

## FACILITATORS AND BARRIERS TO UTILISATION OF ANTENATAL CARE SERVICES BY ANTENATAL MOTHERS IN RURAL FIELD PRACTICE AREA OF A TERTIARY CARE TEACHING HOSPITAL IN NORTHEAST, INDIA: A CROSS-SECTIONAL STUDY

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### ABSTRACT

**Background:** The objective is to assess the perception of the antenatal mothers attending RHTC, Pakyong, regarding their antenatal visits. To identify the facilitators and barriers to seeking antenatal care as perceived by the antenatal mothers. **Materials and Methods:** A cross-sectional type of study was done in the field practice area of RHTC, Pakyong, with 36 participants who were registered antenatal mothers who came for antenatal checkups. A standardised questionnaire of the World Bank and the District Health Survey Questionnaire was used. A p-value of less than 0.05 was used for analysis. Majority of the participants were Hindu (61.11%), OBC (58.33%). Long distance and road condition, and not a good facility, attitude of the staff and the quality of the ANC service given by the staff were also barriers to seeking ANC service in primary health care. **Conclusion:** Most of the participants went to the PHC for preventive purposes; only a small number of participants went there to receive simple medical care. Numerous barriers have been identified; the poor quality, attitude of the staff and a poor facility due to a shortage of equipment and experts.

## INTRODUCTION

Maternal health is the health of women during pregnancy, childbirth and the post-natal period. Globally, only 64% of women receive antenatal care four or more times throughout their pregnancy.<sup>[1]</sup> According to the National Family Health Survey (NFHS-5), the coverage of four or more antenatal care (ANC) visits is reported to be 58.1% in India, and in Sikkim, it is 58.4%.<sup>[2]</sup> Complications in ANC, such as severe bleeding, infections, pre-eclampsia and eclampsia and unsafe abortion, have caused maternal mortality.<sup>[3]</sup> Providing antenatal care (ANC), a vital component of preventive medicine, can reduce the risk of problems through various interventions such as education, counselling, health promotion, and screening and diagnosis.<sup>[4]</sup> In rural areas, it is seen that mothers who have had at least four ANC visits are 54.2% while in urban areas it is 68.1%. The ANC mothers who had an antenatal check-up in the first trimester in rural areas were 67.9% which was lower as compared to the urban 75.5%.<sup>[2]</sup> Late initiation of ANC checkup poses risks as it may delay diagnosis of pregnancy-related complications, such as anaemia and pre-eclampsia, which can negatively affect maternal and fetal well-being.<sup>[5]</sup> Financial and cultural obstacles were cited

by Lincetto et al (2006) in ANC care services.<sup>[6]</sup> Poor economic status and high health service costs were reported as the major barriers to low institutional delivery and delayed ANC services. Long distance to health facilities and poor road conditions were the most frequently reported logistical barriers. Poor quality of treatment, shortage of drugs and equipment, and non-cooperative attitude of health professionals were the most significant barriers.<sup>[7]</sup> In Sikkim, the mothers who had an antenatal check-up in the first trimester and a minimum of four antenatal care visits are more in rural than urban areas.<sup>[2]</sup> This can be due to a high literacy rate among females and awareness given by the health workers in Sikkim, but as per NFHS 5, the East district reported the least four antenatal visit coverage (43.8%). To find out the reason of the low antenatal care coverage in east Sikkim, this study has been planned to assess the perception of antenatal care coverage in East Sikkim, this study has been planned to assess the perception of antenatal visits towards the antenatal mothers and explore the facilitating factors, challenges and the barriers faced by them while availing the antenatal services from the RHTC Pakyong, East Sikkim.

## MATERIALS AND METHODS

**Study Design and Setting:** The study was designed as a cross-sectional type of study, which started from April 2025 to June 2025 at the field practice area of the RHTC, Pakyong. The study population included registered antenatal mothers who came for antenatal check-ups at RHTC, Pakyong, during the study period. Inclusion criteria included registered antenatal mothers between 15 and 49 years of age who agreed to participate in the study after explaining the purpose of the study, and exclusion criteria included ANC mothers of the same age group (15 to 49 years) who refused to participate or could not be interviewed at the time of the visit.

