Chettinad Health City Medical Journal
Volume 14, Issue 1 - 2025, Pg. No. 25-34
Peer Reviewed & Open Access Journal

Research Article

Factors Influencing the Utilisation of Antenatal Care Services in a Selected Hospital of Kashmir, India

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DOI: https://doi.org/10.24321/2278.2044.202505

I N F O

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How to cite this article:
Amin S, Chhugani M, Thokchom S. Factors Influencing the Utilisation of Antenatal Care Services in a Selected Hospital of Kashmir, India. Chettinad Health City Med J. 2025;14(1):25-34.

Date of Submission: 2024-09-20
Date of Acceptance: 2025-02-22

A B S T R A C T

Introduction: The majority of mothers in India lack basic knowledge of antenatal care. They are prone to catastrophic effects because of their illiteracy, poverty, lack of communication, and lack of transportation options.

Aim: The aim of this study was to assess the factors influencing the utilisation of antenatal care services among antenatal mothers and develop advocacy guidelines for policymakers.Methodology:The data was collected from 100 antenatal mothersby structured interview schedule and sampling technique used was purposive sampling . Descriptive statistics was used.

Results: The data revealed that majority of antenatal mothers (75%) had average utilisationof ANC services. The data also revealed that the most common factors that affect the utilisation of ANC services among antenatal mothers in a selected hospitalin Kashmir include awareness of ANC services (28%), media exposure (31%), and accessibility (40%).. It was also found that there was a significant relationship between income and occupation of antenatal mothers with utilisation of ANC services

Conclusion: Based on the findings of the study, Advocacy guidelines for policymakers were developed to improve utilisation of ANC services. The results of this study could be used to plan and create strategies for the use of ANC by antenatal mothers.

Keywords: Antenatal Mothers, ANC Services, Utilisation, Factors, Policymakers, Advocacy Guidelines

Introduction

For the mother's health and the growth of the unborn child, pregnancy care is crucial. A vital period to encourage positive behaviours and parenting skills is during pregnancy. A good ANC establishes a connection between the woman and her family and the formal healthcare system, raises the likelihood that they will use a trained birth attendant, and promotes overall health. Poor care during this period affects both women and babies by rupturing a crucial link in the continuum of care.[1]

An important component of universal health coverage and a significant factor in preventing maternal mortality is timely, high-quality antenatal care (ANC).[2]

The national birth rate in 2018 was 20, according to the Sample Registration System (SRS), which will be released on May 11th, 2020. In 1971, it was 36.9. The overall death rate in India has decreased from 7.3 to 6.2 over the past ten years. In rural areas, the decline is 7.8 to 6.7, while in urban areas, it is 5.8 to 5.1. The infant mortality rate is at 32. Compared to 1971, it is around one-fourth lower (129).[3]

Maternal mortality rates serve as a proxy for women's reproductive health in a given area. The majority of deaths among women in the reproductive age range are caused by, connected to, or occurring during pregnancy, childbirth, or abortion. As per the World Health Organization, "Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes". One of the most crucial indicators of maternal health is the Maternal Mortality Ratio (MMR), which is calculated as the number of maternal deaths per 100,000 live births within a given time period. The Sustainable Development Goals (SDG) target set by the UN is to reduce maternal mortality rates worldwide to 70 deaths per 100,000 live births or lower.[4]

There is evidence that socio-demographic, reproductive, and obstetric factors, as well as previous utilization of ANC services are associated with low ANC utilisation. However, in order to determine the most essential hurdles and facilitators to ANC uptake, these aspects must be evaluated methodically within a single study. The Anderson and Newman Behavioural Model (ANBM) for healthcare service use (Figure 1) provides a framework for systematically finding factors that impact human decisions to use readily available healthcare services. The ANBM defines predisposing factors as the individual's socio-cultural characteristics that existed beforetheir health problem, enabling components as the means or logistics required to obtain the treatments, and need factors as the most pressing cause(Anderson and Newman, 2017)[5]

Therefore, there was a need to conduct a research study on this subject to determine the factors affecting how ANC services are used. So, the goal of this research study was to evaluate the variables influencing pregnant women's use of ANC. The results of this study could be used to plan and create strategies for the use of ANC by expectant women.

Aim

The aim of this research was to evaluate the factors that impact the utilisation of antenatal care services among antenatal mothers and create advocacy guidelines for policymakers.

