

Original article:

Socio-Demographic Factors Affecting the Antenatal Care Service

Utilization in Assam

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Abstract

Introduction: Antenatal care is vital for prevention, early diagnosis and treatment of general and pregnancy-related complications². However, there is vast disparity in the utilization of antenatal care services.

Aim: To explore the pattern of antenatal care services utilization and the socio-demographic factors influencing the pattern of utilization.

Methods: A cross-sectional hospital based study was carried out for three months, from November 2011 to February 2012 in Jorhat Medical College Hospital using a predesigned, pretested proforma.

Results: A total of 1845 women admitted in the Postnatal Ward were studied; 90.12% were Hindus, only 9.51% were illiterate, 64.89% were primigravidae, 61.89% had been married for 1 to 5 years, and 70.09% had no previous living issues. All the women were registered for Antenatal checkups, of whom 57.62% were registered in the first trimester; 57.98% had more than three ANC visits during their pregnancies; 65.97% received full course of IFA) tablets and 99.47% had received at least one Tetanus Toxoid injection. Many of the women had attended ANC at more than one health care centre. 98.13% of them had attended ANC at subcentre. Adequate number of Antenatal Checkups was seen to be availed in the younger age groups up to 30 years, the primigravidae and up to two living children. Utilization of ANCs was good in illiterates and literates alike.

Conclusion: In spite of being aware of antenatal care services, those who did not utilize antenatal services did not feel the need of the services. The availability and quality of antenatal care services need to be further strengthened at the peripheral health institutions and more awareness is to be created regarding antenatal care. Women in later years of their reproductive period need to be made aware of the risks that prevail at their circumstances.

Keywords: Antenatal checkup, socio demographic characteristics, pattern of utilization of services

Introduction

Maternal health care services are important to families, communities and the nation due to its profound effects on the health of women, immediate survival of the newborn and long term well-being of children, particularly girls and the well-being of families. Maternal death and illness have cost implications for family and the community because of high direct and indirect costs, the adverse impact on productivity and the tremendous human tragedy that every maternal or child death represents. World Health Organization (WHO) with a fifth Millennium Development Goal had planned to reduce maternal deaths by three-quarters by the year 2015¹. Antenatal care, a care given to pregnant women, is widely used for prevention, early diagnosis, and treatment of general medical and pregnancy-related complications². Early Antenatal Check-up (ANC) booking and regular follow-up of services usually provides opportunities for delivering health information and interventions (i.e., via early detection of modifiable preexisting medical conditions like Heart disease, Diabetes Mellitus, Hypertensive disorders, HIV/AIDS, and severe anemia) that can significantly enhance the health of the mother and fetus^{3,4}. On the contrary, opportunities to provide information and other interventions pertaining to their reproductive health and the health of their unborn child are missed when a

woman initiates ANC in late time of her pregnancy^{5,6}. Although ANC attendance has been measured based on the proportion of women who have attended ANC at least once during pregnancy; WHO in 2002 recommends that pregnant women should attend ANC at least 4 times starting from the first trimester⁹. National Family Health Survey-3 (NFHS-3) reveals that more than three quarters of pregnant women in India receive at least some antenatal care (ANC), but only half of the pregnant women make at least 3 visits to health practitioners during their pregnancy^{7,10}. There is vast disparity in the maternal mortality indicators between the high performing states like Kerala, and the low performing states like the Empowered Action Group (EAG) states and Assam. Assam remains at the bottom with regard to Maternal Mortality Ratio, which is considered one of the most important indicators of maternal health. While antenatal care is considered essential for the health of both the mother and the child, it is important to analyze the possible factors contributing to its utilization⁷. This difference in ANC utilization is partly explained by availability, access, socioeconomic and cultural variables^{3,4,8}. The socio-demographic factors associated with utilization of Maternal Health services – age, religion, maternal education, husband's education, marital status, employment status and parity. Other factors that influence Maternal Health care service use include cost, availability of service, household income and access to health information exposure, previous history of obstetric complications, cultural beliefs and ideas about pregnancy^{2,9,10,11,12}. In India, there are variations in the utilization of Maternal Health services.

Aims & Objectives

This study is an effort to explore the pattern of Antenatal Care Services utilization and the socio-demographic factors influencing the utilization pattern.

