



A STUDY ON UTILIZATION OF ANTENATAL CARE SERVICES IN THE RURAL AREA OF WEST GODAVARI DISTRICT, ANDHRA PRADESH.

Dr. Spandana Pamidi*

Scientist 'C' (Medical), Model Rural Health Research Unit, Chandragiri.
*Corresponding Author

Dr. JJ Babu Geddam

Scientist 'F' & Senior Dy Director, Head, Clinical Epidemiology Division, ICMR-National Institute of Nutrition, Hyderabad. Project In-charge, Model Rural Health Research Unit, Chandragiri, Andhra Pradesh.

Dr. N. Parthasarathy

Prof & HOD Dept of Community Medicine, ASRAMS, Eluru.

ABSTRACT

Introduction: Antenatal care is vital for prevention, early diagnosis and treatment of general and pregnancy-related complications. However, there is vast disparity in the utilization of antenatal care services. **Objectives:** 1) To determine the level of the utilization of antenatal care services (ANC) at PHC level. 2) To study the association between socio-demographic factors and utilization of ANC services. 3) To increase awareness of ANC services through health education. **Methods:** A cross-sectional community based study was carried out among the women of reproductive age group (15- 49 years) for six months from 1st January to 31st June 2017 in the rural area of West Godavari District, Andhra Pradesh using a predesigned, pretested proforma. **Results:** A total of 224 women were studied; 79 p.c were Hindus, only 6.7 p.c were illiterate, 99.6 p.c were aged 18 and above, 80.4 p.c were housewives and 49.1 p.c were primigravida. All the women were registered for Antenatal checkups, of whom 82.1 p.c were registered in the first trimester; 54.5 p.c had more than four ANC visits during their pregnancies; 51.8 p.c received full course of IFA tablets and 100 p.c had received at least one Tetanus Toxoid injection, (30.4 p.c) women received full package of ANC. Many of the women (67.6 p.c) utilized government health facility for full ANC package. **Conclusion:** The results reveal that women who were in socio-economically advantageous position were much more likely to use ANC services. The most important result from this analysis on health-seeking behaviour is that several socio-economic characteristics, particularly education of the women as well as economic status of household have strong positive association with health-care utilization. The access to maternal and health services for women who belong to the poor economic background was limited. So, study suggests there is a strong need for exhilarating the coverage of ANC services among poor women. The factors which effected on ANC utilization services were poor women, less educated women, very young mothers, women of marginalized communities, women who were most disadvantaged were least likely to utilize available ANC services to the full extent.

KEYWORDS : Antenatal care (ANC), utilization of services, sociodemographic factors, awareness.

1. INTRODUCTION

Maternal health literally means the health condition of a woman at the time of pregnancy, delivery, and post-delivery (postpartum period). Maternal Health Care (MHC) services are the initiatives to ensure safe motherhood through promotive, preventive, curative and rehabilitative health care system. The topic maternal health-related issues become enlightened after International Conference on Population and Development (ICPD) in 1994, due to very high Maternal Mortality Ratio (MMR) in developing countries.

Maternal and Child healthcare is one of the eight basic components of Primary Health Care (PHC) in the Declaration of Alma-Ata.¹ Globally, every day approximately 830 women die from preventable causes related to pregnancy and childbirth. About 99 p.c of all maternal deaths occur in developing countries. It was estimated that in 2015, roughly 303, 000 women died during and following pregnancy and childbirth. The maternal mortality ratio in developing countries in 2015 was 239 per 100, 000 live births where as in developed countries it was only 12 per 100, 000 live births.² Almost all of these deaths occurred in low-resource settings, and most could have been prevented.