Methodology

The study used a descriptive research design in which the data was collected using a structured interview schedule and was analysed using descriptive statistics. The statistical tool used for analysis was SPSS software.The sample of the present study included 100 antenatal mothers (n = 100) from the selected hospital in Kashmir.The study was conducted from 29th December 2022 to 15 January 2023 at the Maternity and Child Care Hospital at Anantnag, Kashmir.The study included only expectant mothers in a particular hospital and mothers who were present during data collection period.The purposive sampling technique was used.

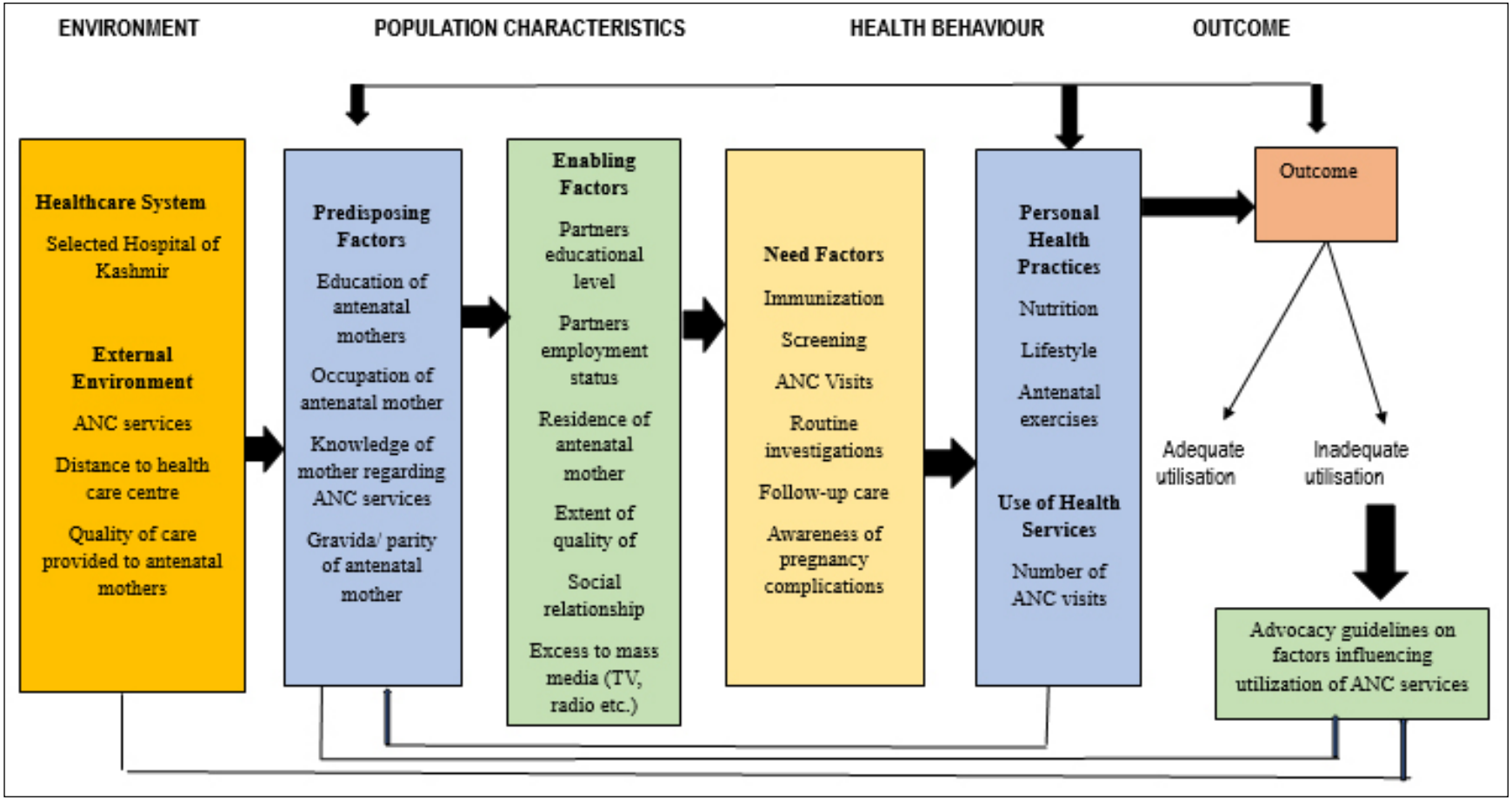
The tools were administered through a structured interview schedule and consisted of three parts, namely demographic profile of antenatal mothers, utilisation of ANC services by antenatal mothers and factors influencing the utilisation of ANC services among antenatal mothers. Content validity of the structured interview schedule was obtained in December 2022 by submitting it to 9 experts from the fields of nursing, obstetrics, and gynaecology. The reliability of the structured interview schedule was worked out by using the KR 20 formula and was found to be 0.98 and the reliability of the structured checklist was calculated using Cronbach's alpha and was found to be 0.85 which was highly reliable for the study.