Material & Methods

A cross-sectional study was carried out for three months during the period of November, 2011 to February, 2012 in the postnatal ward of Jorhat Medical College Hospital, Jorhat, Assam. It caters to a population coming from all classes of society but predominantly from the middle and lower classes. It has patients coming not only from Jorhat district, but also from neighbouring districts of Golaghat and Sibsagar, and also from neighbouring state Nagaland. A total of about 7500 deliveries take place per year in the hospital. A total of 1845 postnatal mothers were studied.

A pre-designed and pre-tested proforma was used to get information regarding socio-demographic factors, the antenatal care they had received during pregnancy and the reasons for coming or preferring the tertiary care hospital for delivery. All the women included in the study were informed about the purpose of the study. No one refused to participate in the study. Informed consent of the participants was taken. All the questions were asked in the participant's language and care was taken to see that the respondent understood the questions. Data were entered in MS Excel and analyzed in percentages: Chi-square statistical test of significance ($p < 0.001$) was used.

Observations & results

A 1845 postnatal women were recruited for the study. The study showed that the majority of the women (54.78%) were in the age group of 20-25 years. Out of 1845, 90.12% of them were Hindus 9.16% of them were Muslims. Only 9.51% of the women were illiterate; and 24.94% had passed class 10. Majority 64.89% were primigravidas, 34.38% were multigravidas and 13 (0.73%) were grand-multigravidas with more than four children. Also, 61.89% had been married for 1 to 5 years, and only 7.43% had been married for less than a year. Amongst the postnatal women 70.09% had no previous living issues, and 25.15% had one living child.

Table 1. Sociodemographic characteristics

Sociodemographic characteristics	N=1845	Percentage
Age		
<20	185	10.02
20-25	1010	54.78
25-30	486	26.34
30-35	90	4.90
35-40	65	3.50
>40	9	0.47
Religion		
Hindu	1663	90.12
Muslim	169	9.16
Christian	9	0.48
Sikh	0	0.00
Jain	4	0.24
Education		
Illiterate	175	9.51
Literate	1209	65.55
Class 10 pass	460	24.94
Gravida		
Primi(1)	1197	64.89
Multi(2 to 4)	634	34.38
Grand multi(>4)	13	0.73
Duration of Marriage(yrs)		
<1	137	7.43
1 to 5	1142	61.89
5 to 10	379	20.55
>10	187	10.13
Living issues		
0	1293	70.09
1	464	25.15
2	59	3.17
3	19	1.04
4	10	0.55

It was seen from Table 2, that out of 1845 women studied between November 2011 and February 2012, all (100%) women were registered during antenatal period. Of these, 57.62% of them were registered in the first trimester and 41.79% in the second trimester. About 57.98% had more than three ANC visits during the pregnancy while 42.02% had 1-3 visits. About 65.97% women received the full course of atleast 100 iron and folic acid (IFA) tablets while 33.75% women did not received the full course, and another 58 (0.28%) did not receive IFA tablets at all. Majority (99.47%) women registered for

ANC received at least one Tetanus Toxoid injection. Many of the women admitted in the postnatal ward of Jorhat medical College Hospital had attended ANC visit at more than one place. However, 98.13% of them attended ANC at the subcentre. Very few (2.94%) had attended ANC with a Private Practitioner. 13.37% had attended ANC at the Medical College.

Table 2: Pattern of maternal health care services utilization

Pattern of maternal care utilization	N= 1845	Percentage
Place of ANC attendance		
Subcentre	1810	98.13
MPHC/State Dispensary	592	32.09
BPHC	143	7.75
District Hospital	10	0.53
Medical College	247	13.37
Private Practitioner	54	2.94
Timing of ANC Booking		
<12 weeks	1063	57.62
12 to 28 weeks	771	41.79
28 to 38 weeks	11	0.60
>38 weeks	0	0.00
Number of ANC Attendance		
None	0	0
1 to 3 ANCs	775	42.02
4 or more ANCs	1070	57.98
IFA		
Not taken	5	0.28
Not taken fully	623	33.75
Taken 100 or more tablets	1217	65.97
TT		
Yes	1835	99.47
No	10	0.53

