



# A study on knowledge and practices of antenatal care among pregnant women in rural areas of Barabanki District

Shwetambari Srivastava

Date of Submission: 08-05-2023

Date of Acceptance: 20-05-2023

## ABSTRACT

**Introduction:** The pregnancy period is one of the happiest events in every woman's life. Every mother wants her pregnancy period to be healthy and smooth, but the experiences of pregnancy is not the same for all mothers. Every year about 6 million women become pregnant; 5 million of these pregnancies lead to the birth of the child. Approximately 810 women die every day from preventable causes related to pregnancy and childbirth around the world. ANC is an essential process to protect the health of mother and their upcoming child. The present study was conducted among pregnant females to find out the knowledge, and practice about antenatal care.

**Objectives:** This study aimed to determine the knowledge, and practices of antenatal care among pregnant women in rural areas of Barabanki district.

**Material & Methods:** A cross sectional study was carried out among 80 registered pregnant women in any of the trimester at RHTC HIMS Barabanki. After seeking permission from required authorities, list of pregnant women registered at RHTC HIMS Barabanki was obtained. Data was collected by interviewing all eligible subjects willing to participate in the study. A predesigned and pretested semi-structured questionnaire used for collecting data. The data was analysed using statistical software SPSS trial version 26.0.

**Results :** Study reveals There is still higher proportion of (57.5%) of pregnant women who had inadequate knowledge about antenatal care and about one-third of study participants had poor practice of ANC care. In our study about (61.3%) respondents understands that antenatal care is recommended by medical and nursing staff and (21.3%) understands that antenatal care is for benefit of both mother and child, (17.5%) understands that it prevents health problems. 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. Those who had adequate knowledge about antenatal care they had adopted good practice.

**Conclusion :** These findings can be used to plan a Health Intervention Program aiming to improve the maternal health practices and eventually improve the health status of the women.

**Key words :** ANC, WHO, IFA, NFHS

## I. INTRODUCTION:

The pregnancy period is one of the happiest events in every woman's life. Every mother wants her pregnancy period to be healthy and smooth, but the experiences of pregnancy is not the same for all mothers. Pregnancy is a physiological condition that involves the life of both the mother and the growing fetus, so great care needs to be taken during this period. Getting early and regular antenatal care (ANC) improves the chances of a healthy pregnancy. ANC is an essential process to protect the health of mother and their upcoming child<sup>1</sup>.

According to the census 2011, maternal mortality rate in India accounts to an enormous figure of 212. Major causes include haemorrhage, obstructed labor, hypertension and other conditions<sup>2</sup>. Approximately 810 women die every day from preventable causes related to pregnancy and childbirth around the world. Global maternal deaths estimated about 295,000 women died during and following pregnancy and childbirth. The vast majority of these deaths (94%) occurred in low-resource settings, and most could have been prevented.

ANC provides an opportunity for pregnant women to learn from skilled health workers about healthy behavior during pregnancy and better understanding of warning signs associated with pregnancy and childbirth. It also helps to diagnose and treat pre-existing health problems, proper nutritional intake, and health care during pregnancy<sup>3</sup>.

Moreover, evidence indicated that inappropriate ANC increases the likelihood of maternal mortality ratio (MMR) occurring. India, despite significantly reducing maternal mortality, from 385 per 100,000 live births in 1990 to 216 per 100,000 live births in 2015, still ensuring universal access to maternal health services for all remains a big challenge<sup>4</sup>.



However, in India, the proportion of at least four ANC visits increased from 43.9% in 2005-2006 (NFHS-3) to 58.6% in 2015-2016 (NFHS-4) <sup>5</sup>.

Early diagnosis and treatment through regular antenatal check-ups can play important role to prevent a high-risk pregnancy and its complications. Maternal morbidity and maternal mortality can be significantly reduced if pregnant women will be aware and ensure necessary registration, regular antenatal check-ups, early diagnosis of high-risk pregnancy, timely immunization, healthy diet, and intake of iron-folic acid tablets <sup>6</sup>.

