

Knowledge and Attitude about Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome among First Year MBBS Students at Indira Gandhi Institute of Medical Sciences, Patna: A Cross-sectional Study

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Abstract

Background: Acquired immune deficiency syndrome (AIDS) is caused by a human immunodeficiency virus (HIV) that weakens the immune system, making the body susceptible to various diseases that often lead to death. The prevailing mode of HIV transmission is through heterosexual contact, followed in magnitude by perinatal transmission, where the mother passes the virus to the child during pregnancy, delivery, or breastfeeding.

Aims and Objective: This study was conducted to determine the extent of knowledge, attitude, and awareness about various aspects of HIV/AIDS among the 1st year MBBS students studying at Indira Gandhi Institute of Medical Sciences (IGIMS), Patna.

Materials and Methods: An observational cross-sectional study was carried out among 1st year MBBS students in the age group of 17-24 years of regular batch in the year 2018 studying at IGIMS, Patna. All 100 1st year MBBS students were enrolled in the study. The information was collected from them using a pre-designed, semi-structured questionnaire. All data were compiled and tabulated in Microsoft Excel 2013 software, and descriptive statistics were analyzed using EPI info data analysis V7.2.0.1 in the form of percentages and proportions. $P \leq 0.05$ was considered to be statistically significant. The comparison of the responses among male and female students was performed using Chi-square test.

Result: A total of 100 students were included in this study. Among these, 68 (68%) were boys and 32 (32%) were girls. Among all of the study participants, majority of 97% of students have heard about HIV/AIDS. About 90% of students agreed that a woman can get HIV if she has anal sex with a man. Majority of 92% of respondents agreed that antiretroviral drugs cure HIV/AIDS. Some participants, 22%, agreed that a person can get HIV by sitting in a hot tub or a swimming pool with a person who has HIV. About majority of 92% of students agreed that patients with HIV/AIDS need to be nursed separately from other patients and a pregnant woman with HIV can give the virus to her unborn baby. Media (94%) was the present leading source of information of participants regarding the present knowledge about HIV/AIDS.

Conclusion: There is a necessity to consider the basic knowledge of the students about HIV/AIDS and accessible the misinterpretation regarding the disease by the medical educators. The knowledge about HIV/AIDS is crucial for all health-care professionals.

Key words: Attitude, Human immunodeficiency virus/Acquired immune deficiency syndrome, Knowledge, Medical students

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INTRODUCTION

Acquired immune deficiency syndrome (AIDS) is caused by a human immunodeficiency virus (HIV) that weakens the immune system, making the body susceptible to various diseases that often lead to death. The prevailing mode of HIV transmission is through heterosexual contact, followed

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in magnitude by perinatal transmission, where the mother passes the virus to the child during pregnancy, delivery, or breastfeeding. Other modes of transmission are through infected blood and unsafe injections. HIV/AIDS is a global challenge that has threatened the very existence of the human race.^[1] The route of transmission of HIV in India is still predominantly heterosexual (88.2%), followed by parent to child (5%), injecting drug users (1.7%), homosexual (1.5%), blood and blood products (1%), and unknown (2.7%).^[2] The African continent is said to hold the vast majority of the world's HIV-infected population. It is estimated that, in 2007, of the 33.0 million people living with HIV/AIDS (PLWHA), 22.0 million of them lived in sub-Saharan Africa.^[3] HIV/AIDS is a major health concern all over the world. Globally, more than 35.3 million people are currently living with HIV infection, and 2.1 million (5.9%) of these are adolescents aged 10–19 years.^[4,5] In India, the adult HIV prevalence at national level has declined from an estimated level of 0.41% in 2001–0.27% in 2011. The estimated number of people living with HIV (PLHIV) in India maintains a steady declining trend from 23.2 lakh in 2006 to 20.9 lakh in 2011.^[6] HIV/AIDS is affecting mainly young people in the sexually active age group 20–49 years. The globally HIV epidemic occur during 2015 about 5700 new HIV infection and about 400 in children under 15 years of age, about 5300 are adults of 15 years and older, almost 47% are women, 35% are young people (15–24 years), 20% are young women (15–24 years), and about 66% are in sub-Saharan Africa.^[7] According to the estimates for the year 2015, 2.1 million people were living with HIV in India, with estimated 86,300 new HIV infections (a 66% reduction since 2000). The HIV prevalence in adults (15–49 years) was 0.26% (0.30% in men and 0.22% in women). The AIDS-related deaths started to show a declining trend, and 67,000 people died of AIDS-related causes in 2015, a decline of 54% since 2007. During 2015, of the 2.1 million estimated cases, 1.4 million (67%) were diagnosed as having HIV, and of these, 747,175 (50%) were on antiretroviral treatment.^[7] However, numerous studies conducted in different parts of India to assess the knowledge and attitude toward HIV/AIDS declare an outspread unawareness and misconceptions about the disease among young adults. Hence, this study was presumed to estimate the extent of knowledge and ideas of 1st year MBBS students at Indira Gandhi Institute of Medical Sciences (IGIMS), Patna, who have just entered this decent career, along with the attitude toward this disease.