Ethical Consideration

The Institutional Ethics Committee (IEC) at Jamia Hamdard in New Delhi granted clearance for the study to proceed on ethical grounds. The Maternity and Child Care Hospital in Anantnag, Kashmir, officially approved the pilot and final studies. Each participant in the study gave their signed, informed consent. Participants received guarantees that the data they gave would be kept private and confidential at all times throughout the study. Also, participant names were coded to preserve their privacy. The subjects had complete liberty over their participation in the study and could opt out at any time.

ISSN: 2278-2044
DOI: https://doi.org/10.24321/2278.2044.202505

Figure 1.Conceptual Framework based on Anderson and Newman Health Behavioural Model (Based on ANBM, 2017)



(Anderson and Newman, 2017)[5]

ISSN: 2278-2044
DOI: https://doi.org/10.24321/2278.2044.202505

Results

Data was analysed by using descriptive and inferential statistics. The study variables consisted of 62 questions. The demographic profile of antenatal mothers, which consisted of 12 items (age, religion, marital status, residence, educational status, income, occupation, parity, type of family, transport facility, husband's educational status and distance to healthcare facility), has been shown in Table 1. The analysis of the data regarding the utilisation of ANC services by antenatal mothers has been shown in Table 2. It consisted of 17 items. The interviewer put a tick mark (√) on the most appropriate answer. The correct option (yes) was given 1 mark and the incorrect answer (no) was given 0 mark. There was no scoring for multiple-choice questions and items were analysed individually. A structured checklist was prepared which consisted of 7 factors and each factor was sub-divided into further items. There were a total of 33 items. Each item had two options yes or no. The scoring criteria for the structured checklist were as follows: A score of one (1) was awarded to those antenatal mothers whose answer was "yes". A score of zero (0) was awarded to those antenatal mothers whose answer was "no".

Demographic Characteristics

A total of 100 antenatal mothers participated in the study. Out of 100 samples, the majority (71 %) of the antenatal mothers fell within the age range of 25 to 34 years. The majority (97%) of the subjects were Muslim. All (100%) mothers were married. The majority (78%) of the subjects were from rural areas. Regarding educational qualification, the majority (52%) of antenatal mothers were educated up to the primary level. Most (46%) of the subjects had a monthly income of INR 10001–20000, a majority (82%) of the antenatal mothers were housewives, and most (45%) women had delivered one time. The majority (61%) of antenatal mothers belonged to joint families and 85% of women used public transport. Regarding the husband's educational status, it was seen that the majority (63%) had completed the secondary education category. The majority (68%) of mothers lived in ≥ 3.5 km from the health care facility. The demographic characteristics of antenatal mothers are depicted in Table 1.

Table 1.Frequency and Percentage Distribution of Antenatal Mothers as per Their Demographic Characteristics

N = 100

Sample Characteristics	Frequency/ Percentage
Age (in years)	
15–24	14
25–34	71
35–44	15
≥ 45	0
Religion	
Hindu	3
Muslim	97
Christian	0
Others	0
Marital status	
Married	100
Unmarried	0
Divorced	0
Others	0
Residence	
Urban	11
Rural	78
Semi-urban	4
Semi-rural	5
Hilly areas	2
Educational status	
No formal education/ illiterate	9
Primary school	52
Secondary school	32
Graduation and above	7
Income per month (in INR)	
≤ 10,000	32
10001–20,000	46
20001–30,000	15
> 30,000	7
Occupation	
Housewife	82
Private job	7
Business	5
Others	6
Parity	
Not yet delivered	14
Delivered one time	45
Delivered two times	33
Delivered more than 2 times	8
Type of family	
Nuclear family	36
Joint family	61
Extended family	3
Transport Facility	
Public	85
Private	15

