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Original Research Article

## A study on knowledge, attitude and practices regarding antenatal care among pregnant women attending antenatal clinic at a tertiary care hospital

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### ABSTRACT

**Background:** The maternal health level of Indian women was noticed to be inferior as compared to other developed countries. Antenatal care is the clinical assessment of both mother and foetus, during the period of pregnancy. Safe motherhood by providing good antenatal care (ANC) is very crucial to reduce maternal mortality ratio and infant mortality rate and to achieve millennium development goals. The objectives of this study aimed to assess the level of knowledge, attitude, and practice on ANC among pregnant women attending the antenatal clinic and their association with several sociodemographic factors.

**Methods:** A cross-sectional study was undertaken among 200 pregnant women in their 3rd trimester attending the OPD in a Tertiary Care Hospital of Gurugram, Haryana. Predesigned questionnaire was used for collecting data by interview after obtaining informed consent.

**Results:** This study revealed that about 55% women had adequate knowledge regarding ANC. It was found that almost all the variables such as age, parity, level of education, occupation and type of family had a significant association with awareness about ANC. 90% women were having a positive attitude towards ANC. Around 70%, women were practicing this adequately.

**Conclusions:** These results can be used to design a Health Intervention Program targeting to upgrade the maternal health practices and ultimately progress the health status of the women.

**Keywords:** Antenatal, Knowledge, Attitude, Practice, Third trimester

### INTRODUCTION

Safe Motherhood Initiatives, a worldwide effort was launched by the World Health Organization in 1987 which intended to lessen the number of deaths associated with pregnancy and childbirth.<sup>1</sup> Apt antenatal care (ANC) is one of the pillars of this scheme.

Antenatal care is the clinical evaluation of both mother and foetus, during the period of pregnancy. It is a main entry point for gravid women to receive multiple range of health facilities such as prevention, detection and

treatment of sexually transmitted infections, nutritional maintenance, prevention or treatment of anaemia.<sup>2</sup>

Antenatal care is considered as a strong pillar of obstetrical facilities and it is the way to determine and deal with maternal and fetal complications. The pregnant women are classified as either normal or high risk at the very first antenatal check-up visit and with the aid of a special booking checklist.<sup>3</sup>

WHO recommends four antenatal visits in low-risk pregnancies, like the first visit in the first trimester, preferably before 12 weeks, but no later than 16 weeks,

and the second, third, and fourth visits at 24–28, 32, and 36 weeks, respectively.<sup>4</sup>

One of the eight-millennium development goals (MDGs) is improving maternal health. Since 1990, maternal deaths worldwide have declined by 47%. Although the health status of women has upgraded over the years due to determined efforts of Government of India, it is still not at par with the worldwide benchmark which is too high.

Early entry to ANC is vital for early detection and treatment of pregnancy-related adverse outcomes as it imparts information to expecting mothers that enable them to identify possible warning signs of complications during pregnancy as well as plans to adhere to prescribed treatments and referrals. It has been shown that around 80% of maternal mortality could be averted if the affected mother had a timely access to the essential maternity and fundamental health-care services.<sup>5</sup>

Health knowledge is an important component to empower women to be cognizant of their health status and the importance of appropriate ANC. This study was conducted to assess the level of knowledge, attitude, and practice related to antenatal care among the pregnant women and to evaluate the awareness about their own health during pregnancy.

## METHODS

A cross-sectional study was carried out to assess the knowledge, attitude, and practices regarding ANC among pregnant women attending the antenatal OPD in SGT Medical College and Hospital, Gurugram in October to November 2020. A total of 200 pregnant females in the 3rd trimester, attending OPD were included in this study after taking informed verbal consent.

All the eligible participants were interviewed using a structured questionnaire which included socio-demographic profile and question's pertaining to knowledge, attitude and practice regarding ANC. Predesigned, pretested questionnaire was used. [Annexure 1].

