

## Original Research Article

# A cross-sectional study of knowledge, attitude and practices on HIV/AIDS among nursing students at a tertiary care centre, Hyderabad, India

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### ABSTRACT

**Background:** Acquired immunodeficiency syndrome (AIDS) caused by human immunodeficiency virus (HIV) infection is a dreadful condition to treat. Knowledge, attitude and practice (KAP) towards the people living with HIV (PLHIV) has a pivotal role in preventing further progression of the disease. Nurse's role in these aspects is essential because, the little knowledge, inappropriate attitude and inadequate practices towards PLHIV will hinder the delivery of services. Special nursing knowledge and expertise are required to care for these patients and the present study aimed to address this issue.

**Methods:** A cross-sectional study of KAP on HIV/AIDS was conducted between January 2022 and February 2022 among nursing college students at a tertiary care centre using a standard questionnaire. Data collected was entered and analysed with MS excel 2013 and Epi info 7.2.5 and represented in form of tables.

**Results:** Overall knowledge of the nursing students was good. There were few drawbacks in the perceived knowledge that majority of students believed that gloves and gowns are required for any contact with patients with HIV/AIDS (59.0%). Most students believed that patients living with HIV/AIDS have the right to the same quality of care as any other patient. (53.9%). Around 95.0% of the students practiced washing hands before examining patients.

**Conclusions:** Training regarding HIV/AIDS for nursing students is a critical aspect in boosting understanding, correcting misconceptions, fostering a positive attitude, and improving compliance with universal precautions and other preventative behaviors. It also helps to deliver effective and appropriate care to PLHIV while protecting themselves from infection.

**Keywords:** Attitude, Knowledge, Nursing students, PLHIV, Practice

### INTRODUCTION

In 1981, when a growing number of young homosexual men died from odd opportunistic infections and rare cancers, the disease known as acquired immunodeficiency syndrome (AIDS) was first identified as a new disease. AIDS is a disease caused by the Human immunodeficiency virus (HIV).<sup>1,2</sup> It is one of the most serious infectious disease threats to public health, as well as a worldwide health issue.<sup>3</sup>

AIDS is a disease with a known route of transmission that is mostly preventable, but because the general public lacks knowledge and practice regarding HIV/AIDS, it spreads quickly in our nation. At the end of 2021, there were estimated 38.4 million HIV-positive individuals living in the world. Infections with HIV are expected to drop from 1.5 million in 2020 to 3,35,000 by 2030, and deaths from 6,80,000 in 2020 to under 2,40,000 in 2030, according to the WHO's 2022-2030 global health sector strategy on HIV.<sup>4</sup>

According to the adult HIV estimated prevalence rates of 2019, Telangana has a prevalence of 0.49 percent compared to the national rate of 0.22 percent for 2019.<sup>5</sup>

The majority of health care is provided by nurses worldwide. Regarding the patients' diagnostic requirements, therapeutic assistance, and psychological support, the nursing staff is crucial. They are primarily in charge of gathering blood and other laboratory samples, administering oral and parenteral medications, bed making, sending laundry, etc. They can be considered the lifeblood of every hospital.<sup>6</sup>

Patients with HIV and AIDS need specialised knowledge and attitudes from nurses. However, research has indicated that healthcare professionals, such as nurses, may have unfavourable attitudes toward those who are HIV and AIDS-positive. Discrimination and stigma are two examples of such negative attitudes. All initiatives to provide persons with HIV information, testing, treatment, and preventive measures to lower their risk of infection are thwarted by stigma and discrimination.<sup>7</sup>

In order to improve patient outcomes and thereby raise the standard of nursing care given, it is important to evaluate the knowledge, attitude, and practice of nursing students when caring for HIV patients.

## METHODS

A cross-sectional study was done from January 2022 to February 2022 at a tertiary care centre involving first to fourth year nursing college students to assess the knowledge, attitude, practice on HIV/AIDS. Students were approached in their classrooms and allowed to participate in the study after detailed explanation regarding it.

