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Original Research Article

Review of number of antenatal care admission in antenatal care ward in tertiary care center

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ABSTRACT

Background: This is systematic review to identify and analyse the main factors affecting the antenatal care (ANC) admission in ANC ward. The main objective to study the ANC admission in hospital for women with different age group, gestational age, gravida status, pregnancy complications in terms of maternal and perinatal outcomes and to explore the factors contributing to the alarming situation.

Methods: Total 50 women of reproductive age group admitted in ANC ward in the Department of Obstetrics and Gynecology, CAMA and ALBESS Hospital, Mumbai, Maharashtra, India from a period of January to December 2021.

Results: The 50 women of reproductive age group admitted in ANC ward. Most of the subjects belong to age 21-25 is 16 (32%), most of primigravida were 29 (58%), according to gestational age, most of the patient belong 2nd trimester, approx. The 22 patient (44%), followed by 3rd trimester, approx. 21 (42%) and least are belong from 1st trimester are 7 (14%). Most of patients presented with vomiting, 9 out of 50 (18%), followed by pain in abdomen 8 out of 50 (16%). Out of total 50 patient, 44 patient are doing fine and stable, 2 patients are delivered. Two patients in bad condition are transferred to ICU department.

Conclusions: There is need of proper ANC and need of intensive monitoring of mother throughout hospitalization to prevent complication related to maternal and foetal outcome.

Keywords: ANC, Pregnancy, PV, Perinatal outcome

INTRODUCTION

Lots of patient are admitted in ANC ward, they are presented with many symptoms like pain in abdomen, PV bleeding, PIH, gestational diabetes, decreased foetal movement, vomiting, placenta previa, oligohydramnios, polyhydramnios, loose motion, fever and etc.

ANC services are always been poorer and low quality in periphery as compared to tertiary center in India. And it has the potential to affect maternal and foetal outcome.

After confirmation of pregnancy, each patient must visit nearest ANC service center for booking and registration. The ideal gestational age for booking is within the first ten weeks of pregnancy.

Lack of health awareness and delayed referral to tertiary care centre seem to be a major reason for maternal morbidity and mortality. Timely antenatal registration, antenatal follow ups, prophylactic intervention and anticipation of intensive care can change the scenario hence leading to a decreased maternal morbidity and mortality.

Despite the drastic decrease in maternal morbidity over the last few decades because of improvements in obstetric care, maternal mortality remains to be a challenge. Although patients receiving obstetric care are young and healthy in general, there is an indisputable potential for catastrophic complications related to the pregnancy and the delivery. An indicator of pronounced maternal morbidity is admissions of obstetric patients.

ANC is the most cost-effective approach for the prevention of maternal deaths; if 90% of women receive ANC, 14% of neonatal deaths could be avoided.¹

Only a few studies have been published concerning admissions of obstetric patients in the developing world, in which maternal mortality rates have ranged from 28% to 60%, as compared to the rates ranging from 3% to 20% in the developed world.

Based on the fact that the risk factors defining pronounced maternal morbidity and maternal mortality in the developing world are not well established, the present study was conducted to evaluate the obstetric admissions to the ANC ward in the setting of a tertiary referral hospital in an attempt to identify the risk factors influencing maternal outcome.

To identify the pattern of obstetric referral to our hospital and the primary reasons for referral, so as to implement measures to reduce unnecessary referrals and to reduce maternal mortality and morbidity.²

ANC services have the potential to affect maternal and foetal outcome positively and are considered to be the key element in the health care delivery system of a country. Early initiation of ANC aids early documentation of the woman's baseline physiological and laboratory parameters for subsequent comparison, early detection of anomalies with the progress of pregnancy, avoiding teratogens, provides opportunities for preventive health care services such as immunization against neonatal tetanus, prophylaxis and treatment of diseases, diagnosis and treatment of medical disorders.³

Reduced fetal movement in pregnancy is a common cause of anxiety and admission during antenatal period. Fetal surveillance is always indicated to assess the fetal wellbeing. Majority of antenatal women are unaware about fetal movement monitoring Antepartum fetal monitoring helps in reducing perinatal morbidity and mortality.⁴

Better health care facilities, improvement of socio-economic and educational status of people and recognition of the seriousness of problem and availing the health care facility by the people themselves, adequate antenatal supervision followed by early treatment and timely interventions will greatly reduce morbidity and mortality.⁵

Prevalence of IUFD and stillbirths is the direct indicator of the quality of ANC in that society.⁶

Of all admitted patient in ANC ward, obstetric patients which are young and healthy and mostly go through pregnancy and labor uneventfully. However, small proportion of these women will require admission to the intensive care unit (ICU).⁷

Quantitative estimation of amniotic fluid volume is a part of routine obstetric scan.

