FACTORS AFFECTING THE UTILIZATION OF ANTENATAL CARE SERVICES AMONG THE REPRODUCTIVE WOMEN: A CASE STUDY IN MAJULI

Bornali Dutta
Research Scholar,Deptt. of Statistics,Dibrugarh University,Assam, Dibrugarh.

Abstract
In this paper the researcher aims to study the utilization pattern of Antenatal care services and the influence of different socio-demographic factors on taking the antennal visits among the reproductive women. Data are collected using cluster sampling method. Statistical significance is tested using logistic regression and significance level is considered at p- value < 0.05. Caste of the respondents, order of birth of the children and education of the women has significant impact on utilization of Antenatal care services. Antenatal care services need to be delivered more practically, as studies have proved that ANC is the single most important intervention that can reduce the maternal and infant morbidity in developing countries.

Key Words: Antenatal Care, Cluster sampling, logistic regression, Majuli, Reproductive women..

1. Introduction

Health is the right of every individual and adequate health and family welfare service is one of the most important components of improved quality of life. The status of a woman in a society is also determined by the health condition of the women. Pregnancy and child birth are physiological events in the life of women. All pregnant women face some level of maternal risk. In many parts of India, mainly rural areas, the main role assigned to women is that of child bearer. Thus pregnancy is one of the most important events in the life of an Indian woman. Pregnancy -related complications are among the leading causes of death and disability for women age 15-49 in the developing countries including India [7]. India accounts for largest number of maternal deaths in the world with 17 per cent or nearly 50,000 of the 2.89 lakh women who died as a result of complications due to pregnancy or childbearing in 2013[7]. One of the key reasons for poor utilization of maternal health care services is the financial burden on the families [7]. A national survey analysis indicated that 80% of the household reported out of pocket expenditure for maternal health care services [4.] Analysis of the causes of maternal deaths in India found that nearly half of maternal deaths occurred where institutional care had not been availed at the time of delivery [1]. The crucial importance of maternal health is underscored by the 5th goal of the United Nations Millennium Development Goals (MDG) which is aiming at improving maternal health. Millennium Development Goal-5 aims to reduced the Maternal Mortality Rate (MMR) 109 per 1, 00,000 live births by 2015[9]. India has made considerable progress towards the reduction of Maternal Mortality Ratio (MMR) and Infant Mortality Rate (IMR), but the current pace of decline is not sufficient. According to Millennium Development Goal - 2015 report, Maternal Mortality Rate (MMR) in India is 140 per 1, 00,000 live births and the state of Assam shows worst performance in reducing Maternal Mortality Rate (MMR). Still Maternal Mortality Rate (MMR) is highest in Assam at 300 per 1, 00,000 live births [9]. Some of the key reasons for maternal deaths are Economic and Social Status of the women, Early Marriage and Childbearing, Institutional Failure, Poor ante natal care and post natal care, Lack of awareness about maternal health.

Antenatal Care (ANC) is the systematic supervision of women during pregnancy to monitor the progress of growth of the baby and to ascertain the well-being of the mother and the child. A proper ANC provides necessary care to the mother and helps to identify any complication of pregnancy such as anemia, hypertension etc in the mother and slow/inadequate growth of the child. It also provides opportunity to prepare a birth plan and identify the facility for delivery and referral in case of complications. Antenatal care includes the services –

1. Early registration of all pregnancies ideally in the first trimester (before 12th week of pregnancy)
2. Minimum 4 antenatal checkups and provision of complete package of services. Suggested schedule for antenatal check-up:
   - **1st visit**: within 12 weeks-preferably as soon as pregnancy is suspected-for registration of pregnancy and antenatal check-up.
   - **2nd visit**: between 14 and 26 weeks.
   - **3rd visit**: between 28 and 34 weeks.
   - **4th visit:** between 36 weeks and term.
3. Minimum laboratory investigations like haemoglobin, urine albumin and sugar, RPR test for blood grouping.
4. Associated services like providing iron and folic acid tablets, injection TT-1,TT-2,TT-Booster .Ensure at-least one ANC Preferably the 3rd visit ,must be seen by a doctor[8].

Research Paper
Impact Factor: 4.164
Refereed Journal

IJMDRR
E- ISSN –2395-1885
ISSN -2395-1877

Thus Antenatal care is considered essential for the health of both mother and the child, it is important to analyze the possible factors contributing to its utilization. The difference in ANC utilization is partly explained by availability, access, socio-economic and cultural variables. The socio- demographic factors associated with utilization of ANC services – age, religion, maternal education, husband's education, occupational status and parity. Other factors that influence Antenatal care services use include cost, availability of the service, and access to health information exposure, previous history of obstetric complications, cultural beliefs and idea about pregnancy.

