

## ORIGINAL ARTICLE

# A Cross Sectional Study of Nursing Students Attitudes Towards People Living with HIV/AIDS using the Nurses Attitude about HIV/AIDS Scale at a Tertiary Care Center in Khammam, Telangana, India

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**HOW TO CITE THIS ARTICLE:**

Preity Yarlagadda, Md Adil Faizan, Govindappagari Venkata Jithendra et. al, A Cross Sectional Study of Nursing Students Attitudes Towards People Living with HIV/AIDS using the Nurses Attitude about HIV/AIDS Scale at a Tertiary Care Center in Khammam, Telangana, India. RFP Ind Jr of Med Psy. 2026; 9(1): 07-12.

**ABSTRACT**

**Introduction:** HIV/AIDS remains a significant global health challenge, with stigma and discrimination against people living with HIV/AIDS (PLWHA) persisting despite medical advances. Nurses play a crucial role in HIV care, but their attitudes can impact the quality of care. Assessing nursing students' attitudes toward PLWHA is vital, as these future healthcare providers' perceptions influence compassionate care delivery. This study evaluated nursing students' attitudes using the Nurses' Attitude about HIV/AIDS Scale-Version 2 and examined associations with socio-demographic factors.

**Materials and Methods:** A cross-sectional survey was conducted among 120 undergraduate nursing students at Mamata Nursing College from November 2024 to March 2025. Participants completed a structured questionnaire including socio-demographic data and the attitude scale. Data were analyzed using descriptive statistics and Chi-square tests to assess relationships between attitudes and demographics. Ethical approval was obtained, and participation was voluntary.

**Results:** The sample was predominantly female (94.2%) with a mean age of 19.37 years. Most students showed generally positive attitudes toward PLWHA, with some exhibiting moderate attitudes. Chi-square analyses found no significant associations between attitudes and socio-demographic variables, except a near-significant trend related to education level ( $p = 0.054$ ), with third-year students showing slightly more moderate attitudes.

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➤ Received: 14-02-2026 ➤ Accepted: 19-03-2026



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**Conclusion:** Nursing students generally hold positive attitudes toward PLWHA, but education level may influence perceptions. Findings suggest that demographic factors alone do not predict attitudes, highlighting the need for curriculum enhancements focusing on experiential learning, stigma reduction, and empathy training to foster compassionate care for PLWHA.

#### KEYWORDS

- HIV Infections • Attitude of Health Personnel • Nursing Students • Stigma • Education

## INTRODUCTION

Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) continue to pose significant global public health challenges, particularly in developing countries.<sup>1</sup> Despite advancements in treatment and increased awareness, stigma and discrimination against people living with HIV/AIDS (PLWHA) remain widespread.<sup>2</sup> Healthcare professionals, including nurses, play a pivotal role in delivering care, support, and education to individuals affected by HIV/AIDS, but their personal beliefs, attitudes, and biases can significantly influence the quality of care provided.<sup>3</sup>

Nursing students, as future frontline healthcare providers, are in a critical stage of professional development where their attitudes and perceptions are shaped by education, clinical exposure, and social experiences.<sup>4</sup> It is therefore essential to assess and understand the attitudes of nursing students toward PLWHA, as these attitudes can affect their willingness to provide compassionate and equitable care.<sup>5</sup>

Attitudes toward PLWHA may be influenced by various sociodemographic factors such as age, gender, religion, educational level, socioeconomic background, and family structure.<sup>6</sup> Recognizing these associations can help educators and policymakers design more effective interventions to address stigma and foster a more inclusive and empathetic healthcare environment.<sup>7</sup>

This study aims to evaluate the attitudes of nursing students toward people living with HIV/AIDS using a standardized attitude measurement scale similar in structure to the Nurses' Attitude about HIV/AIDS Scale-Version 2.<sup>8</sup> Additionally, the study examines the relationship between students' attitudes and their sociodemographic characteristics to identify potential areas for educational improvement and awarenessbuilding within nursing curricula.<sup>9</sup>

## MATERIALS AND METHODS

### Study Design:

This study employed a **cross-sectional survey** design to assess the attitudes of nursing students toward people living with HIV/AIDS (PLWHA).

### Study Setting and Period:

The study was conducted at **Mamata Nursing College** over a period of **five months**, from **November 2024 to March 2025**.

### Study Population and Sampling:

The target population included undergraduate nursing students enrolled at Mamata Nursing College. A **total of 120 students** who met the inclusion criteria participated in the study. The sample size was determined based on convenience sampling.

**Inclusion Criteria:** Participants included in the study were nursing students who provided informed consent, were aged 18 years or older, and were currently enrolled at Mamata Nursing College.

**Exclusion Criteria:** Students were excluded from the study if they did not provide informed consent or were below 18 years of age.