**Sampling Size and Method:** A convenience sampling method was adopted due to the operational feasibility and the continuous inflow of antenatal mothers to the RHTC, Pakyong. The ANC mothers who attended the MCH centre of RHTC, Pakyong, who met the inclusion criteria during the study period were included. In total, 36 ANC mothers were included in this study.

**Steps of Data Collection and Analysis:** A standardised questionnaire of the World Bank and the District Health Survey Questionnaire were used to conduct face-to-face interviews. After the initial introduction of the study, the aim of the study was explained to the participants. At the end of each session, information about the use of ANC services and their impact on maternal and newborn health was imparted to the participants. All the data were entered in Microsoft Excel with appropriate code based on the questionnaires. Descriptive analysis was done to

find the mean and proportion for the basic information of the participants. Pearson's Correlation coefficient was used to determine the relationship between the variables, the R value was used to quantify the correlation and the corresponding p-value of less than 0.05 % was considered statistically significant.

**Ethical approval:** The study was approved by the SMIMS Institution Ethical Committee on 23-04-2025.

## RESULTS

A total of 36 antenatal mothers participated in this study, and their socio-demographic characteristics are described in Table 1. The majority of the participants belonged to the OBC category, 58.33% and it was followed by ST, 22.22%, General, 16.67% and SC, 2.78%. This estimated that most of the participants who came to RHTC Pakyong were OBC and ST mothers. Of 36 ANC mothers, 20 (55.56%) have received above higher secondary education, indicating that literacy rates among ANC mothers in that study area are good. The majority of the ANC mothers were Hindu (61.11%), and the minority participants were Muslims (5.56%). The majority of the participants were homemakers, 58.33% followed by 27.78% of skilled workers, and only one ANC mother (2.78%) was in a professional occupation. 50% of the respondents belonged to the upper-class family, followed by the middle class (30.6%), and only one participant belonged to the lower-class family.

**Table 1: Frequency distribution of Socio-Demographic Characteristics of Study Participants (n=36)**

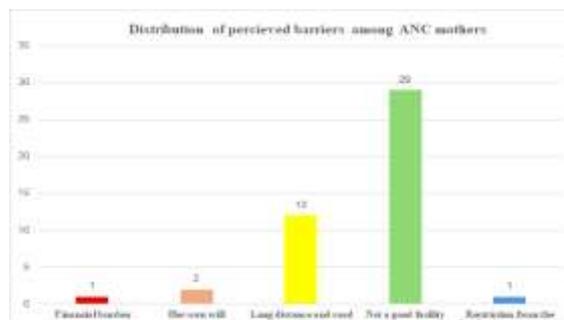
Caste	Frequency(n=36)	%
OBC	21	58.33%
ST	8	22.22%
General	6	16.67%
SC	1	2.78%
Education	Frequency(n=36)	%
Above higher secondary	20	55.56%
Higher secondary	2	5.56%
Secondary	5	13.89%
Middle school	2	5.56%
Primary	7	19.44%
Religion	Frequency(n=36)	%
Hindu	22	61.11%
Buddhist	12	33.33%
Muslim	2	5.56%
Occupation	Frequency(n=36)	%
Homemaker	21	58.33%
Skilled	10	27.78%
semiskilled	4	11.11%
Professional occupation	1	2.78%
Socio economic status	Frequency(n=36)	%
Upper Class	18	50%
Upper Middle Class	2	5.6%
Middle class	11	30.6%
Lower Middle Class	4	11.1%
Lower Class	1	2.7%

**Table 2: Distribution of ANC mothers according to plan for delivery at PHC, Pakyong.**

Plan to have delivery	Frequency(n=36)	%
Yes	7	19.44%
No	29	80.56%

Table 2 explains that 80.56% ANC mothers who participated in this study were not willing to deliver at PHC owing to poor infrastructure, while 19.44% reported their willingness to deliver at this PHC despite perceived inadequacies in facility infrastructure. However, 100% of the participants planned to have institutional delivery. Figure 1 explains that the most commonly perceived barrier among the ANC mothers was poor facility-related factors, reported by 29 participants (80.56%), and this was followed by the long distance and poor road conditions (33.3%). Two participants (5.56%) did not visit the MCH centre of RHTC Pakyong due to their own personal decision (personal unwillingness), one participant (2.78%) reported that the financial burden was the reason why she did not visit the MCH Centre

and also one participant did not come because of the restriction from the family.

