Original Article

Impact of Antenatal Care in Feto Maternal Outcome

Nida Zaki[1], Rashida Memon[2], Uzma Parveen[3], Hazooran Lakhan[4]

[1-3] Consultant Gynaecologist, [4]Assistant Professor
Gynae and OBS department Isra University Hospital, Hyderabad

***Correspondence**: Dr. Nida Zaki*
Consultant Gynaecologist, Gynae and Obs department Isra University Hospital, Hyderabad
dr.rashida.memon@gmail.com

Abstract

Objective: To determine the impact of antenatal care in feto maternal outcome at tertiary care Hospital.

Methodology: This was a comparative cross-sectional study, which was conducted at gynecology and obstetrics department of Isra University Hospital Hyderabad, Sindh, from October 2014 to March 2015. All the women with age of 18 to 40 years, presented with labour at gynecology department were studied and they underwent routine laboratory investigations and ultrasound for fetal wellbeing. Patients were interviewed regarding age, parity, antenatal care, socioeconomic status and educational status. All the information was recorded in the self-made proforma.

Results: Total 235 women were studied; the most common age group was 26 -35 years of 150 women. Pre-eclampsia/eclampsia, Antepartum haemorrhage, postpartum haemorrhage and mortality rate were significantly higher among un-booked patients in contrast to booked patients, p-value 0.001. According to the fetal outcome IUD, still birth, early neonatal death and poor Apgar score were markedly higher among un-booked patients as compared to booked patients, p-value 0.001.

Conclusion: It was concluded that un-booked pregnant females are at greater risk of adverse perinatal and maternal outcome due to poor antenatal care and late coming of subjects with complications can result in higher perinatal and maternal mortality and morbidity.

Keywords: Booking status, maternal, perinatal

Cite this article as: Zaki N, Memon R, Parveen U,Lakhan H. Impact of Antenatal Care in Feto Maternal Outcome. J Soc Obstet Gynaecol Pak. 2019; Vol 9(3):192-196.

Introduction

Pregnancy is among the most crucial times in a female's and family's life and community, which is why the healthcare system in several countries offers exceptional care.[1] Maternal morbidity and mortality is a worldwide problem and in the developing world the problem is even more serious.[2] There is statistically a positive association between unbooked mothers and increased chances of negative fetal and maternal effects.[3] Among the most other initiatives, antenatal treatment is among the major goal for maternal healthcare professionals.[2] Antenatal treatment is a female's care throughout pregnancy, it has also been recognized as prenatal care with an intention of offering routine check-ups to allow midwives and doctors to monitor or avoid any health issues during pregnancy, thus encouraging healthy life styles that support both mothers and babies.[4] The non-employment of delivery care and antenatal services leads to maternal complications and poor antenatal outcomes.[5,6] WHO reported that proper handling during pregnancy and labour can avoid 88% to 98% of all maternal deaths. WHO/ UNICEF estimated maternal mortality ratio in Pakistan to be 34/10,000 live births as well as perinatal mortality rate of 90-100/1000 total births.[7,8] Maternal mortality rate has been reported significantly higher among un-booked females. Several births usually take place in the dwellings of typical birth attendants (TBAs) or in mismanaged private hospitals because of a poorly supportive healthcare

Authorship Contribution: [1-3] Substantial contributions to the conception or design of the work, acquisition, analysis, or interpretation of data for the work Final approval of the version to be published, [4]Drafting the work or revising it critically for important intellectual content

Funding Source: none
Conflict of Interest: none

Received: June 04, 2019
Accepted: Nov 13, 2019

system.[8,9] Females suffering from life-threatening problems in the workplace are mostly sent to referral hospitals (tertiary and secondary) in which they are treated as obstetric emergencies. This may lead to maternal survival (near-miss) or death based on the severity of the complication as well as the efficacy and effectiveness with which the referral hospitals manage them. As a result, several maternal deaths usually take place in the country's referral hospitals, although deaths are small in number and mostly go unreported in simple private clinics and obstetric care services.[8,10] Like other countries a Pakistani study also reported that the frequency of C-section among un-booked subjects was (76.5%) significantly higher than the booked subjects (23.5%),[11,12] and poor Apgar score was found significantly higher among unbooked cases (10.3%) as compared to booked cases (4.6%) and it showed that unbooked cases are at more risk of having poor Apgar score.[12] Furthermore, people have faith in their local birth attendants.[13] We have concerns about immunization because of inadequate medical check-ups , knowledge and inquiries that restrains them from appropriate care throughout the pregnancy; and in certain cases social, cultural and religious considerations are blamed for inadequate antenatal care.[13] Due to increasing of this adverse feto-maternal outcome, this study has been conducted to assess maternal and fetal outcome among booked versus un-booked women at tertiary care Hospital. This will expose the recent knowledge reading this adverse outcome in our population.