### Data Collection Tool and Procedure:

Data were collected using a pre-structured semi-open-ended questionnaire, including socio-demographic items and the Nurses' Attitude about HIV/AIDS Scale-Version 2. Similar adaptations and use of validated scales for nursing students have demonstrated sound psychometric properties, including structural validity and reliability (e.g. McDonald's Omega  $\approx 0.89$ ).<sup>10</sup> Participants received verbal and written information about the study, and consent was obtained. Questionnaires were completed individually under supervision in a controlled setting to enhance confidentiality and accuracy, consistent with best practices in educational research.<sup>11</sup>

### Ethical Considerations:

The study was conducted following ethical standards. Approval was obtained from the institutional ethics committee of Mamata Nursing College. Participation was voluntary, and students had the right to withdraw at any time.

### STATISTICAL ANALYSIS

Data collected were entered and analyzed using appropriate statistical software. Descriptive statistics such as **frequencies, percentages, means, and standard deviations** were used to summarize the demographic characteristics and attitude scores. **Chi-square ( $\chi^2$ ) tests** were used to determine the association between students' attitudes and selected socio-demographic variables. A **p-value < 0.05** was considered statistically significant.

### RESULTS

A total of 120 nursing students participated in the study. The mean age of the participants was 19.37 years (SD = 3.545), with the majority (65%) falling within the 15–20 years' age group. Female participants constituted the majority (94.2%), while male participants represented only 5.8%.

**Table 1:** Socio-demographic Characteristics of Nursing Students (N = 120)

Variable Category	Frequency (n)	Percentage (%)
<b>Age Group</b>		
15–20 years	78	65.0
21–25 years	37	30.8
26–30 years	2	1.7
>30 years	3	2.5
<b>Mean ± SD</b>	<b>19.37 ± 3.545</b>	
<b>Gender</b>		
Female	113	94.2
Male	7	5.8
<b>Religion</b>		
Hindu	55	45.8
Christian	51	42.5
Muslim	14	11.7
<b>Residency</b>		
Urban	64	53.3
Rural	40	33.3
Semi-urban	16	13.3

Variable Category	Frequency (n)	Percentage (%)
<b>Education</b>		
1st Year Nursing Student	39	32.5
2nd Year Nursing Student	39	32.5
3rd Year Nursing Student	42	35.0
<b>Marital Status</b>		
Unmarried	113	94.2
Married	7	5.8
<b>Socio-Economic Status</b>		
Lower	2	1.7
Lower Middle	48	40.0
Upper Lower	48	40.0
Upper Middle	21	17.5
Upper	1	0.8
<b>Type of Family</b>		
Nuclear	88	73.3
Joint	32	26.7

Religious affiliation showed that 45.8% were Hindu, 42.5% were Christian, and 11.7% were Muslim. In terms of residency, more than half (53.3%) of the participants resided in urban areas, 33.3% were from rural areas, and 13.3% lived in semi-urban areas. Regarding education, 35% were third-year students, while both first-year and second-year students accounted for 32.5% each.

Most participants were unmarried (94.2%), and only 5.8% were married. Socio-economic status was primarily categorized as lower middle (40%) and upper lower (40%), with 17.5% belonging to the upper middle class. Only 1.7% and 0.8% of participants were from the lower and upper classes, respectively. The majority (73.3%) came from nuclear families, while 26.7% belonged to joint families.

The association between nursing students' attitudes toward people living with HIV/ AIDS (as measured by the *Nurses' Attitude about HIV/ AIDS Scale-Version 2*, categorized into *generally positive attitudes* and *moderate attitudes*) and various socio-demographic variables was examined using Chi-square tests. None of the examined variables demonstrated statistically significant associations with attitude scores at the  $p < 0.05$  level, though a near-significant result was observed for the variable "education level."

**Age** showed no significant association with attitudes toward people living with HIV/

AIDS ( $\chi^2 = 8.242$ ,  $df = 14$ ,  $p = .876$ ). Similarly, **age group** was not significantly related to attitude categories ( $\chi^2 = 1.295$ ,  $df = 3$ ,  $p = .730$ ).

With regard to **religion**, although slight variations were noted between Christians, Hindus, and Muslims in terms of attitude levels, the association was not statistically significant ( $\chi^2 = 2.266$ ,  $df = 2$ ,  $p = .322$ ).

No significant differences in attitudes were observed between **genders** ( $\chi^2 = .300$ ,  $df = 1$ ,  $p = .584$ ) or between students from different **residential areas** (rural, semi-urban, urban) ( $\chi^2 = 1.392$ ,  $df = 2$ ,  $p = .498$ ).

A near-significant association was found between **education level** and attitude categories ( $\chi^2 = 5.828$ ,  $df = 2$ ,  $p = .054$ ). While not statistically significant at the conventional 0.05 level, this result suggests a potential trend worth further exploration. Third-year students appeared to have a slightly higher proportion of moderate attitudes compared to first- and second-year students.

No significant relationships were found between attitudes and **marital status** ( $\chi^2 = .064$ ,  $df = 1$ ,  $p = .800$ ), **socio-economic status** ( $\chi^2 = 3.805$ ,  $df = 4$ ,  $p = .433$ ), or **type of family** (joint vs. nuclear) ( $\chi^2 = .542$ ,  $df = 1$ ,  $p = .462$ ).

