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Original research article

Antenatal and Post-Natal Risks and Associated Outcomes with of Booked and Unbooked Cases of Pregnant Women at a Tertiary Care Hospital – A Prospective Observational Study.

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Abstract

Introduction: Journey of a human begins when there is a successful meet of a healthy sperm and an egg during fertile period. It is well-thought-out to be a distinction of new joyful foundation for the married couple. Ongoing with the antenatal days for a budding fetus certain changes do occur in mothers' body also in anticipation of new incoming child. These changes would but obviously need medical help to land up in an effortless and well deserved post-natal period. Hence study was undertaken to observe complications in antenatal and post-natal period of booked and unbooked cases of pregnant women coming to our hospital. We had also observed complications during this period in both the groups which may benefit to build further strategies of health care sector for making a healthier mother-children society of our country.

Material methods: All the patients who were getting admitted during their labour were finally considered for the collection of data. Primarily subjects were provided with informed and written consent to participate in the study after that patient's demography data was recorded to make the final observations. While recording data primarily age, height and weight of the patients were recorded amongst booked (496) and unbooked (508) categories. Then starting with history of present illness obstetrical history, gestational age, mode of delivery, complication during and after pregnancy, and perinatal complications was recorded.

Conclusion: we conclude that there are many factors which determine the pregnancy outcome and many of them are rectifiable which will help in evading so many maternal deaths. By providing the standard maternity and child care services much can be done for betterment of pregnant women. By considering differential data amongst booked and unbooked pregnant women for complications in antenatal and post-natal period of pregnant mother for many years is evident that morbidity and mortality can be reduce my adequate antenatal care facilities to these future mothers. Reference centers should be developed close to the homes with better equipped clinical facilities, proper instrumentation and trained staff which will benefit the outcome of pregnant women to make a healthier future of our Nation.

Key words: Antenatal, Postnatal, Risks, Pregnancy cases

Introduction

Journey of a human begins when there is a successful meet of a healthy sperm and an egg during fertile period. It is well-thought-out to be a distinction of new joyful foundation for the married couple. Ongoing with the antenatal days for a budding fetus certain changes do occur in mothers' body also in anticipation of new incoming child. [1]

"Efficient antenatal care is preventive medicine at its best" (Stall worthy). Antenatal care which had its beginning in 1901 when Ballantynel published his 'Plea for a prematernity hospital' is now thoroughly established as a branch of therapeutic and preventive medicine throughout the world. In its widest sense it includes not only strictly medical activities related to childbirth but the education of the girls and women to understand its potential benefits and the provision of dietary and social conditions conducive to health; so that when a woman becomes pregnant, she is already in a state of physical and mental well being and ready to place herself under medical supervision from the earliest stages.

As the days in pregnancy progress there are also many changes taking place in mothers physical and mental status. These changes are also related with many disquiets and unjustifiably changes in daily routine of the female. Common forms of discomfort happening include nausea and vomiting early popularly known as morning sickness; dizziness, headache, heaviness after meal and many more.[2, 3]

In females the duration of manifestation of these signs and symptoms fluctuates on a larger scale. These unusual emotional states can be well controlled by following simple therapies given by an obstetrician. [4, 5]

Antenatal care in its extensive sense is so not a contemporary belief. Elucidation of some extra kindness in pregnancy is designated in Sushrut Samhita. Further it has added Pregnancy a physiological marvel of the life in every woman's fertile lifespan and may adapt into an irreversible obscenity if not taken care properly.[6]

Appreciating the un doubtable role of antenatal care in pregnant women and knowing its positive outcomes in post-natal period it should be routinely practiced. In our country till date many of the females are deprived of these facilities provided by govt. free of cost. There are many causes laying behind this like social taboos, illiteracy, poverty and lack of awareness.[7]

As a result, these females go as unbooked to labor room making them more harassed in antenatal and post-natal period side by side hampering health of a new born.[8]

Therefore, we have under taken this study to observe complications in antenatal and post-natal period of booked and unbooked cases of pregnant women coming to our hospital. We had also observed complications during this period in both the groups which may benefit to build further strategies of health care sector for making a healthier mother-children society of our country.

Materials and Methods:

The present study is carried out in department of Obstetrics and gynecology at a tertiary care center hospital. Present study is hospital based cross sectional; observational, prospective study carried out in the duration of September 2021 to September 2022. In present study a

total of 1329 patients were selected out of which total of 1004 patients agreed to participate in study after providing their written and informed consent.

All the patients who were getting admitted during their labor were finally considered for the collection of data. Primarily subjects willing to participate in the study were provided with informed and written consent to participate in the study after that patient's demography data was recorded to make the final observations. While recording data primarily age, height and weight of the patients were recorded. Then starting with history of present illness obstetrical history, residential address, their duration of gestation, mode of delivery, indication for LSCS, complications during pregnancy, puerperal complications, perinatal mortality and weight of newborn along with antenatal and post-natal history of the patient was recorded on a pre-structured case record form.