Oligohydramnios defined as AFI<8 cm can result in adverse maternal outcomes every case of oligohydramnios needs careful antenatal evaluation.⁸

Majority of cases of eclampsia are young primigravidas and those with no prior ANC. Though not all cases of eclampsia can be prevented, majority of cases can be prevented by early detection and effective treatment of preeclampsia, for which the good ANC services are needed.⁵

Mothers who had not received good quality ANC were found to be more at risk of having low birth weight babies and there is clear association between perinatal mortality rate and lack of or poor-quality ANC.⁹

Pregnancy with medical complication like pregnancy with severe anemia Hb<7 gm%, gestational diabetes mellitus, heart disease, jaundice, renal complications, dengue/Malaria respiratory complications, DIC and sepsis, these are few challenges while giving the ANC services.¹⁰

METHODS

This study was done on “review of number of ANC admission in ANC ward in tertiary care center” (CAMA and ALBESS hospital, Mumbai) from January 2021 to December 2021. The study was conducted in Obstetrics and Gynecology Department, CAMA and ALBESS Hospital, Mumbai, Maharashtra, India. The present study aims to review, identify and analyse the factors affecting the ANC admission in ANC ward.

It was a retrospective study. Pregnant patients were admitted through OPD and emergency. Inclusion criteria was all pregnant women which are getting admitted in ANC wards and willing to take part in the study.

A detailed history was taken from patient (if conscious and well oriented in time and space) or attendants, regarding age, married since, gravida status, registered and unregistered, last menstrual period (LMP), expected date of delivery, weeks according to date and by Scan.

Other complaints like history of raised blood pressure, proteinuria, swelling of feet, headache, epigastric pain, visual disturbances, vomiting, urinary problem or bleeding per vagina.

A thorough general physical and systemic examination was performed, recording blood pressure, pulse, temperature, pedal edema, jaundice and pallor. Lungs and heart were auscultated to note any abnormalities. Reflexes were checked. Obstetrical examination included abdominal examination to determine lie and presentation of fetus, amount of liquor, any element of intrauterine growth retardation and foetal heart rate (if alive). Vaginal examination performed to note degree of cervical dilatation, effacement, station of presenting part and pelvic capacity. For the patient in 3rd trimester mode of delivery

(vaginal/abdominal route) decided according to bishop score, patient's condition and fetal condition. Few patients which were delivered were observed in intensive care unit for 24-48 hours and patients followed up for complication for up to ten days. All of these information's were recorded on a Performa. Lab investigations included: Blood group and Rh factor, complete blood examination, platelet count, serum electrolytes, serum urea, serum creatinine, serum uric acid, liver function tests, complete urine analysis, 24 hours urinary protein estimation and ultrasonography.

Apart of routine investigation like USG early obstetrics, NT scan and anomaly scan, special investigations like obstetric doppler were done in necessary cases, duration of stay in of each and every patient wards were observed and her final outcome.

Ethical clearance has been taken from Institutional Ethical committee. Informed consent was taken from every patient who had taken part in the study.

Statistical analysis

The data were recorded in an Excel sheet and descriptive analysis was performed, of which data presented in tables.

RESULTS

The 50 pregnant women included in study.

In this present study most of the subjects belong to age 21-25 is 16 in no. 32% and 15 patients are belong from age 26-30 which is 30%. Least affected age groups are >36 year only 1 patient is belonging this group having the 2% (Table 1).

Table 1: Distribution of patients according to age.

Age group (years)	N	Percentage (%)
15-20	12	24
21-25	16	32
26-30	15	30
31-35	6	12
>36	1	2
Total	50	100

Most of the patient are primigravida having number of patients is 29 that is 58% followed by 10 patient which is 20% are gravida 2 and rest all the patient are multigravida from which 11 patients belong, 22% (Table 2).

Table 2: Distribution of patients according to gravida status.

Gravida status	N	Percentage (%)
Primi	29	58
G2	10	20
Multi	11	22
Total	50	100

When we divide patient according to gestational age, we can classify in 3 categories, most of the patient belong 2nd trimester, approximately 22 patient which is 44%, followed by 3rd trimester, approximately 21 patient which is 42% and least are belong from 1st trimester are 7 patient is 14 (Table 3).

Table 3: Distribution of patients according to complaints.

Presentation	N	Total	Percentage (%)
Fever	7	50	14
vomiting	9	50	18
Spotting PV	5	50	10
Pain in abdomen	8	50	16
Raised BP	4	50	8
De-arranged sugar	1	50	2
Cough	2	50	4
white discharge	3	50	6
loose motions	1	50	2
Decreased fetal movement	3	50	6

Most of patients are presented with vomiting, which are total 9 out of 50, approximately about 18%, followed by pain in abdomen which are total 8 out of 50, approximately about 16%, followed by fever which are total 7 out of 50, approximately about 14% and spotting PV which are total 5 out of 50, approximately about 10%.