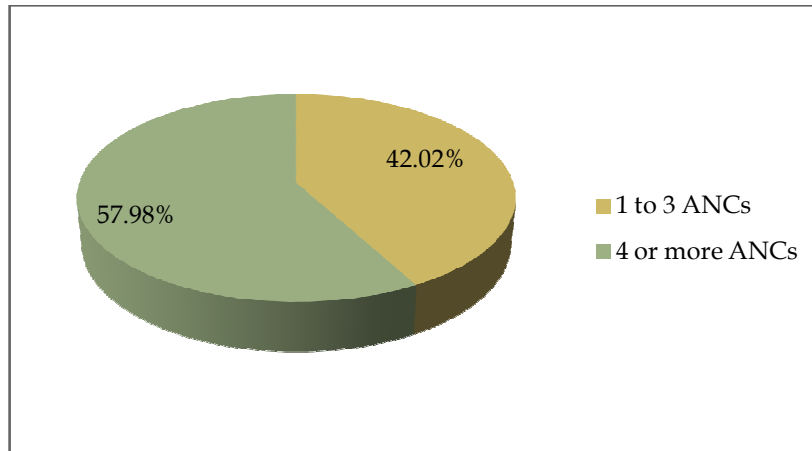


Fig.3: Pattern of ANC utilization

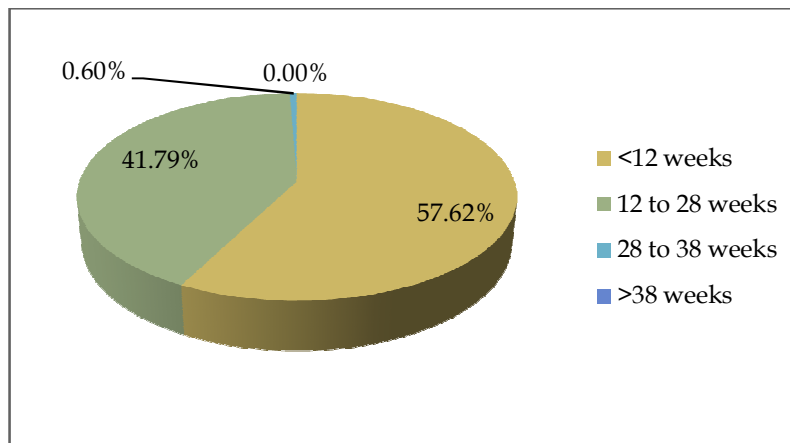


Fig.3: Distribution of Participants according to Gestational Age at Registration

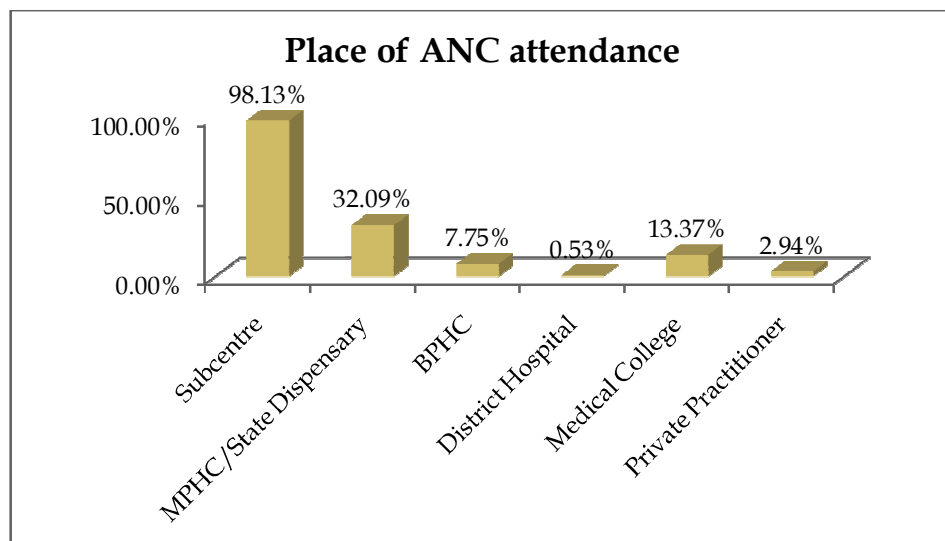


Fig.3: Distribution of Place of ANC

Considering more than three Antenatal Checkups as adequate (Table3), the proportion of women obtaining adequate antenatal care was more in the younger age groups up to 30 years of age. About two-third of women < 30 years age had adequate ANC visits, whereas about only one-third of the women above 30 years age had the adequate opportunity. Though the number of Hindu women admitted in antenatal ward outnumbered the other religions, but their attendance of antenatal check-ups was far less than that found among Christians and also Muslims. Educational status did not affect the utilization of ANCs as utilization was found to be fairly good across all literacy groups. Utilization of ANC services was found better (59.45%) among the primigravidae as compared to the multigravidae(50.43%). With regard to living issues, more women with up to two living children had adequate number of ANCs. While all women with three or more living children, did not have inadequate ANCs.