Knowledge is the understanding of any given topic <sup>7</sup>. It refers to a pregnant women's understanding of components of antenatal care which include registration of pregnancy, danger signs during pregnancy, intake of prophylactic Iron and Folic Acid (IFA) tablets during pregnancy and adapting family planning methods.

Practices are defined as the observable actions of a pregnant women that could affect her to go to the hospital for antenatal check-up, after knowing the danger signs during pregnancy, how she is making the arrangement to attend hospital and how she had adapting the family planning methods after marriage, in the previous and present pregnancy.

With this background the present study was conducted among pregnant females to find out the knowledge, and practice about antenatal care.

Objectives:

This study aimed to determine the knowledge, and practices of antenatal care among pregnant women in rural areas of Barabanki district with following objectives.

1. To estimate the knowledge and practices related to antenatal care among these pregnant women.
2. To estimate the awareness about their own health during pregnancy.
3. To give suggestions to improve the maternal health practices.

Methodology:

- A cross sectional study was undertaken to access knowledge and practices regarding Antenatal care among pregnant women residing in rural area of Barabanki District from September 2021 to November 2022. For purpose of sample size estimation, Sample size(n)= $4pq/L^2$ , p was taken as 21.7% (Prevalence of pregnant mother attending minimum 4 ANC visit in UP as per National Family and Health Survey 4 (2015-16),

$$q = (1-p)$$

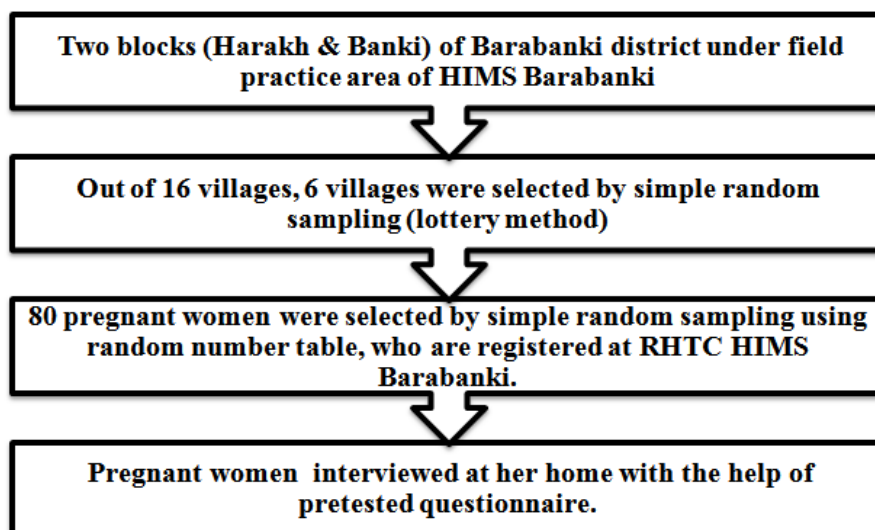
$$L = \text{Absolute Precision} = 10\%$$

$$n = 67.96$$

20% no response thus the sample size was rounded off to 80.

The study population comprised of pregnant females of any trimester registered at Rural Health Centre HIMS Barabanki during the study period.

#### Selection of Sample:





A pre designed and pre tested interview schedule was used to collect data.

Socioeconomic status was assessed by **Modified BG Prasad Classification.**

Knowledge was assessed about ANC visits, tetanus immunization, investigations, and nutritional factors, danger signs of pregnancy, contraception, and personal habits. Each parameter was awarded 1 mark for the correct answer and 0 mark if the answer was wrong. Thus total marks for questions related to knowledge were 17. Those who scored 70% and above were considered as having adequate knowledge, and those who scored below 70% were considered inadequate knowledge.