ISSN: 2278-2044
DOI: https://doi.org/10.24321/2278.2044.202505

Husband's educational status	
Illiterate	2
Primary education	18
Secondary education	63
Graduation and above	17
Distance of the health facility (km)	
< 1km	1
1- 2 km	8
2 – 3 km	23
> 3km	68

Utilisation of ANC Services by Antenatal Mothers

Table 2 shows that most of the participants were in the average score category (6–10). The mean value of scores was 8.93, the median value was 9 and the standard deviation was 2.35. The data in Table 3 reveals that the majority of antenatal mothers (75%) had average utilisation of ANC services, followed by 22% of women who showed good utilisation of ANC services and 3% of women who utilised ANC services poorly. The data in Table 4 shows that out of 100 samples, the majority of the antenatal mothers (86%) had registered in antenatal clinics. Out of 86 samples, 78 (90.7%) have done their registration in the first trimester. Regarding the help of ANC services, the majority (79%) got help from ASHA workers. Regarding ANC visits, most (54%) antenatal mothers visited the clinic on appointment days. Among all participants, 71% had consumed IFA tablets. Out of 71 mothers, 43 (61%) took the tablet once a day, Findings also suggest that the majority of antenatal mothers (89%) had received TT doses. Out of 89 mothers, 82 (92%) had taken two TT doses. With regards to calcium tablets, 77% had consumed them. Out of 77 mothers, 53 (69%) had taken calcium tablets once a day. Regarding information on family planning, only 48% got advice on family planning methods. Out of 48, 26 (54%) got information from doctors. With regards to the financial assistance scheme provided by the government, the majority (82%) of antenatal mothers were aware of it. Out of 82 mothers, 57 (69.5%) got information about JSY (Tables 2–4).

Table 2.Possible Range of Scores, Range of Obtained Scores of the Utilisation of ANC Services, Its Mean, Median, and Standard Deviation among Antenatal Mothers

N = 100

Possible Range of Scores	Range of Obtained Scores	Mean	Median	Standard Deviation
Good (11–15) ≥ 70%	13–15	-	-	-
Average (6–10) > 33–66%	6–10	8.93	9	2.35
Poor (0–5) ≤ 33%	0–5	-	-	-

Table 3.Frequency and Percentage of Antenatal Mothers by Utilisation of ANC Services

N = 100

Utilisation of ANC Services	Range of Score	Frequency	Percentage
Good	11–15	22	22
Average	6–10	75	75
Poor	0–5	3	3

Table 4.Frequency and Percentage of Antenatal Mothers by Their Utilisation of ANC Services

N = 100

Item	Frequency	Percentage
Registration in ANC clinic		
Yes	86	86.0
No	14	14.0
Month of registration in ANC clinic	N = 86	
First trimester	78	90.7
Second trimester	8	9.3
Third trimester	0	0.0

ISSN: 2278-2044
DOI: https://doi.org/10.24321/2278.2044.202505

Help regarding ANC services		
Self only	13	13.0
ASHA worker	79	79.0
Friend	0	0.0
Family	8	8.0
Visit to ANC clinic		
Appointment days	54	54.0
When I have complaints	46	46.0
I don't go at all	0	0.0
IFA tablets consumed		
Yes	71	71.0
No	29	29.0
Frequency of IFA tablets	N= 71	
Once a day	43	61.0
Twice a day	22	31.0
Thrice a day	6	8.0
Never	0	0.0
TT doses received		
Yes	89	89.0
No	11	11.0
Frequency of TT doses		
One	8	8.0
Two	92	92.0
Calcium tablets consumed		
Yes	77	77.0
No	23	23.0
Frequency of calcium tablets	N = 77	
Once a day	53	69.0
Twice a day	24	31.0
Thrice a day	0	0.0
Never	0	0.0
Information on family planning methods		
Yes	48	48.0
No	52	52.0
Information given by	N = 48	
Doctor	26	54.0
Nurse	0	0.0
ASHA worker	22	46.0
If any specify	0	0.0
Information about financial assistance from the government		
Yes	82	82.0
No	18	18.0

ISSN: 2278-2044
DOI: https://doi.org/10.24321/2278.2044.202505

Information given about	N = 82	
JSY	57	69.5.0
JSSK	25	30.5.0
PMMVY	0	0.0
Others	0	0.0

ASHA: Accredited Social Health Activist
IFA: Iron and Folic Acid
T.T: Tetanus Toxoid
JSY: Janani Suraksha Yojana
JSSK: Janani Shishu Suraksha Karyakram
PMMVY: Pradhan Mantri Matru Vandana Yojana