Between 2016 and 2030, as part of the Sustainable Development Goals, the target is to reduce the global maternal mortality ratio to less than 70 per 100, 000 live births.³ This disparity is even visible within countries between people with high and low income and between people living in rural and urban areas.⁴ It is a mere indication of inequalities in access to maternal health care services and highlights the gap between the rich and the poor.⁵

As per the latest report on the trends in maternal mortality between 1990 and 2015, India accounts for almost 15 p.c of global maternal mortality burden with close to 45,000 deaths in 2015.⁶

India, like many other developing countries, records high maternal morbidities and deaths. MMR was 130/100,000 live births in India, where as in the state of Andhra Pradesh it was 74/100,000 live births in the year 2016.⁷

In short, maternity is not significantly safe in India over time as women die due to complications occur during and following pregnancy and childbearing which is the leading cause of mortality among women of reproductive age in India. Most of the maternal deaths can be prevented, but all women need access to antenatal care (ANC) during pregnancy and childbirth.⁸

Maximum women in their reproductive age experienced serious health issues, more specifically death and disability due to complications occur during pregnancy and child birth from the developing world. Therefore, the way of reducing maternal death is possible through improving clinical interventions and by removing the barriers to access maternal health care services. Improving utilization of maternal health care services is a global challenge for the health system in low and middle income countries.

Though the National Rural Health Mission (NRHM) has firm positive impact in building the infrastructure and improving the maternal health, the development is not uniform across the regions and among diverse groups of population.⁹

Between 1990 and 2015, the global maternal mortality ratio (the number of maternal deaths per 100 000 live births) declined by only 2.3 p.c per year. However, increased rates of accelerated decline in maternal mortality were observed from 2000 onwards. In some countries, annual declines in maternal mortality between 2000–2010 were above 5.5 p.c.²

However, utilization of these services in most developing countries is constrained due to various cultural, socioeconomic, and demographic factors. As the result disparities between developed and developing countries in terms of utilization of antenatal, delivery, and postnatal services are unfairly large, in developed countries, it is estimated that about 97 percent of the pregnant women receive ANC and 99 percent use skilled obstetric service at delivery, whereas in developing countries, only 65 percent and 53 percent of women use ANC and skilled obstetric care services, respectively.¹⁰

Maternal deaths can be reduced by providing better maternal health care services. The government of India launched many maternal health care programmes to reduce pregnancy and childbirth related complications including maternal death.

Though various national programs exist for improving maternal health in India, maternal mortality and morbidity remains still high. This could be attributed to several factors, an important one being non-utilization or delay in seeking care of maternal health-care services, especially amongst the rural poor and urban slum population due to either lack of awareness or access to health-care services.¹¹

Other factors that prevent women from receiving or seeking care during pregnancy and childbirth are poverty, distance, lack of information, inadequate services, and cultural practices, etc.²

There is an excellent pyramid of infrastructure for the delivery of maternal and child health services through a network of Health Sub centers and PHC centers in rural India. In India, maternal health services are free in public health centers but out of pocket health expenditure is two thirds of the total expenditure and health care costs are catastrophic.¹² WHO recommends that every pregnant woman should have undergone at least four goal-oriented focused ANC visits under the supervision of skilled provider and should be commenced as early as possible in first trimester which includes all interventions on regular intervals throughout the pregnancy.¹³

There is a strong correlation between adequate ANC and the maternal health and regular ANC gives opportunity to monitor and correct adverse health outcomes of the maternal related health issues.¹⁴ The World Health Organization (WHO) recommends a minimum of four antenatal visits, comprising interventions such as tetanus toxoid (TT) vaccination, screening and treatment for infections, and identification of warning signs during pregnancy. Only 64% of pregnant women received the recommended minimum of four antenatal care visits or more, suggesting that large expansions in antenatal care coverage are still needed.¹⁵ It is also reported that women with poor socio-economic background, low levels of education had low utilization of the antenatal services.¹⁶

In the state of Andhra Pradesh in India, maternal morbidity is reported to be high despite higher levels of utilization of antenatal care (ANC) services.¹⁷ In Andhra Pradesh, the utilization of PHC services varies regionally, between urban, rural and tribal areas. A majority of rural populations heavily depend on government sector for various health care services. For effective implementation of the programs, understanding of the factors affecting the utilization of antenatal care

services during pregnancy is very essential. If these factors are correctly identified, then the program efforts can be concentrated to increase the acceptance/utilization rates.