Methodology

This comparative cross-sectional was conducted gynecology and obstetrics department of Isra University Hospital Hyderabad, Sindh. Study duration was 6 months from October 2014 to March 2015. All the women with age of 15 to 40 years, presented with labour at gynecology department were studied. Women with history of hypertension, diabetes mellitus type I and type II, renal impairment, chronic liver disease before the conception of pregnancy and those disagreed to contribute to this study were excluded. Well-versed consent was received from each contributor of the study. All the women underwent routine laboratory investigations and ultrasound for fetal wellbeing. Patients were divided in two groups as per booking status. Patients were interviewed regarding age, parity, antenatal care, socioeconomic status and educational status. All the information was recorded in the self-made proforma. Data analysis was done by SPSS version 20. For categorical variables, frequency and percentage were considered. For numerical variables, mean and standard deviation was calculated. Stratification with respect to the effect modifiers was done. Chi-square was applied and a p-value below 0.05 was taken as significant.

Results

Total 235 women were studied, the most common age group was 26 -35 years of 150 women, after that 15-25 years and >36 years, there was no significant variance among unbooked and booked women according to age groups, p-value 0.085. Multigravida women were in majority (145) and primigravida were 90 out of all study participants without significant difference according to booking status. Urban women were higher as compared to rural women without significant association according to residence, p-value 0.077. Women were seen with insignificant correlation among both groups according to gestational age, p-value 0.063. Elective cesarean section was higher among booked women, while emergency cesarean section was higher among un-booked patients, p-value 0.047 (consider Table I).

Table I: Demographic facts of study partakers (n=235)

Variables	Booked	Un-booked	Total	p-value
Age groups				
15-25 years	14	30	44	0.085
26-35 years	74	76	150	
>36 years	24	17	41	
Parity				
Primigravida	43	47	90	0.085
Multigravida	61	84	145	
Residence				
Urban	49	59	108	0.077
Rural	65	62	127	
Gestational age				
28-36 weeks	35	39	74	0.063
37-42 weeks	77	84	161	
Mode of delivery				
NVD	44	49	93	
C-section				
Elective	58	31	89	0.047
Emergency	10	39	49	
Instrumental	02	02	04	

According to the maternal outcome, pre-eclampsia/eclampsia, Antepartum haemorrhage, postpartum haemorrhage and mortality rates were significantly higher among un-booked patients in contrast to booked patients, p-value 0.001. According

to the fetal outcome IUD, still birth, early neonatal death and poor Apgar score were markedly higher among unbooked subjects than booked patients, p-value 0.001 (consider Table II).

Table II: Maternal and perinatal outcome among study participants (n=235)

Maternal/ perinatal outcome	Booked	Un-booked	Total	p-value
Maternal outcome				
Pre-eclampsia/ eclampsia	05	16	21	0.001
Antepartum haemorrhage	06	10	26	
Premature membrane rupture	03	03	06	
Postpartum haemorrhage	01	02	03	
Mortality	00	05	05	
Perinatal outcome				
Alive	114	91	205	0.001
IUD	01	14	14	
Still birth	00	01	01	
ENND	00	15	15	
Apgar score				
<7	108	87	195	0.001
>7	06	34	40	

Discussion

The concept of antenatal care has grown progressively to become a universal component of obstetric care throughout the developed and developing world. This study echoes the importance of proper antenatal care and delivery towards reducing fetal and maternal morbidity and mortality in Pakistan. The study revealed that adverse outcome was higher among un-booked than booked females. Similarly, Adekanle DA et al[13] reported that Booked mothers had older age than unbooked mothers. Maternal mortality was higher among unbooked mothers. Rates of premature birth, neonatal admissions to ICUs and neonatal asphyxia were higher among unbooked mothers. Latif F et al[12] stated that the unbooked cases showed higher frequency of complications as compared to booked cases.

In this study, pre-eclampsia/eclampsia, Antepartum haemorrhage, postpartum haemorrhage and mortality rates were significantly higher among un-booked patients in contrast to booked patients, p-value 0.001. In comparison to our results, a Nigerian study carried out by Owolabi, showed that incidence of preeclampsia/eclampsia [7.9%] was higher among unbooked mothers as compared to booked mothers [2.1%].[14] Another study carried out in Abbottabad also reported significant difference between booked and unbooked cases for frequency of pre-eclampsia.[15] While Egyptian study reported insignificant difference in pre-eclampsia between both booked and unbooked cases, p-value=0.093.[5]

