

# Knowledge and practice of antenatal care services among antenatal mothers in a southern district of Tamil Nadu – A descriptive study

Krishnaleela G<sup>1</sup>, Siva P M<sup>2\*</sup>, Praveena Daya A<sup>3</sup>, Mariyam Jahana Shirin<sup>4</sup>, Meenu Priya<sup>5</sup>,  
Minu Shwetha<sup>6</sup>, Manoj Murugan<sup>7</sup>, Mary Priyadharsini<sup>8</sup>

<sup>1</sup>Associate Professor, Department of Community Medicine, Thoothukudi Medical college, Thoothukudi, Tamil Nadu, INDIA.

<sup>2,3</sup>Assistant Professor, <sup>4,5,6,7,8</sup>House Surgeon, Department of Community Medicine, Tirunelveli Medical College, INDIA.

Email: [bonitospm@gmail.com](mailto:bonitospm@gmail.com)

## Abstract

**Background:** Antenatal care is considered as a backbone of obstetrical services of any health care delivery system. World health organization (WHO) states that every day, approximately 830 women die from preventable causes related to pregnancy and childbirth<sup>1</sup>. Health knowledge is a vital element to enable women to be aware of their health status and the importance of appropriate antenatal care. **Objective:** To determine the level of knowledge and practice on antenatal care among pregnant women attending the antenatal clinic at primary health care centers of Tirunelveli district **Materials and Method:** A cross sectional study was conducted among 100 pregnant women attending the antenatal clinic at Kallur and Mukkudal PHCs of Tirunelveli district during the period of January to June 2017. Pretested questionnaire was used to collect the data after getting informed consent. **Results:** Study reveals 93% of pregnant women aware of importance of early registration, 84% aware of routine antenatal checkups, and 26% aware of reason for giving TT injection, but 77% aware of number of doses of TT needed. Majority 92% aware of importance of IFA tablets, but only few 11% and 6% aware of effects of high BP and Gestational diabetes mellitus (GDM). Majority of pregnant women aware of danger signs of pregnancy (77%) and maternity benefit schemes (98%). Most of the pregnant women (90%) had regular antenatal checkups. Only 58% taking Iron and folic acid (IFA) regularly. **Conclusion:** Based on the findings the health sector need to focus in the area where the pregnant women had less knowledge like reason for giving TT injection and adverse effects of illness during pregnancy. These findings can be used to plan an intervention to improve the knowledge of the antenatal women to improve the outcome of pregnancy.

**Key Words:** Awareness, Pregnant women, utilization, maternal health, maternal mortality, infant mortality.

## \*Address for Correspondence:

Dr. Siva.P. M., Assistant Professor, Department of community Medicine, Tirunelveli Medical College, Tirunelveli-627011

Email: [bonitospm@gmail.com](mailto:bonitospm@gmail.com)

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## INTRODUCTION

Antenatal care is a critical opportunity for health care providers to deliver care, support and information of pregnant women. Pregnancy should be a positive experience for all women and they should receive care that respects their dignity. Globally, 20% of women die from preventable causes related to pregnancy and childbirth are from India<sup>1</sup>. Even though the maternal mortality ratio of India decreases from 212 in 2007 to 178 in 2012, it is still very high when compared to international scenario. In India based on NFHS 4 data only 58.6% of women who had antenatal checkup in their first trimester, only 51.2% had at least four antenatal

visits and 21% of women had full antenatal care<sup>2</sup>. Skilled care before, during and after child birth can reduce the number of deaths. Knowledge regarding the antenatal care is important aspect in improving the utilization of health care services. Education regarding the antenatal care will improve the mortality indicators and helps to achieve sustainable development goals by 2030. Hence the present study was designed to estimate the level of awareness about antenatal care among antenatal women, for effective planning of an intervention to reduce maternal mortality.

## MATERIALS AND METHODS

**Study Design:** Cross sectional study

**Study Population:** Antenatal women attending antenatal clinics

**Study Setting:** Kallur and Mukkudal PHC, the field practicing area of Tirunelveli medical college

**Sample size:** Based on a study conducted by Rajiv Kumar Gupta *et.al.*<sup>3</sup> The proportion of antenatal women aware of early registration was 86.2%.

