

Study of Awareness of Human Immunodeficiency Virus Infection among First- and Second-year MBBS Undergraduates in a Private Medical College in North Maharashtra, India

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ABSTRACT

Introduction: Globally, India has the third largest human immunodeficiency virus (HIV) epidemic, with 2.1 million Indians being affected with the deadly virus. The lack of awareness and misconceptions about HIV are accountable for communal stigma, discrimination, and the quick spread of the infection in our country. Understanding of the various clinical, ethical, and medicolegal concerns related to HIV infection among medical students is very essential.

Objective:

- To assess the awareness and knowledge about HIV infection and transmission;
- To evaluate its medicolegal aspects among medical students.

Materials and methods: To assess the knowledge of HIV infection among medical students, an observational cross-sectional study was conducted in a private medical college in north Maharashtra region. A predesigned, semistructured questionnaire was filled by the first- and second-year Bachelor of Medicine and Bachelor of Surgery students and data obtained were evaluated, tabularized, and presented in the form of percentages.

Results: In a significant number of students, the awareness of HIV infection and transmission was very satisfactory. Majority of the students were conscious about the transmission and preventive measures of HIV.

Conclusion: From the study, we obtained satisfactory and encouraging results regarding HIV transmission. This study will help in preventing the transmission of HIV and promoting good sexual practices, minimizing myths or misconceptions.

Keywords: Human immunodeficiency virus infection, Medicolegal aspects, Sexual transmission.

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INTRODUCTION

Acquired immunodeficiency syndrome (AIDS) is a retroviral disease caused by the HIV. It is characterized by the infection and depletion of CD4+ T-lymphocytes, and by profound immunosuppression leading to opportunistic infections, secondary neoplasms, and neurologic manifestations.¹ India has the third largest HIV epidemic in the world, with 2.1 million Indians accounting for about 4 out of 10 people infected with the deadly virus in the Asia-Pacific region, according to a United Nations report.² According to the National AIDS Control Organization, the number of people affected with HIV (people living with HIV/AIDS) in India in 2015 was estimated to be 21.17 lakhs.³

The lack of awareness and misconceptions about HIV in general population is responsible for communal stigma, discrimination, and the quick spread of the infection in our country.⁴ The World Health Organization in its report on the role of HIV-related medical education in the South-Asia region has stressed on the significance of incorporating training in sensitivity, communication abilities, and the development of empathetic attitudes toward HIV-infected patients in the medical syllabuses.⁵ The medical undergraduate students being the imminent doctors, who will be serving the society, should have adequate knowledge, which in turn may enlighten and deliver useful information to all other different kinds of health workers in their surroundings, to provide all the necessary care to HIV-positive patients. Hence, the comprehensive knowledge of the first and second-year Bachelor of Medicine and Bachelor of Surgery students, who directly come from the common populace, is imperative to reduce the fear and upsurge compassion in the community. With this objective, the present study was undertaken to judge

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the knowledge and awareness about HIV infection and transmission among first- and second-year medical students.

MATERIALS AND METHODS

Study Design: Observational cross-sectional study.

Sample size: A total of 300 medical students (150 first year and 150 second year) participated voluntarily in the study.

Study duration: 1 month (May 2017).

Methodology

The reason for conducting the study was described to the students before the start of the study. A predesigned self-administered, semistructured questionnaire was developed. The final questionnaire comprised five sections each, encompassing various questions exploring knowledge regarding HIV infection, its transmission, and the medicolegal issues regarding HIV. Responses to evaluate knowledge were recorded in the form of either "Yes" or "No." To circumvent the bias, the questionnaire was concurrently administered to the students of both the classes in a single sitting in the lecture theater. Necessary precautions were taken to safeguard anonymity.

Statistical Analysis

After collecting the questionnaire forms, data collected from 300 students were evaluated and analyzed to get the percentages and tabularized using Microsoft Excel 2010.

