Original article

AIDS Awareness among Clinical Dental Students of Karnataka, India

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Abstract

Objective: HIV-infected patients, with or without knowledge of their own serologic status are seeking dental care in increasing numbers. Dental students are at the risk of exposure to the HIV infections during their clinical training if adequate and stringent infection control measures. The objective of the present study was to assess the level of understanding and awareness of this disease among the third year clinical dental students at a private dental institution in Mangalore, Karnataka, India.

Materials and methods*:* A cross sectional survey of 100 third year clinical dental students of Karnataka was carried out using a self-administered questionnaire. The questionnaire comprised of sociodemographic details, apart from 8 questions on knowledge and 2 questions on attitude towards HIV/AIDS patient. Descriptive analysis was carried out.

Results: The response rate was 100%. Majority of students' knew that AIDS is a disease of immunity. About 78% of the students knew that HIV/ AIDS is transmitted by contaminated blood products. Eighty six percent of the subjects knew which test was done to detect AIDS while others were not quite sure of it. Only 15% answered correctly regarding the percentage risk of transmission of HIV to a health care worker following contaminated needle stick injury. Most of the students were either not aware or not sure about the universal precaution measures to be taken while treating an AIDS patient.

Conclusion*:* The results showed that the third year dental students of Karnataka, India had fair knowledge and good attitude regarding HIV/AIDS. However it did reveal some of the inadequacies and misconceptions regarding the disease among the dental students.

Key-words: Acquired Immunodeficiency Syndrome, Human Immunodeficiency Virus, dental education, infection control.

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Introduction:

Acquired Immunodeficiency Syndrome (AIDS) is a condition that gradually destroys the body's immune defence system and makes the body vulnerable to opportunistic diseases. It is caused by infection with the Human Immunodeficiency Virus (HIV).[1] Since the time AIDS was first diagnosed in the United States in 1981, it still remains the leading killer of humans. HIV infection rates are increasing in several countries in Eastern Europe and central Asia, which have expanding, concentrated epidemics, notably among people who inject drugs and their sexual networks. [2, 3] As per the UNICEF facts sheet,[4] An estimated 33.4 million people worldwide were living with HIV (2008).

Approximately 2.1 million children under 15years were living with HIV (2007). An estimated 2.1 mil-

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lion people died of AIDS-related causes (2007). An estimated 290,000 children under 15years died of AIDS-related causes (2007). India has a low HIV prevalence of 0.34 per cent. Yet in terms of individuals infected, India is home to the third largest number of people living with HIV in the world. The vast majority of HIV infections in India occur through sexual transmission (85.6 per cent). Nearly five per cent of infections are attributable to parent-to-child transmission. The epidemic disproportionately affects women, who account for 40 per cent of the total infections in the country. In India, the epidemic is more pronounced in urban areas than rural ones and decreases with increasing education levels.

The major causes of increasing HIV infection include unprotected sexual contact, injection drug use, contaminated blood transfusion, mother-to-child transmission (prenatal and while breastfeeding), and occupational exposure among health care workers.[5] About 90% of the HIV infections among healthcare workers occur in developing countries where occupational safety is a neglected issue.[6-8] Oral health issues have been identified as a significant health issue in HIV-infected individuals. Oral manifestations of HIV/AIDS, such as thrush, warts, periodontal diseases, etc. occur in a very high percentage of people living with HIV/AIDS.[9] Oral health care is essential for the patients living with HIV/AIDS, because of its relationship to good nutrition. Discomfort and pain associated with oral ulceration adversely affects the ability of AIDS patients to eat; thereby affecting their quality of life. HIV-infected patients, with or without knowledge of their own serologic status are seeking dental care in increasing numbers.[9-11] Oral health care professional do have an ethical responsibility of providing oral health care to the patients with HIV/AIDS without discrimination.

