



Determinants of utilization of Antenatal Care Services in a rural population near chennai

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ABSTRACT

**Background**  
Quality antenatal care services are essential for reducing the morbidity and mortality among the mothers. Maternal health care is not uniformly utilised by the mothers in rural areas of India. Poor illiterate mothers are vulnerable and neglected. There are many socio demographic factors influence the utilisation pattern of the antenatal care services.

**Material and Method:**  
It is a population based cross-sectional study which was done among the mothers who delivered between Aug 2004 and July 2005 in a rural area. Sample was selected by cluster sampling method.

**Results**  
Mean age of the participants was 24 years. Among 442 mothers, 79% of them had full range of antenatal care. Ante natal care services were assessed with few demographic factors like age , age at marriage, education level and Standard of Living Index. Besides the above observations, place of delivery and person conducting delivery were also discussed.

**Conclusion:**  
It is concluded that the antenatal care services are well utilised by the rural mothers. Education and standard of living are major factors in influencing the decision to utilize ante natal health care facilities.

<b>KEYWORDS</b>	ANC care, full ANC, Standard of Living Index, risk approach, PHC
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Introduction

Health of the mother is health of the nation. A healthy mother leads to healthy baby. Healthy babies are future of our nation. However mothers are at risk at various stages of pregnancy. Antenatal period is crucial due to the fact that most of the complications during pregnancy can be identified through a regular antenatal check up and maternal mortality could be reduced by adopting ‘risk approach” ie giving priority to risk pregnancy. In Tamil Nadu, Ante Natal Care (ANC) is well covered due to the high awareness created among them. The main objective of NRHM was to reduce child and maternal mortality by providing universal access to equitable, affordable, accountable and effective primary healthcare services to women in rural areas (National Rural Health Mission). The importance of the Health of the mothers is reflected by the fact that it is one of the MDG Goals, namely Goal 5 to improve maternal health (United Nations, 2000). MDG goal 5 may be difficult to achieve unless all rural mothers irrespective of their education and socioeconomic status have easy access to quality antenatal health care services. Major causes of death of mothers are lack of adequate antenatal care services. This study analyses determinants of the utilization of antenatal health care services by the rural mothers near Chennai.

Objective

To study the determinants for the utilization of antenatal health care services in a rural area near chennai

METHODS

This cross sectional study was done in a designated rural population near Chennai. This population is served by 10 health sub centres, 1 primary health centre, and few private hospitals. They also have access to taluk hospitals and district hospitals. A few private and Government medical college hospitals are available within about 30 kilometers from the study area. Initially the plan was to use simple random sampling method for selection of study subjects. However in view of logis-

tic constraints common in population based studies, cluster sampling method was used to select randomly from the whole population, 442 mothers who had vaginal delivery during the last one year were considered. Information about antenatal care, place of delivery, person conducted the delivery, and other baseline information were obtained from the selected subjects by using a structured questionnaire. Informed consent was obtained. SPSS version 10 was used for data entry and analysis.Ethical approval was obtained from Institutional Ethics Committee

Results

The current study is a population based cross sectional study in a rural area near Chennai.

Table I. Background characteristics of mothers (n=442)

S.No	Characteristics	Frequency	Percentage	95%CI
1.	Age <18 years 18-21 years >21years	58 280 104	13.12 63.34 23.52	9.22-14.86% 52.65-60.67% 17.75-24.82%
2.	Education Illiterate Literate	46 396	10.4 89.6	7-12.19% 77.41-82.53%
3	Standard ofLiving Index(SLI) Low Middle High	119 154 169	26.9 34.8 38.2	20.61-27.99% 27.37-35.3% 30.31-38.39%

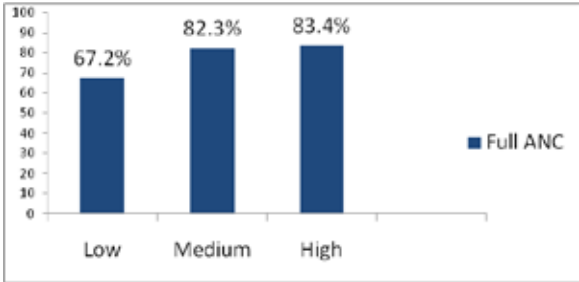
4	Age at marriage			
	< 21 years	286	65	60.55%-69.45%
	≥ 21 years	155	35	30.55%-39.45%
	Antenatal Care (ANC)			
5	Full ANC Received	348		
	Not Received	94	78.7% 21.4%	74.88%-82.52% 17.58%-25.22%
	No. of Antenatal Visits			
	<3 visits	17	3.8	2.02%-5.58%
	≥3visit	424	95.9	94 % - 97.75%
	TT injections			
	<2Doses	24	5.4	3.29%-7.51%
	≥2 injections	418	94.6	92.49%-96.71%
	Iron and Folic Acid (IFA) tablets			
	<3 months	20	4.5	2.57%-6.43%
	≥3months	356	95.5	93.57%-97.43%