**Figure 1: Bar diagram showing the distribution of perceived barriers among ANC mothers.****Table 3: Possible structural behaviour to use of ANC service use in PHC, Pakyong.**

Sl no.	Barriers	Frequency	%
1	Attitude of the staff-Poor	23	63.9%
2	Quality of the ANC service given by the staff -Poor	32	88.9%
3	Understanding level what the health workers counsels		
	-very poor	1	2.8%
	-poor	12	33.3%
4	Privacy- Inadequate	13	36.1%
5	Toilet		
	Not clean	23	63.9%
	Somewhat clean	11	30.6%
6	Communication skill of the staff		
	-unsatisfactory	32	88.9%
7	There were long waiting times	6	16.7%

[Table 3] explains the structural and behavioural factors influencing the utilisation of antenatal care (ANC) services. A long waiting time was identified by 6 participants (16.7%). The attitude of the staff was rated as poor by 23 participants. Even the quality of the ANC services provided by the staff was perceived as poor by 88.9% of ANC mothers. Regarding the understanding of counselling provided by health workers, only one ANC mother (2.8%) reported a very poor understanding, while 12

participants (33%) reported a poor level of understanding. Privacy while giving the ANC service was rated as inadequate by 36.1% participants. Poor sanitation was identified by 63.9% of mothers, whereas 30.6% participants reported the toilet of the centre as somewhat clean, and also the communication skill of the staff was rated as unsatisfactory by the majority of the ANC mothers (88.9%).

**Table 4: Association between different types of ANC service barriers and barriers perceived by the ANC mothers.**

Sl no.	Barriers	R value	P value
1	Not a good facility	0.61	<0.01
2	Quality of the ANC service given by the staff	-0.85	<0.01
3	Attitude of the staff	0.4	0.015
4	Her own will	0.07	0.672
5	Long distance road condition	0.21	0.212
6	Long waiting times	0.23	0.184
7	Restriction from the family	0.05	.768
8	The toilets were not clean	-0.8	<0.01
9	Communication skills of the staff	-0.53	0.01
10	Financial burden	0.05	.768
11	Privacy concern	-0.23	.184
12	Understanding level what the health workers counsel	0.22	0.202
13	Education level of the ANC mothers	-0.14	.419

[Table 4] explains the association between the different types of ANC service barriers and perceived

barriers to antenatal care utilisation among the ANC mothers. It was found that there was a high positive

correlation between poor facilities at the PHC Pakyong and perceived barriers among the ANC mothers ( $r=0.61$ ), and it was also statistically significant ( $p<0.001$ ), highlighting the inadequate facility conditions that lead to many challenges in utilising the ANC services. The findings also revealed that even the quality of the ANC services provided by the staff showed a strong negative correlation ( $r = -0.85$ ) with a p-value of less than 0.001, indicating that better quality services will reduce the barriers to utilisation of ANC services. Also, the attitude of the health care depicted a

moderate correlation with perceived barriers, highlighting that unfavourable staff behaviour leads to increased perceived barriers among the ANC mothers. A negative correlation was also seen in unclean toilets, which were statistically significant ( $r = -0.80$ ,  $p<0.001$ ), and communication skills of the staff also showed a moderate negative correlation ( $r = -0.50$ ,  $p = 0.001$ ) and whereas no statistically significant association was found between the perceived barriers and willingness of the participant, long distance and road condition, long waiting time, financial burden and education level of the mother.

**Table 5: Possible Facilitators to use of antenatal care service in PHC, Pakyong**

Sl no.	Facilitators	Frequency	%
1	Free services a) Laboratory tests b) Distribution of IFA, Calcium and albendazole c) Td vaccines d) BP measurement e) Weight measurement	36	100%
2	Convenient hours Yes	36	100%
3	ANC registration	36	100%
4	Family supports Yes No	35 1	97.2% 2.78%

The findings in [Table 5] indicate that the possible facilitators for utilisation of ANC services in PHC, Pakyong, like laboratory test, which comprised complete blood count, blood group and Rh typing, blood sugar testing, urine examination, VDRL screening, were utilised by all the participants (100%) in the study. Similarly, the availability and distribution of iron folic acid tablets, calcium and albendazole tablets, BP measurement, weight measurement and also Td vaccination were the major facilitators to use ANC services among the participants. In addition, convenient working hours and ANC registration were also the major facilitators. The majority of the participants (97.2%) reported that family support was also one of the key reasons as a facilitating factor, while only one participant reported a lack of family support.

