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Outcome of Pregnancy in Booked Vs Un-Booked Patients

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ABSTRACT

Objective: To determine the outcome of pregnancy in booked vs un-booked patients. **Study Design:** Comparative, cross sectional. **Place and Duration of Study:** Department of Obstetrics and Gynecology, Allied Hospital, Faisalabad. From 1st January 2025 to 31st March 2025. **Methodology:** Total 570 primigravida or multigravida of 18-40 years of age and both booked and un-booked. Women with known gestational diabetes mellitus, renal, liver, and heart conditions, as well as anemia (Hb<11g/dl), were not included. Patients were divided into two groups as per their booking status. Booked Patients were kept in group A and unbooked patients were kept in group B. Patients in both the groups were followed till delivery and outcome was noted in terms of preterm birth, emergency caesarean section, Intrauterine Death or Neonatal Death). **Results:** 20 patients (7.02%) in Group A delivered preterm, 17 patients (5.96%) had emergency cesarean section, 11 patients (3.86%) had intrauterine death, and there were 05 (1.76%) documented neonatal death. Group B, on the other hand, had adverse outcome: 53 patients (18.60%) reported preterm birth, 34 (11.93%) had emergency cesarean section, and 29 (10.18%) had intrauterine death. In Group B, 13 patients (4.56%) had neonatal death. We provide the p-values for preterm birth (p=0.0001), emergency cesarean section (p=0.0126), intrauterine death (p=0.0032) and neonatal death (p=0.0462). **Conclusion:** This study concluded that women who are unbooked throughout pregnancy have higher negative pregnancy outcomes.

INTRODUCTION

The process of childbirth is physiological and natural. Although most couples find it to be a wonderful event, an unanticipated issue could make it a nightmare. In 2015, the maternal death ratio in underdeveloped nations was 239 per 100,000 live births, while in wealthy nations it was 12 per 100,000 live births (WHO, 2018).[1] Systemic monitoring of expectant mothers with the goal of enhancing feto-maternal outcomes is known as antenatal care. According to specific guidelines set forth by the World Health Organization, a pregnant woman should have at least four prenatal appointments during her pregnancy.[2]

The aim of both pediatrics and obstetrics is to guarantee that every pregnancy will result in a healthy mother and child. Non-use of the health care facilities' antenatal care and delivery care services is strongly linked to maternal difficulties and poor perinatal outcomes.[3]

According to the WHO, 88% to 98% of all maternal deaths can be prevented with appropriate treatment during pregnancy and labor. Pakistan has a perinatal mortality rate of 90–100 per 1000 live births and a maternal mortality ratio of 34 per 10,000 live births, according to WHO/UNICEF estimates.[4] Unbooked females have been found to have a considerably higher maternal death risk.[5] A 2011 study found that premature labor was significantly different in unbooked instances (22.5%) compared to booked cases (11%), with a p-value <0.054. Pre-eclampsia rates in unbooked cases were 16.6% higher than those in booked cases (8.6%), according to a local research.[6]

The association between the mother's booking status and its results was established by Setia et al. Compared to booked cases, unbooked cases had higher rates of maternal problems, IUD use, and newborn mortality. Emergency cesarean section rates were 15.0% versus 5.0%, and preterm birth rates were 47.0% versus 9.0%. Among unbooked versus booked patients, intrauterine mortality was 11.0% versus 3.0% and newborn mortality was 5.0% versus 1.0%, respectively.[7]

Our study aims to compares the perinatal outcomes and prenatal problems between moms who are booked and those who are not. The results of this study may contribute to a decrease in maternal and fetal complications as well as to societal education. For this reason, we are doing this study to evaluate the fetal and maternal outcomes of pregnancies in booked and unbooked mothers in terms of problems.

METHODOLOGY

A comparative cross-sectional study was carried out at Department of Obstetrics and Gynecology, Allied Hospital, Faisalabad from 1st January 2025 to 31st March 2025. Data was obtained using a Non probability, consecutive sampling. Part of the data collecting process were thorough physical exams, detailed medical history analyses, and required laboratory testing. The Institutional Review Board (IRB) accepted the study, hence it was carried out in line with ethical guidelines. Every participant bought written informed permission. The sample size calculated by WHO sample size calculator at level of significance= 5%, power of study=80%, frequency of neonatal death in un-booked =5%[7], frequency of neonatal death in un-booked =1%[7] and sample size= 570 (285 in each group).

Following thorough application of the inclusion and exclusion criteria, 570 participants were chosen for the study.

Inclusion criteria: Primigravida or multigravida of 18-40 years of age and both booked and un-booked.

Exclusion criteria: Women with known gestational diabetes mellitus, renal, liver, and heart conditions, as well as anemia (Hb<11g/dl), were not included.