Questions were asked to assess the practices with regards to ANC visit, dietary changes made during pregnancy, IFA tablets taken. Questions related to smoking, alcohol, self-medication were noted. Tetanus immunization during pregnancy and practice with regard to use of contraception was also noted. 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 21. Practice on attending number of visits carried 2 marks (<3 visits = 0, 3-5 visits = 1 and >5 visits = 2). Practice of IFA tablet consumption carried 5 marks (0-49 = 1, 51-99 = 2, 100-149 = 3, 150-200 = 4, >200 = 5). Those who scored 70% and above were considered as practicing good and those who scored below 70% were considered poor practices with regard to ANC.

Demographic characteristics namely age, parity, type of family, education and occupation, and socioeconomic status (SES) were selected for studying association with knowledge and practices regarding

ANC. For the ease of study, age is categorized into two categories namely age <25 years and ≥25 years. Family was divided into two categories namely joint family and nuclear family. Education was categorized divided into those illiterate, primary, middle, high school and above, occupation of respondent is divided in two categories housewife and working women.

The data was analysed using statistical software SPSS trial version 26.0.

## II. RESULTS:

In our study out of total 80 participants, majority 52 (65%) were less than 25 years of age, and 28 (35%) were more than equal to 25 years of age. It was observed that 28 (35%) have not attended any formal schooling, 20 (25%) were educated up to primary class, 12 (15%) were educated up to middle class, 16 (20%) were educated up to high school and above. 77 (96.3%) were observed to be homemaker, 03 (03.8%) were working women as regards their occupation. 03 (3.75%) belonged to upper class, 06 (7.5%) belonged to upper middle class, 10 (12.5%) belonged to middle class, 17 (21.25%) belongs to lower middle class and, majority 44 (55.6%) belonged to lower class.

Out of 80 study participants (57.5%) of pregnant women who have inadequate knowledge, and about one-third of study participant have poorly practice ANC care. Tables 1 and 2 summarize the association of knowledge regarding ANC with sociodemographic factors. Tables 3 and 4 summarize the association of practices regarding ANC with sociodemographic factors.

Table 1:

Socio-demographic variables	Knowledge		p value of $\chi^2$
	Adequate	Inadequate	
<b>Respondent Age</b>	%	%	
<25	45.0	55.0	0.093
25-29	40.0	60.0	
≥30	40.0	60.0	
<b>Age at Marriage</b>			
18-20	50.0	50.0	0.600
21-24	36.7	63.3	
≥25	41.7	58.3	
<b>Age of respondent at first birth</b>			
<25 Year	55.80	44.20	0.067
≥25 Year	60.70	39.30	
<b>Education of the respondents</b>			
Illiterate	39.3	60.7	0.826



Primary	50.0	50.0	
Middle	36.8	63.2	
High School and higher education	46.2	53.8	
<b>Education of Husband</b>			
Illiterate	45.2	54.8	0.053
Primary	34.6	65.4	
Middle and above	55.0	45.0	
<b>Family Income</b>			
Upper class	96.5	3.75	0.048*
Upper middle class	92.5	7.5	
Middle class	87.5	12.5	
Lower middle class	78.75	21.25	
Lower	44.4	55.6	
<b>Occupation of Respondents</b>			
Housewife	42.9	57.1	0.743
Working women	33.3	66.7	
<b>Husband's Occupation</b>			
Farmer	38.9	61.1	0.339
Labour	64.3	35.7	
Pvt. Job	35.3	64.7	
Govt. Job	38.5	61.5	
<b>Parity</b>			
0	48.7	51.3	0.086
1	40.0	60.0	
2	33.3	66.7	
3	20.0	80.0	
<b>Total</b>	42.5	57.5	

Table :2

Socio-demographic variables	Knowledge		OR (95% CI) P value
	Adequate	Inadequate	
<b>Taken IFA</b>			
Yes	20(57.4%)	20(42.6%)	<b>1.429</b>
No	14(58.3%)	16(42.5%)	<b>0.443-2.940</b> <b>0.783</b>

