



# Utilization of Antenatal Care Services and Its Determinants in Rural Field Practice Area of Jaipur, India

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## ABSTRACT

**Introduction:** In developing countries like India, maternal mortality is a big concern. Antenatal care is being the effective approach for safe motherhood but these services are deficient in rural area. So the objective of this study is to evaluate utilization of antenatal care services in rural field area Naila in Jaipur, Rajasthan.

**Methodology:** A community based cross sectional study was conducted among 111 women, who delivered between January 2017 - December 2017 by using a predesigned & pre-tested questionnaire. Statistical analysis: Percentages, Proportions and chi-square test.

**Results:** The 97.2% women registered their pregnancy and among them 72.0% were registered during first trimester. 47.7% women had received four or more antenatal visits, 98.19% were immunized with adequate dose of tetanus toxoid and 30.6% had consumed 100 or more than 100 IFA tablets. Only 17.1% women had utilized full antenatal care during pregnancy. Factors like educational status, type of family and Socio-economic status had a significant association with full ANC utilization.

**Conclusion:** The lower socioeconomic status, lower literacy, Nuclear family were related to low utilization of antenatal services. These findings may be useful for improving the maternal health practices and thus improve the health status of the women.

**Key words:** antenatal care, tetanus toxoid, iron folic acid, pregnancy

## INTRODUCTION

Despite strong efforts, the target set by millennium developmental goal for maternal mortality was not met; which was reduction in maternal mortality by 75%, it was reduced by 44% only. So in sustainable developmental goal this target is continuing. The maternal mortality rate is 19 times higher in developing countries as compared to developed countries.<sup>1</sup>This reflects lacking of health care services for mother, low literacy, low standard of living and socio-economic status of the community.

The antenatal care is the crucial factor for safe motherhood. The primary aim of ANC is to achieve healthy mother and a healthy baby at the

end of a pregnancy.<sup>2</sup>It can detect and prevent early pregnancy related complication hence maternal death. There should be has proposed a minimum of four antenatal check-ups including tetanus toxoid (TT) vaccination, detection and management of infections and identification of warning signs during pregnancy according to WHO (World Health Organization). Globally however, only 64% of women receive antenatal care four or more times throughout their pregnancy.<sup>3</sup> In India only 51.2% of pregnant women had more than four visits, in Rajasthan it is only 38.5% according to National Family Health Survey 4.<sup>4</sup> In this perspective, the present study aimed to assess the utilization of an-

tenatal care services and its determinants in rural field area of Jaipur, Rajasthan.

## METHODOLOGY

The present community based cross sectional study was conducted in rural field practice area Naila of Department of Community Medicine, SMS Medical College Jaipur, Rajasthan over a period of three months. (July to September 2018). The total population of Naila is 4784. The study subjects were married women who were living in study area since one year and delivered during the time period of 1st January 2017 to 31st December 2017. A list of women fulfilling the above criteria was prepared. The data was obtained by house to house visits of the subjects in the Study area, 111 married women delivered during the mentioned period. All these women were included in the study. Approval was obtained from Institutional Ethical Committee, Swai Man Singh Medical College, Jaipur before commencement of the study. Full antenatal care is considered when minimum four antenatal visits, minimum one TT and minimum 100 IFA tablet taken. The Written informed consent was obtained from the participants after explaining the details of the study. A pretested and predesigned questionnaire was used. Data was entered in Microsoft excel version 2010 and analyzed by SPSS version 21. Results are expressed in percentages and proportions. Chi square test was applied to find statistical significance.

## RESULT

In present study, the age range of study subjects were 16 to 37 years with mean age of 24.02 years. 61 (54.9%) of women were illiterate, 45 (40.5%) women had only one child. The working women were only 9 (8.1%). 57 (52.1%) and 63 (56.7%) women belonged to lower middle class and joint family respectively. (Table 1)

Out of 111 women only 80 (72.0%) women were registered their pregnancy in first trimester and 53 (47.7%) of mothers received 4 or more antenatal visit. The main reason behind not receiving 4 or more antenatal visit was that 76.5% of women said that it was not necessary. In present study, almost all 109 (98.19%) women immunized with adequate dose of tetanus toxoid and only 34 (30.6%) of women taking 100 or more than 100 IFA tablets. The main reason of not receiving IFA tablets was that side effect/ bad taste of tablets. In present study, only 19 (17.1%) of women had utilized full antenatal care (minimum four antenatal visits, minimum one TT and minimum 100 IFA tablet taken) during pregnancy (Table 2).

