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Original Research Article

A study on demographic and obstetric profile, its relation with present antenatal practices and prevalence of anaemia in pregnant women attending tertiary care hospital

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ABSTRACT

Background: Antenatal care is the care of a woman during pregnancy. The primary aim of antenatal care is to achieve at the end of pregnancy a healthy mother and a healthy baby. To improve maternal health, barriers which limit access to quality maternal health services must be identified and addressed at all levels of health system. Objectives were to determine demographic and obstetric factors affecting utilization of ANC service and prevalence of anaemia among pregnant women.
Methods: This is cross-sectional descriptive study carried out in tertiary care hospital, using structured questionnaire, interviews were conducted with married pregnant women age between 18-45 years, who visited ANC clinic. Total 170 pregnant women visited hospital during a period was included in study. Data was analysed using MS excel and Epi info. Chi –square test was applied.
Results: Maximum number of study subjects (42.9%) from age 23-27 years. 66.5% were Hindu, 56.5% study subjects from joint family. 14.7% were illiterate. 45.3% were primigravida, 54.7% were multigravida. 71.1% study subjects were from third trimester of pregnancy. 94.7% were taken at least one dose of Tetanus Toxoids. Iron folic acid tablets were taken by 87.6%. Prevalence of anaemia was 55.8%.
Conclusions: Majority of pregnant women came for antenatal check-up, but regularity was not seen in most of cases. The presence study has brought out no significant socio-cultural barrier like women's literacy, socio economic class and parity of women affecting the utilization of services.

Keywords: Antenatal care, Antenatal health care services, Demographic and obstetric profile

INTRODUCTION

Every minute, one woman dies due to pregnancy or child birth related causes, this translates into 1,500 women dying every day. According to statistics released by UNICEF and WHO 2006 in India every five minutes a woman dies during child birth.[1] Thus, maternal mortality continues to be a major public health problem. The focus on maternal mortality was sharpened when reduction in maternal mortality became one of the eight goals for development in the Millennium Declaration (Millennium Development Goal 5 or MDG 5).[2] Maternal health care is important for better maternal, perinatal and infant health outcomes. High maternal and neonatal mortality rates are associated with inadequate and poor quality maternal health care, including antenatal care, skilled attendant at birth and postnatal care. Hence achieving MDG goal on maternal health requires providing high quality pregnancy and delivery care, improving sexual and reproductive health care and universal access to all its aspects. Antenatal care

is recognized as a key maternal service in improving a wide range of health outcomes for women and children. It provides an opportunity to provide interventions for improving maternal nutrition, to encourage skilled attendant at birth and use of facilities for emergency obstetric care.[3]

Antenatal care is the care of the woman during pregnancy. The primary aim of antenatal care is to achieve at the end of a pregnancy a healthy mother and a healthy baby. Ideally this care should begin soon after conception and continue throughout pregnancy.[4] Antenatal period starts from the time of conception to the onset of labour. In the rural areas, antenatal care is provided by health worker female.[5] Ideally the mother should attend the antenatal clinic once a month during the first 7 months of pregnancy; than twice a month, during the next month; and thereafter, once a week, if everything is normal. A high proportion of mothers in India are from lower socio-economic group, and many of them are working women. Attendance at the antenatal clinic may mean loss of daily wages. Consequently, it is very difficult for them to attend the antenatal clinic so often. In these cases, a minimum of four antenatal visits covering the entire period of pregnancy should be the target. First antenatal visit must be within 12 weeks, preferably as soon as the pregnancy is suspected, for registration of pregnancy and first antenatal check-up.4 Antenatal care includes visit to antenatal clinic, examination, immunization, supplements (Iron, Folic acid, Calcium, Nutritional supplements), investigations, and interventions as required. This is a comprehensive approach to medical care and psychosocial support of the family that ideally begins prior to conception and ends with the onset of labour. Antenatal (Prenatal) care formally begins with the diagnosis of pregnancy and includes ongoing assessment of risk, education and counselling and identifying and managing problems if they arise.[6] Effective antenatal care can improve the health of the mother and give her a chance to deliver a healthy baby. Regular monitoring during pregnancy can help detect complications at an early stage before they become life-threatening emergencies. However, one must realize that even with most effective screening tools currently available, one cannot predict which woman will develop complications. Hence, every pregnant woman needs special care.[7]

