

## Antenatal Mothers' Perspectives on Antenatal Visits: A Comprehensive Exploration of Knowledge, Attitudes, Practices, and Awareness: A Cross Sectional Study

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### Abstract:

**Introduction:** Pregnancy demands meticulous care, with antenatal care playing a pivotal role in maternal and neonatal health. Disparities persist globally in antenatal care utilization, particularly in underdeveloped regions. This study explores antenatal mothers' perspectives in Gujarat, India, within the Southeast Asia Region, aiming to comprehend knowledge, attitudes, practices, and awareness regarding antenatal visits.

**Materials & Methods:** This cross-sectional study was conducted at a tertiary care hospital in Vadodara, Gujarat which included antenatal mothers. Eligible participants aged 18 years and above, provided informed consent, focusing on low-risk pregnancies. A structured, pretested questionnaire covered sociodemographic details and antenatal care inquiries. Ethical considerations ensured participant privacy. Data collection involved convenient purposive sampling.

**Results:** Demographically diverse participants revealed variations in education, occupation, marriage age, and parity. Knowledge assessment identified 43% with poor knowledge, 51% with average knowledge, and 6% with good knowledge. Positive attitudes were prevalent (85%), and good practices were reported by 58.5%. Age distribution analysis showed variations in knowledge, attitudes, and practices across age groups.

**Discussion:** Most participants demonstrated average knowledge, positive attitudes, and good practices. Discrepancies in study results were attributed to socio-economic variations, access to healthcare, educational levels, and cultural influences. Targeted interventions are crucial, especially for those with poor knowledge, emphasizing nuanced approaches to bridge existing gaps.

**Conclusion:** This study provides nuanced insights into antenatal care perspectives, informing policy and healthcare interventions. Addressing knowledge gaps and sustaining positive attitudes are crucial for enhancing antenatal care utilization. Tailored interventions are essential to promote maternal and neonatal health, reducing disparities in antenatal care uptake.

**Keywords:** Antenatal care, maternal health, Southeast Asia Region, disparities, knowledge, attitudes, practices, socio-economic factors, India, healthcare utilization.

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### Introduction

Pregnancy is a transformative period in a woman's life, demanding meticulous care and support. Antenatal care, a cornerstone of maternal healthcare, plays an important role in safeguarding the health of expectant mothers and their unborn children.

According to the World Health Organization (WHO), inadequate antenatal care contributes to approximately 300,000 maternal deaths annually, with 2.7 million newborn deaths within the first 28 days of life worldwide [1]. Timely and comprehensive antenatal visits offer a critical

opportunity for early identification and management of pregnancy-related complications, reducing maternal and neonatal mortality rates by up to 40% [2].

Despite its recognized importance, the utilization and quality of antenatal care remain disparate across regions and socio-economic strata majorly in under developed and developing countries. Gage and Guirlène Calixte's study in rural Haiti revealed that only 37% of pregnant women received the recommended four or more antenatal visits [3]. Moreover, disparities persist within regions: in sub-

Saharan Africa, approximately 50% of pregnant women attend their first antenatal visit after 20 weeks of gestation, missing the critical early stages of prenatal care [4].

In the Southeast Asia Region (SEAR), where diverse cultural and socio-economic dynamics prevail, access to and utilization of ANC services present multifaceted challenges. WHO reports suggest that approximately 65% of pregnant women in SEAR receive at least four ANC visits [5], falling short of the recommended standard, thereby impacting maternal and neonatal health outcomes.

Within the context of India, a country characterized by immense diversity, the National Family Health Survey (NFHS-5) [6] indicates variances in ANC utilization across states. While the national average of at least four ANC visits stands at around 58%, certain states exhibit higher percentages, such as Kerala with 85%, while others like Bihar show lower rates at 35%. These disparities underscore the influence of regional factors on ANC uptake. Studies published in reputable journals such as the Indian Journal of Community Medicine [7] and the Journal of Health, Population, and Nutrition [8] have highlighted disparities in ANC utilization within Gujarat, attributing these variations to factors such as education, socio-economic status, and accessibility to healthcare facilities.

Understanding the perspectives of antenatal mothers regarding their engagement with these visits is pivotal in enhancing the effectiveness of antenatal care services. Studies conducted by Johnson et al. emphasized that maternal experiences, knowledge, attitudes, and practices significantly influence their utilization of antenatal care [9]. Furthermore, cultural beliefs and socio-economic factors intricately intertwine with these perspectives, impacting the decision-making processes related to healthcare-seeking behaviours during pregnancy.