Other less common presentation is raised BP which are total 4 out of 50, approximately about 8%, followed by white discharge and decreased fetal movement which are 3/50 patient comes 6% for each and 4% patient is having cough which is 2/50. Less common presentation being de-arranged sugar and loose motions which 1/50, 2 (Table 4).

Table 4: Distribution of patients according to gestational age.

Gestational age (week)	N	Percentage (%)
1st trimester (1-12)	7	14
2nd trimester (12-28)	22	44
3rd trimester (28-40)	21	42
Total	50	100

When we divide patient on the basis of USG doppler finding,

Maximum patient is coming with normal report which is 26 (52%) patients. Approximately 22 patients came with abnormal report which is 44% and 1 patient each is belong from asymmetrical IUGR and foetal hypoxia which come 2% (Table 5).

Out of 50 patient, 45 patient are booked cases and only 5 patients are unbooked which is 90% and 10% respectively (Table 6).

Table 5: Distribution of patients according to USG Doppler finding.

USG doppler	N	Percentage (%)
Normal	26	52
Empty	22	44
Asymmetrical IUGR	1	2
Foetal hypoxia	1	2
Total	50	100

Table 6: Distribution of patients according to booked and unbooked status.

Status	N	Percentage (%)
Registered	45	90
Un-registered	5	10
Total	50	100

Out of total 50 patient, 44 patient are doing fine, no complication. Two patients are delivered.

Two patients in bad condition are transferred to ICU/ICU/another department. One is undergoing abortion and one patient having high BP afterward which is controlled (Table 7).

Table 7: Distribution of patients according to outcome.

Variables	Outcome
Fine	44
Delivered	2
Transferred	2
Abortion	1
BP controlled	1
Total	50

Studies most commonly identified the following factors affecting ANC: age, gravida status, parity, booking status, raised BP and having a history of obstetric complications about pregnancy also had an influence on ANC use, while women of higher parity tend to use ANC less.

DISCUSSION

ANC is a very important component of maternal healthcare services. It gives women and their families an opportunity to learn about the risk associated with pregnancy and guides their health seeking practices and decision-making, thereby preventing maternal and infant morbidity and mortality.

The predominant age group of respondents of 21-25 years which is 16 in number 32%, and 15 patients are belong from age 26-30 which is 30%, found in our study is similar to a study carried out in Lagos and Rozliza et al which recorded 20-29 years. This age group reflects the age of increased reproductive capacity.^{11,12} Study done by Sharma et al found similar incidence of majority patients

in the age range of 21-25 years i.e., 45.58% i.e., 31 patients.¹³

Most of the patient are primigravida having number of patients is 29 that is 58% followed by 10 patient which is 20% are gravida 2 and rest all the patient are Multigravida from which 11 patients belong, 22%. Similar findings were observed by Shaikh et al and Acharya et al.^{14,15} Gautam et al found 61.3% of their study sample were primigravida.¹⁶

In our study, when we divide patient according to gestational age, most of the patient belong 2nd trimester, approximately 22 patient which is 44%, followed by 3rd trimester, approximately 21 patient which is 42% and least are belong from 1st trimester are 7 patient is 14.

In our study, most of patients are presented with vomiting, which are total 9 out of 50, approximately about 18%, followed by pain in abdomen which are total 8 out of the 50.

USG doppler finding, maximum patient is coming with normal report which is 26 patients, 52%. Approximately 22 patients came with abnormal report which is 44% and 2 patients show asymmetrical IUGR and foetal hypoxia.

In our study, out of 50 patient, 45 patient are booked cases and only 5 patients are unbooked which is 90% and 10% respectively while Similar to the present study, Narayana Murthy et al and Partha et al in their studies in Mysore and Pondicherry, respectively, reported 100% registration of pregnancy.^{17,18} Study by Tellis et al in the same district reported that 78.3% had registration, near similar to our study.¹⁹

This also goes in correspondence with the study conducted by Dattatray et al where 84.21% patients were unregistered and 15.79% were registered.²⁰

Out of total 50 patient, 44 patient are doing fine and stable, no complication observed. Two patients are delivered normally those which are in 3rd trimester.

Two patients in bad condition are transferred to ICU/ICU/another department. One is undergoing abortion and one patient having high BP afterward which is controlled. patients were managed successfully in HDU. Thus, HDU helps in reducing morbidity, burden on ICU and financial burden on patients.

CONCLUSION

A high-quality multidisciplinary care is required in complicated pregnancies for safe motherhood. So, there is a need for dedicated ANC ward for obstetric patients. More attention is required for to identify and study high risk patient, so timed intervention can be done followed by transfer of patient to intensive care unit, if necessary, which will reduce maternal mortality and morbidity.

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