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Original Research Article **Gynae & Obs**

Maternal Status during and after Labor Beyond 28 Weeks of Gestation at a Tertiary Hospital

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Abstract

***Background*:** The journey of pregnancy and childbirth embodies a critical period in a woman's life, impacting both maternal and child well-being. Understanding maternal status during and after labor beyond 28 weeks of gestation holds significant clinical relevance, given its implications for obstetric management and outcomes. ***Objective*:** This study aimed to assess maternal status during and after labor beyond 28 weeks of gestation at a tertiary hospital. ***Methods*:** A cross-sectional descriptive observational study was conducted at Mymensingh Medical College Hospital from March 2019 to August 2019. The study included pregnant women with fetal malpresentation from 28 to 42 weeks of gestation admitted to the labor and antenatal ward. A total of 50 participants were purposively sampled. Data were collected using a structured questionnaire and analyzed using SPSS version 16. Ethical approval was obtained, and informed consent was obtained from all participants. ***Results*:** The study revealed a diverse age distribution among mothers, with the majority falling within the 26-30 age bracket (40.0%). Parity distribution showed a significant proportion of mothers with four or more children (40.0%). Prolonged labor emerged as the most common complication (6.0%), followed by obstructed labor (4.0%). Maximum vaginal deliveries occurred at 28-31 weeks of gestation, while cesarean sections were predominant at or above 36 weeks. Cesarean section exhibited the highest survival frequency (100%), followed by vaginal delivery (90%) and assisted breech delivery (80%). Postpartum hemorrhage was the most common maternal morbidity (6.0%). ***Conclusion*:** In conclusion, our study sheds light on maternal demographics, labor complications, delivery modes, and perinatal outcomes at a tertiary hospital. The age distribution revealed diversity, with most mothers aged 26-30. Many were multiparous, underscoring the importance of obstetric history. Prolonged labor was predominant, emphasizing the need for vigilant monitoring. Cesarean sections were common after 36 weeks, ensuring higher survival rates. Despite benefits, postpartum hemorrhage posed a significant concern. This highlights the necessity for comprehensive obstetric care to improve maternal and neonatal outcomes. Further research is imperative to refine maternal-fetal care in tertiary settings.

Keywords: Maternal status, labor, gestation, tertiary hospital, perinatal outcomes.

INTRODUCTION

The journey of pregnancy and childbirth represents a critical period in a woman's life, marked by numerous physiological and psychological changes [1]. Maternal well-being during this time is of paramount importance, with both short-term and long-term implications for both mother and child. Thus, understanding the maternal status during and after labor beyond 28 weeks of gestation holds significant clinical relevance [2, 3].

Labor and delivery encompass a complex interplay of factors, including maternal health, fetal development, and obstetric management. Beyond the 28th week of gestation, mothers face heightened physiological demands and potential obstetric

complications. Therefore, evaluating maternal status during this period is essential for ensuring optimal outcomes for both mother and child [3-5].

The setting of this study in a tertiary hospital adds further significance to its findings. Tertiary hospitals typically offer specialized care and advanced medical interventions, catering to high-risk pregnancies and complex obstetric cases. By focusing on maternal status within this context, the study aims to provide insights into the management strategies and outcomes achievable in a specialized healthcare setting.

This research endeavors to contribute to the existing body of knowledge regarding maternal health during late pregnancy and labor. By assessing maternal status during and after labor beyond 28 weeks of gestation, the study aims to identify potential areas for improvement in clinical practice and healthcare delivery. Ultimately, the findings have the potential to inform evidence-based interventions aimed at enhancing maternal well-being and optimizing obstetric care in tertiary hospital settings.

OBJECTIVE

The primary aim of this study is to assess maternal status during and after labor beyond 28 weeks of gestation at a tertiary hospital.

METHODOLOGY

Study Design: It was cross sectional descriptive type of observational study.

Place of Study: Mymensingh Medical College Hospital, Mymensingh.

Duration of Study: March 2019 to August 2019.

Study Population: Pregnant women with fetal malpresentation from 28 weeks to 42 weeks admitted in labour and antenatal ward in MMCH during study period.

Sample Size: Total 50 sample were included in this study.

$$\frac{Z^2pq}{d^2} = \frac{(1.96)^2 \times 0.3 \times 0.7}{(0.05)^2} = 322$$

As there is time and Budgetary constraint 50 cases will be taken for this study.