Factors Influencing the Utilisation of ANC Services among Antenatal Mothers

The data reveals the frequency of factors influencing the utilisation of ANC services among antenatal mothers. Out of the 100 antenatal mothers, ANC services were more accessible to 40% of women. The majority (94%) of the ANC services were affordable. The data also revealed that 90% of mothers got good family support and 10% of women got poor family support while getting ANC services. The majority (72%) of antenatal mothers were unaware of the ANC services. Most of the women had poor media exposure (69%). The majority of women (93%) had good healthcare facilities and 7% had poor healthcare facilities. Regarding the attitude of healthcare workers, it was seen that 95% had a good attitude. The data also revealed that the most common factors that affected the utilisation of ANC services among antenatal mothers in a selected hospital in Kashmir included awareness of ANC services (28%), media exposure (31%), and accessibility (40%). Other factors include family support (90%), health care facility (93%), affordability (94%), and attitude of health care worker (95%). The data is depicted in Figure 2.

Association of Utilisation of Antenatal Care Services with Selected Demographic Variables

Table 5 shows the computed value of association between the demographic variables and the utilisation of ANC services among antenatal mothers. The Fisher's Exact value for income per month of participants was 12.056, and the obtained p value was 0.004, which was lower than the 0.05 level of significance. This indicates there was a significant relationship between the income of antenatal mothers with their utilisation of ANC services. The data also reveals that there was a significant relationship between the occupation of antenatal mothers with utilisation of ANC services as p = 0.002, which is less than 0.05.

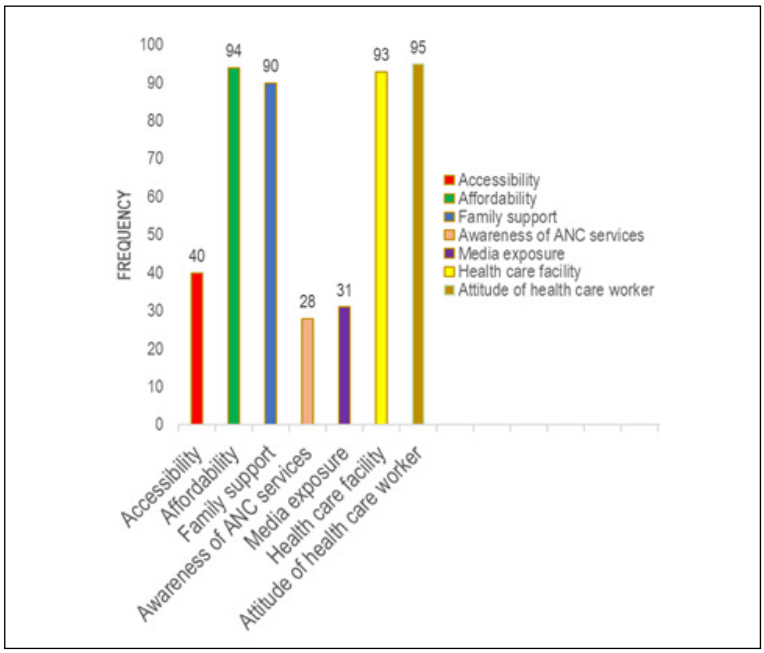


Figure 2.Frequency of Factors Influencing the Utilisation of ANC Services among Antenatal Mothers

ISSN: 2278-2044
DOI: https://doi.org/10.24321/2278.2044.202505

Table 5.Association of Utilisation of Antenatal Care Services with Selected Demographic Variables by p Value Calculated Using Fisher's Exact Test

