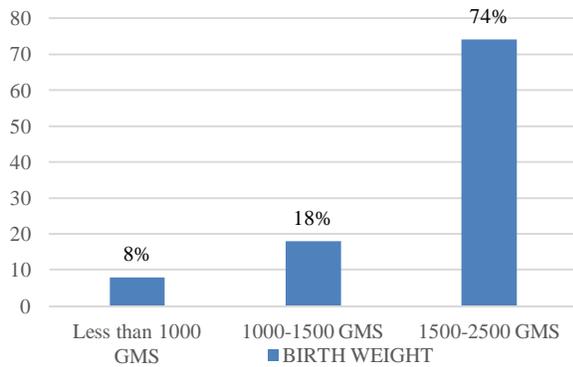
2nd highest cause of preterm birth is PIH, **pregnancy induced hypertension results in placental changes**.

Increase in IVF programs has resulted in increase in **multiple gestation**. Multiple gestations are associated with overdistention of the uterus which results in preterm rupture of membranes and preterm delivery. Preterm births result more in abruption due to uterine contractions.

Miscellaneous reasons which includes stress, tobacco chewing, nutritional challenge, cervical incompetence, alcohol abuse.

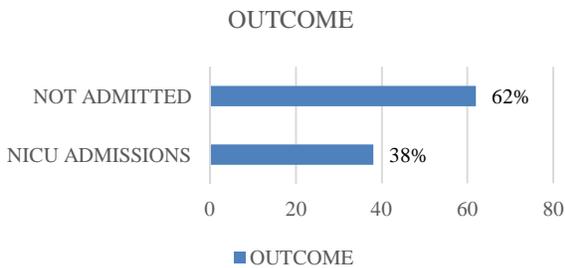
Table 4 : Distribution according to Birth weight in preterm babies

BIRTH WEIGHT



Most of the babies are Between 1.5 and 2.5 g. Those below 1.5 Gms who require respiratory support, they may need ventilation or CPAP where the baby does the work of breathing with some extra air pressure to keep the lungs open

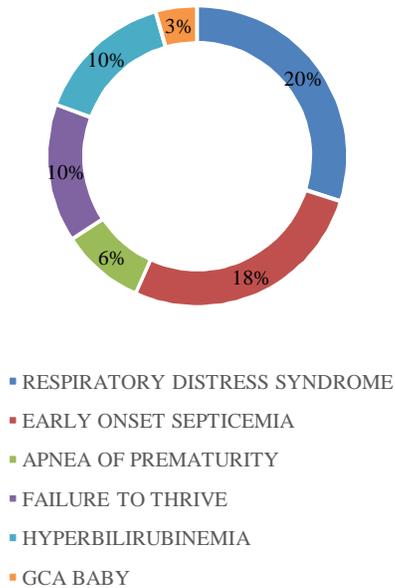
Table 5 :NICU Admission



Out of the 100 preterm delivered babies **38 were found to have been admitted in NICU due to respiratory, hemodynamic and metabolic instability** which makes it difficult for the baby to survive in extra uterine life. **Respiratory illnesses** including the lower respiratory tract infection are the dominant cause for hospital admission. More babies survive premature birth, but serious health problems remains unchanged.

Table 6 : Complications in NICU Admissions

COMPLICATIONS IN NICU ADMISSIONS



The most common cause for which the babies are admitted is **respiratory distress syndrome**, here the babies have breathing difficulties due to lack of agent surfactant in the lungs, treatment includes ventilator or CPAP, steroids before delivery reduces the risk.

2nd most common cause is **early onset septicemia**, infections are common because of a much compromised immune system, and serious infections commonly seen are pneumonia, sepsis and meningitis.

CONCLUSION:

1. As many as **10%** of products of conception end up being delivered prematurely²**N**
2. A number of factors in **the mother, the placenta and in the baby** can result in preterm birth.
3. Preterm births are on the rise due to **increased frequency of multiple births, young or advanced maternal age, low BMI, short inter pregnancy intervals, pre existing , non-communicable diseases, hypertensive disorders of pregnancy, infections and increasing psychological stress.**
4. Interventions to reduce the morbidity and mortality of preterm birth can be:
 - **PRIMARY** - which is directed to all the pregnant women, which includes Routine antenatal carebehavioural, social and financial support to women, health education for all women

- **SECONDARY-** *which is aimed at eliminating or reducing existing risk on the basis of obstetric history eg, a previous preterm birth or unknown uterine anomaly or present pregnancy risk factors eg, multiple gestation, bleeding, pre-eclampsia, IUGR, diabetes, thyroid disease, heart disease, asymptomatic bacteriuria*
- **TERTIARY-** *interventions that can prolong pregnancy and improve health outcomes and survival for the premature baby, antenatal transfer of the mother and the fetus to a hospital equipped to care for preterm infants, antibiotic treatment of PROM delays labour, prevents neonatal infection and cerebral damage, antenatal administration of corticosteroids to the mother reduces the neonatal morbidity and mortality, administration of magnesium sulphate to women at risk reduces the rate of cerebral palsy and improves long term neonatal health outcomes.*

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