Require data was collected using Microsoft office Excel 2013 and statistics was done using graph pad prism 8 wherever required to make the final outcome.

Inclusion criteria:
Booked cases: Those ANC patients making a minimum of 3 antenatal visits during the course of pregnancy at PHC, CHC, TBA, District hospital, private hospital or at Govt facilities with complete case records were considered.
Unbooked cases: All other cases who were having less than 3 or no visit to ANC clinics were considered as unbooked cases.

Exclusion Criteria:
Those pregnant women having known case of complicated labour.
Not willing to participate in the present study.
For booked cases of labor minimum of 3 antenatal visits were required ideally the mother should attend the antenatal clinic monthly up to 28 weeks, twice a month from 28-36 weeks, and thereafter every week till the expected date of delivery. In developing countries, as per WHO recommendations visit may be curtailed to at least 4 minimum. It is first around 16 weeks, second between 24-28 weeks, third at 32 weeks and fourth at 36 weeks. The Govt. of India targeted it minimum of 3 visits covering the entire period of pregnancy, first visit at 2 weeks, second visit at 32 weeks and third visit al 36 weeks or beyond.[9]

Results:
Primarily study protocol was described to the patients and information regarding recording of their demographic data and history since conception was logged and finally data was recorded on pre-structured case record form.

Amongst total 1004 pregnant women 508 patients were unbooked and 496 patients were booked cases. Considering the principal demographic data of the patients like age, height and weight of all females admitted to the hospital following observations were made as depicted in table. 1

Table 1: Primary demographic data of the pregnant women. NS- not significant, S-significant.

	Booked	Unbooked	p value
Age (Years)	24.9 ± 3.67	22.66 ± 4.56	0.2 NS
Height(centimetre)	142.65 ± 6.87	141.48 ± 8.04	0.08 NS
Weight (Kilograms)	64.03 ± 8.75	61.24 ± 6.72	0.12 NS

From above table it is clear that no demarcating differences were found statistically significant amongst the booked and unbooked pregnant women coming for labor hence these groups are statistically comparable.

Considering other parameters like distribution of pregnant women with age, their duration of gestation, mode of delivery, indication for LSCS, complications during pregnancy, puerperal complications, perinatal mortality and weight of newborn were recorded and tabulated in table. 2 as:

Table 2: Data of pregnant women showing antenatal and post-natal complications.

	Booked n=496	Percentage	Unbooked n=508	Percentage
Age (Years)				
16-20	85	17.14	117	23.03
21-25	290	58.47	289	56.89
26-30	107	21.57	92	18.11
31-35	14	2.82	10	1.97
Duration of gestation				
Less than 37 weeks	19	3.83	25	4.92
37-40 weeks	475	95.77	461	90.74
More than 40 weeks	6	1.2	14	2.76
Mode of delivery				
Normal	402	81.04	253	49.8
LSCS	74	14.91	226	44.48
Assisted breach	14	2.82	26	5.11
Instrumental	3	0.6	8	1.57
Exploratory lap subtotal hysterectomy	0		4	0.79
Indication of LSCS				
Fetal distress	25	5.04	11	2.16
CPD	12	2.41	4	0.79
Mal presentation	11	2.21	14	2.75
Obstructed labor	0		8	1.57
Placenta previa	6	1.2	8	1.57
Previous section	19	3.83	12	2.36
Hand Prolapse	0		1	0.19
Cord prolapse	0		1	0.19
Complications in pregnancy				
PROM	35	7.05	24	4.72
Severe Anemia	0		9	1.77
Hypertensive disorder	41	8.26	45	8.85
Antepartum hemorrhage	10	2.01	12	2.36
Malpresentation	25	5.04	38	7.48
Multiple pregnancy	5	1	9	1.77
Previous section	32	6.45	18	3.54
Obstructed labor	0		8	1.57

Hand prolapse	0		7	1.37
Cord prolapse	0		2	0.39
Rupture uterus	0		4	0.78
Puerperal complications				
Fever	30	6.04	55	10.82
Urinary tract infection	2	0.4	2	0.39
Respiratory tract infection	11	2.21	14	2.75
Distention	4	0.81	10	1.96
Wound sepsis	5	1.01	9	1.77
Wound gapping	3	0.6	7	1.37
Perinatal mortality				
Nursery care	25	5.04	35	6.88
Intra uterine death	8	1.61	27	5.31
Still birth	6	1.21	10	1.96
Neonatal death	4	0.81	6	1.18
Newborn's weight in grams				
Less than 1499	4	0.81	6	1.18
1500-1999	36	7.25	75	14.76
2000- 2499	113	22.78	134	26.37
2500 – 2999	272	54.83	236	46.45
3000- 3499	78	15.72	60	11.81
More than 3500	17	3.42	10	1.96

Discussion:

Adequate antenatal care is a guarantee for the prevention and treatment of both maternal and fetal complications. It can assure the birth of A healthy baby from a healthy mother. The complication faced by unbooked mothers during pregnancy, labor and puerperium is well recognized and literature is full of such events.