Using this proportion,  $p=86.2\%$

$q = 100-p = 13.8\%$

$d = \text{absolute precision} = 10\%$

$N = (Z_{\alpha} + Z_{\beta})^2 * pq / d^2$

$Z_{\alpha} = 1.96$  at 95% confidence interval

$Z_{\beta} = 0.84$  at 80% power

$N = \{(1.96 + 0.84)^2 * 86.2 * 13.8\} / (10 * 10) = 93$  rounded off to 100

**Study Procedure:** A cross sectional study was conducted in Kallur and Mukkudal PHC, the field practicing areas of Tirunelveli medical college, Tirunelveli district, Tamil Nadu. Totally 100 pregnant women who attended antenatal clinic in the above mentioned PHCs during the period of January to June 2017 were included in the study. After getting informed consent from them, data regarding basic socio-demographic characteristics, awareness and practice of antenatal care services were collected using a semi structured questionnaire. Data collected were entered in MS Excel and analysis was done using SPSS 16.0 version. Descriptive statistics like mean and standard deviation done for continuous variables and proportion for categorical variables.

## RESULTS

A total of 100 pregnant women completed the interview. Their mean age was 24.5 years with standard deviation of 3.4 years. Majority belongs to 19 to 24 years of age.

**Table 1:** Socio-demographic details of study subjects

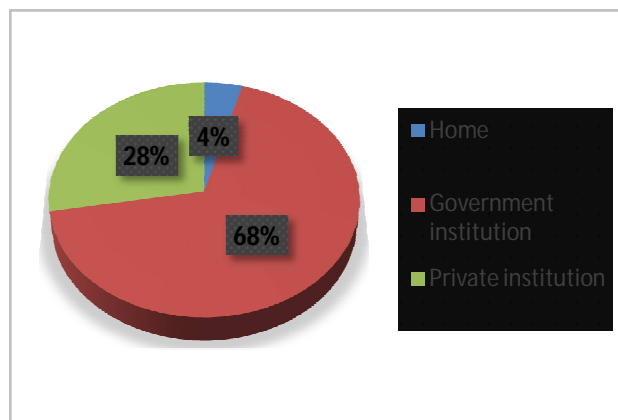
Variables	Number of subjects	Percentage	
Age group in years	19 - 24	55	55%
	25 - 29	33	33%
	30 and above	12	12%
Education	Illiterate	4	4%
	Primary	3	3%
	Middle school	27	27%
	High school	27	27%
	Higher secondary	11	11%
Occupation	Graduate	28	28%
	Unskilled	11	11%
	Semiskilled	1	1%
	Skilled	12	12%
Age at marriage in years	Homemakers	76	76%
	$\leq 18$	7	7%
	19 - 24	78	78%
Age at first conception in years	25 - 29	11	11%
	$\geq 30$	4	4%
	$\leq 18$	1	1%
in years	19 - 24	77	77%
	25 - 29	15	15%
	$\geq 30$	7	7%

Majority of the study subjects (28%) were graduate and only 4% were illiterate. Most of the study subjects (76%) were homemakers and belongs to middle class (74%). The average age at marriage was  $21.72 \pm 2.91$  years, with most of them (78%) belongs to 19-24 years of age. The mean age at first conception was  $23 \pm 2.9$  years, with majority (77%) comes under 19-24 years of age.

**Table 2:** Distribution of study subjects based on place of delivery

Place of delivery	Number of subjects	Percentage
Home	2	4.2%
Government institution	32	68.1%
Private institution	13	27.7%
<b>Total</b>	<b>47*</b>	<b>100%</b>