In accordance with the inclusion criteria, patients were chosen. Inquiries about the patients' age, parity, prenatal care, socioeconomic status, and educational background were conducted. Depending on their booking status, the patients were split into two groups. Unbooked patients (those who will visit our department for their deliveries in labor, i.e., painful uterine contractions that cause dilation and effacement of the cervix on vaginal examination) were placed in group B, while booked patients (those who were taken from 20 weeks of gestation onward and followed in OPD monthly till delivery) were placed in group A. Patients in both groups were monitored until delivery, and the results were recorded in terms of intrauterine death, neonatal death, emergency cesarean section, and preterm birth. Every piece of information was documented on a properly created proforma (Annexure-I).

The analysis of the data was done with SPSS version 25.0. The mean ± standard deviation was used to describe quantitative factors such as age and gestational age. Frequencies and percentages were used to display categorical factors such as result, parity, educational attainment, and socioeconomic position. The results of two groups were compared using the chi-square test. A P value of less than 0.05 will be deemed significant.

RESULTS

Group A included 285 and Group B included 285 patients. Mean age in group A was 24.53 ± 4.75 years and mean age in group B was 26.37 ± 4.75 years. 29.82% of Group A members were over 30. On the other hand, 33.33% of Group B members were over 30. Mean gestational age in group A was 36.53 ± 1.06 weeks and in Group B was 37.05 ± 1.11 weeks. 40.35% of Group A members were primiparous. On the other hand, 42.11% of Group B members were over primiparous. Distribution of patients according to maternal characteristics is shown in Table I.

Pregnancy outcome among two groups (Group A, n = 285; Group B, n = 285) is shown in Table II. 20 patients (7.02%) in Group A delivered preterm, 17 patients (5.96%) had emergency cesarean section, 11 patients (3.86%) had intrauterine death, and there were 05 (1.76%) documented neonatal death. Group B, on the other hand, had adverse outcome: 53 patients (18.60%) reported preterm birth, 34 (11.93%) had emergency cesarean section, and 29 (10.18%) had intrauterine death. In Group B, 13 patients (4.56%) had neonatal death. We provide the p-values for preterm birth (p=0.0001), emergency cesarean section (p=0.0126), intrauterine death (p=0.0032) and neonatal death (p=0.0462). These results indicate the necessity for customized strategies to manage difficulties related to un-booked patients, as they show statistically significant disparities in outcomes.

Table I

Distribution of patients according to maternal characteristics.

		Group A (n=285)		Group B (n=285)	
		Frequency	Percentage	Frequency	Percentage
Age (years)	18-30	200	70.18	190	66.67
	31-40	85	29.82	95	33.33
GA (weeks)	≤36	97	34.04	192	67.37
	>36	188	65.96	93	32.63
Parity	Primiparous	115	40.35	120	42.11
	Multiparous	170	59.65	165	57.89
Socioeconomic status	Poor	76	26.67	82	28.77
	Middle	89	31.23	91	31.93
	Upper	120	42.10	112	39.30
Education status	Uneducated	134	47.02	125	43.86
	Educated	151	52.98	160	56.14

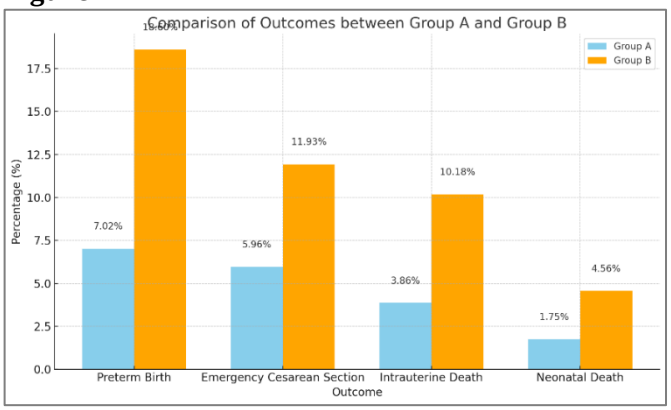
Table II

Comparison of outcome between both groups (n=570).

Outcome	Group A (n=285)	Group B (n=285)	P-value

		Frequency	Percentage	Frequency	Percentage	
Preterm birth	Yes	20	7.02	53	18.60	0.0001
	No	265	92.98	232	81.40	
Emergency Cesarean section	Yes	17	5.96	34	11.93	0.0126
	No	268	94.04	251	88.07	
Intrauterine death	Yes	11	3.86	29	10.18	0.0032
	No	274	96.14	256	89.82	
Neonatal death	Yes	05	1.75	13	4.56	0.0462
	No	280	98.25	262	95.44	

Figure 1



DISCUSSION

In the majority of underdeveloped nations, the practice of obtaining medical attention has long been problematic. Among pregnant women, particularly those who are multiparous, this attitude of inadequate use of contemporary healthcare is also not unusual. Because it has been demonstrated to lower maternal and perinatal mortality and morbidity, the promotion of effective prenatal care-seeking behavior has thus been a recurring issue in the majority of maternity units nationwide. According to our research, unbooked moms have a higher risk of unfavorable pregnancy outcomes and obstetric problems. Additionally, unbooked mothers were disclosed.