Aims and Objective

The aims and objectives of this study were as follows:

1. To determine the extent of knowledge and awareness about various aspects of HIV/AIDS among the 1st year MBBS students studying at IGIMS, Patna.
2. To ascertain their beliefs and perceptions about HIV/AIDS and attitude toward PLHIV people.

Inclusion Criteria

The 1st year medical students (both sexes) studying at IGIMS, Patna, were included in the study, who were present in the class.

Exclusion Criteria

Those students who were on long leave or not present in the class were excluded from the study.

MATERIALS AND METHODS

Study Design

This study is an observational cross-sectional survey based study.

Study Area

The study was conducted among medical students at IGIMS, Patna.

Study Period

The duration of study was 3 months (December 2018 – February – 2019).

Sample Size

The filled up form was collected from participated 100 students.

Methodology

An observational cross-sectional study was carried out among 1st year MBBS students in the age group of 17–24 years of regular batch in the year 2018 studying at IGIMS, Patna. All 100 1st year MBBS students were enrolled and given information about the proposal and objectives of the study. The information was collected from them using a pre-designed, semi-structured questionnaire. Questions were asked about sociodemographic information, general knowledge about HIV/AIDS, and mode of transmission, prevention, treatment, attitude toward HIV/AIDS, and their source of information regarding HIV/AIDS. Informed consent was taken from all students who were participated in the study. The character and ambition of the study were explained to students. All of the study participants were to complete the questionnaire in a single sitting in the lecture theater. To ensure the originality of the responses, the staff of the community medicine department was present in the lecture theater, invigilating the session. The students were emphasized on to put /mark their original responses, and the possibility of questions being leaked out there by responses might be biased. The study protocol was approved by the Institutional Ethical Committee. All data were compiled and tabulated in

Microsoft Excel 2013 software, and descriptive statistics were analyzed using EPI Info Data Analysis V7.2.0.1 in the forms of percentages and proportions. $P \leq 0.05$ was considered to be statistically significant. The comparison of the responses among male and female students was done using Chi-square test.

RESULTS

A total of 100 students were included in this study. Among these, 68 (68%) were boys and 32 (32%) were girls. Majority of the students 46% were participated in the age group of 20–22 years, followed by 36% in 17–19 years and 14% in 23–24 years age, and 86% of participants were Hindu, 12% were Muslim, while 2% belong to others [Table 1].

Table 2 shows the knowledge of participants regarding etiology, mode of transmission, and prevention and treatment of HIV/AIDS. Among all of the study participants, majority of 97% of students have heard about HIV/AIDS. About 90% of students agreed that a woman can get HIV if she has anal sex with a man. A similar number (90%) agreed that coughing and sneezing cannot spread HIV and 90% agreed that having sex with more than one partner can increase a person's chance of being infected with HIV. About 30% of students believed that person cannot be contacted with HIV/AIDS virus by hugging and kissing with HIV/AIDS. Some 10% of students agreed that a person can get HIV from a mosquito or other insect bite. About 24% of respondents believed that there is a vaccine that can stop adults from getting HIV. Majority of 92% of respondents agreed that antiretroviral (ARV) drugs cure HIV/AIDS. Some participants, 22%, agreed that a person can get HIV by sitting in a hot tub or a swimming pool with a person who has HIV.

Media (94%) was the present leading source of information of participants regarding the present knowledge about HIV/AIDS. Television, friends, teacher, doctor, internet,

and newspaper were the next important source of present information regarding HIV/AIDS.

Table 3 shows the attitude of students toward HIV/AIDS-infected person. Among all of the study participants, majority of 96% of students agreed that all patients came in emergency department should be routinely tested for HIV/AIDS before admission to hospital is mandatory. In our study result shows higher percentage of male (94.12%) and female (81.25%) students agreed that all surgical patients should be routinely tested for HIV/AIDS on admission to hospital is necessary. About 95% of respondents believed that there is no cure for AIDS. About majority of 92% of students agreed that patients with HIV/AIDS need to be nursed separately from other patients and a pregnant woman with HIV can give the virus to her unborn baby. A similar number (92%) of students agreed that ARV drugs cure HIV/AIDS and you can get HIV/AIDS by donating blood. Some participants 24% opined that if they have choice, they would not sleep in the same room with PLWHA. Some participants 40% believed that doctors, nurses, and other Healthcare workers should be agreed to refuse to care for people with HIV/AIDS. In our study majority of respondents (92%) agreed to prior- marriage HIV testing should be done. Many 88% of students believed that they feel uncomfortable witnessing the misery and distress caused by HIV/AIDS diagnosis.