Knowledge was assessed about ANC visits, tetanus immunization, investigations, nutritional factors, danger signs of pregnancy. Each parameter was awarded 1 mark for the correct response and 0 mark for wrong response. Thus, total marks for questions related to knowledge were 21. Those who scored 70% and above were considered as having adequate knowledge, and those who scored below 70% were considered inadequate knowledge.

Variables to assess attitude were an opinion on the place of delivery, ANC registration, visits, investigations, dietary changes, and iron and folic acid (IFA) intake and its regularity in the intake. Each attitude questionnaire

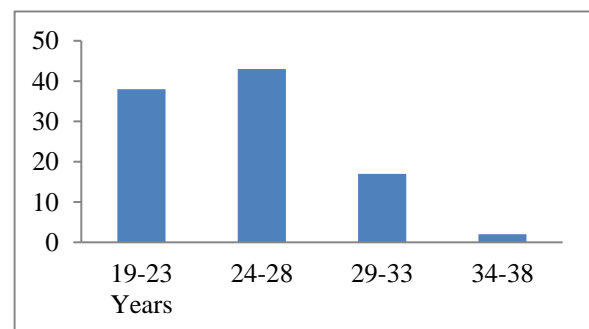
was scaled using 5-point Likert scale. Total score for questions related to attitude were carrying 30 marks. Those who scored 70% and above were considered as having a good attitude toward ANC.

Questions were asked to assess the practices with regards to ANC visit, dietary changes made during pregnancy, IFA tablets taken and tetanus immunization during pregnancy. Each parameter was awarded 1 mark for good practice and 0 marks if the practice was not found appropriate. Thus, total marks for questions related to practices were 10. Practice on attending number of visits carried 2 marks (<3 visits = 0, 3-5 visits = 1 and >5 visits = 2). Practice of duration of POG at 1st antenatal visit scored 5 marks (Between 1st and 2nd month= 5, 2-3rd month= 4, 3-4th month= 2, Others= 1). Those who scored 70% and above were considered as practicing adequately and those who scored below 70% were considered inadequate practices with regard to ANC.

Demographic characteristics namely age, parity, type of family, education and occupation were selected for studying association with knowledge and practices regarding ANC. For the ease of study, age is categorized into two categories namely age ≤ 21 years and >21 years. Type of family was divided into two categories namely joint family and nuclear family.

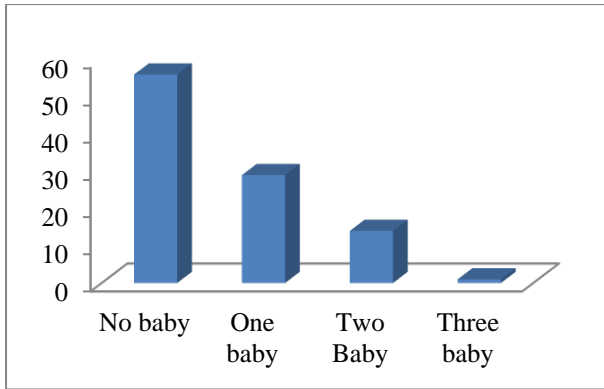
## RESULTS

In our study, the age range of study subjects ranges from 19 to 38 years with mean age of 25.15 years. 112 women were primigravida and 88 were multigravida. In this study the participants who married at ≤21 years of age were 144 and 56 women married at >21 years. 6% post-graduate, 23% graduate, 45% intermediate, 10% until middle school, 9% until primary school. Only 7% women have not attended any formal schooling. About 88% women were unemployed and were working as housewives, and only 12% were working.

