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Original Research Article

## Knowledge, attitudes, and practices regarding HIV/AIDS among pregnant females attending the antenatal clinic: a study at Dr. S. N. Medical College in Jodhpur, India

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### ABSTRACT

**Background:** AIDS, caused by HIV, is a global health threat that weakens the immune system and leads to life-threatening infections. India has been heavily affected by the HIV/AIDS epidemic due to a lack of accurate information and prevention efforts. Mother-to-child transmission (MTCT) is a significant factor in HIV spread. Knowledge of HIV status through voluntary counseling and testing (VCT) is crucial. Despite efforts, HIV/AIDS remains a major public health challenge in India.

**Methods:** A study at Dr. S.N. Medical College focused on pregnant women in the antenatal clinic. Using a questionnaire, data was collected from 100 participants on socio-demographics, HIV/AIDS knowledge, attitudes, and practices.

**Results:** Most participants were aged 21-30, with 48 having 6-10 years of education. The majority identified as Hindu, and 89 were housewives. The study revealed gaps in HIV/AIDS knowledge, with many participants lacking awareness and having misconceptions. Stigma and fear were also prevalent, but recognition of abstinence as a preventive measure was observed.

**Conclusions:** Targeted interventions, education, and awareness campaigns are necessary to enhance knowledge, dispel misconceptions, and reduce HIV/AIDS stigma among pregnant women in antenatal clinics. Policies, programs, and preventive strategies should be developed to reduce HIV/AIDS incidence and prevalence. Future research should address knowledge gaps, promote understanding of HIV/AIDS, and focus on preventing mother-to-child transmission, ultimately working towards ending AIDS as a public health threat.

**Keywords:** AIDS, HIV, Knowledge gap, Pregnant women

### INTRODUCTION

Health is not merely the absence of disease but a state of complete physical, mental, and social well-being. Acquired Immunodeficiency Syndrome (AIDS), caused by the Human Immunodeficiency Virus (HIV), poses a significant threat to global health. HIV is a lentivirus that weakens the immune system, making individuals susceptible to life-threatening opportunistic infections.<sup>1</sup>

The virus can be transmitted through various body fluids, such as blood, semen, vaginal fluid, pre-ejaculate, and breast milk. While the transmission through contaminated blood products has been significantly reduced in developed countries due to screening measures, other modes of transmission, such as unsafe sex, contaminated needles, and perinatal transmission, remain significant concerns.<sup>2</sup>

India, with its vast population, has been severely affected by the HIV/AIDS epidemic. It was estimated that by the end of 2003, there were approximately 5.1 million HIV-infected individuals in India. Lack of correct and comprehensive information about HIV/AIDS and its prevention among the general population has contributed to the spread of the virus. India is currently facing a shift in the pattern of the AIDS epidemic, moving from high-risk groups to the bridge population and eventually to the general population as a whole.<sup>3</sup>

Mother-to-child transmission (MTCT) plays a major role in the spread of HIV, accounting for 90% of childhood HIV infections. Transmission can occur during pregnancy, delivery, or through breastfeeding. If left unaddressed, the rate of parent-to-child transmission can range from 25% to 45%. MTCT not only affects the newborn but also poses a risk to other family members. Adverse maternal and fetal outcomes, such as severe infection, decreased newborn immunity, anemia, and low birth weight, are associated with HIV infection during pregnancy.<sup>4</sup>

Knowledge of HIV sero-status through voluntary counseling and testing (VCT) is crucial for prevention and care services. VCT services provide information, pre-test and post-test counseling, and support for individuals at risk.<sup>5</sup> Early knowledge of HIV status enables individuals to make informed decisions and take appropriate measures to prevent transmission. Among children and newborns, the highest risk of infection occurs during the first month after birth and the lactating period. Antenatal women, therefore, play a pivotal role in preventing vertical transmission by possessing adequate knowledge about HIV and its preventive practices.<sup>6</sup>

India has made efforts to combat HIV/AIDS by implementing strategies to eliminate mother-to-child transmission, reduce HIV-related stigma and discrimination, and scale up testing and treatment. However, despite progress, the burden of HIV/AIDS remains a significant public health challenge in India. Achieving the "END OF AIDS" as a public health threat by 2030 is a commitment made by India as a signatory to the UN declaration on Sustainable Development Goals (SDGs).<sup>7</sup> In this context, the present study aims to assess the knowledge, attitude, and practice of antenatal women towards HIV/AIDS and correlate it with their socio-demographic profile. Understanding the level of awareness and behavior of antenatal women can help in formulating effective educational plans and increasing awareness about HIV and its preventive practices. Ultimately, this research endeavor will contribute to the prevention of mother-to-child transmission and help achieve the goal of ending AIDS as a public health threat.<sup>8</sup>

## **METHODS**

This study was a questionnaire-based observational cross-sectional study conducted at antenatal clinic at Dr. S. N. Medical College. This study had been conducted after

approval of the research review board till a significant sample size was achieved. Study population was pregnant women coming first time to the antenatal clinic in Dr. S. N. Medical College, Jodhpur and were ready to be part of this study and gave written consent to participate in this study.