DISCUSSION

The present observational cross – sectional study was conducted among 1st year MBBS students at IGIMS, Patna, to determine knowledge and attitude regarding HIV/AIDS. As for as the basic knowledge about HIV/AIDS is concerned, then most of the students were aware about the viral etiology, mode of transmission, treatment, and prevention of disease. This is similar to a study conducted among 1st year medical students in Karnataka in which most of the students were aware about the route of transmission.^[8] In our study, 97% of students have heard about HIV/AIDS. In our study, most of the students were aware that it does not spread through coughing, sneezing, and touching/handshaking. However, in a study conducted about general population in Karnataka, about one-third of the respondents thought it to be spread it just by touching a patient, who is HIV positive.^[8] However, some misconceptions were also revealed in our study such as 82% of students believed it to be spread through unprotected sex, injectable drugs, and share needle, 92% of students believed it to be spread by donating blood, 90% of students believed it to be spread by having sex more than one partner and anal sex (90%), hugging/kissing (30%), saliva, tears, sweats, and tears (88%), and

Table 1: Demographic figure of the respondents of the study sample (n=100)

Figure	Respondents (%)
Age (years)	
17–19	36 (36)
20–22	46 (46)
23–24	14 (14)
≥24	04 (04)
Sex	
Male	68 (68)
Female	32 (32)
Religion	
Hindu	86 (86)
Muslim	12 (12)
Others	02 (02)

Table 2: Sex-wise arrangement of respondents' knowledge about HIV/AIDS of study sample (n=100)

Question regarding knowledge about HIV/AIDS	Male=68 (%)				Female=32 (%)				Total no=100 (%)	Chi-square (χ^2) (%)	P value (%)
	Yes	No	DK		Yes	No	DK				
Have you heard about HIV/AIDS?	67 (98.53)	01 (1.47)	—	—	30 (93.75)	02 (6.25)	—	97 03	—	0.46	0.49
AIDS is caused by a virus	58 (85.29)	06 (8.83)	04 (5.88)	—	24 (75.00)	06 (18.75)	02 (6.25)	82 12 06	—	0.9	0.33
AIDS is caused by the same virus that causes herpes	46 (67.65)	14 (20.59)	08 (11.76)	—	26 (81.25)	04 (12.50)	02 (6.25)	72 18 10	—	1.37	0.24
Coughing, sneezing, and touching/hand shaking do not spread HIV	62 (91.18)	04 (5.88)	02 (2.94)	—	28 (87.50)	09 (9.38)	01 (3.12)	90 07 03	—	0.04	0.83
Having unprotected sex with someone who uses injectable drugs or shares needles most likely can be risk in contacting of HIV/AIDS	58 (85.29)	04 (5.88)	06 (8.83)	—	24 (75.00)	04 (12.50)	04 (12.50)	82 08 10	—	0.94	0.33
A woman can get HIV if she has anal sex with a man	62 (91.17)	04 (5.89)	02 (2.94)	—	28 (87.50)	03 (9.38)	01 (3.12)	90 06 04	—	0.04	0.83