**Table 1: Socio-demographic characteristics of women (N=111).**

Variables	Women (%)
<b>Age (years)</b>	
< 20	15 (13.5)
>20	96 (86.5)
<b>Occupation</b>	
Housewife	102 (91.9)
working	9 (8.1)
<b>Religion</b>	
Hindu	101 (90.9)
Muslim	10 (9)
<b>Type of family</b>	
Nuclear	48 (43.2)
Joint	63 (56.8)
<b>Literacy Status</b>	
Illiterate	61 (54.9)
<10 <sup>th</sup>	28 (25.2)
>10 <sup>th</sup>	22 (19.8)
<b>Socio Economic Status</b>	
Class I	9 (8.1)
Class II	12 (10.8)
Class III	15 (13.5)
Class IV	57 (51.3)
Class V	18 (16.2)
<b>Parity</b>	
one	45 (40.5)
>one	66 (59.5)
<b>Place of delivery</b>	
Institution	108 (97.2)
Home	3 (2.7)

**Table 2: Utilization of antenatal services by women (N=111)**

Antenatal variable	Women (%)
<b>ANC registration time</b>	
1 <sup>st</sup> trimester	80 (72)
2 <sup>nd</sup> trimester	22 (19.8)
3 <sup>rd</sup> trimester	9 (8.1)
<b>No. of antenatal check-up</b>	
1	11 (9.9)
2	17 (15.3)
3	30 (27)
More than/equal 4	53 (47.7)
<b>Reason For Irregular Visit</b>	
Transport problem	11 (9.9)
Family refusal	2 (1.8)
Not in station	11 (9.9)
Not necessary	85 (76.5)
<b>Tetanus immunization</b>	
Non immunised	0 (0)
Partially immunized	2 (1.8)
Full immunized	109 (98.1)
<b>No of IFA tablets consumed</b>	
<100	77 (69.4)
Equal/ more than 100	34 (30.6)
<b>Antenatal care</b>	
Full utilization	19 (17.1)
No/partial utilization	92 (82.9)

**Tables 3: Association of full ANC utilization with various Socio-demographic variables**

Socio-demographic variables	Full utilization (N=19) (%)	Partial/no utilization (N=92) (%)	Total	Df	P value
<b>Age (years)</b>					
<20	3 (15.8)	12 (13)	15	1	0.96
>20	16 (84.2)	80 (87)	96		
<b>Parity</b>					
1	10 (52.6)	35 (38)	45	1	0.356
>1	9 (47.4)	57 (62)	66		
<b>Type of family</b>					
Nuclear	3 (15.8)	45 (48.9)	48	1	0.016
Joint	16 (84.2)	47 (51.1)	63		
<b>Education</b>					
Illiterate	2 (10.5)	59 (64.1)	61	2	<.001
<10 <sup>th</sup>	8 (42.1)	20 (21.7)	28		
>10 <sup>th</sup>	9 (47.4)	13 (14.1)	22		
<b>Occupation</b>					
Housewife	18 (94.7)	84 (91.3)	102	1	0.97
Working	1 (5.3)	8 (8.7)	9		
<b>SES</b>					
Upper	4 (21.1)	5 (5.4)	9	3	0.007
Upper middle	5 (26.3)	7 (7.6)	12		
Lower middle	3 (15.8)	12 (13)	15		
Upper lower	4 (21.1)	53 (57.6)	57		
Lower	3 (15.8)	15 (16.3)	18		

The full utilization of antenatal care was increasing with joint family and education of mother and decreasing with parity, working mothers and socio-economic status. The statistical significant association was found with type of family (p-.016), education (p-<.001) and SES (p-.007) (Table 3)

## DISCUSSION

The present study was conducted among women who had delivered during 1<sup>st</sup> January 2017 to 31<sup>st</sup> December 2017 residing in rural field area Naila of Swai Man Singh medical college Jaipur. A total of 111 women were enlisted and analyzed for ANC services utilization.

The present study analyzed that almost all women included in this study registered their pregnancy at government or private facility for health check-up. The majority of women i.e. 72% registered their pregnancy during the first trimester. This is similar to the findings of NFHS-4 (2015-16), Rajasthan and Jaipur district in which 1<sup>st</sup> trimester registration was 63.0% and 71.4% respectively.<sup>4</sup> The early registration of pregnancy has been improved as in NFHS-3<sup>5</sup> it was only 34% and Uppadhaya SK et al<sup>6</sup> study (2016) also revealed very short proportion (37.88%) of early registration. In present study 47.7% women had four or more antenatal visits. These results are similar to that of DLHS-4 (Rajasthan: 38.5% and Jaipur Rural: 49.7%) and other Indian studies<sup>6-8</sup>.

In present study 98.19 % women were fully immunized with tetanus toxoid. This finding of full

TT coverage is in accordance with the findings of Uppadhaya SK et al<sup>6</sup> and Sahni B et al<sup>9</sup> but the proportion of women who had utilized full antenatal services and who had taken 100 or more IFA tablets was very low 17.1 and 30.6% respectively. These finding is in tune with DLHS-4 and other Indian studies<sup>6,9</sup>.

In the present study, the women who belongs to joint families had utilized full antenatal care services (25.3%) significantly as compared to mothers of nuclear families (6.2%) (P=0.06). This can be explained; in joint families if the husband is busy, any other member of the family can take her to antenatal care. The present study revealed that women education and socioeconomic status were significantly associated with full ANC utilization (p <.001 and .007 respectively).