**Table I** show descriptive statistics. The mean age of the participants was 24 years. About 64% of the mothers were in the age group of 18 to 21years. Majority of mothers were married below the age of 21 years. Most of the mothers 396(89.6%) were literate and 323(73%) of mothers belonged to the better standard of living. Nearly 79% of mothers availed full range of ANC (At least three visits for antenatal check-up, one TT injection received and 100 IFA tablets or adequate amount of syrup consumed).

**Table II. Particulars on Antenatal care (Full ANC)**

Age	Full ANC	
	Yes	No
<18 years	36(62%)	22(38%)
18-21 years	220(79%)	59(21%)
>21years	92(88%)	12(12%)
P= 0.000		
Education		
illiterate	31(67.4)	15(32.6)
Literate	319(80.1)	79(19.9)
P=0.08		
Standard of living		
Low	81(68.1)	38(31.9%)
Middle	126(82.4%)	27(17.6%)
High	142(83.5%)	28(16.6%)
p-value 0.003		
Age at Marriage		
<21 years	213(61%)	73(79%)
≥21 years	135(39%)	20(21%)
p=0.002		

**Table II** showed that nearly 80% of mothers who had Full ANC care were in the age group of 18-21years. The percentage of illiterate women (67%) who had full range of ANC were less than the literate women(80%) which is statistically significant(p=0.047). It showed that though utilising full antenatal care services was found in 67.2% among mothers with low standard of living, more than 80% of mothers from better SLI utilised Full ANC.



**Fig 1 Standard of Living and Full ANC**

p = 0.003

Fig 1 shows the utilisation of Full ANC by mothers from various level of standard of living

**Discussion**

In the present study, antenatal care services utilization was recorded high. The studies done by Ansari and Khan (Ansari and Khan, May 2011) in rural areas of Aligarh showed 40.3% had any ANC checkup, 73.0% had two doses of TT and 47.6% had not received iron folic acid (IFA) tablets. Further a study in a rural area (Sheth J K, 2012) in Ahmedabad showed that 72% adequate ANC visits was found, TT coverage was 86% and IFA tab taken by 62% among mothers and only 61.7% of the respondents used antenatal services in a study done in rural area in Madhya Pradesh (Tej Ram Jat, 2011). A study by C.S.Metgud et al (C.S.Metgud, 2009) in a village in north Karnataka showed nearly 40% of pregnant women had full ANC care which was less than the present study. Moreover proportion of mothers who had ≥ 3 antenatal visits in the present study are very high (97%) when compared to National level and Tamil Nadu level of 50% and 65% respectively according to NFHS -3 report (2005-2006) (National Rural Health Mission). According to a study by Bajpai R.C et al, (Bajpai R.C., 2012) only 11.5% of mothers had full ANC which is much less than the finding in the current study

Pavalavalli Govindasamy (Pavalavalli Govindasamy and B.M.Ramesh, Dec 1997) and Tej Ram Jat (Tej Ram Jat, 2011) found in their study that maternal health services are used to a greater extent by the educated mothers which is similar to the present study. Majority of mothers in the present study utilized antenatal care irrespective of SLI status. This may be due to overall awareness and good health seeking behaviour in the study group. This indicates that even poor mothers are alert in the utilization of antenatal care services in Tamil Nadu. The findings in the studies done by TejRam Jat et al (Tej Ram Jat, 2011) and Athar Ansari (Ansari and Khan, May 2011) were not in line with the current study. C.S.Metgud et al (C.S.Metgud, 2009) found that 87.50 % of literate women and 88.89 % of rich women had full ANC care which is similar to the current study

**Conclusion**

It is concluded that the antenatal care services are effectively utilized. Only illiterate and poor mothers seem to have utilised antenatal care services less than the educated and well to do mothers. This needs to be improved in order to facilitate all mothers irrespective of their economic and education status towards making better use of the antenatal care services which is accessible easily to them. Now the focus should be on the poor, illiterate rural mothers for the full utilization of antenatal care services. Factors and barriers preventing access to antenatal care services among the illiterate and poor mothers need to be studied and rectified.

**Recommendation**

Since antenatal care services is utilised less by illiterate and poor mothers, steps to be taken to increase the accessibility for these mothers to quality ANC care and sensitise them regarding the benefits of the regular ante natal check up.

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