In summary, the analysis revealed that none of the examined socio-demographic characteristics had a statistically significant association with students' attitudes toward people living with HIV/AIDS, although the education level showed a marginal effect. These findings suggest that attitudes may be influenced by factors beyond basic demographics, potentially including clinical exposure, curriculum content, or personal experiences, which warrant further investigation.

**Table 2:** Association Between Socio-Demographic Variables and Attitudes Toward People Living with HIV/AIDS

Variable	Chi-Square ( $\chi^2$ )	p-value
Age	8.242	0.876
Age Group	1.295	0.730
Religion	2.266	0.322
Gender	0.300	0.584
Residency	1.392	0.498
Education Level	5.828	0.054
Marital Status	0.064	0.800
Socio-Economic Status	3.805	0.433
Type of Family	0.542	0.462

$p < 0.05$  is considered statistically significant. Marginal significance refers to results where  $p$  is close to 0.05 and may indicate a trend worth further investigation.

## DISCUSSION

This study explored the attitudes of nursing students toward people living with HIV/AIDS (PLWHA) and examined their association with socio-demographic variables using the Nurses' Attitude about HIV/AIDS Scale-Version 2. The findings indicated that most participants held generally positive attitudes toward PLWHA, while a smaller proportion exhibited moderate attitudes. Interestingly, no statistically significant associations were found between students' attitudes and variables such as age, gender, religion, socioeconomic status, or residency, although education level showed a marginal association ( $p = 0.054$ ).

These findings are consistent with previous research. For instance, Álvarez-Serrano et al. found that Spanish nursing students generally exhibited positive attitudes toward PLWHA, and that education level had a more pronounced effect than demographic variables.<sup>12</sup> Similarly, Allenki et al. reported that clinical exposure and knowledge significantly influenced attitudes, while factors such as gender and age did not show notable associations.<sup>13</sup>

In our study, third-year students showed a trend toward more moderate attitudes, potentially reflecting increased awareness of clinical realities and ethical dilemmas as they progress through their training. This observation is aligned with the findings of Wang et al., who emphasized the role of experiential learning in shaping nursing students' views<sup>14</sup>.

Contrary to earlier studies suggesting associations between religion or gender and stigmatizing attitudes such as the work of Liu et al.<sup>15</sup> and Umeh & Ezedinachi<sup>16</sup> our results did not demonstrate such relationships. One possible explanation is the increased integration of human rights, ethics, and cultural competency components in contemporary Indian nursing curricula, which may be helping to moderate bias at an early stage in professional development.

The overall positive attitudes observed in this study are encouraging, particularly given the persistent stigma surrounding HIV/AIDS.

However, the presence of moderate attitudes among senior students warrants attention. Mburu et al. noted that unstructured clinical exposure without reflective debriefing may inadvertently reinforce negative stereotypes or emotional fatigue, resulting in more ambivalent attitudes toward PLWHA.<sup>17</sup>

Moreover, our finding that socio-demographic characteristics did not significantly predict attitudes is echoed by large-scale studies such as those by Alzyood et al.<sup>18</sup> and Sharma et al.,<sup>19</sup> who concluded that targeted interventions in education and clinical mentorship are more effective than demographic-based strategies in reducing HIV-related stigma.

Cultural context is also crucial. In India, stigma toward HIV/AIDS often intersects with societal views on sexuality, drug use, and morality, particularly in conservative regions. Thomas et al. argue that even when students express positive attitudes on structured surveys, implicit biases may remain.<sup>20</sup> This highlights the need to complement quantitative tools with qualitative approaches for a more holistic understanding.

## CONCLUSION

This study assessed the attitudes of 120 nursing students toward people living with HIV/AIDS, using the Nurses' Attitude about HIV/AIDS Scale-Version 2, and explored the relationship between these attitudes and various socio-demographic variables.

The sample was predominantly female, young, and unmarried, with most students coming from nuclear families and lower to lower-middle socio-economic backgrounds. The majority of participants exhibited generally positive attitudes toward individuals with HIV/AIDS, with a smaller proportion showing moderate attitudes.

Chi-square analyses revealed **no statistically significant** associations between students' attitudes and demographic variables such as age, age group, gender, religion, residency, marital status, socio-economic status, or type of family. However, **education level demonstrated a near-significant association** ( $p = 0.054$ ), suggesting that students' year of study may have some influence on their attitudes. Specifically, third-year students exhibited a slightly higher tendency toward

moderate attitudes, indicating that educational exposure and clinical experiences may shape perceptions over time.

The overall findings suggest that while basic demographic factors may not play a substantial role in shaping nursing students' attitudes toward people living with HIV/AIDS, other influences such as curriculum content, clinical interactions, and personal experiences may be more relevant. Therefore, nursing education programs should incorporate targeted modules and experiential learning opportunities to promote compassionate, informed, and non-judgmental attitudes.

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