2. AIM & OBJECTIVES

1. To determine the level of the utilization of maternal health care services at PHC level.
2. To study the association between socio-demographic factors and utilization of maternal health care services.
3. To increase awareness of maternal health care services through health education.

3. MATERIALS & METHODS

STUDY DESIGN: Community based Cross-sectional study.

STUDY AREA: Rural area of West Godavari District, Andhra Pradesh.

STUDY PERIOD: 1st January to 31st June 2017 (6 months).

STUDY POPULATION: Women of reproductive age group (15-49 years).

SAMPLING TECHNIQUE: Multistage Random sampling.

INCLUSION CRITERIA:

1. Women who had less than 1 year old child at the time of interview.
2. Women who was the resident of particular study area for at least 1 year (previous).
3. Women who were willing to participate in this study.

EXCLUSION CRITERIA :

1. Women who were not found during the scheduled visits for two consecutive times.
2. Women who were not willing to take part in this study.

STUDY TOOLS:

The data collection from women who were in post-natal period by using a pretested and predesigned questionnaire about the utilization of the MCH services available.

SAMPLE SIZE CALCULATION:

According to NFHS-4 (2015-16) Fact sheet of Andhra Pradesh State, mothers who had full antenatal care were 43.3 p.c.¹⁸ Considering 15 p.c as allowable error, minimum sample size (n) required at 95% confidence interval (CI) was 224.

In the West Godavari district there are 79 PHCs. The District has 4 revenue divisions namely Eluru, Jangareddigudem, Kovvur, Narsapuram. From each revenue division 1 PHC was selected by adopting simple random technique. All the villages which were covered by that PHC were enlisted and out of them, 4 villages were selected by simple random technique again.

Hence to collect the data from 224 subjects, 16 villages were visited which were covered by all the PHC areas which were picked. (1 PHC in each division thus all the 4 divisions were covered) & 14 subjects per village were interviewed to attain the required sample size.

Permission from Institutional Ethical Committee (ASREC) was obtained from Alluri Sitarama Raju Academy of Medical Sciences, Eluru before conducting the study. The District Medical & Health Officer (DMHO) of West Godavari District was approached to obtain permission for conducting the study. After detailed explanation to the officer regarding the study, the permission was obtained.

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.

The collected data was compiled and analysed by SPSS version 23 software (trial version), Microsoft excel 2013 was used for generating charts & graphs. Chi-square test was applied to find the relationship between qualitative variables and p-value less than 0.05 was considered as statistically significant. Multivariate Logistic Regression analysis was done to find out the predictors after obtaining significant variables by univariate analysis.

4. RESULTS

A 224 postnatal women were recruited for the study. The study revealed that majority (71.9 p.c) of women were between 20-24 years followed by 20.5 p.c between 25 -29 years. Majority (79 p.c) were Hindus. Nearly 80.4 p.c women were housewives and 61.6 p.c of women belonged to joint family.

Literacy rate noted in the study group of women and their husband was 93.3 p.c and 86.6 p.c respectively. In the present study, the mean age at first pregnancy was 21.29 years and it was observed that 0.4 p.c of women conceived for the first time at less than 18 years.

Majority of women (66.0 p.c) possessed 2 or 3 children. Majority (27.7 p.c and 25 p.c) belonged to class V & III respectively, 21.4 p.c belonged to class IV and 19.6 p.c belonged to class II and remaining 6.3 p.c belonged to class I.

Table 1. Sociodemographic characteristics

Sociodemographic characteristics	N=224	Percentage
Age		
15-19	08	3.6
20-24	161	71.9
25-29	46	20.5
30-34	09	4.0
Religion		
Hindu	177	79.0
Muslim	5	2.2
Christian	42	18.8
Working class		
House wife	180	80.4
Working	44	19.6
Type of family		
Nuclear	86	38.4
Joint	138	61.6
Literacy status		
Illiterate	15	6.7
Primary school	14	6.3
Middle school	25	11.2
High school	127	56.7
Intermediate	36	16.1
Graduate	07	3.1
Age at marriage		
<18	10	4.5
18 and above	214	95.5
Age at first pregnancy		
<18	01	0.4
18 and above	1142	99.6
Socio Economic Status		
Upper (Class I)	14	6.3
Upper middle (Class II)	44	19.6
Lower middle (Class III)	56	25.0
Upper lower (Class IV)	48	21.4
Lower (Class V)	62	27.7