The maternal health status of Indian women was noted to be lower as compared to other developed countries. Promotion of maternal and child health has been one of the most important components of the Family Welfare Programme of the Government of India. For sustainable growth and development of country, there is a need to improve MCH Care in the country. Safe motherhood by providing good antenatal care (ANC) is very important to reduce maternal mortality ratio and infant mortality rate and to achieve millennium development goals.[8]

To improve maternal health, barriers that limit access to quality maternal health services must be identified and addressed at all levels of health system so that the utilization of maternal health services improved. Health education is an important element to enable women to be aware of their health status and importance of appropriate antenatal care. Very few studies were carried out in India regarding this aspect of maternal health and hence, data in this regard is scarcely available. So, by this study we can assess the utilization of various ANC services by pregnant women and various demographic and obstetric factor that limit utilization of antenatal services and also, we assess the prevalence of anaemia in pregnant women.

Objectives

Objectives of present study are: study the demographic and obstetric profile of pregnant women attending tertiary care hospital, relation of Demographic and Obstetric profile with present Antenatal practices among study subjects, to find out prevalence of anaemia in study subjects.

METHODS

This is cross-sectional descriptive study carried out in tertiary care hospital of Junagadh. Data for ANC visit were collected from women who attended ANC clinic at Civil Hospital Junagadh. Consent was obtained from each individual participant prior to interview. Information on ANC coverage was collected from married pregnant women who were visited hospital during study period between April 2018 to July 2018. The estimated ANC utilization rates were approximately 80%.[9] At 95% confidence interval, with a precision of 10%, the required calculated sample size was around 162.[10] Total number of 170 women who visit hospital during study period, were included in study for data collection. Data collection was done by using structured, predesigned and pre tested questionnaire and it was pilot tested for clarity of questions and its response. All those pregnant women who fulfil all inclusion criteria were included in this study. Consent from subjects was taken before administering the questionnaire. Questionnaire elicited information about socio-demographic profile (age, religion, residence, type of family, parity, education, occupation, diet, per capita monthly income), reproductive profile (number of Ante natal visit, timing of registration, measurement of B.M.I., tetanus toxoid immunization, consumption of Iron folic acid and calcium tablet) and laboratory investigation of blood.

Inclusion criteria

Participant with 1st \ 2nd \ 3rd trimester of pregnancy, pregnancy must be confirmed, willing to give answer, gave consent, carrying MAMTA card.

Exclusion criteria

Incomplete detail in MAMTA card, not provided with informed consent.

Ethical approval

Study was approved by the Institutional Ethics Committee.

Statistics

The data was collected, compiled and entered in MS excel sheet and was analysed using MS excel and Epi info. Chi –square test was applied to determine whether there were statistically significant association between the antenatal visit and socio-demographic variables and other related indicator as well.

RESULTS

A total of 170 women were surveyed during the study period. It can be seen from the table 1, maximum number of study subjects i.e., 42.9% seen in age group 23-27 years, followed by 30% in age group 18-22 years, 22.4% in age group 28-32 years and only 4.7% in age group 33-37 years.

Table 1: Demographic profile of pregnant women attending ANC clinic.

Variable		Frequency	%
Age (years)	18-22	51	30
	23-27	73	42.9
	28-32	38	22.4
	33-37	8	4.7
Religion	Hindu	113	66.5
	Muslim	57	33.5
	Other	0	0
Type of Family	Nuclear	66	38.8
	Joint	96	56.5
	Three generation	8	4.7
Education status	Illiterate	25	14.7
	Primary	68	40
	Higher secondary	59	34.7
	Graduate	16	9.4
	Post graduate	2	1.2
Socio economic Class	Class I	21	12.4
	Class II	38	22.3
	Class III	88	51.7
	Class IV	23	13.6

66.5% study subjects were Hindu and 33.5% were Muslim. 56.5% study subjects were form Joint family, 38.8% were from Nuclear family and only 4.7% were having three generation family. Around 14.7% women were illiterate, 40% women having education up to primary school, 34.7% having education up to higher secondary, and remaining 10.6% women were gradate or post graduate.