In India, there is variation in the utilization of Antenatal care services. DLHS-3 clearly shows that in Assam only 7.9% women had received total ANC, 45% received 3 pre Antenatal Care (ANC) and 32.8% women received post natal check up.

With this back ground, the researcher conducted study under the Kamalabari Block of Majuli, world largest river island. The researcher aims to study the utilization pattern of Antenatal care services and the influence of different socio-demographic factors on taking the antennal visits.

2. Description of the Study Area

The researcher collected data from Kamalabari block under Majuli district of Assam. Majuli is the world's largest river island and it is a newly announced district by the Assam government.

It is a flood affected area. Due to flood and erosion, the transportation and road communication system of Majuli is not good. It is isolated from the rest of the state in terms of road communication. The only mode of association to the outside world is though a ferry service which operates six times a day. For health facility there is a primary health centre (PHC) and community health center (CHC) in the study area. For major disease, the villagers go to the Garmurh Civil Hospital. Cultivation is the main occupation of the villagers. Handloom is a major occupation among the women of the villages. The island Majuli has been the hub of Assamese neo-vaishnavite culture, initiated around 15th century by the revered Assamese saint Srimanta Sankardev and his disciple Madhavdev. Many satras or monasteries constructed by the saint still survive and represent the colorful Assamese culture.

3. Methodology

The design of the study is cross sectional and it is based on household investigation. The study is conducted in the Kamalabari block of Majuli District of Assam during 2016. Reproductive women residing in the study area during the study period constituted the study subjects. The researcher set inclusion and exclusion criteria for the study subjects to be included in the sample. The inclusion criteria are:

1. Women in the reproductive age group.
2. The women who have children in the last three years.

The exclusion criterion is:

1.The women who are not present in the study area during the study time. In the present study the sample size is 216; which is reasonable as WHO (World Health Organization, 2005) developed a 30 by 7 cluster sampling method for conducting similar type of study [5]. In this study, the Kamalabari block of Majuli district is selected randomly. In the selected block, 12 villages are selected by using probability proportional to size sampling method. Again from each of 12 selected villages, 18 women satisfying inclusion criteria are selected using systematic sampling method in the survey. During the survey, local ASHA helped in locating the houses. In the survey, data on availing the different medicine and number of health check-up by the pregnant women during the Antenatal care are collected. The response is recorded into two categories viz, who have completed three or more than three antenatal checks up during pregnancy are recorded in fully completed antenatal care; and who have only completed two or less than two check-ups during pregnancy are recorded as partial antenatal care.

Socio-economic status of the study subjects are collected by using instrument developed by Parasuram S.etal [5]. All the data are analyzed in SPSS, version 17.0 software. Statistical significance are tested using logistic regression and significance level is considered at p- value <0.05.

4. Key Findings

A total of 216 women are enrolled in the study. Information about different socio- economic characteristics of the enrolled women and their household, information on antenatal care received by these women are also collected. The details demographic information of the couples is shown in table1.

Table 1: Demographic profile of the couples of the study area

Characteristics of Husband	Frequency	Characteristics of Wife	Frequency
Age (in years): 20-30 30-40 40 and above	84 (38.9%) 89 (41.2%) 43 (19.9%)	**Age(in years):** less than 25 25-30 30 and above	93 (43.1%) 87 (40.3%) 36 (16.7%)
Total	216 (100%)	Total	216 (100%)
Caste: General OBC/MOBC ST SC	28 (13.0%) 37 (17.1%) 103 (47.7%) 48 (22.2%)	**Caste:** General OBC/MOBC ST SC	30 (13.9%) 36 (16.7%) 104 (48.1%) 46 (21.3%)
Total	216 (100%)	Total	216 (100%)
Religion: Hindu Muslim	211 (97.7%) 5 (2.3%)	**Religion:** Hindu Muslim	211 (97.7%) 5 (2.3%)
Total	216 (100%)	Total	216 (100%)
Occupation: unemployed service Business Cultivator Daily wage labour	3 (1.4%) 33 (15.3%) 54 (25.0%) 36 (16.7%) 90 (41.7%)	**Occupation:** Service Business cultivator Housewife Daily wage labour	9 (4.2%) 3 (1.4%) 37 (17.1%) 160 (74.1%) 7 (3.2%)
Total	216 (100%)	Total	216 (100%)
Education Up to primary High school and above	33 (15.3%) 183 (84.7%)	**Education** Up to primary High school and above	53 (24.5%) 163 (75.5%)
Total	216 (100%)	Total	216 (100%)
Age at marriage (in years): 20 or less 21-30 31 and above	34 (15.7%) 144 (66.7%) 38 (17.6%)	**Age at marriage (in years):** 18 or less 19-25 26 and above	78 (36.1%) 126 (58.3%) 12 (5.6%)
Total	216 (100%)	Total	216 (100%)
Age at first birth: 30 or less 31 and above	165 (76.4%) 51 (23.6%)	**Age at first birth:** 24 or less 25 and above	182 (84.3%) 34 (15.7%)
Total	216 (100%)	Total	216 (100%)