Table 2: Pattern of maternal health care services utilization

Pattern of Antenatal care utilization	N=224	Percentage
Place of registration		
Government health facility	185	82.6
Private hospital	39	17.4
Period of registration		

I trimester	184	82.1
II trimester	38	17.0
III trimester	02	0.9
Number of Antenatal visits		
≥ 4 visits	122	54.5
< 4 visits	102	45.5
IFA tablets received		
Received >100 IFA tablets	116	51.8
Received 51- 99 IFA tablets	91	40.6
Received ≤50 IFA tablets	16	7.1
Not received	01	0.4
Inj. Tetanus toxoid		
Had atleast one TT/ Booster	224	100
Not had	0	0.00

It was seen from Table 2, that out of 224 women studied all (100%) women were registered during antenatal period. Of these, 82.6 p.c women registered in government health facility and 17.4 p.c women registered in private hospital and 82.1 p.c of them were registered in the first trimester and 17.0 p.c in the second trimester (fig. 2). About 54.5 p.c had atleast 4 or more than 4 ANC visits during the pregnancy while 45.5 p.c had less than 4 visits (fig.3).

About 51.8 p.c women received the full course of atleast 100 iron and folic acid (IFA) tablets while 47.7 p.c women did not receive the full course, and another 0.4 p.c did not receive IFA tablets at all. All the women registered for ANC received at least one Tetanus Toxoid injection.

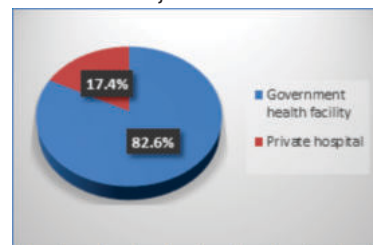


Figure.1: Distribution Of Registered Women According To The Place Of Registration

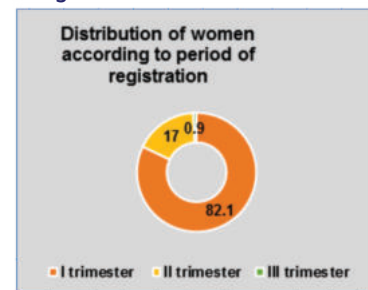


Figure.2: Distribution Of Women According To Period Of Registration

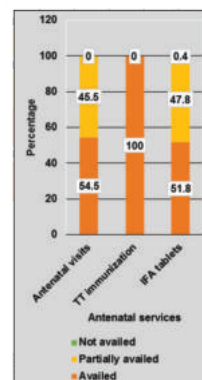


Figure 3. Distribution Of Women According To Antenatal Services Availed (n=224)

In this study only 68 (30.4 p.c) women received full package of ANC i.e., 4 or more antenatal visit, at least 1 TT injection and received 100 or more IFA tablets and 156 (69.6 p.c) women did not received full ANC package.

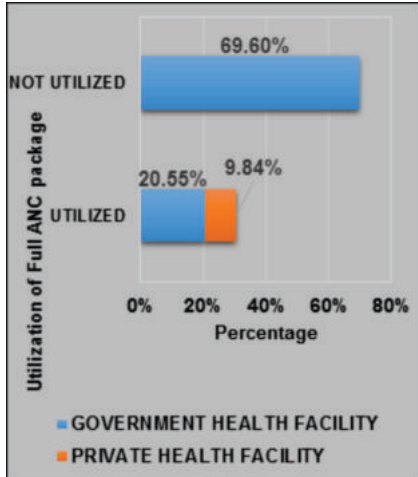


Figure 4 Distribution Of Women According To Utilization Of Full Anc Package

Fig. 4 shows that of 68 women who had received full ANC package, 46 (67.6 p.c) study subjects utilized government health facility and only 22 (32.4 p.c) women utilized private health facility for full ANC package.

