VOLUME - 11, ISSUE - 12, DECEMBER - 2022 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper | Clinical Research

STUDY OF FETOMATERNAL OUTCOME IN PRETERM LABOUR

Dr Manju Agarwal	Sr. Professor and Unit Head, Dept of Obstetrics and Gynaecology, Jhalawar Medical College, Jhalawar
Dr Sushma*	PG Resident Dept of Obstetrics and Gynaecology, Jhalawar Medical College, Jhalawar. *Corresponding Author
Dr Monika Rahar	PG Resident Dept of Obstetrics and Gynaecology , Jhalawar medical college, Jhalawar
Dr Ajay Singh	PG Resident Dept of Obstetrics and Gynaecology , Jhalawar medical college , Jhalawar

KEYWORDS :

INTRODUCTION

Preterm or premature birth describes neonates who are born too early with respect to gestational age. Preterm neonates consider to those delivered before 37 completed weeks. Low birth weight refers to neonates weighting 1500 g to 2500 g; very low birth weight those between 1000g to 1500g and extremely low birth weight refer to those between 500g to 1000g.[1]

Gestational age can be determined from maternal report of last menstrual period, by ultrasound, especially in the first trimester when variability in foetal development is lowest .Neonates born before 37 weeks gestational age are at risk of serious morbidity and mortality.[2]

The incidence of preterm birth range from 5% to 8% in most developed and developing countries, but it is still increasing worldwide attributed to the rise in multiple gestations from assisted reproductive techniques, better dating scans and iatrogenic deliveries[3]. Preterm birth complications are the leading cause of death among children under 5 years of age, responsible for approximately 1 million deaths in 2015. Across 184 countries, the rate of preterm birth range from 5% to 18% of babies born.[4]

There Are Four Direct Causes Of Preterm Labour[1].

1. Spontaneous unexplained preterm labour with intact membrane.
2. Idiopathic preterm premature rupture of membrane.
3. Delivery for maternal or foetal indications.
4. Twins and higher order multifetal births.

Of all preterm births, 40-45% is due to spontaneous preterm labour, 30-35% is indicated, 30-35% follows preterm membrane rupture[5].

Risk Factors For Preterm Labour[1,3].

- Lower socioeconomic status
- Previous history of preterm labour or recurrent abortions
- Congenital abnormalities of uterus : Female off springs of women who took diethylstilboestrol until the early 1970s were at increased risk of uterine anomalies with approximately 30% affecting the cervix
- Cervical insufficiency
- Genital tract infections
- Uterine overdistension: as in multiple pregnancy, placenta previa or abruptio placenta, polyhydramnios
- Maternal systemic diseases: Anaemia, hypertensive disorders of pregnancy, GDM, Asymptomatic bacteriuria, cystitis, pyelonephritis, Immunological disorders like SLE Antiphospholipid antibody syndrome
- Foetal factors : such as Congenital malformation, IUGR, IUFD, Foetal distress
- Trauma

AIMS AND OBJECTIVES

- To know the risk factors associated with preterm labour.
- To study the feto-maternal outcome in preterm delivery.

MATERIAL AND METHOD

A retrospective observational study was conducted in Smt. Hira Kunwar Ba Mahila Hospital, Jhalawar Medical College over 80 pregnant women who delivered before completion of 37 weeks of gestation. Data was collected from their history, examination, investigations.

Selection Criteria

Deliveries occurred before completion of 37 weeks of gestation.

Exclution Criteria

- Intrauterine death.
- Major congenital anomaly incompatible with life.
- Chronic lung disease/heart disease/epilepsy.

RESULTS AND DISCUSSION

Table1: Distribution According To Thr Gravida Status Of Patients.

Gravida	No of cases [n=80]	Percentage[%]
Primi	25	31.25%
Second	35	43.75%
Third	12	15%
Multi	8	10%

In the present study, 31.25% patients of preterm delivered were Primigravida, 43.75% were second gravida, 15% were third gravida, and 10% were multi gravida.

According to Mahaseth BK et al[6][2018] study increased incidence of preterm labour were found in primigravida [57.02%].