## DISCUSSION

The present study identified the facilitators and barriers influencing utilisation of antenatal care services among ANC mothers attending the MCH centre of PHC, Pakyong. The findings revealed that the health facility played a big role in influencing the attitude of ANC care services among the mothers. In our study, several types of ANC barriers were investigated, including long distances and road conditions, restrictions from the family, poor maintenance of the toilet, quality of the care, understanding level, attitude of the staff, privacy concerns, and communication skills of the staff. Across all the barriers, the quality of the care by the staff, poor maintenance of the toilet, communication between the staff and the ANC mothers, and the poor

facility were found to be statistically significant. The participants also reported a few facilitators that may be effective in helping them use of ANC services. The facilitators extend from the use of services like the laboratory test, distribution of IFA and calcium tablets, and free registration of ANCs, BP and weight measurement, support given by the family and convenient hours of the PHC. Similarly, in a study done by Dr P S S Sundar Rao, et al in Meghalaya, the barriers were bad road conditions, uncomfortable delivery in the institution, availability of traditional birth and quackery, and financial burden, while BP measurement, weight, Hb, Td, calcium, urine and HIV testing were the utilisation factors among the mothers to use ANC services in Meghalaya state.<sup>[8]</sup> Although 80.56% mothers reported unwillingness to deliver at PHC, Pakyong due to the poor infrastructure in our study, all the participants planned to have an institutional delivery, but in the study done by Sarkar A, et. al in rural Meghalaya, around 70 %-80% of deliveries took place at home because of financial burden, unawareness about the government scheme like Janani Suraksha Yojana (JSY), Janani Sishu Suraksha Karyakram (JSSK), or Meghalaya Maternity Benefit Scheme (MMBS), poor road conditions, unavailability of transport system and distant hospitals were one the main reason for not opting ANC services in hospitals.<sup>[9]</sup> But in this study, long distance and road conditions, education status of the mothers, financial burden, family restrictions and personal unwillingness were insignificant. This may be due to the smaller sample size.

In our study, a strong negative association was found between the perceived barriers and the quality of

ANC services provided by the staff, suggesting that better service quality decreased the perceived barriers to seeking ANC care. Similarly, negative hygiene at the PHC and the communication skills of the staff also reduced the utilisation of the ANC services among the participants attending the PHC centre. This shows that respectful communication and counselling, clean washrooms, and privacy concerns for the ANC mothers are the important factors in determining maternal satisfaction and further access to ANC services.

**Strengths and Limitations:** The present study gives insight into both the facilitators and barriers influencing the utilization of the ANC services among the ANC mothers in East Sikkim. The use of a semi-structured questionnaire made it possible to evaluate a range of personal and health-related factors. It helps in the identification of modifiable variables of ANC utilisation. But this study has certain limitations. Since the study was done in PHC, the findings could not be generalizable to the whole community. The sample size was small; if there was a bigger sample size, more findings and facilitators to use of ANC service could come up, and it was limited to the participants who came to the ANC day at PHC, Pakyong. Additionally, the causal relationship could not be established in cross cross-sectional study.

## CONCLUSION

The present study highlights that most of the participants went to the PHC for preventive purposes; only a smaller number of participants went there to receive simple medical care. Numerous obstacles were identified, including poor infrastructure, poor quality, negative attitude of the staff, and poor communication skills were the major perceived barriers. The majority of the ANC mothers expressed unwillingness to deliver at this PHC due to the poor infrastructure and shortage of experts, but all of the

ANC mothers planned for institutional delivery. This gives an important highlight that all the mothers have good awareness regarding safe motherhood practices. Good infrastructure, respectful communication, and a good attitude of the staff may decrease the perceived barriers and increase the utilization of antenatal care services.

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