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.

a) Study Design: Prospective study.
b) 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

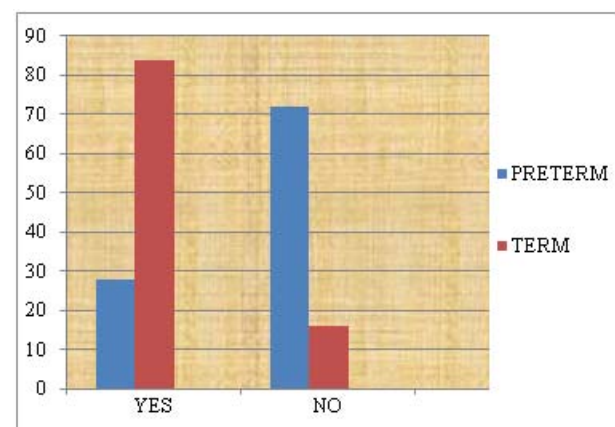| Antenatal Care Taken	Preterm Newborn	Term Newborn
Yes	28	84
No	72	16

Figure 1: Antenatal care and outcome

Table 3.3: Maternal hemoglobin and outcome

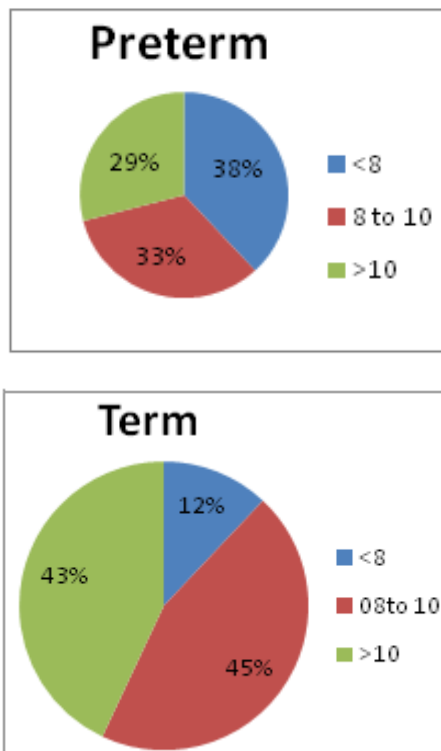| Hemoglobin (Gm %)	Preterm Newborn	Term Newborn
<8	38	12
8-10	33	45
>10	29	43

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.