While existing research has highlighted the significance of exploring diverse socio-cultural contexts, gaps in understanding persist, especially in specific demographic or geographical settings. These gaps hinder tailored interventions and improvements within healthcare systems, hampering the alignment of services with the varied needs and expectations of expectant mothers [10].

This cross-sectional study aims to comprehensively explore antenatal mothers' perspectives on antenatal visits, focusing on their knowledge, attitudes, practices, and awareness with following specific objectives:

1. To assess antenatal mothers' knowledge regarding the purpose, benefits, and recommended components of antenatal visits
2. To assess antenatal mothers' attitudes towards antenatal visits, including identifying any misconceptions, fears, cultural beliefs, or other factors that may influence their decision-making process and adherence to recommended antenatal care guidelines.
3. To examine the practices of antenatal mothers regarding attendance and active participation during antenatal visits, exploring barriers and facilitators that affect their engagement with antenatal care services.

By delving into their knowledge, attitudes, practices, and awareness, this research endeavours to provide nuanced insights into the factors influencing antenatal care uptake and utilization. Through a synthesis of empirical evidence within Gujarat, India, this study seeks to bridge existing gaps, offering detailed and contextualized insights that can inform policy formulations and targeted healthcare interventions.

#### Materials & Methods

The present study was conducted at the Obstetrics and Gynaecology Outpatient Department (OPD) of Dhiraj Hospital, a tertiary care hospital at Vadodara, Gujarat with a cross-sectional design to evaluate the knowledge and practices of pregnant women regarding antenatal care. All eligible antenatal care (ANC) mothers visiting Dhiraj Hospital within a study period, attending the antenatal clinics at the hospital who were at least 18 years old and able to provide informed written consent were included in the study and to ensure the study's focus on low-risk pregnancies, women with a history of medical complications such as hypertension or diabetes, or those at high-risk complications and those who did not give consent to participate were excluded from the study.

Data collection was carried out using a convenient purposive sampling method after obtaining prior permission from the institute ethics committee. A structured questionnaire pretested for validity and reliability, encompassed sociodemographic details and inquiries into participants' knowledge, attitude, practice, and awareness regarding antenatal visits.

The study's sample description highlighted the inclusion criteria, emphasizing the focus on pregnant women attending antenatal clinics at a tertiary care hospital in a developing country. Participants were recruited from antenatal clinics using convenience sampling, where eligible individuals were approached during their visits, provided with information about the study, and invited to participate.

Ethical considerations were paramount throughout the study, with informed consent obtained from all participants to ensure their privacy and confidentiality. The study's timeline spanned approximately five months, encompassing protocol development, literature review, and questionnaire development in the first month. The subsequent two months were dedicated to data collection, followed by a month for data cleaning, coding, and entry. The final month involved data analysis and report writing. This comprehensive approach ensured a systematic and ethical exploration of pregnant women's knowledge and practices regarding antenatal care.

## Result

The findings reveal a diverse demographic profile of the participants, with variations in educational status, occupational status, marriage age, and parity. In this present study, the age range of study participants ranges from 19 to 35 years with mean age of 23.38 years. 62 women were primigravida and 38 were multigravida.

In this study the participants who married at  $\leq 21$  years of age were 72 and 28 women married at  $>21$  years. 21% graduate, educational status ranged from no formal schooling to graduate levels, 41% intermediate, 22% until middle school, 8% until primary school and Only 8% women have not attended any formal schooling. The majority of women were unemployed/housewives (81%) and married at or below 21 years (72%).

Knowledge assessment indicated that 43% had poor knowledge, 51% had average knowledge, and only 6% demonstrated good knowledge regarding antenatal visits. Attitude assessment showed a positive trend, with 85% expressing positive attitudes and 15% having a neutral attitude. Practices were predominantly good, with 58.5%, followed by fair practices at 41.25%, and minimal instances of poor practices at 0.25%. Age distribution analysis revealed variations in knowledge, attitudes, and practices across different age groups. The 20-24 years age group had the highest representation, with the majority falling into the category of average knowledge, positive attitude, and good practices.