In this study, Elective cesarean section was higher among booked women, while emergency cesarean section was higher among un-booked patients, p-value 0.047. Other studies also found higher frequency of C-section among unbooked cases as compared to booked cases. One Pakistani study also reported that the frequency of C-section was significantly higher (76.5%) among un-booked subjects than booked subjects (23.5%) [11]. Similarly, a Nigerian study also observed a higher frequency of c-section (61.2%) among unbooked than the booked cases (42.3%) [1]. A study conducted by Kalim D et al [3] reported that emergency caesarean section rate was 8.89% in un-booked and 4.15% in booked patients (p<0.001). Anemia, Pregnancy-induced hypertension and premature rupture of membranes were observed in 223 (11.15%), 109 (5.45%), 102 (5.1%) un-booked and 90 (4.5%), 38 (1.9%) and 53 (2.65%) booked patients respectively. Birth asphyxia, low Apgar score, low birth weight and septicemia were observed in 170(8.5%), 76(3.8%), 208(10.4%) and 62 (3.1%) neonates of un-booked mothers and in 104(5.2%), 43 (2.15%), 61(3.05%) & 40(2%) neonates of booked mothers (p<0.001). The perinatal mortality rate was 3.6% (n=72) and 1.65% (n=33) in neonates of un-booked and booked mothers respectively (p<0.001). They found positive association among un-booked mothers between raised risks of fetal and maternal adverse outcomes. Un-booked mothers had a higher frequency of Obstetric complications. Prenatal care is largely a part of preventive medicine and has proved to be beneficial for both the baby and the mother world over. Antenatal care has multiple benefits, which cumulatively result in significant reduction in the maternal and perinatal morbidity and mortality. The results are possible only in women who receive full antenatal care starting from the early days of pregnancy until delivery.

In our study, IUD, still birth, early neonatal death and poor Apgar score were markedly higher among un-booked patients than booked patients, p-value 0.001. Similarly, Jaleel R et al[7] reported in their results that poor utilization of prenatal care is correlated with perinatal and maternal mortality and morbidity. Commonest morbidity was major hemorrhage and it was more frequently found in the nonbooked group (p=0.003). Overall perinatal morbidity was 5.5%. The difference in the study groups was remarkable (0.001). 9.1% babies of nonbooked and 4% of booked cases (p=0.000) needed NICU care. In comparison to our results, sultana A et al [16] reported that 47 percent of antenatal care receiving mothers had episiotomy-associated spontaneous vaginal delivery contrasted to 57.6 percent of mothers without prenatal care provided by the c-section. Among Prenatal care receiving mothers, 87% were reported with satisfactory outcome of childbirth and unsatisfactory outcome was reported in 13% cases. They found that in women taking prenatal care, the result of pregnancy was much healthier and better contrasted to those taking no antenatal care. Among booked and unbooked patients, a significant disparity was found in maternal morbidity. Many studies have found a correlation of lack of antenatal care with decreased morbidity and mortality. A Nigerian study estimated that 82.5% of severe acute maternal morbidity cases were reported and 88.6% maternal deaths were in nonbooked patients.[17] Jamal, in his study from Islamabad recounted high neonatal mortality and morbidity among mothers with inadequate prenatal care [24]. Similarly, Adenkale[13], Ekwempu[19], Treacy[20] and Sanchez-Nunico[21] have also reported inadequate perinatal outcome in association with poor perinatal care. In this study the most common age group was 26 -35 years, after that 15-25 yrs and >36 yrs, there was no significant variance among age groups of unbooked and booked women; p-value 0.085. Similarly Adekanle DA et al[13] reported 29.7±5.9 years of mean age for patients. Another study conducted by Latif F et al[12] found overall mean age of the patients was 26.72±4.41 years and mean gestational age was observed as 37.35±3.36weeks. International organizations have indicated poor utilization of prenatal care (less than 30%) among the contributing factors for the higher obstetric morbidity and mortality in Pakistan.[14] Absence of prenatal care is likely to cause perinatal mortality because of failure to recognize or treat maternal conditions that have a negative impact on prenatal outcome. A pregnant female with poor antenatal care is classified as a high-risk pregnancy even in developed societies with sophisticated screening and monitoring devices. In underdeveloped and developed nations, where the lack of basic tools and supplies is a significant challenge, it naturally becomes more problematic. The significance of poor antenatal care in low perinatal result has been shown by several studies.[22]

Conclusion

It was concluded that un-booked pregnant females are at greater risk of adverse perinatal and maternal outcome due to poor antenatal care and a late visit of patients with complications can lead to greater perinatal and maternal mortality and morbidity.