The nursing students who gave informed consent for the participation in the study were included in the study. Out of the total 200 students (50 students intake per year) 156 agreed to participate in the study. Complete confidentiality of the information provided by the study participants was maintained and they're free to drop from the study at any time. Details of the study subjects were recorded using a standard questionnaire which was used in several other studies.<sup>8-12</sup>

Participants were asked to fill out a 48-item HIV/AIDS KAP questionnaire. with a 28-item HIV/AIDS knowledge scale, a 10-item attitude scale and a 10-item practices scale. The knowledge measure was based on an Eckstein (1987) instrument that asked respondents to respond with "true", "false", or "don't know" to items about disease presentation, transmission, precaution, and prevention. Correct answers were added up on a 28-point rating scale, which was then transformed into a 20-point scale score. Higher scores indicated greater levels of knowledge. The attitude scale, which included questions probing avoidance and empathic behaviour, was based on a tool

for measuring attitudes among nurses toward patients with HIV/AIDS.<sup>13</sup> A 5-point Likert scale was used to grade the scale, with higher scores indicating greater agreement, ranging from "strongly disagree" through "neither disagree nor agree", to "strongly agree".

The practice scale included items about the use of general precautions, and behaviour related to HIV testing and referral etc. Questions probing the use of universal precautions were scored as "yes", "no" with higher scores indicating more adherence.

All the data collected was entered and analysed with MS excel software 2013 and Epi info 7.2.5.

## RESULTS

### *HIV/AIDS-related knowledge of participants*

In the present study, the participants had good knowledge about various aspects of HIV/AIDS. 97.4% responded correctly that HIV could be transmitted via blood transfusion, and 59% felt that all pregnant women infected with HIV would have babies born with AIDS. Almost 38.5% of the study participants responded that gloves and gowns are required to contact patients with HIV/AIDS. 92.3% felt contaminated needles should be recapped immediately after use on patients with HIV/AIDS to prevent accidental injury. 65.4% did not know that pulmonary TB is classified as a WHO clinical stage 2 condition (Table 1).

### *HIV/AIDS-related attitude of participants*

The participants' attitude was scored on a Likert scale (strongly disagree-strongly agree). 30.8% of the study participants disagreed that patients who are HIV- positive should not be put in rooms with other patients when admitted to the hospital. A similar number (30.8%) agreed that patients with HIV/AIDS have the right to the same quality of care as any other patient. Only 10.3% were always worried about getting HIV/AIDS from caring for a person with HIV/AIDS in their work environment. However, 33.3% strongly disagreed with marking the beds and files of HIV-infected persons as the means of identification to prevent medical and legal hazards (Table 2).

### *HIV/AIDS-related practice of participants*

The frequency and percentage of response to various questions on the HIV/AIDS practice scale showed that 89.7% of the study participants encouraged people to get tested and counselled for HIV/AIDS. Most participants (82.1%) practiced universal blood and fluid body precautions in the workplace and most reported wearing gloves the last time they took a blood sample (89.7%). The study respondents (82.1%) also said they treated their patients respectfully irrespective of their HIV status (Table 3).

