

A Cross sectional study to assess Utilization level of Antenatal Services among Rural Women in the reproductive age group

Kavita Patel, Rohit Baghel, Renuka M¹

State Health Resource Centre, Department of Health and Family Welfare, Raipur Chhattisgarh, India

¹Department of Community Medicine, JSS Medical College, Mysore, Karnataka India.

Abstract

Background: Women of the reproductive age group suffer from various illnesses resulting from pregnancy and childbirth. Services received in the antenatal period are able to reduce them. It is critical to understand the utilization level of antenatal services and hence the present study was done with the following Objectives: 1) To study the utilization level of antenatal services. 2) To study the pattern and factors affecting utilization of antenatal services.

Methodology: Setting: Community based study conducted in Hadinaru PHC catchment area in Mysore District, Karnataka. Study design: Cross sectional study. In Mysore district, Hadinaru PHC was selected randomly. The villages coming under the PHC were divided into three strata namely, village with PHC, villages having sub centre and villages having no health facility using stratified random sampling method. Participants were women in the reproductive age group having a child of less than three years of age. The data so collected was compiled in Microsoft Excel and analysed using Epi info version 3.5.3. Chi square test was applied wherever necessary.

Results: A total of 562 women were interviewed. All women in the study group (100%) were registered for antenatal care, majority of them were registered (84%) in the first trimester. Registration in all the three strata were similar. The most preferred site for receiving antenatal services was government hospital (58%). At least three ANC was received by 96% of the women. All the essential services were received by almost all the women (99.1%). 99.8% women received TT immunization, IFA supplementation was received by all women. Nearly 97% of the women were found utilizing full antenatal care. The provision of full ANC for women in the reproductive age group was found to be statistically higher for women living in joint family.

Conclusion: The study shows early and high utilization of antenatal services in the study area. The only area we need to focus is motivation of mothers belonging to nuclear family to avail the existing antenatal service especially by ANMs/ASHA/ Health Worker (Female).

Key words: Utilization, antenatal services, reproductive age group.

Introduction

The health of the women and child is receiving increasing attention in all parts of the world including India. Maternal health has emerged as a global priority because of the great gap in the status of women in the rich and the poor countries. Millions of women worldwide suffer from various illnesses and disability arising out of pregnancy and child birth. Government of India has launched several programmes related to maternal and child health to improve the health status of women and child. World Health Organisation (WHO) has summarised three crucial factors underlying maternal deaths. Firstly,

lack of access and utilization of essential obstetric care. Secondly, low social status of women in developing countries. Thirdly, too much physical work together with poor diet also contributes to poor maternal health outcomes [1]. Out of the three factors, access and utilization of health care is the most crucial factor which is capable of reducing maternal morbidity and mortality. Antenatal period is the crucial time on which depends the health of the women and the newborn baby. The primary aim of antenatal care is to achieve at the end of the pregnancy a healthy mother and a healthy baby [2].

Address for Correspondence

Dr. Kavita Patel, State Health Resource Centre, Bijili Office Chowk, Kalibadi

Raipur-492001, Chhattisgarh, India.

E-mail:- kavitapatel11@gmail.com

On one side there has always been demand and efforts of increasing the infrastructure and manpower to provide necessary services in order to improve the health of the people. On the other side, despite the presence of adequate infrastructure and facility people are not utilizing them. Poor utilization reflects constraints in the way of utilization either in terms of accessibility or in terms of socio demographic correlates. Hence the present study was undertaken with an objective to estimate the level of utilization of antenatal services and its associated socio demographic factors among rural women in the reproductive age group.

Methodology

A cross sectional study was conducted in Hadinaru PHC Catchment area which is the rural field practice area of the Department of Community Medicine, JSS Medical College, Mysore, Karnataka. The present

study was conducted for a period of six months (May to October 2011). Villages under Hadinaru PHC were divided using stratified random sampling method into first strata of PHC village, second strata of villages having sub centre and third strata with villages having no health facility in it. Villages having sub centre and no centre in it were selected by simple random sampling. Total 562 women were personally interviewed using pre defined, semi structured proforma. The study participants were women in the reproductive age group, having a child of less than three years of age. Institutional ethical clearance was obtained prior to the study. Information was recorded after obtaining written informed consent from the women. The data so collected was compiled in Microsoft Excel and analysed using Epi info version 3.5.3. Chi square test was applied wherever necessary.