(Table3), the proportion of women received full antenatal care increased as the age of the women increased and association was found to be statistically significant. 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. This study showed that literacy status of women had a direct association with utilization of ANC services. The statistical association was highly significant. Utilization of ANC services was found better (57.1%) among the women from upper socioeconomic status as compared to the women from lower socioeconomic status (24.2%).

Table 3: Socio-demographic Determinants of Utilization of ANC

Full ANC package	Received		Not received		Total		p- value
	No.	%	No.	%	No.	%	
							p value - 0.026
Age groups							
15 -19	03	37.5	05	62.5	08	100.0	p value.- 0.026*
20 -24	41	25.5	120	74.5	161	100.0	
25 -29	18	39.1	28	60.9	46	100.0	
30 - 34	06	66.7	03	33.3	09	100.0	
Religion							
Hindu	50	28.2	127	71.8	177	100.0	p value - 0.264.
Christian	17	40.5	25	59.5	42	100.0	
Muslim	01	20.0	04	80.0	05	100.0	
Literacy status							
Illiterate	01	6.7	14	93.3	15	100.0	p value - 0.001*
Primary	08	57.1	06	42.9	14	100.0	
High	34	26.8	93	73.2	127	100.0	
Intermediate	10	27.8	26	72.2	36	100.0	
Graduation	06	85.7	01	14.3	07	100.0	
Socio economic status							
Upper	08	57.1	06	42.9	14	100.0	p value - 0.011*
Upper middle	20	45.5	24	54.5	44	100.0	
Lower middle	12	21.4	44	78.6	56	100.0	
Upper lower	13	27.1	35	72.9	48	100.0	
Lower	15	24.2	47	75.8	62	100.0	
Lower V							

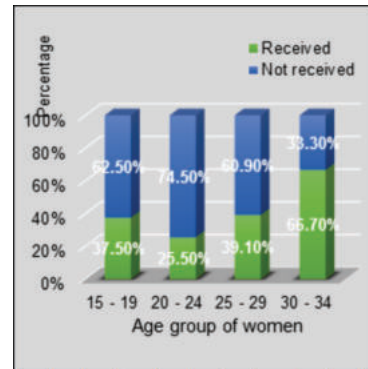


Figure.5: Age Group And Its Association With Utilization Of Full Anc Package (n=224)

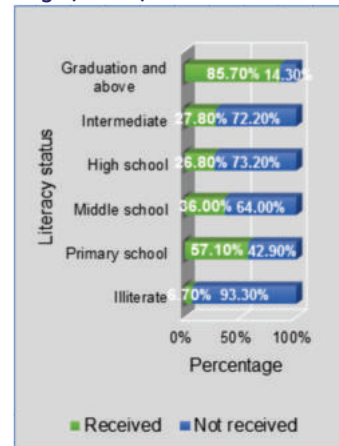


Figure 6: Literacy Status And Its Association With Utilization Of Full Anc Package (n=224)

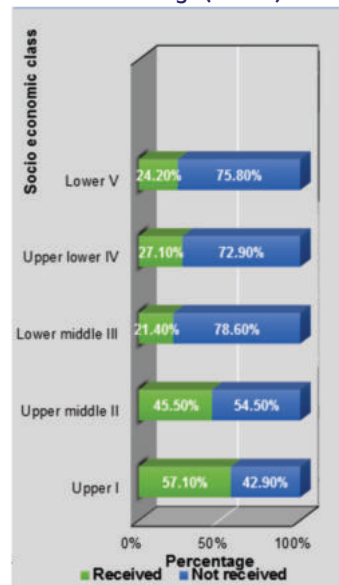


Figure 7: Socio Economic Status And Its Association With Utilization Of Full Anc Package (n=224)

Table 4: Reasons given for non utilization of Antenatal Care.