**Table 1: Frequency and percentage of students' response to various questions on the HIV/AIDS knowledge scale.**

Knowledge related questions	Responses		
	True	False	Don't know
1. HIV can be transmitted by casual contact	10.3% (16)	87.2% (136)	2.6% (04)
2. HIV can be transmitted to people receiving blood transfusion	97.4% (152)	2.6% (04)	- Continued.
3. HIV can easily be killed with disinfectant in the environment	12.8% (20)	82.1% (128)	5.1% (08)
4. HIV is highly contagious	74.4% (116)	17.9% (28)	7.7% (12)
5. HIV/AIDS is characterized by a decrease in T-4 lymphocytes, causing an impaired cellular immunity	84.6% (132)	15.4% (24)	-
6. A person with antibody to the virus is protected against HIV/AIDS	41.0% (64)	48.7% (76)	10.3% (16)
7. All pregnant women infected with HIV will have babies born with AIDS	59.0% (92)	38.5% (60)	2.6% (04)
8. Gloves are not necessary when handling body fluids	17.9% (28)	76.9% (120)	5.1% (08)
9. Following an accidental needle stick, there is a greater likelihood of infection with hepatitis B than with HIV/AIDS	74.4% (116)	25.6% (40)	-
10. People infected with HIV can be asymptomatic, but still infectious	82.1% (128)	10.3% (16)	7.7% (12)
11. It is possible to transmit the virus to family members of a nurse providing care for persons with HIV/AIDS, even though the nurse is not infected	35.9% (56)	51.3% (80)	12.8% (20)
12. The risk of infection with HIV after an accidental needle stick injury at the workplace is high	87.2% (136)	10.3% (16)	2.6% (04)
13. An individual may be infected with HIV even if he/she tests negative for HIV/AIDS antibodies	35.9% (56)	51.3% (80)	12.8% (20)
14. A person can be infected with HIV for 5 years or more without getting AIDS	33.3% (52)	46.2% (72)	20.5% (32)
15. The risk of occupational HIV infection and transmission among health workers is high	95.5% (149)	4.5% (07)	-
16. Gloves and gowns are required for any contact with patients with HIV/AIDS	59.0% (92)	38.5% (60)	2.6% (04)
17. One should suspect the diagnosis of HIV/AIDS in young persons who present with Kaposi's sarcoma	30.8% (48)	33.3% (52)	35.9% (56)
18. The risk of transmission of HIV during mouth-to-mouth resuscitation is extremely low	46.8% (73)	50.6% (79)	2.6% (04)
19. To prevent accidental injury, contaminated needles should be recapped immediately after use on patients with HIV/AIDS	92.3% (144)	2.6% (04)	5.1% (08)
20. Pregnant health care workers are at greater risk of contracting HIV infection at the workplace	83.3% (130)	9% (14)	7.7% (12)
21. HIV can be easily transmitted through saliva, sweat and tears	28.2% (44)	69.2% (108)	2.6% (04)
22. TB can be prevented in people living with HIV/AIDS using TB preventive therapy	70.5% (110)	20.5% (32)	9% (14)
23. TB treatment is the same whether a patient is infected with HIV or not	58.7% (87)	38.5% (60)	5.8% (09)
24. Most HIV-positive TB patients have no symptoms or signs of HIV disease	12.2% (19)	84% (131)	3.8% (06)
25. Pulmonary TB is classified as a WHO clinical stage 2 condition	19.2% (30)	15.4% (24)	65.4% (102)
26. Cotrimoxazole is not recommended for persons presenting with symptomatic HIV disease	15.4% (24)	64.7% (101)	19.9% (31)
27. Adherence to antiretroviral treatment is essential to avoid the development of drug resistance	41.0% (64)	20.5% (32)	38.5% (60)
28. HIV-positive patients with a CD4-count and <200 should be assessed for antiretroviral treatment	43.6% (68)	15.4% (24)	41.0% (64)

**Table 2: Frequency and percentage of students’ response to various questions on the HIV/AIDS Attitude scale.**

Attitude related questions	Responses				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. Most people with HIV/AIDS only have themselves to blame	33.3% (52)	48.7% (76)	2.6% (04)	12.8% (20)	2.6% (04)
2. When admitted to hospital, patients who are HIV- positive should not be put in rooms with other patients	28.2% (44)	30.8% (48)	5.1% (08)	17.9% (28)	17.9% (28)
3. When caring for a person with HIV/ AIDS, you need to worry about putting your family and friends at risk of contracting the disease	43.6% (68)	25.6% (40)	7.7% (12)	17.9% (28)	08 (5.1%)
4. Patients with HIV/AIDS have the right to the same quality of care as any other patient	20.5% (32)	15.4% (24)	10.3% (16)	30.8% (48)	23.1% (36)
5. It is especially important to work with patients with HIV/AIDS in a caring manner	30.8% (48)	08 (5.1%)	15.4% (24)	23.1% (36)	25.6% (40)
6. Patients with HIV/AIDS should be treated with the same respects any other patient	30.8% (48)	08 (5.1%)	10.3% (16)	33.3% (52)	20.5% (32)
7. I am always worried about getting HIV/AIDS from caring for a person with HIV/AIDS in their work environment	28.2% (44)	30.8% (48)	28.2% (44)	10.3% (16)	2.6% (04)
8. I am sympathetic towards the misery that people with HIV/AIDS experience	12.8% (20)	25.6% (40)	28.2% (44)	23.1% (36)	10.3% (16)
9. Do you think marking the beds and files of HIV infected persons is necessary as the means of identification to prevent staff medical legal hazards?	33.3% (52)	15.4% (24)	20.5% (32)	23.1% (36)	7.7% (12)
10. All patients with HIV/AIDS are entitled to confidentiality, even if it puts other people at risk of contracting the disease	12.8% (20)	23.1% (36)	35.9% (56)	17.9% (28)	10.3% (16)