Table 2: Obstetric profile of pregnant women attending ANC clinic and utilization Antenatal services by them.

Variable		Frequency	%
No. of child	Primigravida	77	45.3
	Multigravida	93	54.7
Duration of pregnancy	1st trimester	12	7.1
	2nd trimester	37	21.8
	3rd trimester	121	71.1
No. of Ante-natal visit taken	≤ 3	109	64.1
	4	61	35.9
At least one dose of TT taken	Yes	161	94.7
	No	9	5.3
IFA tablets intake during pregnancy	Yes	149	87.6
	No	21	12.4

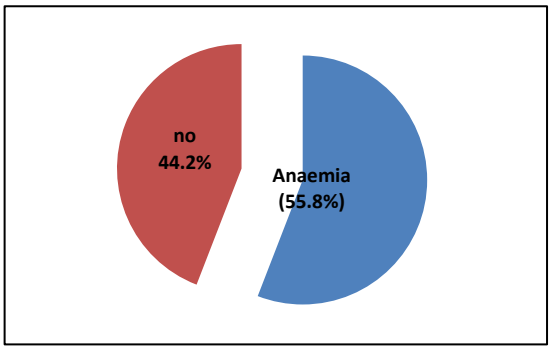

Figure 1: Prevalence of anaemia in study subjects.

Only 12.4% study subjects were form socio economic class I, followed by 22.3% were form class II, 51.7% were form Class II and remaining 13.6% were from Class IV (Table 1). Among total study subject, 45.3% women were primigravida and remaining 54.7% were multigravida. Maximum number of study subjects were from 3rd trimester of pregnancy i.e., 71.1%, followed by 21.8% were from 2nd trimester and remaining 7.1% were from 1st trimester of pregnancy. 94.7% of study subjects were taken at least one dose of Tetanus Toxoids, while remaining 5.3% were not taken even single dose of Tetanus toxoid. Course of Iron folic acid and calcium tablets were taken by 87.6% of the study subjects, while Iron folic acid and calcium tablets were not taken by remaining 12.4% study subjects (Table 2). Prevalence of anaemia in study subjects was 55.8% (Figure 1).

Further, when antenatal visits were analyzed according to trimesters, it was noted that among 18 women who came for their first ANC visit, 10 (5.6%) were in their first trimester, 7 (4.1%) in second trimester and 1 (0.6%) were in their third trimester. Out of 38 (22.4%) of pregnant women who came for their second ANC visit 2 (1.2%) were in their first trimester while 14 (8.2%) in their second trimester and 22 (12.7%) in their third trimester.

Table 3: Relation between number of ANC visits and trimester of pregnancy.

Trimester	1 ANC visit	2 ANC visit	3 ANC visit	4 ANC visit	Total
	N (%)	N (%)	N (%)	N (%)	N (%)
1st	10 (5.6)	2 (1.2)	0 (0)	0 (0)	12 (7.1)
2nd	7 (4.1)	14 (8.2)	14 (8.2)	2 (2.2)	37 (21.8)
3rd	1 (0.6)	22 (12.7)	39 (22.7)	59 (34.5)	121 (71.1)
Total	18 (10.6)	38 (22.4)	53 (31.1)	61 (35.9)	170 (100)

Table 4: Relation between status of iron folic acid and calcium intake in primigravida and multigravida.

Status of Iron folic acid and Calcium tablets	Iron folic acid and calcium taken (%)	Iron folic acid and calcium not taken (%)	Total (%)
Primagravida	69 (40.6)	8 (4.7)	77 (45.3)
Multigravida	80 (47.1)	13 (7.6)	93 (54.7)
Total	149 (87.6)	21 (12.4)	170 (100)

(p value= 0.47, chi-square= 0.50, df= 1).