\*Only Multigravida accounted for this table

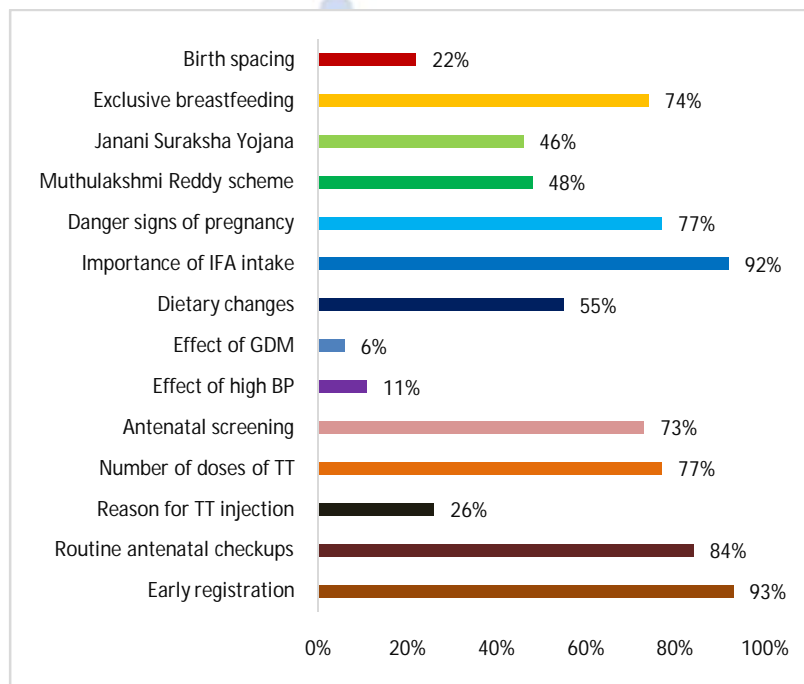


**Figure 1:** Distribution of study subjects based on place of delivery

Majority (96.8%) of the women has delivered their last child in the hospital (Government 68.1%, Private 27.7%) and rest 4.2% delivered at home.

**Table 3:** Distribution of study subjects based on their knowledge (N=100)

Variables	Number of subjects aware	Percentage
Early registration	93	93%
Routine antenatal checkups	84	84%
Reason for TT injection	26	26%
Number of doses of TT	77	77%
Antenatal screening	73	73%
Effect of high BP	11	11%
Effect of GDM	6	6%
Dietary changes	55	55%
Importance of IFA intake	92	92%
Danger signs of pregnancy	77	77%
Muthulakshmi Reddy scheme	48	48%
Janani Suraksha Yojana	46	46%
Exclusive breastfeeding	74	74%
Birth spacing	22	22%



**Figure 2:** Distribution of study subjects based on their knowledge (N=100)

Regarding knowledge, majority 93% of women aware of importance of early registration of pregnancy and 84% aware of importance of routine antenatal checkups. Majority of the women (73.8%) obtained information through health care providers. Around 38% of women thinks that injection TT is given for baby’s growth and only 33% aware that, Injection TT is for prevention of neonatal tetanus infection. But most of the subjects (77%) aware about number of doses of TT needed during pregnancy. Only 11% aware of effects of high blood pressure, 6% aware of effects of gestational diabetes mellitus (GDM), 55% aware of dietary modifications

needed and 92% aware of importance of iron and folic acid supplementation. Out of the total women 77% aware of danger signs of pregnancy and 94% of them answered that they will report to health center in case of any danger signs. Majority (98%) of the women aware of any one of the maternity benefit scheme (Muthulakshmi-Reddy Scheme and Janani Suraksha Yojana) and 2% not aware of any schemes. In the present study most of the women (74%) aware of duration of exclusive breastfeeding as 6 months. Only 22% of study subjects aware of birth spacing needed between two children as 2-3 years and 20% were not willing for family after two child birth. The

major reason identified for unwillingness for family planning were need consultation with husband (50%), need a third child (30%) and need a male baby (20%).

**Table 4:** Distribution of study subjects based on antenatal care practice

Variables	Number of subjects practising	Percentage
Routine antenatal checkups	90	90%
Regular intake of IFA tablets	58	58%
Rest $\geq$ 8 hours	47	47%
Initiation of breastfeeding within one hour	76	76%
Exclusive breastfeeding	74	74%

Regarding practice, 90% of women attending antenatal clinics regularly, 58% taking iron and folic acid tablets, 47% taking rest for 8 hours or more, 23% practicing prelacteal feeds, 76% initiated breastfeeding within one hour of delivery, and 74% gave exclusive breastfeeding for 6 months.