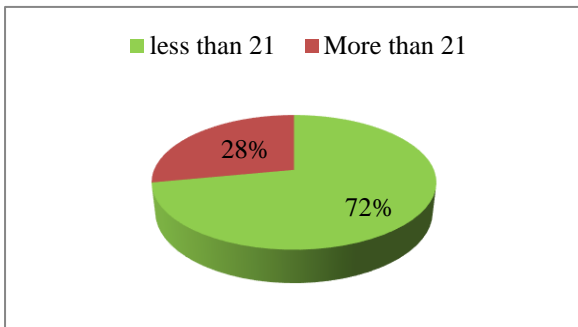


**Figure 1: Age (in years).**

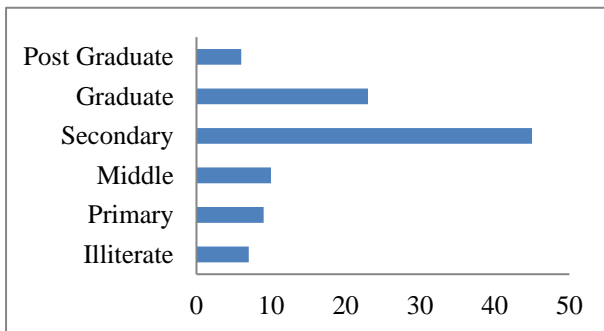
50% take joint decision with family while for 40% participants decision makers are in-laws and for 10% participants decision is taken by husbands only. 73% respondent belonged to joint family followed by 27% nuclear.



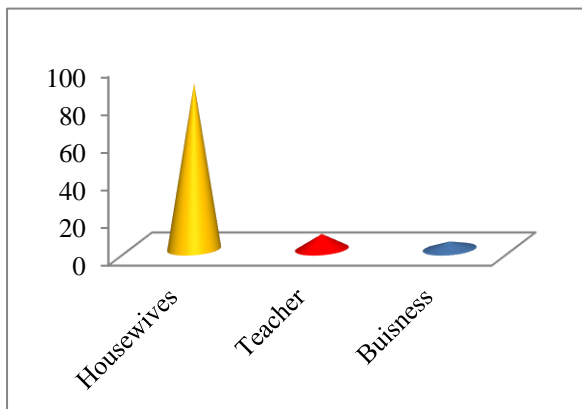
**Figure 2: Parity.**



**Figure 3: Age at marriage.**

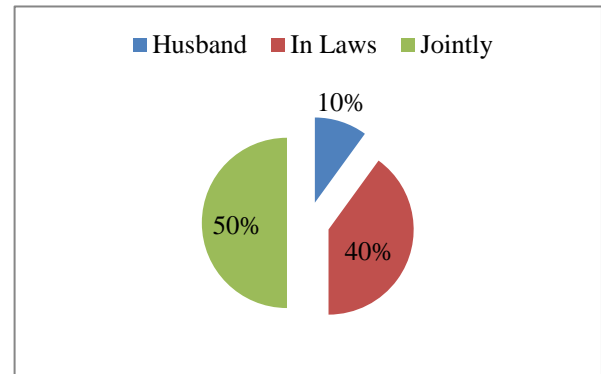


**Figure 4: Qualification.**



**Figure 5: Occupation.**

Antenatal women who belonged to age group of 24-28 years scored maximum mean knowledge, attitude and practice score followed by 29-31 years. It is clearly evident that knowledge is not significantly associated with increasing parity ( $P = 0.317$ ).



**Figure 6: Decision maker.**

Age of marriage  $>21$  years showed significant results for knowledge and attitude compared to age of marriage  $<21$  years. Age at 1st child  $\geq 24$  years showed significant results for knowledge and attitude compared to age at 1st child  $<24$  years. But age of marriage and age at 1st child has no effect on practice of antenatal care.

Knowledge about ANC care was associated more closely with those women who were more educated ( $P = 0.001$ ). Although the adequate knowledge women were distributed among both employed and unemployed women, but it was more associated with employed women. It means that working women were more knowledgeable than unemployed women ( $P = 0.004$ ).

Illiterate participants had least knowledge, positive attitude and practice followed by middle, primary, secondary and graduation and post-graduation.

55% had adequate knowledge about overall ANC care. 90% women scored more than 70% marks meaning they have a positive attitude towards ANC care. 70% study subjects followed adequate ANC practices. [Table 1]. [Table 2] and [Table 3] summarize the association of knowledge, attitude and practices regarding antenatal care with sociodemographic factors.

Significant relation was found between decision maker and overall knowledge about ANC ( $P = 0.001$ ). Similar trends were noted between decision maker and positive attitude regarding ANC.