Reasons for non utilization	No.	Percentage
Unaware of ANC services	71	71.7
No need of service	31	31.3
Health facility far	29	29.3
Non availability of IFA tablets	06	6.1
Fear of side effects of injections and tablets	35	35.3
Family members' refusal	09	9.1

Table-4 shows that among the reasons for non utilization of

full ANC package 71(71.7 p.c) were unaware of ANC services, 31 (31.3 p.c) women felt that there was no need of service, 29 (29.3 p.c) women didn't utilized full ANC package as the health facility was far, 6 (6.1 p.c) women due to non availability of IFA tablets, 35 (35.3 p.c) of women due to fear of side effects of injections and tablets and 9 (9.1 p.c) due to family members refusal.

6. DISCUSSION

The present study was a facility based cross sectional study conducted among the women of reproductive age group (15-49 years) to determine the level of the utilization of antenatal care services at PHC level and its association with sociodemographic factor in West Godavari District of Andhra Pradesh state.

West Godavari, a district in Andhra Pradesh (AP), South India, is having 70 p.c of the population living in rural area. The rural part of the district has a literacy rate of 65.5 p.c overall and 68 p.c among the females.¹⁸

6.1. Demographic profile

Distribution of women according to age, religion, occupation, type of family, SES: (Table No. 1)

The study revealed that majority (71.9 p.c) of women were between 20-24 years followed by 20.5 p.c between 25-29 years. Majority (79 p.c) were Hindus. Nearly 80.4 p.c women were housewives and 61.6 p.c of women belonged to joint family.

Majority (27.7 p.c and 25 p.c) belonged to class V & III respectively, 21.4 p.c belonged to class IV and 19.6 p.c belonged to class II and remaining 6.3 p.c belonged to class I.

Distribution according to the literacy status of hus-band and wife:

Literacy rate noted in the study group of women and their husband was 93.3 p.c and 86.6 p.c respectively. According to NFHS 4, the literacy rate of West Godavari district was 63.1 p.c for males and 68 p.c for females.¹⁸ When compared to this the literacy status in our study was high.

Distribution of women according to age at marriage, age at first pregnancy and number of children: (Table No.1)

In a study by Hemanth Mahajan, it was found that mean age at marriage was 20.39 ± 2.15 years in rural women.¹⁹

In the National Family Health Survey -4 conducted in India in 2015-2016, it was observed that 30.2 p.c of girls from West Godavari district girls were married below 18 years of age.²⁰

In the present study, the mean age at first pregnancy was 21.29 years and it was observed that 0.4 p.c of women conceived for the first time at less than 18 years. Majority of women (66 p.c) possessed 2 or 3 children.

6.2. Profile of antenatal care

Antenatal registration: (Table No. 2)

In the present study, 100 p.c of pregnant women registered their pregnancy at any health facility for health check-up. This finding was in concordance with Anuja Baruah et al, Uppadhaya SK et al, Roy et al, all the women were registered during antenatal period.^{21,22,23}

Among the registered women, 82.1 p.c registered in 1st trimester, 17.0 p.c women in 2nd trimester and 0.9 p.c in the last trimester. Majority (82.6 p.c) women had done registration in government health facility and remaining (17.4 p.c) in private health facility. Those who register early tend to utilize the service early, which will help the pregnant women to have safe confinement. So more stress is needed in this aspect to motivate the women for early registration of pregnancy.

In a study conducted in Telangana state, it was found that 74

to 82 p.c of mothers had registered for ANC services in the first trimester across all regions of Telangana.²⁴ In a study conducted by Ponna et al in the state of Andhra Pradesh found that 81.8 to 83.8 p.c of mothers had registered for ANC services in the first trimester across different regions in the state.²⁵ According to studies conducted by Mumbare SS et al and Revathi S et al around 86p.c and 98p.c had registered their pregnancy at the health facility.^{26,27}

Antenatal Services: (Table No. 2)

In our study it was noted that majority (54.5 p.c) of women had taken ≥ 4 antenatal visits, 45.5 p.c women < 4 antenatal visits. 100 p.c of women had received atleast one or booster dose of tetanus toxoid Injection. It was observed that 99.6 p.c of women received iron folic acid tablets and among them only 51.8 p.c took them regularly for 100 or more days. It was unfortunate to note that only 30.4 p.c of women received full package of ANC. The main reason for sluggish full ANC utilization was the low performance in IFA consumption (only 51.8 p.c of mothers taken 100 or more IFA tablets) and limited number of antenatal visits.