Table2: Distribution According To The Risk Factors In Present Pregnancy

Risk factors	No of patients[80]
Past history of preterm birth	18 [22.5%]
Past history of second trimester abortion	3 [3.75%]
Multiple pregnancy	11 [13.75%]
Polyhydramnios	4 [4%]
GDM/DM	3 [3.75%]
PIH/Pre-eclampsia/Eclampsia/chronic hypertension	10 [12.5%]

Infection	13 [16.5%]
Anaemia	8 [10%]
Threatened abortion	10 [12.5%]
Multiple risk factors	6 [7.5%]

In our study past history of preterm birth was the most common risk factor that is 22.5%,followed by Infections that is 16.5%, then multiple pregnancy contributing 13.75%, PIH/Pre-eclampsia/Eclampsia/chronic hypertension and history of threatened abortion each contributing to 12.5% and other risk factors were past history of second trimester abortion, polyhydramnios, GDM/DM, Anaemia. Few patients were having multiple risk factors also.

According to study conducted by Satija A et al[7] and Singh U et al[8] observed previous history of preterm labour in 12% and 14.4% respectively.

Table3: According To The Mode Of Delivery

Mode of delivery	No of patients[80]
Vaginal delivery	54 [67.5%]
Caesarean section	26 [32.5%]

The optimal mode of delivery for preterm babies is controversial. In our study 67.5% women delivered vaginally and only 32.5% women delivered by caesarean section. In practice however the rate of elective caesarean deliveries in preterm babies has markedly increased over the last decade but it has been observed in various studies that caesarean delivery did not enhanced neonatal survival of preterm infants nor did it decrease the morbidity in these infants[9,10]. Rate of caesarean section for preterm babies varied from 13.9% to 61% as observed by various authors in their studies[11,12,13].

Table 4: Distribution According To Indication For Lscs

Indications for LSCS	No of patients
Foetal distress	8 [30.76%]
Previous LSCS with PROM	5 [19.23%]
Severe pre-eclampsia	4 [15.38%]
Antepartum haemorrhage	3 [11.53%]
Preterm breech	4 [15.38%]
Previous LSCS with twins	2 [7.69%]

In our study, out of 80 patients 26 were delivered by LSCS for different indications. Most common indication in our study was Foetal distress[30.76%], second being previous LSCS with PROM[19.23%]. Sever pre-eclampsia and prime preterm breech were sharing equally[15.38%]. Other indications were Antepartum haemorrhage ,Previous LSCS with Twins.

According to study conducted by Divyakala Karegoudar[14] most common indication for LSCS was Foetal distress[13.16%] which is comparable to our study. Other indications being previous LSCS, pregnancy induced hypertension ,antepartum haemorrhage and others.

Table 5: Distribution According To The Gestational Maturity At Delivery And Survival Of Preterm Infants

Gestational age	No of infants[n=91]	Live birth [n=91]	NICU [n=43][47.25%]	PNM [n=22][5.16%]
Late preterm [34-36+6d]	46	46	10 [21.7%]	2 [20%]
Early preterm [32-33+6d]	20	20	11 [55%]	4 [36.36%]
Very early preterm[28-31+6d]	17	17	14 [82.35%]	8 [57.14%]
Extreme preterm[<28weeks]	8	8	8 [100%[	8 [100%]

Cause of PNM in Extreme preterm is almost 100% and that of very early preterm is 57.14% is because of failure to initiate respiration without external support due to immature lung and surfactant deficiency. In cases of Early preterm mortality is around 36.36% due to multiple factors such as feeding intolerance, neonatal sepsis , temperature instability[15].

Table 6: Distribution According To The Cause Of Neonatal Mortality

Cause of neonatal mortality	No of infants[n=22]	Percentage
Respiratory distress syndrome	14	63.63%
Septicemia	6	27.27%
Necrotizing enterocolitis	0	0
Prematurity +DIC +Respiratory failure	2	9.1%

All over the world perinatal morbidity in preterm babies are observed Both in developed as well as developing countries and preterm infants are more likely to be admitted to the Neonatal Intensive Care Unit as compared to term infants[16]. In our study 47.25% babies require neonatal admission which was 83% in Akhtar et al[17]. In our study it was found that most common cause of neonatal mortality was acute respiratory distress syndrome in 63.63% of newborn followed by 27.27% due to septicemia and 9.1% due to respiratory failure with DIC. Akhtar et al[17] in their study also observed that most common indication for NICU admission was RDS, Sepsis and Low birth weight.

Table 7: Distribution According To The Birth Weight And Mortality

WEIGHT[Kg]	No of infants [91]	No of mortality[22]	Percentage of mortality
Extreme low birth weight [0.5-1]	8	8	100%
Very low birth weight [1-1.49]	28	10	35.71%
Low birth weight [1.5-2.49]	55	4	7.27%

In present study, it was found that there is 8[100%] neonatal mortality in extreme low birth weight followed by 10[35.71%] in very low birth weight and 4[7.27%] mortality in low birth weight. According to Garg et al[18] neonatal mortality in low birth weight contributes 6(24%%) followed by , 6(66.66%) in very low birth weight and 2[100%] in extreme low birth weight.