References

1. Chigbu B, Onwere S, Kamanu CI, Aluka C, Okoro O, Adibe E. Pregnancy outcome in booked and unbooked mothers in Southeastern Nigeria. East African medical journal. 2009;86(6):267-271.
2. Ishtiaque S, Malik U, Jadoon A. Obstetric outcome in booked and unbooked mothers.-. Isra Medical Journal. 2016;8(3):182-186.
3. Kalim D. Frequency of maternal and perinatal complications among booked and un-booked antenatal women. Khyber Med Univ J 2015;7(4):174-179.
4. Shahanaz M, Sravya R, Mahesh NT, et al. Study of maternal and perinatal outcome in booked versus unbooked pregnant women in a rural based medical college. J. Evid. Based Med. Health care. 2019; 6(11), 873-877. DOI: 10.18410/jebmh/2019/184
5. Butt S, Noreen M, Syed SZ, Mazhar A. Comparison of Maternal Outcome In Booked Vs Unbooked Women in Lady Willingdon Hospital, Lahore. PJMS. 2018 ;12(3):969-971.
6. Gonied A. Maternal Complications and Perinatal Outcomes in Booked and Unbooked Mothers. J Am Sci 2011;7(10):792-796.
7. Jaleel R, Khan A. Obstetric Morbidity in the Booked Versus Non-booked Patients: a Comparative Study at Lyari General Hospital. Pak J Surg 2008;24(3): 196-202.
8. Ntoimo LF, Okonofua FE, Ogu RN, Galadanci HS, Gana M, Okike ON, Agholor KN, Abdus-Salam RA, Durodola A, Abe E, Randawa AJ. Prevalence and risk factors for maternal mortality in referral hospitals in Nigeria: a multicenter study. International journal of women's health. 2018;10:69.
9. Chinkhumba J, De Allegri M, Muula AS, Robberstad B. Maternal and perinatal mortality by place of delivery in sub-Saharan Africa: a meta-analysis of population-based cohort studies. BMC Public Health. 2014;14(1):1014. doi: 10.1186/1471-2458-14-1014.

10. Hussein J, Hirose A, Owolabi O, Imamura M, Kanguru L, Okonofua F. Maternal death and obstetric care audits in Nigeria: a systematic review of barriers and enabling factors in the provision of emergency care. Reprod Health. 2016;13(1):47. doi: 10.1186/s12978-016-0158-4.
11. Danish N, Fawad A, Abbasi N. Assessment of pregnancy outcome in primigravida: comparison between booked and un-booked patients. J Ayub Med Coll Abbottabad 2010;22(2): 23-25.
12. Latif F, Ayub R, Javaid K. Comparison of Feto-Maternal Complications in Booked and Unbooked Females Presenting at Time of Delivery in Sir Ganga Ram Hospital, Lahore. PJMHS. 2014;8(3):151-155.
13. Adekanle DA, Adeyemi AS, Fadero FF. Booking status and caesarean section outcome in LAUTECH teaching Hospital, Osogbo. Nigerian Journal of Medicine. 2008;17(1):25-28.
14. Introduction in: Jafarey S, Ahsan A, Kamal I, eds. Manual for Emergency Obstetric Care. 1st edition. NCMNH/UNICEF; 2003: III-IV.
15. Owolabi AT, Fatusi AO, Adeyemi A, Faturoti SO, Obiajuwa PO. Maternal complications and perinatal outcomes in booked and unbooked Nigerian mothers. Singapore Med J 2008;49:526
16. Sultana A, Riaz R, Tehseen I, Sabir SA. Assessment of pregnancy outcome with and without antenatal care. Pakistan Journal of Medical Research. 2010 Jun 30;49(2).
17. Oladapo O T, Sule-Odu A O, Olatunji A O, Daniel O J. “Near Miss” obstetric events and maternal deaths in Sagamu, Nigeria: a retrospective study. Repod Health 2005; 2:9.
18. Jamal M, Khan N. Neonatal morbidity and mortality in high risk pregnancies. J Coll Phys Surg Pak 2002; 12(11): 657-661.
19. Ekwempu C C. The influence of antenatal care on pregnancy outcome. Trop J Obstet Gynaecol 1998; 1(1): 67-71.
20. Treacy A, O’Donovan M, Byrne P. Perinatal outcome in unbooked women at the Rotunda Hospital. Ir Med J 2002; 95(2): 44-47.
21. Sànchez-Nuncio H R, Pérez-Toga G, Pérez Rodriguez P, Vàzques-Nava F. Impact of the prenatal care in the neonatal morbidity and mortality. Rev Med Inst Mex Seguro Soc 2005; 43(5): 377-380.
22. Dasgupta S, Saha I, Lahiri A, Mandal AK. A study of perinatal mortality and associated maternal profile in a medical college hospital. J Indian Med Assoc (1997) 95:78–79.