All pregnant women infected with HIV will have babies born with AIDS	60 (88.23)	06 (8.83)	02 (2.94)	—	26 (81.25)	04 (12.50)	02 (6.25)	86 10 04	—	0.39	0.52
Vaccine for preventing HIV/AIDS is available	16 (23.53)	42 (61.76)	10 (14.71)	—	08 (25.00)	20 (62.50)	04 (12.50)	24 62 14	—	0.00	1.00
Person cannot be contacted with HIV/AIDS virus by hugging and kissing with HIV/AIDS	24 (35.29)	40 (58.83)	04 (5.88)	—	06 (18.75)	24 (75.00)	02 (6.25)	30 64 06	—	2.10	0.14
AIDS is a disease which destroys the body's natural immunity against infection	56 (82.35)	08 (11.76)	04 (5.89)	—	22 (68.75)	06 (18.75)	04 (12.50)	78 14 08	—	1.62	0.20
A person can get HIV from a mosquito or other insect bite	06 (8.82)	58 (85.30)	04 (5.88)	—	04 (12.50)	26 (81.25)	02 (6.25)	10 84 06	—	0.04	0.83
Pulling out the penis before a man climaxes/cums keeps a woman from getting HIV during sex	48 (70.59)	12 (17.65)	08 (11.76)	—	20 (62.50)	08 (25.00)	04 (12.50)	68 20 12	—	0.33	0.56
Having sex with more than one partner can increase a person's chance of being infected with HIV	62 (91.18)	04 (5.88)	02 (2.94)	—	28 (87.50)	02 (6.25)	02 (6.25)	90 06 04	—	0.04	0.83
Douching after sex will keep a woman from getting HIV	38 (55.88)	24 (35.30)	06 (8.82)	—	18 (56.25)	10 (31.25)	04 (12.50)	56 34 10	—	0.00	1.00
A person can get HIV by sitting in a hot tub or a swimming pool with a person who has HIV	16 (23.52)	46 (67.65)	06 (8.83)	—	06 (18.75)	24 (75.00)	02 (6.25)	22 70 08	—	0.07	0.77
Using Vaseline or baby oil with condoms lowers the chance of getting HIV	18 (26.48)	42 (61.76)	08 (11.76)	—	12 (37.50)	16 (50.00)	04 (12.50)	30 58 12	—	0.79	0.37
A person can get HIV through contact with saliva, tears, sweats, or urine	62 (91.18)	04 (5.88)	02 (2.94)	—	26 (81.25)	04 (12.50)	02 (6.25)	88 08 04	—	1.19	0.27
ARV drugs cures HIV/AIDS	64 (94.12)	02 (2.94)	02 (2.94)	—	28 (87.50)	03 (9.38)	01 (3.12)	92 05 03	—	0.55	0.45
Use of condom before sex prevents HIV/AIDS	58 (85.30)	08 (11.76)	02 (2.94)	—	28 (87.50)	03 (9.38)	01 (3.12)	86 11 03	—	0.00	1.00
What was the source of present information regarding HIV/AIDS?	—	—	—	—	—	—	—	—	—	—	—
Media	65 (95.59)	03 (4.41)	—	—	29 (90.63)	03 (9.37)	—	94 06	—	0.27	0.60
Friends	59 (86.76)	09 (13.24)	—	—	29 (90.63)	03 (9.37)	—	88 12	—	0.05	0.82
Teacher	57 (83.82)	11 (16.18)	—	—	28 (87.50)	04 (12.50)	—	85 15	—	0.03	0.85
Doctor	55 (80.88)	13 (19.12)	—	—	27 (84.38)	05 (15.62)	—	82 18	—	0.02	0.88
Internet	56 (82.35)	12 (17.65)	—	—	24 (75.00)	08 (25.00)	—	80 20	—	0.34	0.55
Television	62 (91.18)	06 (8.82)	—	—	28 (87.50)	04 (12.50)	—	90 10	—	0.04	0.83
Newspaper	52 (76.47)	16 (23.53)	—	—	26 (81.25)	06 (18.75)	—	78 22	—	0.07	0.77