CONCLUSION

Preterm birth is a leading cause of perinatal morbidity or mortality worldwide. Reducing the burden of preterm births is an important goal for improving health of child under 5 years of age.

Patients with risk factors such as history of preterm birth, multiple pregnancy, infection and threatened abortions need to be identified earlier and to prevent preterm labour. Women having medical disorder should be timely assessed and treated to prevent preterm birth.

Preterm labour is a multifactorial condition, so good antenatal care is required, and improving the socio economic standards, early detection of risk factors and intervention will help to reduce the incidence of preterm labour.

Abbreviations

- NICU : Neonatal intensive care unit.
- PNM : Postnatal mortality.
- LSCS : Lower segment caesarean section.
- IUGR : Intrauterine growth restriction.
- IUFD : Intrauterine foetal demise

- SLE : Systemic lupus erythematosus.
- DIC : Disseminated intravascular coagulation.

REFERENCES

1. Williams Obstetrics: 25th edition. Preterm birth [Pg 803 -834].
2. Alleman, Brandon Wesley. Preterm birth : prediction, prevention care. PhD thesis, University of Iowa, 2014. https://doi.org/10.17077/etd.4eor65oi.
3. Arias practical guide to HIGH RISK PREGNANCY AND DELIVERY, 5TH EDITION.
4. WHO Factsheet on preterm birth. Available from: http:www.who.int/mediacentre/factsheets/fs363/en/.
5. Go denberg , Robert L; Culhane, Jennifer F; Iams, Jay D: Romero, Roberto. Epidemiology and causes of preterm birth. The Lancet, 2008, vol.371 [9606],pp75-84.
6. Mahesh BK , preterm delivery associated risk factors and its incidence, IOSR Journal of Dental and medical sciences, vol 17,no 01,2018,pp.51-55.
7. Satija A, Satija V, Kaur J, Bains HS. Prospective analysis of preterm labour: its etiology and outcome. Int J Basic Appl Med Sci. 2014;4(2):70-77.
8. Singh U, Singh N, Seth S. A prospective analysis of etiology and outcome of preterm labor. J Obstet Gynecol India. 2007;57(1):48-52.
9. Iqbal, N., Azhar, I. A., Ahmad, I., & Tayyab, M. (2013). A study of neonatal outcome associated with preterm birth in a tertiary care hospital. Annals of King Edward Medical University, 19(3), 231-231.
10. Sonkusare, S., Rai, L., & Naik, P. (2009). Preterm birth: mode of delivery and neonatal outcome. Medical Journal of Malaysia, 64(4), 303- 306.
11. Alijahan , R., Hazrati, S., Mirzarahimi, M., Pourfarzi, F., & Hadi, P. A. (2014). Prevalence and risk factors associated with preterm birth in Ardabil, Iran. Iranian journal of reproductive medicine, 12(1), 47.
12. Temu, T. B., Masenga, G., Obure, J., Mosha, D., & Mahande, M. J. (2016). Maternal and obstetric risk factors associated with preterm delivery at a referral hospital in northern-eastern Tanzania. Asian Pacific Journal of Reproduction, 5(5), 365-370.
13. Wagura, P., Wasunna, A., Laving, A., & Wamalwa, D. (2018). Prevalence and factors associated with preterm birth at kenyatta national hospital. BMC pregnancy and childbirth, 18(1), 107.
14. Divyakala Karegoudar1 , Arati Prabhu2 , Kapil Amgain2* and Mukesh Dhital2 Perinatal Outcome and Associated maternal Co-morbid conditions in late Preterm Births - A Prospective study at Kles Dr. Prabhakar Kore Hospital, Belgaum, India.
15. Cloherty and starks manual of neonatal care textbook, 8th edition, chapter16, page no 192.
16. Larroque, B., Ancel, P. Y., Marret, S., Marchand, L., André, M., Arnaud, C., ... & Burguet, A. (2008). Neurodevelopmental disabilities and special care of 5-year-old children born before 33 weeks of gestation (the EPIPAGE study): a longitudinal cohort study. The Lancet, 371(9615), 813-820
17. Akhter, G., Rizvi, S. M., Hussain, S. I., Ali, F., & Ali, A. (2015). Evaluation of perinatal outcome in preterm labour. International Journal of Current Research and Review, 7(21), 66.
18. Shaveta Garg, Tajinder Kaur*, Ajayveer Singh Saran, Monu Yadav A study of etiology and outcome of preterm birth at a tertiary care centre.