Sampling Technique: It was purposive non random sampling.

Inclusion Criteria:

- Pregnancy with fetal malpresentaion.
- Both primi and multipara.
- Gestational age completed 28 weeks to 42 weeks.
- With or without labour pain.

Exclusion Criteria:

- Gestational age <28 weeks
- Patient who did not give consent

Data Collection and Procedure:

Women who fulfilled the inclusion criteria were enrolled in this study. Data were collected from admitted patients by using a structural questionnaire containing all the variable of interest. The questionnaire were finalized following pretesting.

Data Analysis Procedure:

After collection of the required information, data were checked and edited manually and data were analyzed using statistical package for social science (SPSS) for windows version 16.

Ethical Issues:

Prior to the commencement of this study, the research protocol were approved by the ethical committee. The aims and objectives of the study along with its procedure, alternative diagnostic methods, risks and benefits of this study were explained to the patient's in easily understandable local language and then informed written consent was taken from each of them. It was assured that all information and records would be kept confidential and the procedure would be helpful for both the physicians and the patients in making rational approach of the case management.

RESULTS

The age distribution of mothers in the study cohort (n=50) revealed a diverse range, with the majority falling within the 26-30 age bracket (40.0%). A substantial proportion of mothers were also between 21-25 years (20.0%), while a comparable percentage were aged ≤20 years (20.0%). The mean maternal age was calculated at 29.9 years with a standard deviation of 5.7 years. Relatively fewer mothers were in the 31-35 age group (10.0%), and similarly, 10.0% were aged over 35 years.

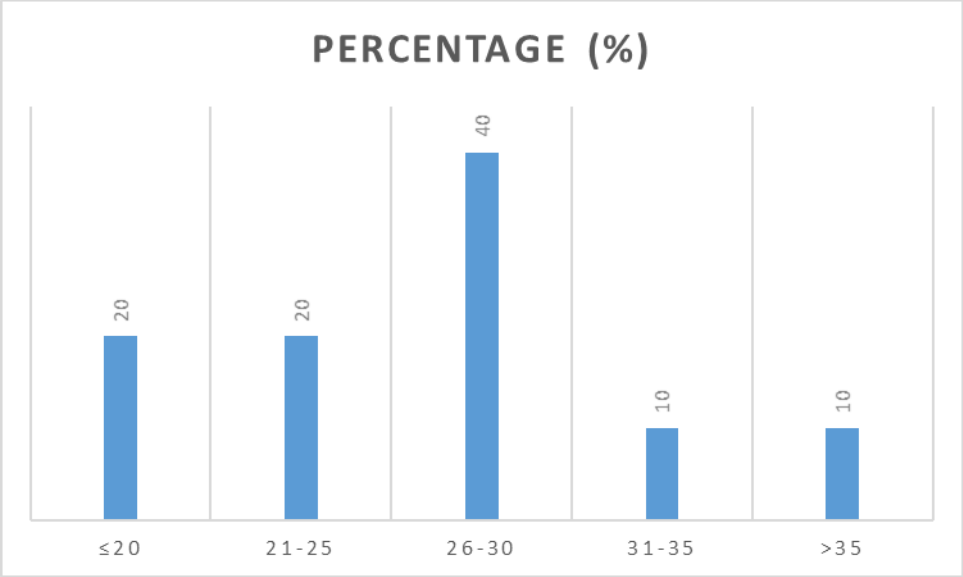

Figure 1: Age distribution of the mother

Table I: Distribution of patient according to parity (n=50)

Parity	Frequency	Percentage (%)
0	5	10
1	5	10
2	10	20
3	10	20
≥4	20	40
Total	**50**	**100.0**

Table shows most common maternal Complication was prolonged labour 6% then obstructed labour 4%.

Table II: Maternal Status during labour (n=50)

No complication	38	76
Complications	**Frequency**	**Percentage (%)**
Prolonged labour	3	6
Obstructed labour	2	4
PROM	2	4
Cord prolapse	2	4
Polyhydramnios	2	4
Ruptured uterus	1	2
Total	**50**	**100.0**

Table shows maximum vaginal delivery occured at 28-31 weeks of gestation and maximum caesarean section at or above 36 weeks.

