



## COMPARISON OF PERINATAL OUTCOME IN BOOKED HIGH RISK AND UNBOOKED HIGH RISK PREGNANCY

Jayashree .V<sup>1\*</sup>, Saranyadevi .K<sup>2</sup> and Latha .K<sup>3</sup>

Department of Obstetrics and Gynaecology, Rajah Muthiah Medical College and Hospital, Annamalai University, Annamalai Nagar-608 002, Tamil Nadu, India

### ARTICLE INFO

#### Article History:

Received 8th, April, 2017,  
Received in revised form 10th,  
May 2017, Accepted 6th, June, 2017,  
Published online 28th, July, 2017

#### Key words:

Booked, APGAR, Highrisk, Antenatal care.

### ABSTRACT

**Background:** Prevention is better than cure. Antenatal care today is a perfect example of preventive medicine. Aim of antenatal care is to ensure the well being of mother and child.

**Objective:** To evaluate the perinatal outcome in booked high risk pregnancies and unbooked high risk pregnancies in Rajah Muthiah Medical College and Hospital, Chidambaram.

**Materials And Methods:** All high risk pregnancies attending antenatal clinic and labour room were included in the study. All normal pregnancies with no medical and obstetrical risk factors were excluded from the study. Patients were followed up for perinatal outcome, in terms of APGAR scores and NICU admissions.

**Conclusion:** Booking status in high risk pregnancy directly influenced perinatal outcome. Antenatal care helps to bring down the still birth rate.

Copyright © Jayashree .V., Saranyadevi .K and Latha .K. *et al*/2017, This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

## INTRODUCTION

Antenatal care is the care of the woman during pregnancy whose primary aim is to achieve a healthy mother and a healthy baby. Proportion of maternal and child health is the most important component of family welfare programme of the Government of India. Moreover financial assistance has been given to mothers under the scheme of Janani Suraksha Yojana (JSY).

#### Principles of prenatal care is to

1. Advice, reassure, educate and support the women and her family.
2. To deal with minor ailments of pregnancy.
3. To provide ongoing screening to classify them into low risk and high risk groups. Continue the supervision if women remains to be low risk.

ACOG defines the prenatal care as a comprehensive antenatal care programme.

## MATERIALS AND METHODS

Study was conducted in RMMC&H between 2016-2017. The study included 200 high risk women attending antenatal clinic and labour room.

High risk pregnancies include medical disorders complicating pregnancy, grand multipara, antepartum hemorrhage, post cesarean pregnancies, Rh negative pregnancies, preterm labour, multiple pregnancies, malpresentations, bad obstetric history, gynecological disorders complicating pregnancy.

All normal pregnancies with no medical and obstetrical risk factors were excluded from the study. Patients fulfilling the criteria were included in the study and followed up for perinatal outcome, in terms of APGAR scores and NICU admissions.

Booked cases were those who had three antenatal visits in an approved obstetric setup. Unbooked cases will include those who had no antenatal visits or had less than 3 antenatal visits.

## RESULTS

200 cases of high risk pregnancy were randomly chosen for the study.

Majority of them were between the age group of 20-25 years (48%) and 15% of them below the age group of 20 years.

\*Corresponding author: Jayashree .V

Department of Obstetrics and Gynaecology, Rajah Muthiah Medical College and Hospital, Annamalai University, Annamalai Nagar-608 002, Tamil Nadu, India

Socioeconomic group were categorised, 2% of the population belong to the skilled group and 56% were semiskilled and 42% were unskilled.

Previous lscs (26%) and pregnancy induced hypertension (24.5%), anemia (14.5%) were the most common high risk pregnancies seen.

Vaginal delivery was achieved in 13.25% of booked mothers and 86.77% of unbooked mothers.

The APGAR scores of babies born to booked and unbooked mothers were analysed. Babies born to unbooked mothers had poorer APGAR scores compared to babies born to booked mothers. Outcome of 200 high risk pregnancies were analysed and it showed that about 28/207 babies died, during the perinatal period in this study group. It was significant to note that women with high risk pregnancy and good antenatal care had better perinatal outcome, whereas, it was viceversa when there was no antenatal care.