There was no significant relation found between type of family and overall Knowledge about ANC. ( $P = 0.699$ ). It was found that women who had previous delivery in hospital had more knowledge ( $p=0.007$ ) and positive attitude ( $p=0.001$ ) as compared to home delivery but no effect seen on practice.

**Table 1: Association between selected demographic factors with overall ANC knowledge.**

		Inadequate	Adequate	Total	df	X2	p-value
<b>Age (Years)</b>	19-23 Years	44	32	76	3	5.29	0.151
	24-28	28	58	86			
	29-33	16	18	34			
	34-38	2	2	4			
<b>Parity</b>	No baby	54	58	112	3	3.53	0.317
	One baby	20	38	58			
	Two babies	14	14	28			
	Three babies	2	0	2			
<b>Religion</b>	Hindu	80	108	188	1	3.79	0.052
	Muslim	10	2	12			
<b>Age at marriage</b>	less than 21	84	60	144	1	18.47	0.001
	More than 21	6	50	56			
<b>Age at 1st child</b>	19-23yrs	32	26	58	1	6.22	0.013
	24-28yrs	6	28	34			
<b>Qualification</b>	Illiterate	14	0	14	5	20.59	0.001
	Primary	16	2	18			
	Middle	16	4	20			
	Secondary	44	46	90			
	Graduate	0	46	46			
	Post-graduate	0	12	12			
<b>Occupation</b>	Housewives	90	86	176	2	11.16	0.004
	Teacher	0	16	16			
	Business	0	8	8			
<b>Decision maker</b>	Husband	20	0	20	2	15.74	0.001
	In Laws	38	42	80			
	Jointly	32	68	100			
<b>Types of family</b>	Nuclear	26	28	54	1	0.15	0.699
	Joint	64	82	146			
<b>Delivery</b>	At home	10	0	10	1	7.42	0.007
	Hospital	28	50	78			

**Table 2: Association between selected demographic factors and attitude.**

		Inadequate	Adequate	Total	df	X2	p-value
<b>Age (years)</b>	19-23 Years	12	64	76	3	5.78	0.123
	24-28	4	82	86			
	29-33	2	32	34			
	34-38	2	2	4			
<b>Parity</b>	No baby	12	100	112	3	0.74	0.864
	One baby	4	54	58			
	Two babies	4	24	28			
	Three babies	0	2	2			
<b>Religion</b>	Hindu	18	170	188	1	0.32	0.572
	Muslim	2	10	12			
<b>Age at marriage</b>	less than 21	20	124	144	1	4.32	0.038
	More than 21	0	56	56			
<b>Age at 1st child</b>	19-23	10	50	60	1	2.99	0.084
	24-28	0	32	32			
<b>Qualification</b>	Illiterate	8	6	14	5	33.05	0.001
	Primary	0	18	18			
	Middle	8	12	20			
	Secondary	4	86	90			
	Graduate	0	44	44			

Continued.

		Inadequate	Adequate	Total	df	X <sup>2</sup>	p-value
<b>Occupation</b>	Post-graduate	0	14	14	2	1.52	0.123
	Housewives	20	156	176			
	Teacher	0	16	16			
	Business	0	8	8			
<b>Decision maker</b>	Husband	6	14	20	2	4.94	0.085
	In Laws	6	74	80			
	Jointly	8	92	100			
<b>Types of family</b>	Nuclear	10	136	146	1	2.98	0.084
	Joint	10	44	54			
<b>Delivery</b>	At home	8	2	10	1	34.32	0.001
	Hospital	0	78	78			

Table 3: Association between selected demographic factors with overall ANC practices.