HIV: Human immunodeficiency virus, AIDS: Acquired immune deficiency syndrome, ARV: Antiretroviral

Table 3: Sex-wise arrangement of respondents' attitude toward HIV/AIDS persons of study sample (n=100)

Question regarding attitude toward HIV/AIDS persons	Male=68 (%)				Female=32 (%)				Total no=100 (%)			Chi-square (χ^2)	P-value
	Yes		No		Yes		No		Yes	No	DK		
	Yes	No	DK	No	Yes	No	DK	Yes	No	DK			
Drinking alcohol can lead to behaviors that can cause the spread of HIV	18 (26.47)	46 (67.65)	04 (5.88)	08 (25.00)	22 (68.75)	02 (6.25)	26 (68)	06 (6)	0.00	1.00			
Patients with HIV/AIDS need to be nursed separately from other patients	62 (91.18)	05 (7.35)	01 (1.47)	30 (93.76)	01 (3.12)	01 (3.12)	92 (96)	02 (2)	0.00	0.96			
Person living with HIV/AIDS are to be guiled	60 (88.23)	06 (8.83)	02 (2.94)	26 (81.25)	04 (12.50)	02 (6.25)	86 (86)	10 (10)	0.39	0.52			
Doctors, nurses, and other HCMWs should be agreed to refuse to care for people with HIV/AIDS	28 (41.17)	34 (50.00)	06 (8.83)	12 (37.50)	17 (53.12)	03 (9.38)	40 (40)	51 (51)	0.01	0.89			
If a person tests positive for HIV, then the test site will have to say all of his or her colleague	46 (67.65)	18 (26.47)	04 (5.88)	24 (75.00)	06 (18.75)	02 (6.25)	70 (70)	24 (24)	0.26	0.60			
If they have choice, they would not sleep in the same room with people living with HIV/AIDS	46 (67.65)	16 (23.52)	06 (8.83)	20 (62.50)	08 (25.00)	04 (12.5)	66 (66)	24 (24)	0.07	0.77			
Sexual intercourse refers only vaginal intercourse	52 (76.47)	12 (17.65)	04 (5.88)	28 (87.50)	03 (9.38)	01 (3.12)	80 (80)	15 (15)	1.03	0.30			
All surgical patients should be routinely tested for HIV/AIDS on admission to hospital is mandatory	64 (94.12)	02 (2.94)	02 (2.94)	26 (81.25)	04 (12.5)	02 (6.25)	90 (90)	06 (6)	2.70	0.10			
All patients came in emergency department should be routinely tested for HIV/AIDS before admission to hospital is mandatory	66 (97.06)	01 (1.47)	01 (1.47)	30 (93.76)	01 (3.12)	01 (3.12)	96 (96)	02 (2)	0.05	0.80			
When sexual partners know one another well and trust each other, they do not need to use condom	52 (76.48)	12 (17.64)	04 (5.88)	22 (68.75)	08 (25.00)	02 (6.25)	74 (74)	20 (20)	0.33	0.56			
A pregnant woman with HIV can give the virus to her unborn baby	64 (94.12)	03 (4.41)	01 (1.47)	28 (87.50)	03 (9.38)	01 (3.12)	92 (92)	06 (6)	0.55	0.45			
They feel uncomfortable witnessing the misery and distress caused by HIV/AIDS diagnosis	60 (88.24)	06 (8.82)	02 (2.94)	28 (87.50)	02 (6.25)	02 (6.25)	88 (88)	04 (4)	0.00	1.00			
Youth are safe to have sex with other youth because many young people are not vulnerable to HIV/AIDS	54 (79.42)	10 (14.70)	04 (5.88)	25 (78.12)	03 (9.38)	04 (12.50)	79 (79)	13 (13)	0.00	1.00			
You can usually tell if someone has HIV by looking at them	48 (70.58)	14 (20.59)	06 (8.83)	22 (68.75)	06 (18.75)	04 (12.50)	70 (70)	20 (20)	0.00	1.00			
It is possible to get HIV when a person gets a tattoo	42 (61.76)	18 (26.48)	08 (11.76)	18 (56.25)	08 (25.00)	06 (18.75)	60 (60)	26 (26)	0.09	0.75			
There is no cure for AIDS	65 (95.59)	02 (2.94)	01 (1.47)	30 (93.76)	01 (3.12)	01 (3.12)	95 (95)	03 (3)	0.00	1.00			
A woman cannot get HIV if she has sex during her period	36 (52.94)	28 (41.18)	04 (5.88)	20 (62.50)	10 (31.25)	02 (6.25)	56 (56)	38 (38)	0.46	0.49			
You can get HIV/AIDS by donating blood	65 (95.59)	01 (1.47)	02 (2.94)	27 (84.38)	03 (9.37)	02 (6.25)	92 (92)	04 (4)	2.35	0.12			
The only certain protection against HIV and other STDs is to practice abstinence and/or avoid the use by drugs	59 (86.76)	07 (10.30)	02 (2.94)	24 (75.00)	05 (15.62)	03 (9.38)	83 (83)	12 (12)	1.38	0.23			
Prior- marriage HIV testing should be done	64 (94.12)	03 (4.41)	01 (1.47)	28 (87.50)	03 (9.38)	01 (3.12)	92 (92)	06 (6)	0.55	0.45			

HIV: Human immunodeficiency virus, AIDS: Acquired immune deficiency syndrome, STD: Sexually transmitted diseases, PLWHA: People living with HIV/AIDS

tattooing (60%). In similar another study conducted among medical students in Bijapur,^[9] among nursing students of Kolkata,^[10] and among college students of Kerala,^[11] as well as medical students of Andhra Pradesh by Basavayya *et al.*^[12] it was observed that students had misconception that HIV can be spread through kissing and playing together. A study done by Moshin *et al.*^[13] showed some myths among medical students like urine which can transmit HIV. In our study conducted among 1st year medical student, 10% of participants believed that it can be transmitted by mosquito/insect bite, which is similar with that of Shankar *et al.*,^[14] 2011 and Ouzouni *et al.*^[15] in 2012. The misconception of spread through mosquito bite has also been reported among medical students by Joshi *et al.*^[16] and Basavayya *et al.*^[12] In a study among 1st year medical students in the city of Madras in India, 86.8% of students knew that HIV cannot spread by mosquitoes.^[17] The same outcome was also demonstrated in a study by Najem and Okuzu^[18] among 1st and 2nd-year medical students and in a study among 4th-year medical students at Zagreb University. In another study conducted by Chemtob *et al.*^[19] among Israeli adults, 34% of participants thought that mosquitoes could spread HIV, and 29% thought HIV can spread through saliva. In our study majority of male medical students had better knowledge regarding the transmission of HIV/AIDS than female students. However, in another study conducted by Kuruvilla^[20] among medical students such dissimilarity was also obvious [Table-2].