Table :3

Socio-demographic variables	Practice		p value of $\chi^2$
	Good	Poor	
<b>Respondent Age</b>	%	%	
<25	37.5	62.5	0.089
25-29	60.0	40.0	
>=30	40.0	60.0	
<b>Age at Marriage</b>			
18-20	57.7	42.3	0.081
21-24	33.3	66.7	
>=25	45.8	54.2	
<b>Age of respondent at first birth</b>			
>=25 Year	46.4	53.6	<b>0.036*</b>



<25 Year	44.2	55.8	
<b>Education of the respondents</b>			
Illiterate	50.0	50.0	<b>0.016*</b>
Primary	15.0	85.0	
Middle	57.9	42.1	
High School and higher education	61.5	38.5	
<b>Education of Husband</b>			
Illiterate	41.9	58.1	0.610
Primary	46.2	53.8	
Middle and above	54.5	45.5	
<b>Family Income</b>			
Upper class	96.25	3.75	<b>0.048*</b>
Upper middle class	92.5	7.5	
Middle class	87.5	12.5	
Lower middle class	78.75	21.25	
Lower	44.4	55.6	
<b>Occupation of Respondents</b>			
Housewife	45.5	54.5	0.067
Working women	33.3	66.7	
<b>Husband's Occupation</b>			
Former	47.2	52.8	0.798
Labour	35.7	64.3	
Pvt. Job	52.9	47.1	
	38.5	61.5	
Govt. Job			
<b>Parity</b>			
0	43.6	56.4	0.070
1	53.3	46.7	
2-3	27.2	72.7	
<b>Total</b>	45.0	55.0	

Table :4

Socio-demographic variables	Practice		OR (95% CI) P value
	Good	Poor	
<b>Education of the respondents</b>			
Illiterate	14(50.0%)	14(50.0%)	<b>1.364</b> <b>(0.542 – 3.431)</b> <b>0.510</b>
Literate	22(42.3%)	30(57.7%)	
<b>ANC Visit</b>			
Yes	22(56.4%)	17(43.6%)	<b>2.496</b> <b>(1.011-6.165)</b> <b>0.0474</b>
No	14(34.1%)	27(65.9%)	
<b>Religion</b>			
Hindu	24(68.3%)	14(31.7%)	<b>4.464</b> <b>1.751-11.383</b> <b>0.002</b>
Non Hindu	12(32.82%)	30(68.18%)	
<b>Taken IFA</b>			
Yes	27(60.3%)	11(39.7%)	<b>9.000</b> <b>3.254-24.88</b>
No	09(50%)	33(75%)	



			<0.0001
<b>Age of respondent at first birth</b>			
>=25 Year	19(46.4%)	21(53.6%)	<b>1.106</b> <b>(0.459 – 2.664)</b> <b>0.823</b>
<25 Year	18(44.2%)	22(55.8%)	

There was significant association between knowledge and socioeconomic status of respondent (P = 0.048), and intake of iron folic acid during pregnancy (P = 0.014 OR = 1.529). There was no significant relation found with age and overall Knowledge about ANC. (P = 0.093). It is clearly evident that knowledge is not significantly associated with increasing parity (Chi-square, P = 0.086).

Although all groups were having knowledge about ANC care but it was associated more closely with those women who were educated up to primary standard (50%).

Although the adequate knowledge women were distributed among both employed and unemployed women, but it was more associated with

unemployed women. It means that housewives were more knowledgeable (Chi-square, P = 0.074 ).

With regard to practice; women from high socioeconomic class were doing better practice with regards to antenatal care. Overall, women with the higher socioeconomic class were practicing better (P 0.048).

There was significant association with between practice and ANC visits ( P 0.047, OR 2.496), with religion (P 0.002, OR 4.464) and intake of iron folic acid (P 0.001, OR 9.000).

Table 5 shows association between level of knowledge and practice. There was a significant association between knowledge of ANC and practice. Those who had adequate knowledge about ANC care they had adopted good practice (P 0.000; OR 8.838).