**Table 1** Socio Demographical Characteristics of Booked and Un Booked Mothers

Variable	Booked	Un Booked	p- Value
<b>Age Group</b>			
< 20 Years	6	24	> 0.005
21-25	22	74	
26-30	10	51	
31-35	3	8	
>35	1	1	
<b>Socio Economic Status</b>			
Skilled	2	2	> 0.005
Semi-Skilled	26	86	
Unskilled	14	70	
<b>Education</b>			
Illiterate	0	7	> 0.005
Primary Education	21	92	
Secondary	20	58	
College	1	1	
<b>Gravida</b>			
Primi	11	58	>0.005
Gravida Two	24	56	
Gravida Three	5	31	
Gravida four	0	9	
Muligravida	2	4	

Socio demographical characteristics of Booked and Un booked mothers were analysed for statistical significance. On analyzing the age, it was found that younger women tend to be unbooked and booking increased with age.

**Table 2** Analysis of Mode of Delivery In The Study Population

S.No.	Mode of Delivery	Booked	Unbooked	Number of Patients
1	Vaginal	9 (13.23%)	59(86.77%)	68
2	Outlet	10(26.32%)	28(73.68%)	38
3	Vacuum	1(50%)	1(50%)	2
4	LSCS	22(23.91%)	70(76.09%)	92

Out of the 200 mothers included in the study, 92 of them delivered by cesarean section; 23.91% were booked mothers and 76.09% were unbooked. On the other side, vaginal delivery was achieved in 13.25% of booked mothers and 86.77% of unbooked mothers.

The APGAR scores of babies born to booked and unbooked mothers were analyzed. Analyses showed that babies born to unbooked mothers had poorer APGAR compared to babies born to booked mothers.

**Table 3** Relation between Apgar and Antenatal Status of The Mother

<b>APGAR At 1 Minute</b>			
Antenatal status	0-3	4-7	>7
Booked	2 (4.76%)	40 (95.24%)	0
Unbooked	27 (18%)	131 (82%)	0
Total	29	171	0

  

<b>APGAR At 5 Minutes</b>			
Antenatal Status	0-3	4-7	>7
Booked	0	36 (86%)	6(14%)
Unbooked	17 (11%)	128(81%)	13 (8%)
Total	17	164	19

The distribution is significant  $P < 0.005$

**Table 4** Perinatal Outcome of the Study Population

S.No.	Perinatal Outcome	Number of newborn	Percentage
1	Alive	179	86.4
2	Expired	28	13.6
	Total	207	100.0

Study population consists of 200 high risk antenatal mothers. This includes 7 twin pregnancies. Hence, the number of babies delivered amounted to 207. When the outcome of these 200 cases of high risk pregnancies was analysed, it showed that about 28/207 babies died, during the perinatal period in this study group.

## DISCUSSION

Commonest risk factors noted were previous cesarean section (26%) and next common was PIH (24.5%), anemia (14.5%), preterm (7.5%), Rh negative (2.5%), GDM (3%), pregnancy with heart disease (1.5%), multiple pregnancies (3.5%), prolonged pregnancies (1.5%).

In a study conducted by Failing *et al*<sup>3</sup>, he concluded that the maternal educational status and socioeconomic status were important determinants to antenatal care.

Shamshad,<sup>1</sup> in her study quoted that, hypertensive disorders in pregnancy resulted in 20.4% perinatal deaths and was the second most common risk factor. In the study from Orissa, by Das Lucy<sup>4</sup>, pregnancy induced hypertension accounted for 21.9% of perinatal deaths. This was similar to the present study.

Chesley *et al*<sup>5</sup> in their study comparing outcomes of booked and unbooked mothers with PIH, showed that 36.84% of perinatal loss in unbooked mothers, as compared to 19.4% of losses in booked mothers..