## DISCUSSION

In the present study, the mean age at marriage was 21.72  $\pm$  2.91 years, with most of them (78%) belongs to 19-24 years of age. Similarly in a study conducted by Jalina Laishram *et al*<sup>4</sup>, shows that the 82.1% with age at marriage of 18-29 years. Majority (96.8%) of the women has delivered their last child in the hospital (Government 68.1%, Private 27.7%) and rest 4.2% delivered at home. Similar results were obtained in a study conducted by Rajiv Kumar Gupta *et al*<sup>3</sup>, with 20.9% had home delivery and rest was institutional delivery. Regarding knowledge, majority 93% of women aware of importance of early registration of pregnancy and 84% aware of importance of routine antenatal checkups. Majority of the women (73.8%) obtained information through health care providers. The result was concordant with the study conducted by Rajiv Kumar Gupta *et al*<sup>3</sup>, with 86.2% aware of importance of early registration. As per the study conducted by Anju Ade *et al*<sup>5</sup>, all the respondents were aware that every pregnant mother need to go for antenatal check - ups but only 50 % of them were aware that even if there is no complication during pregnancy is it required to go for antenatal check- ups. Around 38% of women thinks that injection TT is given for baby's growth and only 33% aware that, Injection TT is for prevention of neonatal tetanus infection. But most of the subjects (77%) aware about number of doses of TT needed during pregnancy. Study conducted by Rajiv Kumar Gupta *et al*<sup>3</sup>, 61.6% had adequate knowledge about the importance of TT injections during pregnancy. As per the study conducted by Anju Ade *et al*<sup>5</sup>, 88% women knew that it is necessary to take Inj. TT during

pregnancy but they had no knowledge when and how many times Inj. TT should be taken during pregnancy. Only 11% aware of effects of high blood pressure, 6% aware of effects of gestational diabetes mellitus (GDM), 55% aware of dietary modifications needed and 92% aware of importance of iron and folic acid supplementation. Similarly in a study conducted by Anju Ade *et al*<sup>5</sup>, 77% of women aware of importance of iron and folic acid tablets and 49% aware of dietary modifications needed during pregnancy. Out of the total women 77% aware of danger signs of pregnancy and 94% of them answered that they will report to health center in case of any danger signs. Similarly in a study conducted by Anju Ade *et al*<sup>5</sup>, most of the women aware of danger signals of pregnancy. In this study, Majority (98%) of the women aware of any one of the maternity benefit scheme (Muthulakshmi-Reddy Scheme and Janani Suraksha Yojana) and 2% not aware of any schemes. In a study conducted by Anju Ade *et al* [5], only 31% of women aware about the financial assistance provided in Janani Suraksha Yojana. It was very low when compared to present study. Only 22% of study subjects aware of birth spacing needed between two children as 2-3 years and 20% were not willing for family after two child birth. The major reason identified for unwillingness for family planning were need consultation with husband (50%), need a third child (30%) and need a male baby (20%). But in a study conducted by Eram, *et al*. 85% of mothers aware about birth spacing and 90% said it to be a good practice<sup>6</sup>. Regarding practice, 90% of women attending antenatal clinics regularly, 58% taking iron and folic acid tablets, 47% taking rest for 8 hours or more, 23% practicing prelacteal feeds, 76% initiated breastfeeding within one hour of delivery, and 74% gave exclusive breastfeeding for 6 months. As per NFHS4 data of Tirunelveli district, 41.6% of women had antenatal checkup in first trimester; 71.4% had at least 4 antenatal visits; 45% consumed iron and folic acid tablets and 53% initiated within one hour of delivery<sup>2</sup>.

## CONCLUSION

In the present study, the overall knowledge of antenatal care services were good except for few areas like knowledge regarding gestational diabetes, pre eclampsia and reason for TT injections. Hence awareness camps regarding complications of pregnancy has to be focused. Regarding practice intake of iron and folic acid tablets and utilization of schemes like JSY has to be improved.

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