Table 5: Relation between status of Iron folic acid and calcium tablet intake and education.

Status of literacy	Iron folic acid and Calcium taken (%)	Iron folic acid and calcium not taken (%)	Total (%)
Educated	124 (72.9)	21 (12.4)	145 (85.3)
Illiterate	25 (14.7)	0 (0)	25 (14.7)
Total	149 (87.6)	21 (12.4)	170 (100)

(p value= 0.085, chi-square = 2.90, df= 1).

Out of 53 (31.1%) of pregnant who came for their third ANC visit none were in their first trimester, 14 (8.2%) were in their second trimester and 39 (22.7%) in their third trimester. Among 61 (35.9%) pregnant women who came for their fourth ANC visit, 2 (2.2%) were in their second trimester and 59 (34.5%) in their third trimester (Table 3). Similarly, it was seen that there was total 12 pregnant women in first trimester of pregnancy and out of these 12 pregnant women, 10 pregnant women had come for first antenatal visit and 2 had come for their second antenatal visit. There was total 37 pregnant women in second trimester of pregnancy and out of these 37 pregnant women, 7 pregnant women had come for first antenatal visit and 14 had come for their second antenatal visit, 14 had come for third antenatal visit and two pregnant female came for their fourth antenatal visit. Total 121 pregnant women were in third trimester of pregnancy, and out of these 121 pregnant women, one pregnant woman came for their first antenatal visit which means this pregnant woman came very late for antenatal checkup. Similarly, 22 pregnant women came for second antenatal visit, 39 came for third antenatal visit and remaining 59 came for fourth or more antenatal visit. This finding shows that majority of pregnant women came very late for first antenatal checkup which is one of the major factors responsible for high maternal mortality (Table 3).

Out of total 170 pregnant women, 149 (87.6%) of them took Iron folic acid and calcium while 21(12.4%) did not take it. When we correlate Iron folic acid tablets consumption and Parity status of pregnant women, it was seen that out of total 77 prima gravida women, 69 pregnant women had taken Iron folic acid and calcium tablets, while 8 had not taken Iron folic acid and calcium tablets, and out of 93 (54.7%) multigravida women, 80 pregnant women had taken Iron folic acid and calcium tablets, while 13 did not take Iron folic acid and calcium tablets, and this difference statistically not significant (p value=0.47, chi-square=0.50, df=1) (Table 4). Similarly if we correlate Iron folic acid tablets consumption and literacy status of pregnant women, it was seen that out of total 145 (72.9%) educated pregnant women, 124 pregnant women had taken Iron folic acid and calcium tablets, while 21 had not taken Iron folic acid and calcium tablets, and out of 25 (14.7%) illiterate pregnant women, all 25 (100%) pregnant women had taken Iron folic acid and calcium tablets, and this difference statistically not significant (p value=0.085, chi-square=2.90, df=1) (Table 5).

Majority of pregnant women take ANC visit but problem is that it is not been regularly. The presence study has brought out no significant socio cultural barrier like women's literacy, socio economic class and parity of women affecting the utilization of services.

DISCUSSION

A total of 170 women were surveyed during the study period. It can be seen from result, maximum number of study subjects i.e., 42.9% seen in age group 23-27 years, followed by 30% in age group 18-22 years, 22.4% in age group 28-32 years and only 4.7% in age group 33-37 years. Study conducted by Bhimani et al and Patel et al also found similar result i.e., maximum number of study subjects were from below 30 years age group.[8,11] Regarding 66.5% study subjects were Hindu and 33.5% were Muslim.