### ***Inclusion criteria***

Pregnant women attending the antenatal clinic for the first time and willing to participate in the study were included in the study irrespective of their period of gestation, age and parity.

### ***Exclusion criteria***

Those who are not willing to participate. Those who are sick to communicate.

### ***Methodology***

This study was conducted at Dr. S. N. Medical College in Jodhpur, specifically in the department of obstetrics and gynecology. Participants were recruited from the antenatal clinic of the medical college. Eligible participants were selected based on predetermined criteria, and the aim and objectives of the study were explained to them, ensuring confidentiality and emphasizing that non-participation would not affect their antenatal care. Written consent was obtained from the participants or their legally authorized representatives. A comprehensive interview was conducted with willing participants to gather data. The antenatal clinic was chosen as the study setting due to its suitability for engaging pregnant women.

**Procedure:** An easy-to-understand, pretested, structured, and validated questionnaire was given to eligible participants randomly to assess their knowledge, attitude, and practices about HIV. This questionnaire was divided into 4 parts:

#### ***Socio-Demographic factors***

This part had questions to collect the details of participants related to their socio-demographic data like Age, Sex, Education, Occupation, Religion, and Economic status.

#### ***Knowledge***

This part constitutes questions to assess the knowledge of participants about HIV.

#### ***Attitude***

This part constitutes questions to assess the Attitude of the participants towards HIV i.e., thinking, myths, misconceptions, motivations, barriers, and views of participants towards HIV. It also had a question to know the most effective mode of communication to spread information about HIV.

### Practices

This constitutes questions to assess the Practices i.e., to know how many people were using their knowledge and attitude.

### Sample size

The sample size was calculated at 95% confidence interval and 10% relative allowable error using the formula for the sample size for estimation of a single sample proportion –

$$N = (Z_{1-\alpha/2})^2 P(1-P)/E^2$$

Where  $Z_{1-\alpha/2}$  = Standard normal deviate for 95% confidence interval (taken as 1.96)

P = At least 50% of antenatal females have correct knowledge of HIV modes of transmission.

E = Relative allowable error (taken as 20% of P) Sample size was calculated to be 96 antenatal women, which was enhanced and rounded to 100 subjects.

### Data analysis

After the collection of answered and filled questionnaires from the participants, a master sheet was prepared according to the answers given by the participants, after that we did a quantitative and qualitative analysis of the results.

## RESULTS

The results showed that the majority of participants fell within the age group of 21-30, comprising 78 individuals. A smaller number of participants were below 20 years old (12 individuals), while a minority fell within the age group of 31-40(9) (Table 1).

**Table 1: Age-wise distribution of participants.**

Age group	No. of participants
Below 20	12
21-30	78
31-40	9

**Table 2: Education-wise distribution of participants.**

Education	No. of participants
Illiterate	16
1 to 5	14
6 to 10	48
11 to 12	12
Graduate	7
Post graduate	3
Total	100

The education-wise distribution of participants revealed that 16 participants were illiterate, while 14 had completed 1 to 5 years of education. The majority of participants (48

individuals) had completed 6 to 10 years of education, followed by 12 participants who had finished 11 to 12 years of education. A smaller number of participants had a higher level of education, with 7 being graduates and 3 being postgraduates. The total number of participants included in the study was 100 (Table 2).

**Table 3: Religion-wise distribution of females.**

Religion	No. of participants
Hindu	70
Muslim	30
Christian	0
Others	0
Total	100

The religion-wise distribution of the female participants showed that the majority of participants, 70 individuals, belonged to the Hindu religion, while 30 participants identified as Muslim. There were no participants from the Christian or other religious backgrounds. The total number of participants included in the study was 100 (Table 3).

