

Study of Risk Factors for Preterm Neonates

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Abstract: ***Introduction:** Preterm births occur for many different reasons. Preterm infants are at greater risk for short and long term complications, including disabilities and impediments in growth and mental development. **Objective:** Present study was conducted to assess various risk factors for preterm birth. **Materials and Methods:** The study conducted included 100 preterm neonates and 100 term neonates as control group. The risk factors of mothers were evaluated retrospectively by using a pre-designed questionnaire. **Results:** The study of 100 preterm cases and 100 controls showed that lack of antenatal care (72%), clinical anemia (68%), maternal illnesses like hypertension (58%) and other antenatal complications like placenta praevia (56%) were significant risk factors for preterm as compared to the control group. **Conclusion:** This analysis suggested that a substantial proportion of preterm births may be averted by improving maternal nutritional status, anemia, providing antenatal care, identifying and treating maternal illnesses and antenatal complications.*

Keywords: Preterm, Antenatal care

1. Introduction

Preterm births occur for many different reasons. Preterm infants are at greater risk for short and long term complications, including disabilities and impediments in growth and mental development. Also preterm birth is one of the leading causes of death in infants worldwide. Significant progress has been made in the care of premature infants, but not in reducing the prevalence of preterm birth. We performed this study to identify risk factors for preterm births.

2. Objective

Present study was conducted to assess various risk factors for preterm birth.

3. Materials and Methods

All newborn admitted in neonatal intensive care unit of our department were assessed for gestational age using modified Ballard score and those who are preterm included in study. Detailed clinical examination conducted and requires preterm care was given as per standard protocol. All these newborn were preterm whose mother were evaluated by using predesigned questionnaire for risk of prematurity. The study conducted included 100 preterm neonates and 100 term neonates as control group.

- Study Design: Prospective study.
- Study Period: January to May 2013

4. Observation

Table 3.1: Age of Mother as Risk Factor

| Age of Mother (Yr) | Preterm Newborn | Term Newborn |
|--------------------|-----------------|--------------|
| <20 | 14% | 04% |
| 20-22 | 49% | 23% |
| 23-25 | 27% | 54% |
| 26-28 | 05% | 12% |
| 29-31 | 02% | 06% |
| >32 | 03% | 01% |

Table 3.2: Antenatal care

| Antenatal Care Taken | Preterm Newborn | Term Newborn |
|----------------------|-----------------|--------------|
| Yes | 28 | 84 |
| No | 72 | 16 |

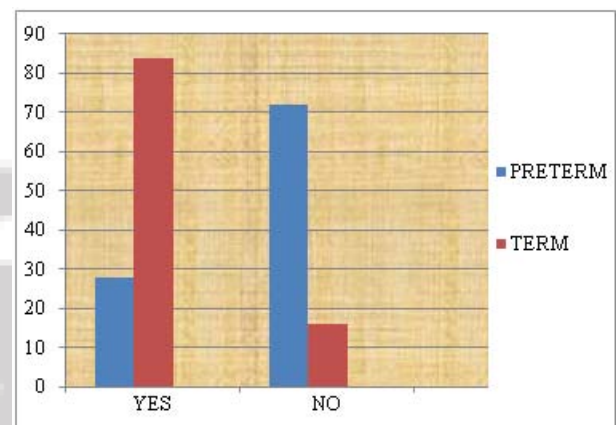


Figure 1: Antenatal care and outcome

Table 3.3: Maternal hemoglobin and outcome

| Hemoglobin (Gm %) | Preterm Newborn | Term Newborn |
|-------------------|-----------------|--------------|
| <8 | 38 | 12 |
| 8-10 | 33 | 45 |
| >10 | 29 | 43 |

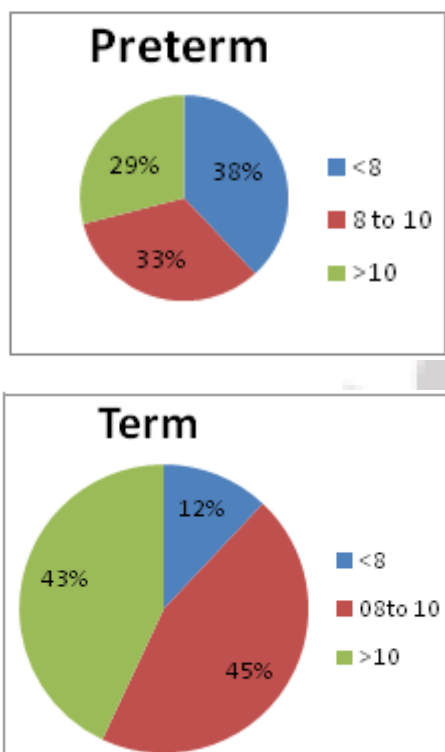


Figure 2: Maternal hemoglobin and outcome

Table 3.4: Maternal illness and outcome

| Maternal Illness | Preterm Newborn | Term Newborn |
|-----------------------|-----------------|--------------|
| Diabetes | 01 | 06 |
| Heart Disease | 03 | 01 |
| Tuberculosis | 02 | 01 |
| PLHIV | 02 | 03 |
| Other Chronic Illness | 12 | 07 |
| Total | 20(52.6%) | 18 |
| No Any Other Illness | 80 | 82 |

Table 3.5: Maternal complication and outcome

| Antenatal Complication | Preterm Newborn | Term Newborn |
|------------------------|-----------------|--------------|
| PIH | 43(89%) | 05 |
| GDM | 02(14%) | 12 |
| APH | 15(88%) | 02 |
| PROM | 13(54%) | 11 |
| Multiple Gestations | 05(62%) | 03 |
| Any Acute Illness | 07(58%) | 05 |
| No Complication | 20(23%) | 65 |

Table 3.6: Maternal Education and outcome

| Education of Mother | Preterm Newborn | Term Newborn |
|----------------------------|-----------------|--------------|
| Illiterate | 12 | 09 |
| Literate or primary school | 49 | 43 |
| Secondary school | 24 | 23 |
| Higher secondary school | 10 | 14 |
| Graduate | 03 | 05 |
| Post-graduate | 02 | 06 |

5. Results

The study of 100 preterm cases and 100 controls showed that lack of antenatal care (72%), clinical anemia (68%), maternal illnesses like hypertension (58%) and other antenatal complications like placenta praevia (56%), low maternal weight (34%), poor obstetric history (18%), were significant risk factors for preterm as compared to the control group. Short interpregnancy interval (38%), multiple

gestation (67%) and lower socioeconomic status (43%) was associated with an increased risk of prematurity. However, it was noted that maternal education did not have a significant effect on prematurity.

6. Conclusion

This analysis suggested that a substantial proportion of preterm births may be averted by improving maternal nutritional status, anemia, providing antenatal care, identifying and treating maternal illnesses and antenatal complications.

7. Future Scope

By targeting our interventions at the level of maternal and antenatal care, we can reduce the incidence of prematurity and provide an intact survival to the neonates.

References

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Author Profile

Dr Mayur Bavaliya has passed his MBBS from Smt. NHL Municipal Medical College, Ahmadabad and at present he is doing MD Pediatric at Civil Hospital, Ahmadabad, Gujarat, India.