In our study, 24% of respondents believed that vaccine for preventing HIV/AIDS is available, which is in contrast with some recent studies. Our study also revealed one important aspect of prevention and treatment. The knowledge regarding ARV drugs cures HIV/AIDS is still a matter of concern. In our study, majority of participants 92% were aware ARV drugs cures HIV/AIDS, and the finding is similar with studies of the recent years.^[21,17] Most of the participants (86%) in our study correctly knew that the use of condom before sex prevents HIV/AIDS. This finding is consonance with the studies conducted in recent years^[14,19,20] [Table 2].

In our study, media (94%) was the leading source of information for participants regarding the present knowledge about HIV/AIDS which is similar to the finding shown by the study conducted in Kerala^[11] and Delhi.^[22,23] TV (90%), friends (88%), teacher (85%), doctor (82%), internet (80%), and newspaper (78%) were other sources of information about the HIV/AIDS after that media, which was similar to study conducted in recent years by Kiran *et al.*,^[24] Chauhan *et al.*,^[25] and Al-Rabeei *et al.*^[26] However, studies of the early 1990s^[27] showed that newspapers were the main source of information [Table 2].

Attitude toward HIV/AIDS

Among all of the study participants, about 26% agreed that drinking alcohol can lead to behaviors that can cause the spread of HIV. As shown in Table 3, about 92% of respondents believed that patients with HIV/AIDS need to be nursed separately from other patients and Doctors, nurses, and other HCMWs should be agreed to refuse to care for people with HIV/AIDS to only 40%. A high proportion about 86% (60% males and 26% females) respondents believed that person living with HIV/AIDS are to be guided, while about 40% of respondents considered such as doctors, nurses, and other HCMWs should be agreed to refuse to care for people with HIV/AIDS. In our study, significantly higher percentage of males (66%) than females (30%) believed that all patients came in emergency department should be routinely tested for HIV/AIDS before admission to hospital is mandatory, and about 90% respondents also agreed that all surgical patients should be routinely tested for HIV/AIDS on admission to hospital. In one study, approximately 90% of medical students stated that all patients admitted to the hospital should be HIV tested.^[14] Besides, routine HIV testing is not a valid economic alternative to universal precautions. The value of universal precautions is that they protect health-care workers and patients against infection with a range of pathogens, not just HIV/AIDS^[28] [Table 3].

In our study, majority of 95% of respondents believed that there is no cure for AIDS, while in a study conducted among the college students, 10% believed so,^[29] whereas 45% of students in Kerala were aware that AIDS is non-curable at present time.^[30]

In our study, as many as 88% of respondents believed that they feel uncomfortable witnessing the misery and distress caused by HIV/AIDS diagnosis, while 66% respondents agreed that if they have choice, they would not sleep in the same room with people living with HIV/AIDS. In another study in Lucknow, about 74% of college students agreed to share a room with a HIV patient.^[29] This attitude is verified two decades back because awareness was lacking among people, and hence, people had negative attitude toward PLWHA.^[31,32] The finding of our study is also in consonance to some recent studies^[17,26,31,33] which reported a considerable tendency to attitude toward HIV/AIDS-positive patients among general students [Table 3].

In our study, majority of 92% of students believed that a pregnant woman with HIV can give the virus to her unborn baby, while some 56% of respondents agreed that a women cannot get HIV if she has sex during her period. In another study by Hansoon *et al.*, in Kazakhstan, 77% of students were against the HIV-infected couple to have their own children.^[34] A majority of 92% of students believed that it to be spread by donating blood, while 60%

of students agreed that it is possible to get HIV when a person gets a tattoo.

In our study, majority of 83% of students agreed that only certain protection against HIV and other STDs is to practice abstinence and/or avoid the use by drugs. In many of the studies done among young people, abstinence seems to be the most appropriate way of preventing HIV/AIDS.^[35,36] In a study done among youth attending church in Nigeria, abstinence seemed not to be a plausible option of preventing the disease despite the moralistic stand of the churches. It has been shown in Nigeria that many young people believe that condoms interfere with the closeness or intimacy of sexual intercourse, thus disrupting sexual pleasure and finally making it less enjoyable and cumbersome.^[37]

In our study, majority of 92% of students believed that prior-marriage HIV testing should be done. Umeora and Esike^[38] in their study recommended that the screening of intending couples could play an important role in HIV detection in the general population. Another study in Ghana^[39] showed that some religious leaders believed that their insistence on mandatory pre-marital HIV testing policy was their genuine way of protecting those who are HIV negative from becoming infected [Table 3].