		Inadequate	Adequate	Total	df	X <sup>2</sup>	p-value
<b>Age (in years)</b>	19-23 Years	28	48	76	3	2.62	0.454
	24-28	18	68	86			
	29-33	12	22	34			
	34-38	2	2	4			
<b>Parity</b>	No baby	26	86	112	3	3.63	0.304
	One baby	22	36	58			
	Two babies	12	16	28			
	Three babies	0	2	2			
<b>Religion</b>	Hindu	58	130	188	1	0.54	0.462
	Muslim	2	10	12			
<b>Age at marriage (in years)</b>	less than 21	48	96	144	1	1.36	0.244
	More than 21	12	44	56			
<b>Age at 1st child (in years)</b>	19-23	24	32	56	1	0.13	0.718
	24-28	10	22	32			
<b>Qualification</b>	Illiterate	2	12	14	5	3.10	0.685
	Primary	8	10	18			
	Middle	6	14	20			
	Secondary	24	66	90			
	Graduate	14	32	46			
	Post Grad.	6	6	12			
<b>Occupation</b>	Housewives	54	122	176	2	0.16	0.923
	Teacher	4	12	16			
	Business	2	6	8			
<b>Decision maker</b>	Husband	4	16	20	2	0.6	0.741
	In Laws	26	54	80			
	In Jointly	30	70	100			
<b>Types of family</b>	Nuclear	10	44	54	1	2.32	0.128
	Joint	50	96	146			
<b>Delivery</b>	At home	6	4	10	1	1.09	0.297
	Hospital	28	50	78			

## DISCUSSION

Our findings revealed that 55 out of 100 antenatal women obtained good knowledge score regarding birth preparedness. Another study conducted in Belagavi, also found that awareness of the concept of birth preparedness was 77.1% among the women.<sup>6</sup>

Findings of present study indicate that 90 percent of antenatal women had positive attitude regarding birth preparedness, these are consistent with the study conducted in Padukka which concluded that that 75 percent pregnant women had favourable attitude regarding birth preparedness and complication readiness.<sup>7</sup>

In our study, mean age for respondents was 24 years with age range from 19 to 38 years. Our study showed

statistically significant association between age and knowledge about ANC but not with overall ANC practices. A study done by Sanjel et al., 2011 in Tamang also shows a significant association between age and knowledge.<sup>8</sup>

Our findings regarding parity revealed that knowledge, attitude and practice regarding birth preparedness was not higher in primipara as compared to multipara. Opposite to these are the findings of other study conducted to assess status of birth preparedness and complication readiness in Madhya Pradesh which stated that birth preparedness/complication readiness were significantly higher in primi-para as compared to multipara.<sup>9</sup>

Nuclear family has more knowledge regarding birth preparedness as compared to joint and extended family

Agarwal et al. in their study in 2007 found that ANC received was significantly lower among illiterate women.<sup>10</sup> This finding is similar with our finding in which women who were more educated were better aware about almost all the factors of ANC. However, women with lower education (<10th) were performing better in term of visits and women with higher education (>10th) were doing better practice. Overall educated women were practicing in a better way than non-educated women.

In this study 55% had adequate knowledge about overall ANC care. 90% women have a positive attitude towards ANC care. 70% study subjects followed adequate ANC practices. Kawungezi et al. 2015 study showed that women who had received antenatal care, 54.5% did not have sufficient knowledge of the service, only 45.5% had good knowledge.<sup>11</sup> Attitude towards antenatal care is becoming positive due to better outcomes in health of the baby and the mother.

The practice of home delivery is still common act as added risk if they ever want to conceive again. About half of the women did not know the complications that might arise among pregnant women.

In this study 11% of the women reported having experience of home delivery in their previous pregnancies.

## CONCLUSION

The still higher proportion of (45%) of pregnant women has inadequate knowledge, and about one-third of study participant have poorly practice ANC care. Their knowledge on certain aspects of ANC were still poor especially regarding the importance of early antenatal check-up, health screening and complications related to diabetes and hypertension in pregnancy.

These results can be used to design a Health Intervention Program targeting to upgrade the maternal health

practices and ultimately progress the health status of the women.

Hence, it is better if local health offices arrange community-based education and empowering women by escalating educational opportunities. Antenatal care clinics should give due importance to planning for birth and its complications and should provide information and education to all pregnant women.