Table 3: Socio-demographic Determinants of Utilization of ANC

No of ANCs	1 to 3 ANCs	% attending 1 to 3 ANCs	>3 ANCs	% attending >3 ANCs	p-value
Age					<0.001
<20	73	38.89	114	61.11	
20-25	400	39.90	603	60.10	
25-30	208	40.82	302	59.18	
30-35	52	62.50	31	37.50	
35-40	36	58.33	26	41.67	
>40	0	0.00	0	0.00	
Religion					<0.001
Hindu	1351	89.93	151	10.07	
Muslim	141	43.75	181	56.25	
Christian	0	0.00	10	100.00	
Sikh	0	0.00	0	0.00	
Jain	0	0.00	0	0.00	
Education					<0.001
Illiterate	64	40.00	96	60.00	
Literate	611	48.31	654	51.69	
Class 10 pass	155	37.18	263	62.82	
Gravida					<0.001
Primi(1)	481	40.55	706	59.45	
Multi(2 to 4)	317	49.57	323	50.43	
Grand multi(>4)	0	0.00	16	100.00	
Living issues					<0.005
0	517	39.54	790	60.46	
1	220	48.30	235	51.70	
2	27	44.98	34	55.02	
3	11	100.00	0	0.00	
4	11	100.00	0	0.00	

According to Table 4, of the 775 women who did not attend adequate number of Antenatal Checkups, more than one-third (36%) did not feel the need for Antenatal Checkups. 26.97% of the women reported their residence being remote. Another 21.03% had difficulty with transportation. Only 6.97% of the women had quoted being unaware of Antenatal Checkups.

Table 4: Reasons given for inadequate Antenatal Care Utilization

Reason for inadequate utilization	Total	%age
No need felt	279	36.00%
Transportation problems	163	21.03%
Unawareness	54	6.97%
Remote residence	209	26.97%
Family constraints	70	9.03%
Total	775	100.00%

Discussion:

The present study was conducted as a cross-sectional hospital based study in the antenatal ward of Jorhat Medical College Hospital, Jorhat, Assam during the period of November, 2011 to February, 2012 to study the pattern of Maternal Health services utilization and the socio-demographic factors influencing it.

The majority of the women (54.78%) were in the age group of 20-25 years. This is comparable to the findings of Gupta et.al (58.82%)⁸ and Khatib et.al. (mean age 23.37 years)⁹. Majority of them 90.12% were Hindus, and 9.16% were Muslims. Only 9.51% of the women were illiterate; rest 90.49% were literate and 24.94% had passed class 10 also. This is in vast contrast to the findings of Gupta et.al⁸, Khatib et.al.⁹, and Shindhaye et.al.¹², who had recorded illiteracy among their study population as 37.3%, 38.3% and 27.4% respectively. However this finding is in concordance with the Coverage Evaluation Survey Report of 2012-13 from Assam¹⁴. This may be a reflection of the better literacy rate amongst the women in Jorhat district of Assam. Majority(64.89%) were primigravidas, 34.38% were multigravidas and 0.73% were grand-multigravidas with more than four children. Khatib et.al⁹ who also found 56.9% antenatal mothers to be primigravidae; but according to Gupta et.al.⁸, 55.9% had 2-3 children. Also, 61.89% had been married for 1 to 5 years, and only 7.43% had been married for less than a year. 70.09% had no previous living issues, and 25.15% had one living child.

In the present study population, all the women were registered during antenatal period and of whom 57.62% were registered in the first trimester and 41.79% in the second trimester. This is in contrast to the findings of the study by Shindhaye et.al.¹² which reported 20.5% of the women to not being registered for antenatal checkups; and only 27.6% were registered in the first trimester while 43.1% were registered in the second trimester. 57.98% had more than three ANC visits during the pregnancy while 42.02% had 1-3 visits. The study by Shindhaye et.al.¹² had reported that only 10.5% women had more than three ANC visits during the pregnancy. The findings in the present study is in concordance with the Coverage Evaluation Survey Report of 2012-13 from Assam¹⁴(76.7%). Antenatal care utilization has been found to be relatively good in the study population. 65.97% women received the full course of at least 100 iron and folic acid (IFA) tablets while 33.75% women did not received the full course, and another 0.28% did not receive IFA tablets at all. In the study by Shindhaye et.al.¹² 86.2% had received IFA tablets. According to the study by Khatib et.al., only 35.7% women received the full course of at least 100 iron and folic acid (IFA) tablets while 64.3% women did not received the full course, and another 12.1% didnot receive IFA tablets at all Majority 99.47% women registered for ANC received at least one Tetanus Toxoid injection. According to the study by Khatib et.al.⁹, all the participants had received Tetanus Toxoid injection; while according to the study by Shindhaye