Table :5

Variables	Practice		p value of $\chi^2$	OR (95% CI) P value
	Good	Poor		
<b>Knowledge</b>				
Adequate	25(69.4%)	9(20.5%)	<b>0.000*</b>	<b>8.838</b> <b>(3.189 – 24.499)</b> <b>&lt;0.0001</b>
Inadequate	11(30.6%)	35(79.5%)		

### III. DISCUSSION:

**In present study there was significant association between knowledge of ANC and practice. Those who had adequate knowledge about ANC they had adopted good practice (Chi-square value 19.466 ; OR 8.838).** When it is compared to study done by by Patel et.al; 2021<sup>16</sup> on knowledge and practices of antenatal care among pregnant women attending antenatal clinic at Tertiary Care Hospital Pune, Maharashtra there was significant association between knowledge of ANC and practice, those who had adequate knowledge about ANC they had adopted good practice (Chi square 56.48; OR 5.72) similar to our study.

**In the present study 42.5% of total respondent had adequate knowledge about antenatal care, rest 57.5% do not have adequate knowledge in association to various socio demographic factors.** However in study conducted by Bej P et.al; regarding knowledge, attitude and practice (KAP) score about antenatal care. Among 54 pregnant females were studied about KAP

during antenatal care check-up in a tertiary care hospital. The study concluded that the study detected knowledge score of 17%, practice score of 62% and attitude score of 93% in pregnant female attending antenatal check-up clinic insignificant association in qualification and practices.

**In the present study 45% of total respondent have good practice of antenatal care, rest 55% do not have good practice of antenatal care in association to various socio demographic factors.** In other cross sectional study conducted by Tabassam F et.al; assessed the current Knowledge, Attitude and Practices of women belonging to reproductive age group of tehsil Hajira regarding antenatal care. Most of the rural women had good knowledge about ANC (70%) others had bad knowledge (30%), while the urban had knowledge (80%). Practice of rural women towards ANC was very low (38.43%) similar to our study.





#### IV. CONCLUSION AND RECOMMENDATION:

The present study concluded that there is still higher proportion of (57.5%) of pregnant women who have inadequate knowledge, and about one-third of study participant have poorly practice ANC care. In our study about (61.3%) respondents understands that antenatal care is recommended by medical and nursing staff and (21.3%) understands that antenatal care is for benefit of both mother and child, (17.5%) understands that it prevents health problems. 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 which needs to be addressed. To maintain or improve the health status of the woman to the optimum till delivery by judicious advice regarding diet, drugs and hygiene. Specific intervention program need to be planned and conducted to improve their maternal health practices and eventually improve the health status.

#### Acknowledgment:

We would like to thank and acknowledge the faculty of Department of Community Medicine HIMS Barabanki for their support throughout the study.

#### REFERENCES:

- [1]. Pallikadavth S, Foss M, Stones RW. ANC: Provision and inequality in rural North India. *SocSci Med* 2004;59:1147-58.
- [2]. Yohannes B, Tarekegn M, Paulos W. Mothers' utilization of antenatal care and their satisfaction with delivery services in selected public health facilities of Wolaita zone, Southern Ethiopia. *IntJScienTechnol Res* 2013;2(2):74-85.
- [3]. Rejoice RR, Ravishankar AK. Differentials in maternal health care service utilization: Comparative study between Tamil Nadu and Karnataka. *World ApplSci J* 2011;14:166-9.
- [4]. Fagbamigbe AF, Idemudia ES. Barriers to ANC use in Nigeria: evidences from non-users and implications for maternal health programming. *BMC Pregnancy Childbirth* 2015;15(1):95.
- [5]. Udayar S, Parveen M. Study of awareness and utilization pattern of ANC services among tribal women of the reproductive age group in Kodagu district, Karnataka. *Int J Med Sci Public Health* 2020;9(1):1-6.
- [6]. Hamal M, Dieleman M, De Brouwere V, de Cock Buning T. Social determinants of maternal health: A scoping review of factors influencing maternal mortality and maternal health service use in India. *Public Health Rev* 2020;41:1-24.
- [7]. Kaliyaperumal K. Guideline for conducting a knowledge, attitude and practice (KAP) study. *Community Ophthalmol* 2004;4:7-9.