In present study we had considered pregnant women admitted to a tertiary care hospital. Nearly 496 cases were booked and had visited ANC clinic for at least 3 times or more during their pregnancy and 508 unbooked cases were included for this study. When basic demographic data like age, height and weight were considered there was no significant amongst the booked and unbooked cases hence both the groups were comparable.

Total of 290 (58.47%) cases amongst the booked category and 219 (56.89%) amongst unblock category were lying in the age group of 21 to 25 years of age. Maximum age of the patient attending the hospital was in the age group of 31 to 35 years with average of 2% cases lying in this group amongst both the categories. Similar results were observed by Delahoy MJ who has depicted the relation of pregnancy in female with their reproductive age groups and made a statement about 20-25 years of age group.[10]

The age group 20-29 contributed 58% in the booked and 56% in the unbooked category. Which did not show any age wise discrimination in these maternal groups. Similar results were observed by Sunakshi Setia and Aggrawal S who documented similar findings amongst booked and unbooked cases. [11, 12]

Considering the age of gestation nearly 96% patients were having full term with uneventful full term completion which happened to be only in 90% of unbooked cases whose complete history of term was missing similar findings were found by Ekele BA.[13]

While considering the way of delivery in unbooked cases nearly 226 that is 44.48% had undergone LSCS due to complications in normal labor as compared to 14.49% only in booked cases. These demarcating values could be attributed because of irregular health check up and lack of awareness towards complications caused during pregnancy. Similar results were portrayed by Vijayasree M concluding the benefits of booked cases during pregnancy.[14] On the contrary amongst booked cases in pregnant women 402 that is 81% females were delivered normally to a healthy child.

Considering the outcome amongst the unbooked category total of 176 that is 34.64% pregnant women landed in to complications of pregnancy like Pre mature Rupture of membranes (PROM), Severe Anemia, Hypertensive disorder, Antepartum hemorrhage, Malpresentation, Multiple pregnancy, Obstructed labor, Hand prolapses, Cord prolapse and Rupture of uterus with majority having hypertensive disorders like eclampsia. Similar findings regarding eclampsia were recorded by Chigbu B further commenting that pregnant women with unbooked eclampsia patients are having 13 times more chances of dying in the hospital than booked patients (OR: 13.54; 95%CI: 6.89-27.03); $p<0.0001$). Also Unbooked mothers were only 50% fortuitous to deliver by spontaneous vaginal delivery compared to booked mothers (OR 0.64; 95%CI 0.55-0.73; $P<0.001$) and eight times more likely to be delivered by emergency laparotomy due to uterine rupture than booked mothers.[15]

Considering the puerperal complications like Fever, Urinary tract infection, Respiratory tract infection, Distention, wound sepsis, wound gapping were observed amongst 97 that is 1.91% of unbooked pregnant women giving rise to 78 that is 1.53% of perinatal mortality. Similar outcomes were detected by Briggs ND accounting to fetal outcome which was very poor as 17% of the booked patients and 66% of the unbooked patients arrived at the hospital when their babies had already died in utero. Such complications can be avoidable with simple measures which include prompt antenatal care acting to avoid deaths from anemia, antepartum hemorrhage, and medical complications. Formal education, antenatal care, and improved health services still endure the key to a large-scale lessening in maternal mortality.[16]

By making a road map for resource allocation which also means equipping the 1st referral levels with necessary supplies, equipment, and personnel. 5% of maternal mortality would be reduced. Modernizations such as "waiting shelter" for high-risk women health services must be socially liable with necessary record possession which would ultimately reduce burden of perinatal mortality in unbooked cases such advancing statement was added by Sundari K supporting findings of present study.[17]
Overall, the educated booked patients experienced reduced perinatal deaths and maternal mortality compared to the uneducated unbooked patients; however, booking status had a greater positive influence than education as evident in a perinatal death rate for uneducated booked patients similar results were drawn by Ekwempu CC towards the betterment of healthy lifestyle amongst the pregnant women.[18]

Conclusion

we conclude that there are many factors which determine the pregnancy outcome and many of them are rectifiable which will help in evading so many maternal deaths. By providing the

standard maternity and child care services much can be done for betterment of pregnant women. By considering differential data amongst booked and unbooked pregnant women for complications in antenatal and post-natal period of pregnant mother for many years is evident that morbidity and mortality can be reduce my adequate antenatal care facilities to these future mothers. Reference centers should be developed close to the homes with better equipped clinical facilities, proper instrumentation and trained staff which will benefit the outcome of pregnant women to make a healthier future of our Nation.

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