

STUDY OF PREMATURE BABIES IN RELATION TO ITS OUTCOME AND ANTENATAL RISK FACTORS AT GENERAL HOSPITAL SANGLISatish D. Ashtekar¹, Suresh K. Kumbhar², Renuka S. Ashtekar³**HOW TO CITE THIS ARTICLE:**

Satish D. Ashtekar, Suresh K. Kumbhar, Renuka S. Ashtekar. "Study of Premature Babies in Relation to its outcome and Antenatal Risk Factors at General Hospital Sangli". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 30, July 28; Page: 8506-8510, DOI: 10.14260/jemds/2014/3078

ABSTRACT: OBJECTIVE: To know the neonatal outcome and antenatal risk factors among premature babies. **MATERIAL & METHODS: STUDY DESIGN:** A retrospective study. **SETTING:** Neonatal Intensive Care Unit (NICU) of General Hospital Sangli under Government Medical College, Miraj. **SAMPLE SIZE:** 134 Premature babies admitted during the year 2013 in NICU. **DATA COLLECTION:** From the case sheet of the study subjects, with the help of pre structured proforma. **STUDY PERIOD:** January 2013 to December 2013. **STATISTICAL ANALYSIS:** Data analyzed with percentages. **RESULTS:** Out of 134 premature babies 34 (25.3%) were SGA, 24 (17.9%) LGA and 78 (58.2%) were AGA. Jaundice (44.7 %), RDS (37.3 %) and Sepsis (14.9 %) were the commonest morbidities among the premature babies. RDS (85.4%), Sepsis (10.4 %) and Aspiration Pneumonia (4.1 %) were the causes of mortality. Mortality was higher among premature babies with birth weight < 1400grams. PROM (50.7 %), Anemia (35.8 %) and Twin (17.9 %) were the maternal risk factors. **CONCLUSION:** Jaundice, RDS and Sepsis were the common morbidities among the premature babies. Overall mortality among premature babies was 35.8 %. PROM and Anemia are the commonest maternal risk factors for the premature births.

KEYWORDS: Antenatal risk factor, Pre mature birth, Mortality.

INTRODUCTION: Preterm birth is one of the major clinical problems in neonatology, as it is associated with perinatal mortality, serious neonatal morbidity and in some cases childhood disability. Preterm babies is very challenging complications encountered by the pediatricians.¹

Due to continued innovation in neonatal intensive care facilities and obstetric interventions, fetal survival is now possible even at 20weeks gestation in developed countries. However in developing countries, survival is rare below 28weeks of gestation. Incidence of preterm birth is rising worldwide because of increased frequency of multiple births, due to increasing psychological stress and medically induced preterm delivery. However during the last two decades, the survival of premature infants has significantly increased due to advancement in perinatal and neonatal treatment expertise and improvement in the care of high risk mother. The survival rate of low birth weight babies has increased from 10% to 50–60%.²

According to many studies conducted in India and abroad various maternal risk factors have been identified for the premature births as well as outcome of premature babies have been studied. In this study, we tried to find out maternal risk factors and the neonatal outcome among premature births in our hospital.

OBJECTIVES

1. To study neonatal outcome among premature babies.
2. To know the maternal risk factors among premature babies.

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MATERIALS AND METHODS: A retrospective study was conducted on 134 premature babies admitted in Neonatal Intensive Care Unit of General Hospital Sangli, during the year 2013. Data in relation to demographic profile, antenatal risk factors, neonatal complications, treatment profile and outcome was collected with the help of case sheets of premature babies obtained from Medical Record Section and analyzed with percentages and proportions.

Inclusion Criteria: All the Live born infants delivered before 37 weeks of gestation and admitted in Neonatal Intensive Care Unit.

To find out the morbidity pattern, in each preterm neonate at the time of admission in NICU, following blood investigations like TC /DC (Total count/ Differential count), P/ S (Peripheral smear), ESR (Erythrocyte sedimentation rate) , Band count, CRP (C-reactive protein) and Blood sugar levels were done wherever necessary.

Other investigations were carried out, as and when thought to be necessary like X ray chest /or other , Sr. electrolytes, Sr. blood urea , Sr. Calcium, Blood Culture, Cranial ultrasound, EEG, CT and MRI study.

OBSERVATIONS: Out of 134 premature babies, 84 (62.6 %) were female babies and 50 (37.3 %) were male babies. 34 (25.3%) of these babies were Small for Gestational age (SGA), 24 (17.9%) of the babies were Large for Gestational age (LGA) and 78 (58.2%) were Appropriate for Gestational age (AGA).