Table 1: Awareness about HIV/AIDS among the first- and second-year medical students

Awareness	Yes, n (%)	No, n (%)
Heard about HIV	300 (100%)	0
Caused by the virus and diagnostic tests	300 (100%)	0
Disease is incurable	288 (96%)	12 (4%)
Full form of AIDS	282 (94%)	18 (6%)
Contagious	225 (75%)	75 (25%)
Full form of HIV	198 (66%)	102 (34%)

Table 3: Misconception about modes of transmission

Misconception about mode of transmission	Yes, n (%)	No, n (%)
Mosquito bite	15 (5%)	285 (95%)
Kissing and sharing of clothes	9 (3%)	291 (97%)
Sharing of food and utensils	6 (2%)	294 (98%)
Sharing of toilet seats	3 (1%)	297 (99%)

RESULTS

A total of 300 first- and second-year medical students were assessed; among them, 186 (62%) were males and 114 (38%) were females. The students were in the age group of 18 to 21 years. It was observed that all students (100%) were conscious about HIV/AIDS disease and its causative agent. About 94% students correctly wrote full form of AIDS; in comparison, only 66% could write the full form of HIV. All students (100%) were aware about the availability of diagnostic tests. A majority of the students (96%) agreed that once infected with HIV, there is no cure and 75% were aware that AIDS was a contagious disease (Table 1).

All students believed that HIV transmission is possible by sexual transmission (100%) followed by blood transfusion (95%) (Table 2).

Very few students had the misconception about modes of transmission by mosquito bite (5%), followed by kissing and sharing clothes (3%), and sharing of food and utensils (2%) (Table 3).

It was good to observe that most of the students were aware that they cannot refuse to treat an HIV patient (99%) and also the legal liabilities of transmission of HIV to others (Table 4).

All the students were aware that HIV is prevented by avoiding unprotected sex with multiple partners, followed by avoiding sharing needles among intravenous (IV) drug users (98%) (Table 5).

DISCUSSION

The present study was carried out in a private medical college in the north Maharashtra region, with the prime objective to test the awareness of HIV infection and its

Table 2: Knowledge about modes of transmission of HIV among first- and second-year medical students

Modes of transmission	Yes, n (%)	No, n (%)
Sexual transmission	300 (100%)	0
Blood transfusion	285 (95%)	15 (5%)
Unsterile needles	273 (91%)	27 (9%)
Shaving with same blade or razor	261 (87%)	39 (13%)

Table 4: Knowledge of law in relation to HIV transmission

Knowledge	True, n (%)	False, n (%)
Refuse to treat HIV patient	3 (1%)	297 (99%)
Criminal negligence if HIV transmitted through blood transfusion	282 (94%)	18 (6%)
Transmission of HIV negligently or willfully is punishable	285 (95%)	15 (5%)
Special universal precautions needed during autopsy of HIV-positive body	276 (92%)	24 (8%)

Table 5: Awareness about preventive measures

Preventive measures	Yes, n (%)	No, n (%)
Avoid unprotected sex with multiple partners	300 (100%)	0
Avoid sharing needles among IV drug users	294 (98%)	6 (2%)
Use of condoms	282 (94%)	18 (6%)
Special universal precautions needed during autopsy of HIV-positive body	276 (92%)	24 (8%)

medicolegal aspects among medical undergraduate students. From the results obtained from the study, it was overwhelming to identify that the majority of students have overall mindfulness about HIV transmission. Very few students had misconceptions about the HIV transmission. The results of our study corroborated well with the study conducted by Shankar et al,⁶ who reported that all the students were aware about the term HIV and the causative agent and that the majority knew that the infection is incurable.

A wide number of the students were well-versed with the knowledge regarding routes of transmission, which is in accordance with the study carried out by Brijmohan and Vashist⁷ and Koksals et al.⁸

Misconceptions about the transmission of HIV was less and satisfactory. Similar findings are observed by Samant et al⁹ and Rotimi and Oluwafemi.¹⁰

A majority of the students were aware about the legal aspects of HIV transmission like section 269, 270, 304 A of the Indian penal code and about universal precautions to be taken during autopsy of an HIV-infected body.

It was further observed that most of the students were proficient about preventive measures that can prevent HIV infection. Similar findings were noted in the study conducted by Shankar et al⁶ and Kumar et al.¹¹

CONCLUSION

To conclude, we got satisfactory and encouraging results regarding the knowledge of HIV infection and transmission among medical undergraduates. This study will help in preventing the transmission of HIV and promoting good sexual practices, minimizing myths or

misconceptions. It is vital to encourage the introduction of basic sex education curriculum at the school and college level for increasing awareness about HIV.

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