The findings were in concordance with study conducted by Ponna et al. in the state of Andhra Pradesh and found that mothers who had adequate ANC care range from 27.9 to 42.2 p.c in different regions of the state.²⁵ In a study conducted by Uppadhaya SK et al found that only one third of mothers (32.83 p.c) had four or more antenatal visits.²² In the National Family Health Survey 4 (NFHS -4) conducted in India, it was observed that over 70.6 p.c of women were found to receive atleast 4 ANC visits, 89.9 p.c of them were found to get tetanus toxoid injections and 44.8 p.c of them reported to have consumed IFA tablets regularly. Only 28.3 p.c of women received full ANC package.²⁰

In a study conducted by Bhimani NR et al, it was found that around 48 p.c women had received full course of iron and folic acid tablets (100 tablets).²⁸ In a study conducted by Uppadhaya SK et al, it was observed that in spite of 100 p.c antenatal registration and 97.98 p.c tetanus toxoid coverage, the proportion of mothers who had utilized full antenatal services (minimum 4 antenatal visits, minimum one TT and minimum 100 IFA tablets taken during pregnancy) remained low (26.26 p.c).²²

The present study revealed that majority (67.6 p.c) of women utilized full ANC package from government health facility and 32.4 p.c utilized full ANC package from private health facility. The major reasons for preference of government sector might be nearby, free treatment, experienced health personnel and other benefits like cash benefits. Danasekaran et al, have reported a similar finding of 53.87 p.c mothers preferred government sector for any maternal health services and the remaining (46.13 p.c) preferred private sector.²⁹

Among those women who did not utilize full ANC package, the reason in majority (71.7 p.c) was lack of knowledge, 35.3 p.c were afraid of side effects of injections and tablets. Other reasons being non availability of IFA tablets (31.3p.c), health facility was far (29.3p.c), family members refusal (9.1p.c) and no need for service (6.1p.c).

According to the study by Anuja Baruah, amongst the women who did not attend adequate number of Antenatal Checkups, more than one-third (36 p.c) did not feel the need for Antenatal Checkups; remote residence (26.97 p.c) and transportation problems (21.03 p.c) were the two other important reasons given by the women for inadequate utilization of Antenatal Checkups. Only 6.97 p.c of the women had quoted being unaware of Antenatal Checkups.³⁰

Table No. 5 Comparison Of Utilization Of Antenatal Services With Nfhs -4 Data

Antenatal services	NFHS - 4		Present study (%)
	India	A.P	
Who had minimum of 4 antenatal visits	44.8	75.1	54.5
Who had received required injections T.T	88.6	95.0	100
Consumed 100 or more IFA tablets	25.9	56.3	51.8

Association between religion and full antenatal care: (Table No. 3)

The present study revealed that, among 177 Hindus, 50 (28.2 p.c) received full ANC package. Whereas out of 42 christians, 17 (40.5 p.c) received full ANC package and out of 5 muslims, 1 (20 p.c) received full ANC package. This difference is not statistically significant.

Association between literacy status of women and full antenatal care: (Table No.3)

The present study revealed that, 31.3 p.c of illiterate women received full antenatal care package and 100 p.c of women who had studied till college level took full antenatal care package. This association between literacy status and full antenatal care was found statistically significant. As the literacy status increased, the percentage of women taking full antenatal care package also increased. Utilization of ANCs was found to be fairly good across all literacy groups.

Findings regarding high influence of higher education levels of women on the use of maternal health services are consistent with other studies in India and other countries; the better educated women were more aware about their health, know more about availability of maternal health care services and use this awareness and information in accessing the health care services. Education of husband might be playing a similar role in supporting the women's access to the health services.