80.5% (108) babies birth weight was < 1600 grams and only 19.5% (26) babies birth weight was > 1600 grams but none of the babies birth weight crossed 2000 grams.

Diseases	No.	Percent (n=134)
Jaundice	114	44.7
RDS (Respiratory distress syndrome)	97	37.3
Sepsis	43	14.9
Birth asphyxia	26	7.4
Others	28	10.4

Table 1: Clinical profile of premature babies

Conditions are mutually exclusive.

Among 134 premature babies 48 (35.8%) died and their cause of death given in the Table 2.

Cause of death	No.	Percent (n=48)
RDS	41	85.4
Sepsis	5	10.4
CHD (Congenital heart disease), Aspiration pneumonia	2	4.1
Total	48	

Table 2: Cause of death among died premature babies

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Birth Weight	No.	Death	Mortality %
< 800	6	6	100
800-1000	12	10	83.3
1000-1200	24	10	41.6
1200-1400	28	10	35.7
1400-1600	38	6	15.8
1600-1800	16	4	25
1800-2000	10	2	20
Gender wise			
Male	50	20	40
Female	84	28	33.3

Table 3: Mortality of the premature babies in relation to their birth weight and gender

Among 134 premature babies 64 (47.7%) babies were of first birth order, 44 (32.8%) were of second birth order, while 26 (19.3%) were of birth order third or more. Table 4 shows distribution of premature babies in relation to maternal age.

Age of mother	No.	Percent (n= 134)
18-20	36	26.8
21-23	54	40.3
24-26	38	28.3
27-29	2	1.5
30-32	4	2.9

Table 4: Distribution of premature babies in relation to maternal age

Among 134 premature babies, 97 (72.3%) belongs to families of Lower socio economic status, 23 (17.1 %) belongs to families of Upper lower socioeconomic class and 14 (10.4%) belongs to Lower middle class.

Antenatal condition	No.	Percent (n= 134)
PROM (Prolonged rupture of membrane)	67	50.7
Anemia	49	35.8
Twin	24	17.9
Oligohydroamnios	18	13.4
PIH (Pregnancy induced hypertension)	16	11.9
BOH (Bad obstetrics history)	12	8.9
Breech	7	5.9
Eclampsia	6	4.5
Hyperthyroidism	3	1.5
Congenital anomaly	2	1.5

ORIGINAL ARTICLE

Fever	2	1.5
Hypothyroidism	2	1.5
Impending DIC (Disseminated intravascular coagulation)	2	1.5
Table 5: Antenatal risk factors among premature babies		

*Conditions are mutually exclusive.

DISCUSSION: In this study commonest morbidities among preterm babies were Jaundice, RDS and Sepsis. Similar findings observed by Arvind Sehgal, Sucheta Telang et al³ in their study. While Wei-Qin Zhou et al⁴ found RDS, Sepsis and Pulmonary hemorrhage are the commonest morbidities among preterm babies.

In this study overall mortality was 35.8% which is almost similar to other studies.^{5,6} While in a study conducted by Mehta B. et al⁷ found overall mortality was 17% and in a study by Singh Uma et al¹ overall mortality was 12.7% . Common causes of mortality were RDS (85.4 %), Sepsis (10.4 %) and Aspiration pneumonia (4.1 %). In a study conducted by Singh Uma et al¹ common causes for mortality were RDS (62%), Sepsis (16.8%) and Birth asphyxia (9.2%). K. K. Roy et al² found sepsis (20.3%) was the main cause of mortality.

In present study commonest antenatal risk factors among study subjects were PROM (50.7%) and Anemia (35.7%). In the study conducted by Singh U et al¹ found commonest cause is PROM (25.9 %). In another study by Roy K Ketal² found Anemia (32.6%) as a commonest cause and Arvind Sehgal et al³ found in 65% cases. Mayur Bavaliya et al⁸ found that lack of antenatal care (72%), Anemia (68%) and maternal illnesses like hypertension (58%) are the commonest maternal risk factors in their study.

In our study preterm babies had higher mortality rates; this is quite different from the spectrum in the developed world. Also antenatal risk factors for premature birth were PROM and Anemia which can be always preventable. Similar studies from multiple settings in India would give us a real picture regarding the status of these premature newborns in our country.

CONCLUSION: Jaundice, RDS and Sepsis were the common morbidities among the premature babies. Overall mortality among premature babies was 35.8 %. PROM and Anemia are the commonest antenatal risk factors for the premature births.

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ORIGINAL ARTICLE

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