et.al.¹² 68.9% had received Tetanus Toxoid injection. Many of the women admitted in the antenatal ward of Jorhat medical College Hospital had attended ANC visit at more than one place. However, 1810 (98.13%) of them attended ANC at the subcentre. Very few 2.94% had attended ANC with a Private Practitioner. 13.37% had attended ANC at the Medical College. According to the study by Shindhaye et.al.¹² 81% had attended ANC at government facilities and 19% had attended ANC at Private facilities.

According to the present study, the proportion of women obtaining adequate antenatal care was more in the younger age groups up to 30 years of age. About two-third of women less than 30 years age had adequate ANC visits, whereas about only one-third of the women above 30 years age had the adequate opportunity. According to the study by Gupta et.al.⁸ ANC utilization was good throughout all age groups; however, Singh et.al.¹³ reported inadequate ANC utilization in the age groups above 35 years, which is comparable to the findings of the present study. The study thus shows that younger mothers are more particular about their Antenatal check-ups which may be explained by the importance given to the first pregnancies which are usually in this age group. This may also be attributed to these younger mothers being reached by the ASHAs and other health care providers. Further, a woman and even the society become more complacent with advancing age and experience of the mother. At most times the society is unaware of the risks associated with pregnancies at later age, and so remains complacent

Utilization of ANCs was found to be fairly good across all literacy groups. According to the study by Gupta et.al.⁸ ANC utilization was proportional to the education of the women. According to the study by Verma et.al.⁷ 62% of illiterates showed inadequate ANC utilization, while the primary educated group showed better percentage of ANC utilization. The study by Singh et.al.¹³ reported 89.2% of the women educated above school level to be adequately utilizing Antenatal services. The findings of the present study may be attributed to a more efficient health services network through the dedicated activities of the ASHAs.

Utilization of ANC services was found better (59.45%) among the primigravidae as compared to the multigravidae(50.43%). This is comparable to the findings of Verma et.al.⁷ and Singh et.al.¹³ which reported better ANC utilization amongst the primigravidae. Better utilization of ANC amongst primigravidae may be explained by the importance given to the initial pregnancies. This may also be attributed to these primi-mothers being reached by the ASHAs and other health care providers. Further, a woman and even the society become more complacent with advancing experience of the mother, and also the increasing birth order.

According to the present study, amongst the women who did not attend adequate number of Antenatal Checkups, more than one-third (36%) did not feel the need for Antenatal Checkups; remote residence(26.97%) and transportation problems(21.03%) were the two other important reasons given by the women for inadequate utilization of Antenatal Checkups. Only 6.97% of the women had quoted being unaware of Antenatal Checkups.

Conclusion:

It was found that antenatal care services, in spite of being essential to the care of pregnant women, is utilized adequately by less than 60% of antenatal mothers. Young educated mothers coming for their initial pregnancy are usually aware and utilize antenatal services adequately. However, the norms of "more than 3" antenatal visits had been fulfilled by less than 60% of the pregnant women. Most beneficiaries had attended Antenatal checkups at the subcentres. Most women were found to be aware of the Antenatal care services but the lack of benefit perceived by them in the context of all the practicalities and expenditure involved in availing the services was the predominant factor hampering the utilization. The availability and quality of antenatal care services need to be further strengthened at the peripheral health institutions and more awareness is to be created regarding antenatal care. Health workers in such remote centres need to be incentivized for their services. Antenatal care services need to be delivered more practically, as studies have proved that antenatal care is the single most

important intervention that can reduce the maternal and infant morbidity and mortality in developing countries. Women in later years of their reproductive period need to be made aware of the risks that prevail at their circumstances.

Acknowledgements: We are thankful to the Health Educators of Department of Community for their help during data collection and tabulation; we are thankful to the Inpatients and the staff of Antenatal Ward, JMCH, Jorhat for their co-operation in conducting the research work.

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