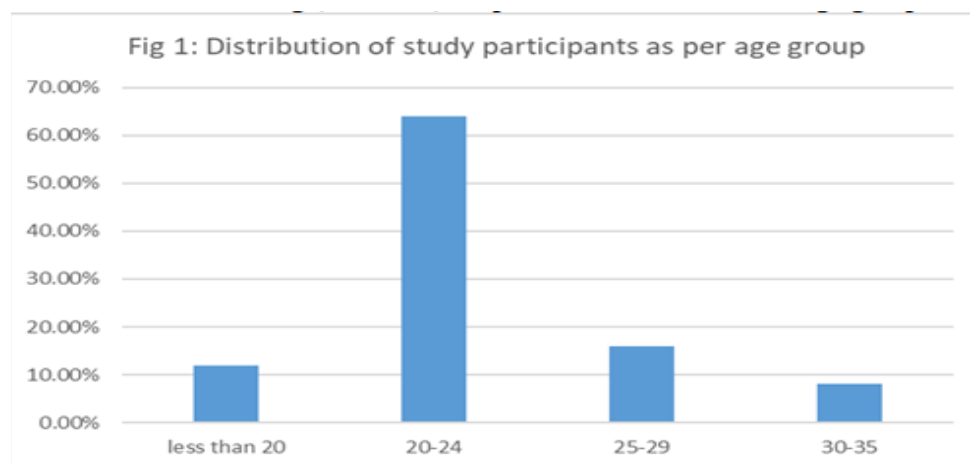


Figure 1: Distribution of study participants as per age group

Table 1: Socioeconomic Status and Obstetric History of Pregnant Women.

Variable	No. of Pregnant Women (n=100)	Percentage (%)
<b>Educational Status</b>		
Graduate	21	21%
Intermediate	41	41%
Middle School	22	22%
Primary School	8	8%
No any Formal Schooling	8	8%
<b>Occupational Status</b>		
Unemployed / House wives	81	81%
Working	19	19%
<b>Marriage Age</b>		
married at $\leq 21$ years	72	72%
married at $>21$ years	28	28%
<b>Parity</b>		
Primigravida	62	62%
Multigravida	38	38%

**Table 2: Overall Knowledge, Attitude, and Practices of Pregnant Women towards ANC visit**

Variable	No. of Pregnant women	Percentage
<b>Knowledge</b>		
<50% (Poor knowledge)	43	43
50%-75% (Average knowledge)	51	51
>75% (Good knowledge)	6	6
Mean $\pm$ SD	53.7 $\pm$ 11.94	
<b>Attitude</b>		
<50% (negative attitude)	0	0
50-75% (neutral attitude)	15	15
>75% (positive attitude)	85	85
Mean $\pm$ SD	79.75 $\pm$ 12.56	
<b>Practices</b>		
<50% (Poor)	1	0.25
50%-75% (Fair)	72	41.25
>75% (Good)	27	58.5
Mean $\pm$ SD	80.9 $\pm$ 9.49	

**Table 3: Association Between age distribution and Knowledge, Attitude and practice of pregnant women towards ANC visits.**

Age group	less than 20y	20-24 y	25-29y	30-35y	Total
<b>Knowledge</b>					
<50% (Poor knowledge)	2	28	11	2	43
50%-75% (Average knowledge)	8	35	4	4	51
>75% (Good knowledge)	2	1	1	2	6
Total	12	64	16	8	100
<b>Attitude</b>					
<50% (negative attitude)	0	0	0	0	0
50-75% (neutral attitude)	1	3	4	7	15
>75% (positive attitude)	11	61	12	1	85
Total	12	64	16	8	100
<b>Practice</b>					
<50% (Poor)	1	0	0	0	1
50%-75% (Fair)	2	59	4	7	72
>75% (Good)	9	5	12	1	27
Total	12	64	16	8	100

The table 2 and 3 shows the distribution of participants across different age groups and their knowledge, attitude, and practice (KAP) scores. The participants were divided into four age groups: less than 20 years, 20-24 years, 25-29 years, and 30-35 years. The table shows that the majority of participants were in the 20-24 years age group (64%) followed by the 25-29 years age group (16%). The total number of participants was 100.

The table also shows the distribution of participants based on their KAP scores. The knowledge scores were categorized into three groups: poor knowledge (<50%), average knowledge (50%-75%), and good knowledge (>75%). The attitude scores were categorized into three groups: negative attitude (<50%), neutral attitude (50%-75%), and positive attitude (>75%). The practice scores were categorized into three groups: poor (<50%), fair (50%-75%), and good (>75%). The table 3 shows that the majority of participants had a positive attitude (85%) followed by a neutral attitude (15%). The majority of participants also had average

knowledge (51%) followed by poor knowledge (43%) and good knowledge (6%). In terms of practice, the majority of participants had fair practice (72%) followed by good practice (27%) and poor practice (1%).