The full ANC utilization was found more in housewives (17.6%) as compared to working women, but this was not statistically significant. The loss of daily wages can be a cause of this association. The present study showed that full utilization of antenatal services decreased with increase in parity but statistically insignificant. A study done by Uppadhaya et al<sup>6</sup> revealed association of decreased full ANC utilization with lower socioeconomic status, low literacy level of mothers, working mothers, increased parity and nuclear type of family.

Gaur KL et al<sup>10</sup> study also concluded that Mother's age, religion and socioeconomic status were not associated with ANC services utilization whereas

mother's education, occupation, type of families were associated with ANC services utilization.

The study done by Niharika L et al<sup>11</sup> showed that ANC services utilization was not significantly associated with socio economic status but education and age of mother were the factors that was significantly related to ANC utilization. Similar results were observed in a study done by Chandhoik N et al.<sup>12</sup> Chandrashekhar S<sup>13</sup> also identified determinants of antenatal care services; maternal literacy, occupation, age and parity. The other Indian studies have also revealed almost similar association between socio-demographic factors and full ANC utilization.<sup>14-15</sup>

**Conclusion:** Although improvements in the findings were found in present study as compared to DLFS-3 but still full antenatal care utilization is very low in Rajasthan. Women's education, occupation, type of families, parity and socioeconomic status were associated with full ANC services utilization. To improve effective utilization of ANC services, there is need of more awareness by improving quality of service delivery, more effective monitoring, educate and council antenatal mother and their family by ANM, ASHA/Anganwadi workers regarding importance of utilization of antenatal services.

**Ethical approval:** The study was approved by the Institutional Ethics Committee

## REFERENCES

1. WHO (2015), Health in 2015 from MDGs (Millennium Developmental goals) to SDGs (Sustainable Developmental goals). Available at: <http://www.who.int/iris/handle/10665/200009>. accessed on September 5<sup>th</sup> 2018
2. Nair NS, Rao RS, Chandrashekhar S, Archarya D, Bhat HV. Socio demographic and maternal determinants of low birth weight: a multivariate approach. *Ind J Pediat.* 2000;67:9-14.
3. WHO global health observatory on antenatal care. Available at: <http://www.who.int/gho/maternalhealth/reproductivehealth/antenatalcaretext/en>. accessed on 09/5/2018
4. The India Fact sheet. NFHS-4. Available at: [rchiips.org/nfhs/factsheet\\_NFHS-4.shtml](http://rchiips.org/nfhs/factsheet_NFHS-4.shtml). accessed on September 5<sup>th</sup> 2018
5. District Level Household and Facility Survey (DLHS-3): India: Key Indicators: States and Districts. Available at: [http://213.175.223.95/dmdocuments/DLHS\\_3\\_Key\\_indicators\\_by\\_states.pdf](http://213.175.223.95/dmdocuments/DLHS_3_Key_indicators_by_states.pdf). accessed on September 5<sup>th</sup> 2018
6. Uppadhaya SK, Agrawal N, Bhansali S et al. Utilization of antenatal health care services and its impact on birth weight of newborn in rural area of Western Rajasthan, India. *Int J Community Med Public Health*, 2017 Mar; 4 (3):680-685
7. Singh A, Arora AK. The Changing profile of pregnant women and quality of antenatal care in rural north India. *Indian Journal of Community Medicine*, 2007 April-June; 32 (2):135-136.
8. Singh JP, Kariwal P, Gupta SB et al. Utilization of antenatal care services in a rural area of Bareilly. *International J. of Healthcare and Biomedical Research*, 2014 April; 2 (3):120-126
9. Sahni B, Sobti S. Utilization of Antenatal Care among Pregnant Females registered at Sub Centre level in a Rural area of Jammu in India. *International J. of Healthcare & Biomedical Research*, 2013 July; 1 (4): 269-278
10. Gaur KL, Gupta P, Kuldeep R et al. Factors Associated with Antenatal Care Services Utilization and Institutional deliveries. *IOSR Journal of Dental and Medical Sciences*, 2014 April; 13 (4):96-100
11. Niharika L, Bhavani K. Study of factors of utilisation of antenatal services and awareness among pregnant women in third trimester attending government maternity hospital Warangal, Telangana State, India. *Int J Community Med Public Health* 2016; 3:2291-6
12. Chandhoik N, Dhillon BS, Kambo I et al. Determinants of antenatal care utilization in rural areas of India: A cross-sectional study from 28 districts (An Indian Council of Medical Research task force study). *Journal of Obstetrics and Gynecology of India*. 2006; 56 (1):47-52.
13. Chandrashekar S, Rao RS, Nair NS et al. Socio-demographic determinants of antenatal care. *Trop Doct.* 1998 Oct; 28 (4):206-9.
14. Rahman M, Islam R, Islam AZ. Rural urban differentials of utilization of ante natal health care services in Bangladesh. *Health Policy and Development J.* 2008; 6:117-25.
15. Metgud CS, Katti SM, Mallapur MD et al. Utilization Patterns of Antenatal Services Among Pregnant Women: A Longitudinal Study in Rural Area of North Karnataka. *Al Ameen J Med Sci.* 2009; 2 (1):58-62.