CONCLUSION AND RECOMMENDATION

In our study, the knowledge and attitude about HIV/AIDS among 1st year medical students were found to be unreliable. However, the general level of knowledge of medical students about HIV/AIDS was not bad; they had quantity of misinterpretation found about it. There is a necessity to consider the basic knowledge of the students about HIV/AIDS and accessible the misinterpretation regarding the disease by the medical educators. Medical educators must get ready to help students overcome preconception and increase their ability for understanding toward HIV/AIDS patients. There is also a need to focus attention on attitudinal issues about a conscious disease such as HIV/AIDS in the medical undergraduate curriculum. There should be a development of crucial multifaceted partners within medical colleges for contributing applicable training programs and sufficient clinical risk of medical college students with HIV/AIDS patients. Role play act by medical educator may improve the students' knowledge, attitude, and disparage misinterpretation toward HIV/AIDS patients. However, the knowledge about HIV/AIDS is crucial for all health-care professionals.

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REFERENCES

- Dubey MP, Gupta I. Some studies on the anthelmintic activity of *Alangium lamarckii* Thwaites-(Hindi-akol) root bark. A preliminary report. *Ind J Physiol Pharmacol* 1968;12:25-31.
- Govt. of India. Annual Report 2011-12, NACO, Department of AIDS Control, Ministry of Health and Family Welfare. Park's Textbook of Preventive and Social Medicine. 24th ed. New Delhi: National AIDS Control Organisation; 2012p. 362-3.
- Joint United Nations Programme on AIDS. Report on the Global AIDS Epidemic. Geneva: Joint United Nations Programme on AIDS; 2008.
- WHO, UNICEF, UNAIDS. Global Update on HIV Treatment 2013: results, Impact and Opportunities. Geneva: World Health Organization; 2013. Available From: <http://www.who.int/hiv/pub/progress-reports/update2013/en/index.html>. [Last accessed on 2015 Aug 25].
- Global Report: UNAIDS Report on the Global AIDS Epidemic 2013. Geneva Joint United Nations Programme on HIV/AIDS; 2013. Available from: http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2013/gr2013/UNAIDS_Global_Report_2013_en.pdf. [Last accessed on 2018 Jul 25].
- Annual Report 2012-13, Department of AIDS Control, Ministry of Health and Family Welfare Government of India; 2013. p. 6.
- Park K. Epidemiology of communicable diseases. In: Park's Textbook of Preventive and Social Medicine. 24th ed. Jabalpur: M/s Banarsidas Bhanot Publishers; 2015. p. 361-3.
- Joshi AV, Nikam K, Hungund BR, Viveki RG, Nikam SV, Halappannavar AB, *et al.* Knowledge about and attitude towards HIV/AIDS among first year medical students: Across-sectional study. *J Sci Soc* 2013;40:155-8.
- Ud giri R, Yadavannavar MC, Angadi MM, Sharvanan F. Knowledge about HIV/AIDS among first year medical students. *Al Ameen J Med Sci* 2011;4:280-2.
- Deb S. Attitude of nursing students of Kolkata towards caring of HIV/AIDS patients *Ind J Community Med* 2004;29:111-3.
- Lal SS, Vasan RS, Sharma PS, Thankappan KR. Knowledge and attitude of college students in Kerala towards HIV/AIDS, sexually transmitted diseases and sexuality. *Natl Med J India* 2000;13:231-6.
- Basavayya GS, Sai TS, Kolli SK. Awareness of HIV/AIDS among medical students. *Ind J Public Health* 2005;49:31-2.
- Moshin S, Nayak S, Mandaviya V. Medical student's knowledge and attitudes related to HIV/AIDS. *Natl J Community Med* 2010;1:146-9.
- Shankar R, Pandey S, Awasthi S, Rawat CM. Awareness of HIV/AIDS among first year medical undergraduates in Nanital, Uttarakhand, India. *Ind J Prev Soc Med* 2011;42:168-72.
- Ouzouni C, Nakakis K. HIV/AIDS knowledge, attitudes, and behaviors of student nurse. *Health Sci J* 2012;6:129-50.
- Joshi AV, Nikam K, Hungund BR, Viveki RG, Nikam SV, Halappannavar AB, *et al.* Knowledge about and attitude towards HIV/AIDS among first year medical students: A cross sectional study. *J Sci Soc* 2013;40:155-8.
- Amalraj E, Chandrasekaran N, Solomon S, Sumbandam R. First-year medical students' AIDS knowledge and attitude. *Ind J Community Med* 1995;20:36-40.
- Najem GR, Okuzu EI. International comparison of medical students' perceptions of HIV infection and AIDS. *J Natl Med Assoc* 1998;90:765-74.
- Chemtob D, Damelin B, Bessudo-Manor N, Hassman R, Amikam Y, Zenilman JM, Tamir D: Getting AIDS: Not in my back yard. Results from a national knowledge, attitudes and practices survey. *Isr Med Assoc J*. 2006, 8: 610-614.
- Kuruvilla M. KAP study on HIV/AIDS among first year MBBS students. *Ind J Dermatol Venereol Leprol* 1997;63:225-8.
- Mahadevappa D, Hiremath SL. Knowledge of HIV/AIDS among undergraduate medical students in Karnataka. *Gold Res Thought* 2015;4:1-5.
- McManus A, Dhar L. Study of knowledge, perception and attitude of