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## ANNEXURE 1

<b>Name- Age- Parity- Religion-</b>
<b>Age at first child-</b>
Place of delivery of last baby- Hospital, home, not applicable
<b>Education -</b> Illiterate, Primary, Middle School, Secondary, Graduation, PG
<b>Occupation-</b>
<b>Decision maker-</b> Husband, Jointly with spouse, Others (In-laws)
<b>Age at marriage</b>
≤ 21 (years)
>21 (years)
<b>Type of family -</b> Nuclear, Joint
<b>Knowledge</b>
1. Do you think antenatal care is valuable or not?
2. Is it necessary to go for ANC even if there is no complication?
3. Are minimum four antenatal visits required?
4. Is Injection TT required to be given during pregnancy?
5. Does a pregnant woman need Iron /folic acid supplements?
6. Does pregnant woman need extra food compared to non-pregnant woman?
7. Should USG be done to assess fetal well-being?
8. Is weight measurement required during every antenatal visit?
9. Is BP measurement necessary during every ANC Visit?
10. Is haemoglobin, blood sugar measurement during pregnancy required?
11. Should pregnant women continue to do household jobs?
12. A If you gave birth to the last baby at home, why? (More than one can be ticked)
1. Easy labour 2. Home is more comfortable 3. Transport problem 4. No health facility nearby 5. Feel shy 6. Family refusal 7. Don't know the importance
If you gave birth to the last baby at a health facility, why? (More than one option can be chosen)
1. For safe delivery 2. For healthy child 3. Free care 4. Health facility nearby 5. Good service 6. Encouraged by family
7. Motivated by health care workers 8. For monetary bene
<b>12. B If you gave birth to the last baby at a health facility, why? (More than one option can be chosen)</b>
1. For safe delivery 2. For healthy child 3. Free care 4. Health facility nearby 5. Good service 6. Encouraged by family 7. Motivated by health care workers
16. What are the danger signs of pregnancy? (>1 can be ticked)
A. Excessive vomiting B. Persistent swelling of limbs C. Vaginal bleeding/discharge D. Convulsion E. Weak or no movement of baby F. Visual disturbance G. Pain abdomen
17. What should be done in case of any such problem?
1. Report to health center 2. Home remedies/self-medication 3. Ignore i
<b>13. What are the danger signs of pregnancy? (&gt;1 can be ticked)</b>
A. Excessive vomiting B. Vaginal bleeding/discharge C. Convulsion D. Decreased or no movement of baby E. Visual disturbance F. Pain abdomen
<b>14. What should be done in case of any such problem?</b>
1. Report to health centre 2. Home remedies/self-medication 3. Ignore it
<b>Attitude</b>
<b>1. Antenatal check-up is necessary for women after becoming pregnant</b>
1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree
<b>2. Antenatal booking should be done before the 3rd month of pregnancy</b>
1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree
<b>3. Screening of blood for infections (HIV, HBV, etc.) should be carried out during antenatal check-up</b>
1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree
<b>4. Pregnant women should change dietary habit as advised by doctor</b>
1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree
<b>5. Pregnant women should not miss taking iron &amp; folic acid tablets?</b>
1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree
<b>6. Hospital delivery is better than Home delivery</b>
1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree
<b>Practices</b>
<b>1. At what duration of pregnancy did you visit the health centre for ANC check-up?</b>
1. Between 1st and 2nd month 2. 2-3rd month 3. 3-4th month 4. Others
<b>2. Are you regular in your antenatal visits for check-up?</b>
1. Yes 2. No
<b>2. (A). If answer of above question is YES then, what was main factor behind regular visit?</b>
1. For care of baby 2. To know about any medical problem 3. Advised by doctor
<b>2. (B). If answer of above question is NO then, reason for irregular visit?</b>
1. Transport problem 2. Family refusal 3. Not in station 4. Did not feel like
<b>3. No. of ANC visit you have attended</b>
a. 1 b. 2 c. 3 d. 4 e. 5 f. More than 5
<b>4. No. of TT doses you have received during current pregnancy?</b>
a. 1 b.2 c. None
<b>5. Are you taking iron and folic acid tablets?</b>
1. Yes 2. No