According to the study by Gupta et.al. ANC utilization was proportional to the education of the women.³¹ Education creates an awareness of existing health services and its importance in health promotion which in turn results in better utilization. Education also is a strong thrust in empowering women both as users and providers of services. Illiterate women were bound by lack of awareness of utilization of health services particularly RCH services, cultural beliefs and superstitious beliefs.

Association of literacy status of husband and utilization of full ANC services: (Table No. 3)

The study revealed that, as the literacy status of husband improved the utilization of full ANC package among their wife increased. This difference in the literacy status and utilization of full ANC package by their wife was statistically significant ($p < 0.001$).

Association between occupation of women and utilization of full ANC package: (Table No. 3)

Housewives (55.7 p.c) utilized full ANC package more than working women (35.3 p.c) and the difference was found to be statistically significant ($p = 0.028$). The reasons for poor utilization among working women was due to the fact that they could not afford to loose one one day's wages, long waiting time at antenatal clinic

Association between type of family and full ANC package: (Table No. 3)

In the present study, it was found that the utilization of full ANC package was more in women belonging to nuclear family (36 p.c) when compared to women from joint family (26.8 p.c).

Association between socio-economic status and full ANC package: (Table No.3)

In the present study, it was found that the utilization of full ANC package increased with socio-economic status of the family. The association was found to be statistically significant ($p < 0.001$).

In another study conducted in rural Karnataka, it was observed that there was positive influence of per capita income on the utilization. Among women with percapita income of less than Rs. 1000, 41.2 p.c had availed antenatal checkups, 40 p.c received T.T 47.2 p.c received IFA tablets. As for women with per capita income of Rs. 3000, the respective proportions were of 64.3 p.c, 70.5 p.c and 75.0 p.c.

7. CONCLUSION

Although maternal health care services in India have been created, strengthened and expanded over the years, their output in terms of utilization particularly in rural areas is still limited.

The results reveal that women who were in socio-economically advantageous position were much more likely to use MCH services. The most important result from this analysis on health-seeking behaviour is that several socio-economic characteristics, particularly education of the women as well as economic status of household have strong positive association with health-care utilization.

The access to maternal and health services for women who belong to the poor economic background was limited. So, study suggests there is a strong need for exhilarating the coverage of maternal health care services among poor women.

The factors which effected on ANC utilization services were poor women, less educated women, very young mothers, women of marginalised communities, women who were most disadvantaged were least likely to utilize available maternal health care services to the full extent.

The present study exposed the fact that age, education of mothers, socio economic status were significant contributing factors for utilization of maternal health care services. Female education is related with enhancing the economic status of mothers, female empowerment, awareness of mother and independent decisions making capacity of mothers. Therefore, in the present study, it was concluded that the role of education, especially of female education in rural area, was important contributing factor associated with utilization of maternal health care services.

Moreover, the low coverage of the maternal and child health services will lead to an adverse pregnancy outcome and poor maternal health. Education can be considered as the strongest parameter to address the low coverage of these services. If the government could implement and support higher education for girls more effectively, women would be more conscious about proper and timely utilization of health care services both for themselves and for their children.

In a country like India, where women's autonomy is very low, along with the rigid cultural traditions and family norms, access to education among married adolescents could be promoted by working effectively with the existing community structure. It is essential to bring recognition to communities about the importance of female education in improving the health of mothers and their children as well as generating financial support for the family.

The full ANC package utilized was better when compared to NFHS-4. It was happy to observe that they utilized much of

government health facility for full ANC package. In spite of being aware, the acceptance of family planning methods among women was low. So the unmet need for family planning should be emphasized. The percentage of women with RTI/STI symptoms was less when compared to DLHS 4.

So in conclusion, a comprehensive approach to improve the utilization of maternal health care services in the study area is needed.

The better utilization of the maternal health services can be achieved by overall socio-economic development including focus on women empowerment and education, incorporation of religious norms and faiths in the health policies. Interventions should focus on factors like overall literacy levels of couple, parity and religion.

Further organizations working on maternal health care services may find the results of this study as an input in their planning for improving utilization of maternal health care services.

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