- adolescent girls towards STIs/HIV, safer sex and sex education: (A cross sectional survey of urban adolescent school girls in South Delhi, India). *BMC Womens Health* 2008;8:12.
23. Bhalla S, Chandwani H, Singh D, Somasundaram C, Rasanika SK, Singh S. Knowledge about HIV/AIDS among senior secondary school students in Jamanagar, Gujarat. *Health Popul* 2005;28:178-88.
 24. Kiran N, Arun J, Bhagyashri J, Rajashekhar K, Shashikant N, Anjana B. A cross-sectional study of HIV/AIDS awareness among paramedical students of BIMS, Belgaum. *J Adv Res Biol Sci* 2013;5:336-40.
 25. Chauhan AS, Hussain MA, Pati S, Nallala S, Mishra J. Knowledge and attitudes related to HIV/AIDS among medical and allied health sciences students. *Ind J Community Health* 2011;23:96-8.
 26. Al-Rabeei NA, Dallak AM, Al-Awadi FG. Knowledge, attitude and beliefs towards HIV/AIDS among students of health institutes in Sana'a city. *East Mediterr Health J* 2012;18:221-6.
 27. Chatterjee C, Baur B, Ram R, Dhar G, Sandhukhan S, Dan A, *et al.* A study on awareness of AIDS among school students and teachers of higher secondary schools in north Calcutta. *Ind J Public Health* 2001;45:27-30.
 28. Lawrence VA, Gafni A, Kroenke K. Presentation preoperative HIV testing: Is it less expensive than universal precautions? *J Clin Epidemiol* 1993;46:1219-27.
 29. Dubey A, Sonker A, Chaudhary RK. Knowledge, attitude, and beliefs of young, college student blood donors about human immunodeficiency virus. *Asian J Transfus Sci* 2014;8:39-42.
 30. Lal SS, Vasan RS, Sarma PS, Thankappan KR. Knowledge and attitude of college students in Kerala towards HIV/AIDS, sexually transmitted diseases and sexuality. *Natl Med J India* 2000;13:231-6.
 31. Gray LA, Devadas RP, Kamalanathan OV. Knowledge, attitudes, and beliefs about HIV/AIDS among Hindu students from agovernment women's college of South India. *Int J Adv Couns* 1999;21:207-19.
 32. Lal P, Kumar A, Ingle GK, Gulati N. Some AIDS-related policy issues and nursing students willingness to provide AIDS care. *J Commun Dis* 1998;30:38-43.
 33. Thanavanh B, Harun-Or-Rashid MD, Kasuya H, Sakamoto J. Knowledge, attitudes and practices regarding HIV/AIDS among male high school students in Lao people's democratic republic. *J Int AIDS Soc* 2013;16:1-7.
 34. Hansson M, Stockfelt L, Urazalin M, Ahlm C, Andersson R. HIV/AIDS awareness and risk behavior among students in Semey, Kazakhstan: A cross-sectional survey. *BMC Int Health Hum Rights* 2008;8:14.
 35. Ezumah NN. Gender issues in the prevention and control of STIs and HIV/AIDS: Lessons from Awka and Agulu, Anambra state, Nigeria. *Afr J Reprod Health* 2003;7:89-99.
 36. Akpabio II, Asuzu MC, Fajemilehin BR, Ofi AB. Effect of school health nursing education interventions on HIV/AIDS-related attitudes of students in Akwa Ibom state, Nigeria. *J Adolesc Health* 2009;44:118-23.
 37. Smith DJ. Imagining HIV/AIDS: Morality and perceptions of personal risk in Nigeria. *Med Anthropol* 2003;22:343-72.
 38. Umeora OU, Esike C. Prevalence of HIV infection among premarital couples in southeast Nigeria. *Afr J AIDS Res* 2005;4:99-102.
 39. Luginaah IN, Yiridoe EK, Taabazuing MM. From mandatory to voluntary testing: Balancing human rights, religious and cultural values, and HIV/AIDS prevention in Ghana. *Soc Sci Med* 2005;61:1689-700.

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