N = 100

Category	Utilisation		df	Test Value	p Value
	Yes	No			
Age (in years)					
15–24	9	5	2	4.407	0.087
25–34	62	9			
35–44	12	3			
Residence					
Urban	11	0			
Rural	62	16	4	3.312	0.299
Semi-urban	4	0			
Semi-rural	5	0			
Hilly areas	2	0			
Educational status					
Illiterate	5	4	3	6.429	0.068
Primary school	42	10			
Secondary school	29	3			
Graduation and above	7	0			
Income per month (INR)					
≤ 10,000	30	2	3	12.056	0.004*
10001–20,000	40	6			
20001–30,000	10	5			
> 30,000	3	4			
Occupation					
Housewife	73	9	3	13.342	0.002*
Private job	4	3			
Business	4	1			
Others	2	4			
Parity					
Not yet delivered	11	3	3	1.552	0.711
Delivered one time	37	8			
Delivered two times	29	4			
Delivered more than 2 times	6	2			
Type of family					
Nuclear	33	4	2	2.397	0.227
Joint	48	12			
Extended	2	1			
Transport Facility					
Public	70	15	1	0.000	1.000
Private	13	2			
Husband's educational status					
Illiterate	2	0	3	3.117	0.340
Primary education	16	2			
Secondary education	54	9			
Graduationand above	11	5			
Distance ofhealthcarefacility (km)					
≤ 1< 1km	0	1	3	4.416	0.218
1.5–2 1 – 2 km	7	1			
2.5–3 2 – 3 km	18	5			
≥ 3.5 > 3km	58	10			

*Significant at 0.05 level of significance, p < 0.05

ISSN: 2278-2044
DOI: https://doi.org/10.24321/2278.2044.202505

Discussion

The findings of the current study showed that 75% of antenatal mothers used ANC services on average, 22% used them well, and 3% used them poorly. The study findings also showed that the most common factors that affect the utilisation of ANC services include awareness of ANC services, media exposure and accessibility of ANC services.

The study's findings are consistent with a recent study by Onasoga et al.[6] that evaluated the factors impacting the use of antenatal care services and found that the majority of respondents were in the 25–34 age bracket and the majority of mothers had only received a primary education. The results also show that 40% of respondents occasionally attend ANC, whereas 58% of respondents consistently do so. Also, the survey showed that the majority of respondents scheduled ANC in the first trimester.

Another investigation into how often women in urban areas get antenatal care was done by Vadlamani et al.[7] According to the study's findings, 81% of pregnant women registered within the first trimester, 93% underwent three antenatal visits, 95% received at least one TT injection, 66% consumed 100 or more IFA tablets, 56% received financial aid through the Janani Suraksha Yojana (JSY), 95% used Integrated Child Development Services (ICDS) services, and 49% were aware of pregnancy's warning signs.

Similar findings were found in Shibre et al.[8] a study on the variables influencing women's use of antenatal care services. According to the study's findings, having decision-making power (95%), work status, media exposure, maternal education, husband/ partner education status, household economic position, site of residence, and ethnicity all significantly correlated with using competent ANC services. These results imply that the use of ANC by women is affected by a number of socio-demographic and economic factors, as well as media exposure.

A study on the factors affecting the use of antenatal care by Tekelab et al.[9] provides additional support for the current study. According to the study's findings, 63.77% of Ethiopian women used antenatal care services in total. According to a narrative synthesis, antenatal care use was substantially correlated with family wealth, exposure to the media, and service accessibility.

According to the current study, there is a substantial correlation between an expectant mother's work and income and her use of ANC services. Research by Alibhai et al.[10] done in 2022, supports this. According to the study's findings, 76.7% of pregnant women attended prenatal care, while 23.3% did not. The use of antenatal care was statistically significantly correlated ($p < 0.05$) with literacy status, income, gravidity, religion, and occupation. However, there was no statistically significant relationship between prenatal care utilisation and ethnicity, marital status, or parity.

Limitations

The study's sample size was modest, which limited our ability to draw broader generalisations. Activities of healthcare workers could not be observed adequately while performing antenatal assessment due to time factors.

Conclusion

The study concludes that the majority of antenatal mothers had average utilisation of ANC services i.e.,75%, followed by 22% in good utilisation, and 3% in poor utilisation. In this study, it was found that the most common factors that affect the utilisation of ANC services by antenatal mothers include awareness of ANC services, media exposure and accessibility. It was also found that there was a significant relationship between income and occupation of antenatal mothers with utilisation of ANC services at 0.05 level of significance.

Acknowledgements: The authors would like to thank all the study samples who enthusiastically participated in the study and the Medical Superintendent of Maternity and Child Care Hospital, Anantnag, Kashmir for granting permission to conduct the study in their healthcare facility.

Conflict of Interest: None

Source of Funding: None

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process: This research paper was produced with the assistance of generative AI and AI- assisted technologies. These tools were used for tasks such as language refinement, grammar correction, and reference formatting. All intellectual contributions, analysis and conclusions remain the responsibility of the authors.

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ISSN: 2278-2044
DOI: https://doi.org/10.24321/2278.2044.202505