Bhimani et al in their study found 83.87% study subjects Hindu and remaining 16.13% were Muslim.[11] Similar study done by Dasgupta et al found 56.5% study subjects were Hindu.[12] Around 14.7% women were illiterate, 40% women having education up to primary school, 34.7% having education up to higher secondary, and remaining 10.6% women were gradate or post graduate. Dhoble et al in their study, observed 4.91% study subjects were illiterate, 34.64% respondents were studied up to primary school, 51.88% respondents were studied up to secondary school and only 8.35% study subjects were studied up to graduation.[3] Pandey et al in their study found 32.9% were having no education, 36.6% having education of Primary and 23% having secondary education.[13] The analysis of data disclosed that, among 170 subjects about 56.5% were living in joint family; 38.8% were belonging to nuclear family and 4.7% were belonging to three generation family. Similar finding also observed in study conducted by Bhimani et al on utilization of antenatal health services on rural area, while Patel et al found somewhat different finding i.e., 61.7% respondent belonged to joint family followed by 37% nuclear and only1.3% three generation.[8,11] Majority of women (51.7%) belong to class 3, 22.3% belong to class 2, 13.6% belong to class 4, 12.4% belong from class 1. It was observed that there was no correlation between socio economical class and ANC visit in this study. Bhimani et al showed that 5.21% belong to class 1, 15.63% belong to class 2, 10.92% belong to class 3, 36.21% belong to class 4, and 29.03% belong to class 5.[11]

In response to frequency of ante natal visit, the result showed that, around 35.9% women had availed more than three ante natal visits, 31.1% women had availed three ante natal visits, 22.4% women had availed two ante natal visit and 10.6% women had one ante natal visit. Metgud et al in their study shows, in 3rd trimester 51.61% of pregnant women had made more than 3 antenatal visits, 14 while study conducted by Bhimani et al showed that 59% women had availed more than three visit, 27.94% women had availed three visits.[11] Among total study subject, 45.3% women were primigravida and remaining 54.7% were multigravida. Dhoble et al in their study found that 55.03% were primigravida, 3 while Bajpai et al in their study found that 36.89% were primigravida.[15] It was seen that at 4th visit 94.7% had received TT injection while 5.3% women were not immunized. Khanam et al in their study found T.T. coverage was 97.85%, while Bajpai et al found that T.T. coverage was 42.3%.[15,16] As per study conducted by Bhimani et al showed that 82% women had received complete TT injection, 6% had received incomplete immunization and 13% were not immunized at all.[11] Out of total study subjects, 87.6% women had received IFA and Calcium tablets while 12.4% had not taken IFA and Calcium tablets. Khanam et al in their study found IFA tablets were taken by 31.07%, while Bajpai et al found that IFA tablets were taken by only 34.7%.[15,16] As per study conducted by Bhimani et al showed that 48% women had received complete course of IFA and Calcium tablets while 37.53% women had not completed IFA and Calcium supplementation.[11]

The analysis shows that, prevalence of anaemia in ante natal women was 55.8%. As per NFHS III, prevalence of anaemia in pregnant women is 58%, which is almost similar to the study finding.[17] Study carried out by Rajamouli et al also found a prevalence of anaemia 58.36% in pregnant women, which is also near to the study finding.[18] Vindhya et al found 33.9% prevalence of anaemia.[19]

Limitations

As this was a hospital-based study, we took only those study participants who came in tertiary care hospital for antenatal check-up. Similar type of community-based study in pregnant women is requiring for clear picture. Also, we included only those participants who had complete record of mamta card.

CONCLUSION

The prevalence of anaemia in pregnant women was 55.8%. Majority of pregnant women visit health facility for ante natal check up, but regularity was not seen in most of the cases. It is recommended first antenatal visit should do as soon as pregnancy confirms, but in most of the cases pregnant women came late. ANC visit is important tool to maintain health of pregnant women thus it is advisable to pregnant women to take ANC visit regularly. Majority of pregnant women take ANC visit but problem is that it is not been regularly, thus health worker must ensure the regular ANC visit of pregnant women to improve maternal health of pregnant women. A well planned health education campaigns should be organised for pregnant women as well as for women of reproductive age group regarding importance of regular antenatal check up, so that utilization of MCH serviced improve and ultimately if reduce mortality and morbidity both in mother as well as in their baby.

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