Dental students are at the risk of exposure to the HIV infections during their clinical training if adequate and stringent infection control measures are not followed. All dental students should have complete knowledge about the universal precautions which is an administrative control measure that calls for the implementation of practices and equipment to protect the health care workers whenever the potential exists for exposure to blood. Every patient is considered to be infected with a blood-borne pathogen regardless of the known sero-status.[12]

The BDS course is four years with the third and fourth years consisting of clinical training along with didactic courses in Karnataka, India. The third year of the course is a phase of transition from the pre-clinical to the clinical side. It is essential that before a student deals with a patient directly, he/she should be aware of the various infectious diseases that could be acquired while handling a patient and the universal precautions to be deliberately followed. Owing to the increasing spread of HIV/AIDS in India, the present study aimed to assess the level of understanding and awareness of this disease among the third year clinical dental students at a private dental institution in Mangalore, Karnataka, India.

Materials and methods:

The study population comprised of 100 third year dental undergraduate students of A. B. Shetty Memorial Institute of Dental Sciences, Mangalore, Karnataka, India. A cross-sectional survey was carried out using a self-administered pretested questionnaire. Ethical approval was obtained from the Institutional Ethical Committee. Students were informed about the study. Participation was voluntary and students willing to participate were included in the study. The questionnaires were distributed in the classroom and were collected back after 20 mins.

Survey instrument:

The questionnaire comprised of sociodemographic details, 8 questions on knowledge and 2 questions on attitude towards HIV/AIDS patient. Students were asked to mark the best answer among the options given.

Data Analysis:

The data was entered into Microsoft Excel for Windows and descriptive analysis was carried out (Number of correct responses). A score of ‘1’ was given for each correct answer and ‘0’ for every wrong answer. ‘Don’t know’ responses were counted as an incorrect response.

Results:

The response rate was 100% (n= 100). Table 1 shows the gender distribution of the sample. There were 70 female and 30 male students. Table 2 shows the number of correct responses to the questions asked. According to majority of students’ i.e.75%, AIDS is a disease of immunity, although comparative 24% students assume AIDS to be a virus. About 78% of the students knew that HIV/ AIDS is transmitted by contaminated blood products. Only few (41%) were aware of the fact that HIV/ AIDS

patients have higher chances of getting cancer. Only 15% answered correctly regarding the percentage risk of transmission of HIV to a health care worker following contaminated needle stick injury. Most of the students were either not aware or not sure about the universal precaution measures to be taken while treating an AIDS patient. About 76% believe that AIDS is not a genetic disease, while 18% do not think so. 86% knew which test was done to detect AIDS while others were not quite sure of it. For the question regarding the spread of AIDS, 77% answered that it doesn't spread by sharing utensils or caring whereas it spreads by sharing the needles among drug users. 64% of the students were willing to treat HIV/AIDS patients. When asked regarding their attitude towards an HIV positive friend, 90% of the students have responded that their friendship remains the same.

Table 1: Gender distribution of the sample

Gender	Number
Male	30
Female	70

Table 2: Correct responses to the questions regarding HIV/AIDS.

AIDS is	Disease of immunity	75 (75)
AIDS is transmitted via	Contaminated blood products	78 (78)
AIDS patients have a higher chance of getting cancer	True	41(41)
Percentage risk of transmission of HIV to a health care worker following contaminated needle stick injury	0.13 – 0.5%	15(15)
Awareness regarding universal precaution measures to be taken while treating an AIDS patient	Yes	35 (35)
AIDS is a genetic disease	False	76 (76)
Test to detect AIDS	ELISA	86 (86)
AIDS spreads by	Sharing needles among drug users	77 (77)
Willingness to treat HIV/ AIDS patient	Yes	64 (64)
If you have a friend who is HIV positive, your attitude towards him/her would be	Friendship remains the same.	90 (90)

Discussion:

The emergence of the blood-borne pathogens and the increasing number of infected patients compel the dental professionals to have thorough knowledge about infectious diseases and the precautions to be taken while rendering dental care to HIV/AIDS patients. Adequate knowledge instils a sense of confidence in students about their own ability to manage HIV-infected patients.