**Table 3: Frequency and percentage of students’ response to various questions on the HIV/AIDS practice scale.**

Practice related questions	Responses	
	Yes	No
1. I encourage people to get tested and counselled for HIV/AIDS	89.7% (140)	10.3% (16)
2. I often give pre and post HIV counselling when I test my clients for HIV	92.3% (144)	7.7% (12)
3. I do not give ART adherence counselling to newly diagnosed patients on the day of ART enrolment	25.6% (40)	74.4% (116)
4. I practice universal blood and body fluid precautions workplace	82.1% (128)	17.9% (28)
5. The last time you took a blood sample, did you wear gloves?	89.7% (140)	10.3% (16)
6. I always wash my hands before examining a patient	94.9% (148)	5.1% (08)
7. I treat blood spills on floors or other surfaces with a disinfectant	74.4% (116)	25.6% (40)
8. I only start ART when the patients viral load is less than 1000 copies/ml	53.8% (84)	46.2% (72)
9. At the end of each follow up, I give health education to my clients	92.3% (144)	7.7% (12)
10. I treat my clients with respect irrespective of their HIV status	82.1% (128)	17.9% (28)

## DISCUSSION

The overall knowledge in this study was similar to Boakye et al, Kiyene et al, Famoroti et al, Marranzano et al.<sup>7,13-15</sup> About 97.4% correctly identified that HIV spreads through blood transfusion. This is consistent with the findings of Boakye et al, Kiyene et al, Marranzano et al, and Shahzadi et al.<sup>7,13-16</sup> In a study by Kiyene et al, the study participants had a misconception that HIV can

spread through casual contact.<sup>13</sup> However, in the present study, there was no such problem. Contrary to CDC guidelines which note that to prevent needle stick injuries, health workers are mandated to discard used needles immediately after use and not recap them, 92.3% felt contaminated needles should be recapped immediately after use on patients with HIV/AIDS to prevent accidental injury. However, the knowledge gap noticed in the study by Kiyene et al was only 25%.<sup>13</sup> In the present study, 59%

felt that gloves and gowns are needed for any contact with HIV/AIDS.

Similar to the findings of this study, Boakye et al found that study subjects put on gowns and gloves for any contact with people living with HIV (65.7%).<sup>7</sup> 51% of the health workers wore gloves for non-invasive procedures on HIV-positive patients in a study by Famoroti et al.<sup>14</sup> Also, a study by Pudpong et al found that 31.8% of health workers use extreme personal protection measures, such as wearing double gloves when interacting with people living with HIV.<sup>17</sup>

In the present study, a good number agreed with the statement that patients with HIV/AIDS have the right to the same quality of care as any other patient (30.8%). This was similar to the findings of Boakye et al (29.8%) and Kiyene et al (40.5%).<sup>7,13</sup> However, the response to the statement that patients with HIV/AIDS should be treated with the same respect as any other patient was neutral in the present study, in contrast to studies by Boakye et al and Kiyene et al.<sup>7,13</sup>

About 89.7% of the study participants encouraged people to get tested and counselled for HIV/AIDS, similar to Kiyene et al (78.9%) and Boakye et al (91.2%).<sup>7,13</sup> The practice of universal precautions by nurses (82.1%) was consistent with the findings of Boakye et al (86.2%).<sup>7</sup> It was higher than the Kiyene et al study (61.8%).<sup>13</sup> About 89.7% of nurses wore gloves before taking a blood sample, similar to Boakye et al and Kiyene et al.<sup>7,13</sup>

## CONCLUSION

Training regarding HIV/AIDS for nursing students is a critical aspect in boosting understanding, correcting misconceptions, fostering a positive attitude, and improving compliance with universal precautions and other preventative behaviors. It also helps to deliver effective and appropriate care to PLHIV while protecting themselves from infection.

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