Results

In the present study, out of total 562 study women, around 83(15%) were from first strata, 217 (39%) were from second strata and 262 (46%) were from the third strata. Table 1 shows that all women had registered their last pregnancy, of which first trimester registration was 84%. Government hospital was the most preferred place for receiving antenatal services (58%) which was statistically found to be significant. However the preferred place in the case of PHC village was PHC.

Table 1. Distribution of study subjects according to the month of registration of pregnancy and place of ANC received

Registered in	Place of residence			Total (%)
	PHC Village (%)	Sub-center Village (%)	Remote Village (%)	
I Trimester	70 (84%)	184 (84%)	221 (84%)	475 (84%)
II Trimester	13 (16%)	33 (16%)	41 (16%)	87 (16%)
Total	83 (100)	217(100)	262(100)	562(100)
Place where ANC was received	PHC village (%)	Sub-centre village (%)	Remote village (%)	Test statistic
PHC & SC	53(63.9)	30(13.9)	108(41.2)	2=103.185 P< 0.05
Govt. hospital	16(19.3)	174(80.2)	137(52.3)	
Private hospital/ clinic	14(16.9)	13(6)	17(6.5)	
Total	83(100)	217(100)	262(100)	562(100)

Table 2 shows that at least one ANC was fulfilled by 100% of the women. However more than three ANC criteria was fulfilled by 96% of the women. All the essential services to be received by a woman during ANC were almost universal with only 0.9% women whose urine examination was not done and 0.7% women whose ultrasound was not done. Distribution

of TT was 99.8% and IFA was 100%. women whose ultrasound was not done. Distribution of TT was 99.8% and IFA was 100%. Table 3 shows that when a cumulative score of adequate ANC was calculated using criteria of at least three ANC, TT primary or booster and IFA consumption, it showed that 97% of the study subjects had adequately utilized ANC.

Table 2. Distribution of study subjects according to number of ante natal check-up and services received

No. of times ANC received	Frequency	Percent
<3 times	22	3.9
≥3 times	540	96.1
Total	562	100
Distribution of study subjects according to the services received during ante natal check-ups		
Services	Number (%)	
Weighed	562 (100)	
Blood pressure measured	562 (100)	
Urine sample taken	557 (99.1)	
Blood sample taken	562 (100)	
Abdomen examined	562 (100)	
Ultrasound done/advised	558 (99.3)	
Received advise for institutional delivery	562 (100)	

Table 3. Distribution of study subjects according to adequate ANC received

	PHC Village (%)	SC Village (%)	Remote Village (%)
At least 3 ANC	80 (96.39)	207 (95.39)	253 (96.56)
TT(primary)/booster	83 (100)	216 (99.53)	262 (100)
IFA	80 (96.39)	209 (96.31)	250 (95.41)
Overall ANC utilization	81 (97.59)	210 (97.07)	255(97.32)

Table 4 shows that when various socio demographic factors are correlated with adequate number of ANC, it is found that women above the age of 21 years, birth order of more than two, literate women, women of a literate husband and women who came from a

joint family had got higher utilization for ante natal check-ups. The association was however not statistically significant except type of family

Table 4. Distribution of study subjects according to socio-demographic characteristics against adequate number of ANC

Socio-demographic characteristics	At least 3 ANC s (%)		Total	Test statistic
	Not Received	Received		
Age of women (in years)				
<21	8(6)	135(94)	143	2 = 2.886
>21	12(3)	407(97)	419	p=0.130
Birth Order				
I st order	11(5)	203(95)	214	2 = 1.380
II & III order	10(3)	338(97)	348	9=0.267
Education of women				
Illiterate	6(6)	97(94)	103	2 = 0.68*
Literate	14(3)	445(97)	459	p=0.40
Education of husband				
Illiterate	7(5)	140(95)	147	2 =0.380
Literate	17(4)	398(96)	415	p=0.620
Place of residence				
PHC/SC village	12(4)	288(96)	300	2 = 0.1087*
Remote village	10(04)	252(96)	262	p= 0.297
Socio-economic status				
Upper, middle	13(04)	306(96)	319	2 = 0.046
Upper lower and lower	10(04)	233(96)	243	p= 0.830
Age at marriage				
<18 years	15(04)	369(96)	385	2 = 0.252
>18 years	09(05)	168(95)	177	p= 0.642
Age at first pregnancy				
< 18 years	06(08)	68(92)	74	2 = 2.80*
> 18 years	15(03)	473(97)	488	p= 0.09
Type of family				
Nuclear	08(07)	103(93)	111	2 = 3.98
Joint/ Three generation	13(03)	438(97)	451	p= 0.045