The duration of undergraduate training for a dentist (Bachelor of Dental Surgery) in India is four years with one year of compulsory rotator internship as prescribed by the Dental Council of India, the regulatory body for dental education. The first two years are devoted to the study of subjects in basic medical sciences and preclinical dental subjects while the third and fourth year are the clinical years. The choice of third year students as sample in this study was because the curriculum at the level; is expected to prepare them for the academic and clinical challenges of delivering optimal care to HIV infected individuals.

The present study shows that the students had a fair knowledge regarding HIV/AIDS. The finding is consistent with those reported in literature. [13-16] In the current study, 75% of the students reported that AIDS is a disease of immunity and 76% agreed that it is not a genetic disease. These values were higher than those reported by Oboro et al[17] where only 54.7% disagreed that HIV is contagious. Majority of them believed that HIV/AIDS was transmitted through contaminated blood products, a finding consistent with previous studies[11,18,19].[11,18,19] Only 41% were aware that HIV/ AIDS patients have higher risk for cancer.

An Indian study by Harish et al[20] reported that 88.8% of the dental clinical students overestimated the risk of transmission of virus following a needle stick injury. In the present study too, most of the students overestimated the percentage risk. Overestimation of the transmission risk of HIV may be the most important reason for fear in providing care for HIV-infected patients.

Most of them (65%) were not aware of the Universal precautions that should be followed while treating HIV/ AIDS patients. Shan V[21] reported that although a vast majority 96% practiced Universal work precautions of wearing gloves and masks, only

29% of the students wore a protective eye wear. Dental health staff is exposed to infectious agents during work, especially when proper barrier precautions are not followed. [6]

Manish et al[14] have reported that 74.3% of the students agreed that HIV/AIDS spread by the sharing of IV needles among drug users. Also, 71.6% of the students disagreed that HIV/AIDS spreads by sharing plates/ forks/ utensils and 82.4% disagreed that HIV/AIDS spreads by shaking hands, touching or kissing on the cheek. In the present study, 77% had responded that HIV/AIDS spread by the sharing of IV needles among drug users and that it does not spread by sharing utensils or by caring.

In the present study, 64% of the students were willing to treat HIV/AIDS patients which reflected their positive attitude towards HIV/AIDS patients. Similar findings were by Harish et al[20] among Indian students where 68.4% were willing to treat HIV patients. Oboro et al[17] reported that 63.3% of dental students in Nigeria and Ryalat et al[18] reported 60.8% of the third year Jordanian dental students were willing to treat AIDS patients. This level of willingness needs to improved and sustained before entry into clinical level to achieve optimal oral healthcare for the HIV infected. Ellepola et al[19] have reported that 63.6% of the Kuwaiti dental students and Al–Naimi et al [22] have reported that 75.9% of the Iraqi dental students had a negative attitude and were not willing to treat HIV/AIDS patients. Nasir et al[23] have attributed the reluctance of health care personnel and perhaps dental students to treating HIV sero-positive patients to the fear of HIV contagion.

In order to effectively sensitise dental care providers, Seacat et al suggested that the dental curriculum should include experiential opportunities for structured interaction between students and people living with HIV/AIDS (PLWHA), both in the classroom and in the clinical settings. They also suggested that creative partnerships forged between local AIDS service organisations and the dental schools would help to effectively remove stigmas associated with the disease.[24]

Conclusion:

The present study concluded that the third year dental students had fair knowledge and good attitude regarding HIV/AIDS. However it did reveal some of the inadequacies and misconceptions regarding the disease among the dental students. The findings highlight the need for provision of adequate information to manage and safely treat patients with HIV/AIDS during the preclinical years of dental training itself. The information should be sound, scientifically proven facts rather than providing 'inconsistent' and 'mixed messages' creating more of confusion and anxiety among the students. Both didactic and practical training of dental students in diagnosing and treating HIV-related oral lesions are recommended. The students should be sensitised to the risk in exposure to HIV but at the same time emphasis should be placed on the strict adherence to the universal precautions guidelines and protocol to be followed when treating such cases.

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