Preterm deliveries, pose a threat to the survival of the newborn as preterm infants are more prone for perinatal deaths. Khaskeli *et al*<sup>6</sup> published a study on preterm birth. He showed that out of 131 mothers delivering preterm, 75% were unbooked Ibrahim *et al*<sup>7</sup> reviewed the outcome of caesarean sections, for a period of two years, and showed that perinatal mortality and morbidity were found to be 3.9% and 55.7% in booked and unbooked.

Perinatal outcome in mothers with diabetes complicating pregnancy were compared with the outcome published by Yousfani *et al*<sup>8</sup> and Owolabi *et al*<sup>2</sup>, who reported a perinatal mortality of 4.4% and 2.2% respectively.

Gulfareen haider *et al*<sup>9</sup> in his study, had included 110 mothers with diabetes which included both gestational diabetes mellitus and known diabetic population.

Alisha Tucker<sup>10</sup>, in her study, observed that cesarean section was performed in 87% of unbooked and 13% of booked women 89% unbooked and 11% booked women delivered vaginally, there was significant variation in the cesarean rate as compared to the present study (p value>0.005)

There were 28 perinatal deaths and only one death occurred in a high risk mother who had booked antenatally.

In this study, the high risk factor in the booked population was recognized early and mode of delivery so planned, keeping the risk factor in mind, in order to achieve an optimal perinatal outcome. Thus out of the women who delivered by cesarean section, 52.4% were booked, but there were no perinatal deaths in booked group.

Mode of delivery in relationship with booked and unbooked mothers and perinatal outcome upon analyses showed a statistically significant p value<0.005.

Therefore we can conclude that, though in booked cases cesarean section was high, the perinatal outcome was optimal.

## CONCLUSION

Unbooked population were significantly higher in the rural population studied. Booking status in high risk pregnancies directly influenced perinatal outcome. Adequate antenatal care helps to bring down the still birth rate. Proper antenatal care facilities should be made available especially in rural India to bring down the overall perinatal deaths in our country.

## References

1. Shamshad: Perinatal mortality: an outcome of quality of perinatal care. *Gomal Journal of Medical Sciences* 2010; 8, (2): 166 -171.
2. Owolabi AT, Fatusi AO, Kuti O, Adeyemi A, Faturoti SO, Obilajuwa to : Maternal complication and perinatal outcomes in booked and unbooked Nigerian mothers, *Singapore Medical Journal* 2008,49(7) :526 -531.
3. F.Failing *et al*: A comparison of booked and unbooked mothers delivering at PortMoresby general Hospital : A case -control study, Papua new Guinea, *Medical Journal* 2004,174-180.
4. Das Lucy, Satapathy Umakant, Panda Niharika Perinatal mortality in referral hospital of Orissa a 10 year review the *Journal of Obstet Gynecol India* Vol.55, No.6, 517 - 520.
5. Chesley *et al*: Care of new born in developing countries Chapter 4, Medical Disorders in Pregnancy.
6. M.Khaskeli, S. Baluch, R, Kazi and G. Ali Qureshi: Preterm birth - A Global Health Problem for Fetuses: *A world Journal of Medical sciences* 1 (2): 126 - 129, 2006.
7. HM Ibrahim, Jimoh AAG, Isiaka-Lawal S, Okesina S, Balogun OR, Raji HA Cesarean section at the University of Horn teaching hospital: A 2 year review Niger. *Journal of Health sciences* volume 9 No.2.
8. Yousfani S, Bibi S, Mumtaz F, Memon A: Perinatal mortality and related Obstetrics Risk factors at a Tertiary Care hospital of Hyderabad *JLUMHS* 2008: 204 -207.
9. Gulfareen Haider, Nishat Zehra, Farhana Anjum and Aftab A. Munir: Perinatal outcome in Diabetic mothers at ISRA University Hospital. *ISRA Medical Journal* Vol 1, (1) 2009.
10. Alisha Tucker. D.Ogotu W. Yoong. The unbooked mother: a cohort study of maternal and foetal outcomes in a North London Hospital. *Arch Gynecol Obstet* (2010) 281:613-616.

\*\*\*\*\*