* Yates correction applied

Discussion

Registration The present study has revealed that there was 100% registration for the last pregnancy. Registration in the first trimester was 84%, majority registered in the third month (68%). With respect to the three strata also no difference was observed. Studies from other parts of Karnataka reported low level of registration in first trimester, only 38.4% in coastal Karnataka [3] and 30% in North Karnataka [2]. The high level of awareness among the subjects coupled with the multiplicity of health services available could be the reasons behind the high level of early registration in the present study.

In the present study as the registration level was 100%, it did not differ according to socio demographic profile of study subjects as well as there was no difference noted in the three strata suggesting that the distance of health facility does not affect the registration level.

Place of ANC visit It was observed that overall government hospital was the most preferred site for receiving ante natal services (58%) and it was statistically significant. Same results were found in a study conducted in Muslims⁴ where the preferred place of ANC check-up was 31.3% at government health facility. However, studies from north Karnataka [2] showed that for antenatal care 48.4% women went to private hospitals. In a study from coastal Karnataka [5] only around 18% utilized the government health facilities. Majority went for private health facilities (71.4%). The present study therefore affirms that private services are not considered superior than government services if the services are available free of cost and easily accessible.

Number of ANC checkups All the pregnant women received antenatal care in the present study, the same was reported in another study conducted by Afrin Sagar et al., in coastal Karnataka.³ In present study 96% of the women had gone for at least three antenatal check-ups, similar finding was found in other studies.^{3,6} The higher proportion of women going for more than three antenatal check-ups in the present study can be attributed to the younger study population who are more educated and greater awareness and hence utilization was more.

Investigations In the present study amongst the essential services to be received by the women during

antenatal check-ups, it was found that all the women were weighed, blood pressure measured, blood sample taken, ultrasound examination done and were advised to deliver in a health facility. While there was only 0.9% women whose urine examination was not done and 0.7% women ultrasound was not done. In the study done in coastal Karnataka [3], Blood pressure and weight were recorded for all the women during their antenatal visits. Majority of the mothers were subjected to all the basic minimum investigations.

TT immunization and IFA supplementation It was found that TT was almost universal, only one woman in the sub-centre village did not receive TT immunization. Same result was found in the study from rural Jammu⁷ and Rural Ludhiana [8] and Kerala [6].

ANC correlates There was a better utilization of antenatal services among the educated mothers whereas it was otherwise amongst illiterate women who were bound by cultural and superstitious beliefs. These results strengthen the findings of studies reported elsewhere [2,9-11]. There was better utilization of services by the women in joint families similar to study from Davangere [10] which could be attributed to availability of supportive and concerned members in joint in contrast to absence of social support in nuclear families and also their affordability to avail the services because there was no economic pressure on them.

Full ANC In the present study it was seen that 97.3% of the study subjects had utilized full ANC. Studies from North Karnataka [2] reported lower utilization of full ANC package. Further lower utilization was noted in a study by Harish et al [11] which revealed that overall in India 32% women received full ANC, whereas the corresponding figures for Tamil Nadu was 75%, Gujarat 43%, Orissa 32 % and Punjab 25%. [11]. The wide variation in the utilization of the ANC services in the present study and other states could be attributed to relatively better socio-economic and demographic scenario as well as the better infrastructural facilities available in Tamil Nadu and Karnataka.

Conclusion

The present study shows early and widespread utilization of antenatal services. It also shows that

although first trimester registration was high it was not universal. The criteria of atleast 3 ANC was also not fulfilled by all the women. Government provided services were preferred over private because it is a free service. The study also brings out that if a woman goes for ANC, she receives all the essential services required. Hence it may be concluded that if services are available, accessible and free there will be optimal utilization of services. The only area we need to focus is motivation of mothers belonging to nuclear family to avail the existing antenatal service especially by ANMs/ASHA/Health Worker (Female).

Author's contribution

Vita Patel participated in the conception and design of the study, worked for the acquisition of the data as well as in the analysis of the data. Rohit Baghel helped in design formulation, carried out the data analysis part and helped in the interpretation. Renuka M finalized the design, participated in interpretation and helped in arriving the final stage of the study. All authors read and approved the final manuscript.

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