**Table 4: Occupation-wise distribution of participants.**

Occupation	No. of participants
Housewife	89
Farmer/worker	0
Health worker	3
Business women	3
Others	5
Total	100

The occupation-wise distribution of the participants revealed that the majority, 89 individuals, were housewives. There were no participants who were farmers/workers. Three participants identified as health workers, while three were businesswomen. The remaining five participants fell under the "others" category. In total, 100 participants were included in the study (Table 4).

## DISCUSSION

The study aimed to evaluate the knowledge, attitudes, and practices (KAPs) regarding HIV/AIDS among pregnant females attending the antenatal clinic at Dr. S.N. Medical College in Jodhpur. The results indicated that the majority of participants fell within the age group of 21-30 years, with 78 individuals in this category.<sup>9</sup> A smaller number of participants were below 20 years old (12 individuals), while a minority fell within the age group of 31-40 (9 individuals). The education-wise distribution revealed that 16 participants were illiterate, 14 had completed 1 to 5 years of education, 48 had completed 6 to 10 years, 12 had finished 11 to 12 years, 7 were graduates, and 3 were postgraduates. In terms of religion, 70 participants were Hindu, 30 were Muslim, and there were no participants from Christian or other religious backgrounds. The occupation-wise distribution showed that 89 participants

were housewives, while 3 participants identified as health workers, 3 as businesswomen, and 5 fell under the "others" category.<sup>10</sup>

The findings indicated that a significant proportion of participants belonged to the age group commonly associated with marriage in Indian communities, which may explain the higher representation in the 21-30 age group. Similar results were observed in previous studies. The education level of participants varied, with the majority having completed secondary education, followed by illiterate participants and a small number with higher education. This aligns with findings from other studies as well. The religious distribution reflected the majority Hindu population in the study area, while the occupation distribution highlighted the prevalent role of housewives in the community.<sup>11</sup>

However, some concerns emerged from the study. A substantial percentage of participants were unaware of HIV/AIDS, which is worrisome considering the preventable nature of the disease. Lack of knowledge and misconceptions can contribute to social stigma and discrimination, emphasizing the need for awareness campaigns and educational programs. It is crucial to develop policies and programs based on these study results to decrease the incidence and prevalence of HIV infection and AIDS.<sup>12</sup>

Regarding specific knowledge areas, most participants recognized abstinence from unprotected sexual activity as a preventive measure against HIV infection. However, a notable proportion lacked awareness of various aspects, such as the availability of testing and counseling facilities, the prevention of mother-to-child transmission, and the routes of transmission. Efforts should be directed towards disseminating accurate information about HIV/AIDS, promoting access to testing and treatment facilities, and addressing misconceptions.<sup>13</sup>

The study also revealed that fear of stigma and social discrimination during HIV testing was prevalent among participants, highlighting the importance of addressing societal attitudes and creating a supportive environment. Encouraging spousal testing, dispelling misconceptions about HIV transmission, and promoting screening before marriage were identified as areas for improvement. Participants expressed a need for information from reliable sources, with educational institutes and newspapers being cited as common sources.<sup>14</sup>

Overall, this study provides valuable insights into the knowledge, attitudes, and practices regarding HIV/AIDS among pregnant females in the study area. It emphasizes the need for targeted interventions, education, and awareness campaigns to enhance knowledge, dispel misconceptions, and reduce the stigma associated with HIV/AIDS. These findings can inform the development of policies, programs, and preventive strategies aimed at reducing the incidence and prevalence of HIV infection

and AIDS. Future research and interventions should focus on addressing the identified gaps and promoting a comprehensive understanding of HIV/AIDS among the population.<sup>15</sup>

Limitations of the study include the small sample size of 100 participants, which may not be representative of the entire population. The study also focused on a specific geographic location, limiting the generalizability of the findings to other settings. Additionally, the study relied on self-reported data, which may be subject to recall bias and social desirability bias. The study did not include a control group for comparison, making it difficult to assess the impact of interventions. Furthermore, the study did not assess the long-term effects of the interventions or the sustainability of behavior change.

## CONCLUSION

In conclusion, this study sheds light on the knowledge, attitudes, and practices concerning HIV/AIDS among pregnant women in the study area. It highlights the importance of implementing targeted interventions, educational initiatives, and awareness campaigns to improve knowledge, correct misconceptions, and combat the stigma associated with HIV/AIDS. These valuable insights can guide the development of policies, programs, and preventive strategies aimed at reducing HIV infection and AIDS. Future research and interventions should prioritize addressing the identified gaps and promoting a comprehensive understanding of HIV/AIDS among the population.

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