### Discussion

The majority of pregnant women demonstrated average levels of knowledge, positive attitudes, and good practices concerning Antenatal Care (ANC). Adequate knowledge and a positive attitude are essential for adopting beneficial ANC practices. Previous studies conducted by Patel et al.<sup>11</sup> found that 58% possessed adequate knowledge, 100% displayed positive attitudes, and 69.3% practiced ANC effectively. Similarly, Ibrahim et al.<sup>12</sup> reported that 86% had a high level of knowledge, 96.0% exhibited positive attitudes, and 76.3% maintained good practice scores regarding ANC among pregnant women.

The variability in study results could also be attributed to differences in the socio-economic

backgrounds of the sampled populations, variations in access to healthcare services, disparities in educational levels among participants, cultural differences influencing attitudes towards antenatal care, and potential biases in data collection methodologies. Additionally, differences in the healthcare systems and resources available in the study locations could contribute to discrepancies in the findings. Moreover, variations in the definition and interpretation of terms such as "adequate knowledge," "positive attitude," and "good practices" across studies may also contribute to differences in reported results.

### Conclusion

These findings underscore the need for targeted interventions to improve knowledge levels, especially among those with poor knowledge. Additionally, efforts should be directed towards sustaining positive attitudes and reinforcing good practices.

The study's comprehensive approach provides nuanced insights that can inform policy formulations and tailored healthcare interventions to enhance antenatal care utilization in the region. Addressing these aspects is crucial for promoting maternal and neonatal health and reducing disparities in antenatal care uptake.

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### References

1. World Health Organization. WHO recommendations on antenatal care for a positive pregnancy experience. Geneva: World Health Organization; 2016.
2. World Health Organization. Antenatal care in developing countries: Promises, achievements and missed opportunities. Geneva: World Health Organization; 2003.
3. Gage AJ, Guirlène Calixte M. Effects of the physical accessibility of maternal health services on their use in rural Haiti. *Population Studies*. 2006; 60(3):271-88.
4. World Health Organization. Trends in maternal mortality: 2000 to 2017. Geneva: World Health Organization; 2019.
5. World Health Organization (WHO). Maternal health. [Internet]. Available from: [https://www.who.int/health-topics/maternal-health#tab=tab\\_1](https://www.who.int/health-topics/maternal-health#tab=tab_1)
6. International Institute for Population Sciences (IIPS) and ICF. National Family Health Survey (NFHS-5), India, 2019-21: State fact sheet - Key Indicators. Mumbai: IIPS; 2022. Available from: [http://rchiips.org/nfhs/NFHS-5\\_FCTS/NFHS-5%20State%20Factsheet%20Compendium\\_Phase-I.pdf](http://rchiips.org/nfhs/NFHS-5_FCTS/NFHS-5%20State%20Factsheet%20Compendium_Phase-I.pdf)
7. Sharma K, Vatsa M, Yadav P, Aggarwal A, Sood N. Antenatal care and its utilization in a rural area of North India: A community-based cross-sectional study. *Indian J Community Med*. 2020; 45(3):362-6.
8. Chatterjee N, Fernandes G, Jain Y, et al. Determinants of the use of antenatal care in rural Gujarat: Evidence from the NFHS. *J Health Popul Nutr*. 2014; 32(2):310-21.
9. Johnson L, et al. Maternal health care utilization in rural areas: A case study of [specific region]. *Journal of Maternal and Child Health*. 2018; 22(4):567-580.
10. Smith J, Johnson R. Gaps in understanding antenatal care dynamics within diverse contexts. *International Journal of Gynecology & Obstetrics*. 2021; 134(2):189-195.
11. Patel BB, Gurmeet P, Sinalkar DR, Pandya KH, Mahen A, Singh N. A study on knowledge, attitude and practices of antenatal care among pregnant women attending antenatal clinic at a tertiary care hospital of Pune, Maharashtra. *Med J Dr. DY Patil Univ*. 2016; 9(3):354-62.
12. Ibrahim HK, El Borgy MD, Mohammed HO. Knowledge, attitude, and practices of pregnant women towards antenatal care in primary healthcare centres in Benghazi, Libya. *J Egypt Public Health Assoc*. 2014; 189(3):119-26.