Information on different medicine provided during the antenatal care and the number of antenatal check-up by the pregnant women is collected. The present study reveals that about 98.1% of the pregnant women go for the 1st antenatal check-up, 98.6% of women go for 2nd antenatal check up , about 95.4% of mothers go for 3rd antenatal check up and only 87.5% mothers go for 4th antenatal check up. It is also seen that about 81.9% of pregnant women fully completed antenatal check-ups and only 18.1% of them partially completed antenatal check-ups.

Research Paper
Impact Factor: 4.164
Refereed Journal

IJMDRR
E- ISSN –2395-1885
ISSN -2395-1877

The following figure shows the Antenatal visits of women during pregnancy.
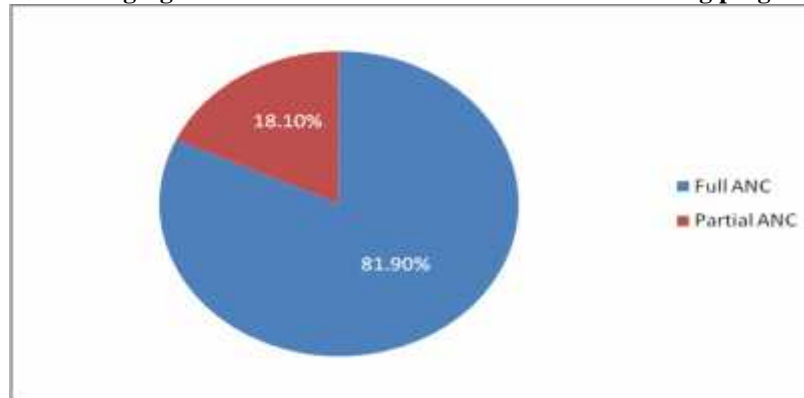

Fig 1: Antenatal visits of women during pregnancy

The following figure shows the place of Antenatal check- up during pregnancy
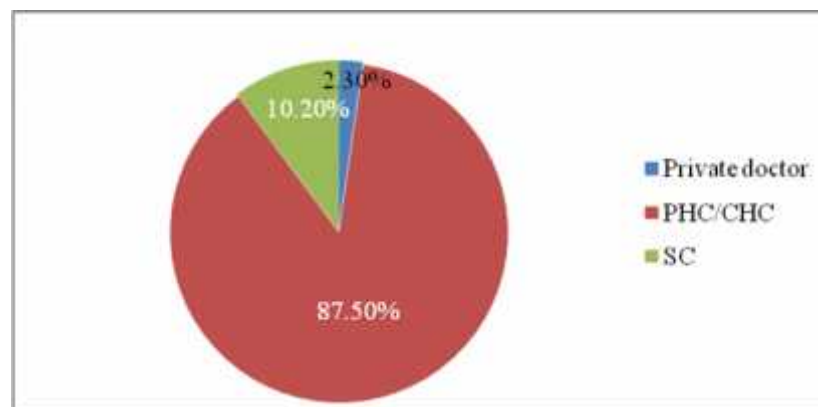

Fig2: Place of Antenatal check- up of women during pregnancy

The following table shows the socio-economic factors that affect the Antenatal care Utilization

Table 2: Results of Antenatal check-up w.r.t. different demographic factors:

Characteristics	B	Wald	d.f.	p-value	Odds Ratio	95% C.I. for Exp (B)	
						Lower	Upper
Education of Mother							
Up to Primary					1		
High School & above	4.642	50.8	1	.00001	103.704	28.955	371.422
Caste of Mother							
ST/SC					1		
General/ OBC	1.514	7.532	1	.006	4.543	1.541	13.391
Order of birth							
Order 2 & above					1		
Order 1	.886	5.435	1	0.020	2.425	1.151	5.105
Socio-economic status							
Low & middle					1		
High	2.574	21.864	1	.00001	13.114	4.459	38.571

From the above table it is seen that mothers with education level high school and above have 103 times more chances on taking the antenatal care as compared to the mothers completing education up to primary school level which is also statistically significant. The study also reveals that mothers belong to the General/ OBC communities have 4.5 times more chance on taking the ANC as compared to the mothers belong to ST/SC communities and the result is also statistically significant. It is also observed that ANC taken by mothers for the 1st child is 2.43 times more as compared to the mothers having two or more child which is also statistically significant. The study also shows that mothers with high socio-economic status have 13 times more chance on taking the ANC as compared to the mothers with low and middle socio-economic status which is also statistically significant.