In comparison to their unbooked counterparts, it also showed that mothers who were booked were younger and had less education. These results run counter to those of Anyigor-Ogah and colleagues, who also found that younger moms who were not booked were more likely to be from lower socioeconomic classes and had lower educational attainment.[8]

However, another study that compared 196 booked moms with 195 unbooked mothers likewise revealed that the unbooked mothers had lower parity, despite the fact that they were younger, from a lower socioeconomic level, more likely to reside in rural regions, and had less education. Because a woman's empowerment may increase with her level of education, it is possible that a bigger number of booked women have better education. These women are more likely to recognize the hazards of pregnancy and childbirth and to be financially independent.[9,10]

The use of prenatal care was similarly influenced by parity. Unbooking was more common among nulliparous and grand multiparous women, and this difference was statistically significant. The results of Marsland and colleagues in India[11] and Sodje and his colleague[12] are comparable to this one. Both nulliparous and grandmultiparous women were more likely to be unbooked based on their experience; the former do not seek professional or expert care because they lack expertise, while the latter may not understand the importance of prenatal care. However, Shittu and Ekwempu[13] demonstrated that parity had no significant correlation with booking status, while Fabamwo and colleagues[14] demonstrated that more grand multiparous women were booked. The societal values and orientation of the study location may be the cause of this discrepancy.

Booking and higher socioeconomic status were substantially correlated. This result is comparable to a cross-sectional study conducted in Ilorin that found a strong correlation between booking and greater monthly household income.[15] The affordability of prenatal care services and socioeconomic position are positively correlated with income. This study was comparable to a population-based survey conducted by Isaac and colleagues, who showed that a higher household income was linked to a higher probability of making a reservation, and that a higher income encourages better behavior when seeking health care.[16] Similar conclusions were reached by other recent research.[17,18]

Booked women were more likely to give birth naturally, but unbooked pregnancies were more likely to end in instrumental and cesarean deliveries. This could be due to traditional birth attendants' poor treatment of the pregnancy and labor as well as the primary delivery presentation locations. A population-based study in Pakistan[22] and studies in Calabar, Port-Hacourt, Owerri, and Umuahia, Nigeria,[19-21] have revealed a statistically significant increase in the rate of instrumental and caesarean deliveries among unbooked women. Pregnancy-related issues, teenage pregnancy, and uterine rupture were shown to be the primary causes of the findings, and they were more prevalent among unplanned parturients.

Booking prenatal care was substantially linked to live births, but being unbooked was more closely linked to perinatal fatalities. Extreme poverty, inadequate use of healthcare resources, low birth weight, primary delays in obtaining delivery care, and hypoxia may all be contributing factors to this outcome. Research from Nigeria[23], Saudi Arabia[24], and Pakistan[25] revealed a

comparable rise in perinatal fatalities among unbooked moms. These findings were connected to poor healthcare systems, pregnant problems, and low socioeconomic position.[18,19]

Perinatal mortality was higher among unbooked participants. This data differs from a community-based survey conducted in Ethiopia, which found that the unboooked had a lower PMR of 110 per 1000 births.[20] Additionally, it was different from a Nepalese demographic and health survey that found a PMR of 42 per 1000 births.[21] Predictors such low educational attainment, maternal age extremes, unemployment, fewer than four prenatal care visits, and spontaneous vertex delivery may be responsible for the perinatal mortality rates.[21] The discrepancies in these results, however, highlighted the significant difference in mother and child health care coverage between industrialized and developing countries.

Study Limitations

There are a few restrictions to be aware of, though. First, compared to a prospective study, the cross-sectional design of this one may result in less comprehensive and trustworthy results. Even while there is a sizable sample, the data comes from a single hospital, which restricts how broadly the findings can be applied. Lastly, based on the analyses presented, we are unable to draw conclusions regarding the impact of booking status on outcomes after controlling for other pertinent baseline characteristics.

CONCLUSION

This study concluded that women who are unbooked throughout pregnancy have higher negative pregnancy outcomes. Maintaining the use of high-quality prenatal and delivery care services in our community will lower maternal and perinatal mortality and morbidity while also greatly improving pregnancy outcomes.

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