Table III: Mode of delivery in relation to gestational age

Gestationalage (weeks)	Vaginal delivery	Caesarean delivery
28-31-(10)	10 (100%)	0
32-35-(20)	3 (15%)	17 (85%)
36-39-(10)	1 (10%)	9 (90%)
40-42-(10)	1 (10%)	9 (90%)
Total =50		

Table shows survival frequency 100%by caesarean section, 90% by vaginal delivery and 80% by assisted breech delivery.

Table IV: Perinatal outcome in relation to according to mode of delivery

Mode of delivery	Frequency of live birth	Survival Frequency and percentage
Vaginal delivery	10	9(90%)
Assisted breech delivery	5	4(80%)
Caesarean section	35	35(100%)
Total	**50**	**48**

Maximum of the pt did not have any complication (66%). Most Common maternal complication is PPH (6%). The over all maternal morbidity rate17 (34%).

Table V: Pattern of postpartum maternal morbidity

Complications	v. delivery	C/S	Total	Percentage (%)
No complication	**8**	25	33	66
PPH	2	1	3	6
Genital tract trauma	2	0	2	4
Prolonged hospital stay	1	3	4	8
Blood transfusion	1	3	4	8
Epi. wound infection	1	0	1	2
Post caesarean scar wound infection	1	2	2	4
Puerperal sepsis	1	0	1	2

DISCUSSION

The age distribution of mothers in our study cohort exhibited a diverse range, with the majority falling within the 26-30 age bracket (40.0%). This finding aligns with several other studies, [6-8] which also reported a peak in maternal age within this range. However, it is noteworthy that a substantial proportion of mothers in our study were aged ≤20 years (20.0%), indicating a relatively higher prevalence of younger mothers compared to some other studies [9-11]] Additionally, the mean maternal age of 29.9 years with a standard deviation of 5.7 years provides insight into the average age profile of the study population, which could be compared with similar studies for demographic characterization [1, 3].

Regarding parity distribution, our study revealed varying levels of parity among the participants. Notably, a significant proportion of mothers had parity of four or more (40.0%). This contrasts with some studies where primiparity or lower parity was more prevalent [10]. This difference may reflect variations in the study population or geographical location.

Analysis of maternal complications during labor highlighted prolonged labor as the most common complication (6.0%), followed by obstructed labor (4.0%). While this aligns with findings from previous studies [12, 13]. It's important to note that the prevalence rates may vary depending on factors such as access to healthcare services, obstetric practices, and maternal characteristics within different study populations [14, 15].

Examining the mode of delivery in relation to gestational age, our study found that the maximum vaginal deliveries occurred at 28-31 weeks of gestation, whereas the highest rate of cesarean sections was observed at or above 36 weeks. This trend corresponds with the general clinical practice of favoring vaginal delivery for preterm births, while resorting to cesarean sections for term or post-term pregnancies. This pattern is consistent with the concept of optimizing delivery mode based on gestational age and fetal well-being, which is a widely accepted obstetric principle [16].

In terms of perinatal outcomes, our study demonstrated a higher survival frequency (100%) associated with cesarean section compared to vaginal delivery (90%) and assisted breech delivery (80%). While these findings are consistent with the known benefits of cesarean sections in certain obstetric scenarios, it's essential to consider the potential implications of mode of delivery on both maternal and neonatal health outcomes, including long-term implications such as future pregnancies and maternal morbidity. Comparisons with other studies could shed light on the effectiveness and safety profiles of different delivery modes in diverse populations [17, 18].

CONCLUSION

In conclusion, our study provides valuable insights into the maternal demographics, labor complications, mode of delivery, and associated perinatal outcomes in a tertiary hospital setting. The age distribution of mothers showcased a diverse range, with the majority falling within the 26-30 age bracket. Parity distribution revealed a notable proportion of multiparous mothers, emphasizing the importance of understanding obstetric histories in clinical management. Prolonged labor emerged as the most common complication during labor, underscoring the significance of vigilant monitoring and timely intervention. Analysis of mode of delivery in relation to gestational age highlighted distinct trends, with vaginal deliveries peaking at 28-31 weeks and cesarean sections prevalent at or above 36 weeks.

Notably, cesarean section exhibited the highest survival frequency, reinforcing its role in ensuring favorable perinatal outcomes. However, the study also shed light on maternal morbidity, with postpartum hemorrhage being the most common complication. These findings underscore the need for comprehensive obstetric care strategies addressing both maternal and neonatal health outcomes. Further research and multidisciplinary approaches are warranted to optimize maternal-fetal care and mitigate adverse obstetric events in tertiary hospital settings.

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