5. Discussion

The study revealed that about 81.9% pregnant women completed the necessary four antenatal visits while 18.1% pregnant women completed partially the antenatal visits. According to the study by Khound Samporna about 84.9% pregnant women use antenatal care but 15.9% didn't use it and they reported reason behind this as economic constraint and some of them were not aware of this [3].According to the study by Baruah et.all about 57.98% of women had more than three ANC visits while 42.02% had 1-3 visits [2]. The study by Shindhaye et all had reported that only 10.5% women had more than three ANC and visits during the pregnancy [2]. NFHS-3 conducted by International Institute for Population Sciences (2005-2006) reported that 50.7% of mothers had at least 3 antenatal care visits at all- India level. Another study by Singh and Yadav (2000) revealed that 62% of the pregnant women had 3 or more antenatal visits [6].

Utilization of ANC was found to be fairly good across all literacy groups which is statistically significant. According to the study by Gupta et.all ANC utilization is proportional to the education of the women. According to the study by Verma etal 62% illiterate showed inadequate ANC utilization, while the primary educated group showed better percentage of ANC utilization. The study by Singh et all reported 89.2% of the women educated above high school level to be adequately utilizing Antenatal service.

The study shows that utilization of ANC is better among the mothers belong to the General & OBC community as compared to the ST/SC community. The reasons for not availing antenatal care check up may be ignorance, involved in more domestic work, lack of awareness etc. ANC is better among the mothers with high socioeconomic status as compared to the mothers with low and middle socio-economic status. In every visit, they have to test Blood, urine, Hemoglobin, Alta-Sonography which were not free of cost. It may not be possible to the mothers with low and middle economic status to pay all the times for the above mentioned test.

Utilization of ANC in the study area is better as compared to the Assam's scenario. According to DLHS-3 report 75% women received any ANC check-up in India and whereas in Assam it is near about 74%. Though the use of full ANC (at least four visits of ANC check-up, at least one TT injection received and 100 IFA tablets/syrup consumed) is increased from 16.4% (DLHS-2) to 18.8% (DLHS-3), but the statistics is not satisfactory as recorded in DLHS- 3 only 39.2% women has gone through ANC in their first trimester, only 32.8% women has taken post ANC within the two weeks of delivery.

Conclusion

ANC which is essential to the care of pregnant women is fully utilized by 81.9% of antenatal mothers in the study area. Educated mothers coming for their initial pregnancy are usually aware and utilized antenatal service adequately. Most women were found to be aware of the ANC service 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 ANC. Health workers in such remote centers need to be incentivized for their services. Antenatal care services need to be delivered more practically, as studies have proved that ANC is the single most important intervention that can reduce the maternal and infant morbidity in developing countries.

References

1. Aggarwal.A.K, Jeet.G, Kaur.M, Kumar. R, Manchanda.N, Prinja .S: "Impact of referral transport system on instructional deliveries in Haryana, India'', India J Med Res 139, June 2014,pp 883-891.
2. Baruah A., Baruah B., Das B., (2016): "Socio-demographic factors affecting the Antenatal care service utilization In Assam''. Indian Journal of Basic and Applied Medical Research, Vol-5, Issue-2.
3. Khound S. (2016): "Utilization of Maternal and child Health care service: A case study in Jorhat District". Imperial Journal of Interdisciplinary Research.
4. Leone T, James k, Padmadas SS: "The burden of maternal health care expenditure in India: Multivariate level analysis of national data''. Maternal child health Journal 2013: 17: 1622-30.

5. Parasuram S.et al (1999): "Role of women's education in India: Evidence from National Family Health survey'', Himalaya Publishing House, Mumbai.

6. Singh et al (2014) : "Utilization of antenatal care services in rural areas of Bareilly'' International J. of Healthcare and Bio-medical Research, Volume 2, Issue 3.

7. International Institute for population sciences and macro International, National Family Health Survey (NFHS-3), 2005-06 India, Mumbai.

8. Indian Public Health Standards (IPHS): Guidelines for primary health centers Revised 2012- Director General of Health services Ministry of Health & Family welfare Government of India.

9. Millennium Development Goals India Country Report 2015, social statistics division ministry of statistics and programme implementation government of India (www.mospi.nic.in).