



Knowledge of HIV/AIDS and Attitude of Dental Students towards HIV/AIDS Patients

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ABSTRACT

The aim of the study was to assess the knowledge, awareness and the attitude of dental students towards HIV/AIDS patients. A self-administered structured questionnaire consisting of 29 questions on knowledge, attitude and awareness about HIV/AIDS was distributed among 120 students randomly belonging to final year and intern students of saveetha dental college, saveetha university, chennai. The data extracted were tabulated, statistically analyzed using SPSS Version 17.0 and results obtained. The total mean knowledge score was 18.65 (64%) (Good knowledge), and according to the year of study it was 15.62 (53.5%) for final year students and 21.78 (75%) for interns. Only 35% from final years and 8% from intern were unwilling to treat HIV/AIDS patients. The results were statistically significant. From the present study we found that overall knowledge of students about HIV/AIDS was adequate. However, there were inadequacies in terms of modes of HIV transmission, risk of contamination, average time interval for production of antibody and the defense cell which is involved in HIV/AIDS. Majority of the students showed positive attitude towards HIV/AIDS patients. Interns had more knowledge and awareness compared to final year students. It is recommended that a comprehensive training of the dental students be done, to promote a good delivery of accurate information on HIV/AIDS to the public and to provide proper patient care.

Keywords: HIV/AIDS, knowledge, attitude, dental students.

INTRODUCTION

HIV/AIDS is an infectious disease and are two different condition which are commonly misunderstood as the same due to their terms which are always coined together. HIV stands for human immunodeficiency virus that causes AIDS. HIV attacks the immune system by destroying CD4 positive (CD4+) T cells. The acquired immunodeficiency syndrome (AIDS) is the end stage of HIV infection. A person infected with HIV is diagnosed with AIDS when he or she has one or more opportunistic infections, such as pneumonia or tuberculosis, and has a dangerously low number of CD4+ T cells less than 200 cells per cubic milli meter of blood.¹ If the number of CD4 cells falls below 200 cells per cubic milli meter of blood (200 cells/mm³), they are considered to have progressed to AIDS.

Scientists identified a type of chimpanzee in Central Africa as the source of HIV infection in humans. They believe that the chimpanzee version of the immunodeficiency virus (called simian immunodeficiency virus, or SIV) most likely was transmitted to humans and mutated into HIV when humans came into contact with their infected blood.

In India, a semiautonomous body called National AIDS Control Organization (NACO) was established under ministry of health and family welfare to control the HIV epidemic.² According to joint United Nations (UN) Program on HIV/AIDS (UNAIDS) and World Health Organization (WHO), approximately 34 million people are currently living with HIV and about 30 million people have

died of AIDS-related causes since the beginning of epidemic.³ According to new estimates released by NACO supported by UNAIDS and WHO, an estimated 23.9 lakh people are infected with HIV in India by 2009-2010.

Due to the possible transmission of HIV virus through direct contact with blood, the risk of cross-infection is higher in health workers particularly in dental practice.⁴ The risk of occupational transmission of the virus from a patient to a healthcare provider has been estimated at 0.3% after a single percutaneous exposure to HIV-infected blood.⁵ Fear of HIV contagion or AIDS phobia among healthcare providers including dentists have been attributed as major obstacles in the successful delivery of dental care to patient infected with HIV/AIDS.⁶ Dentists have a professional and ethical responsibility to provide oral healthcare to all individuals without discrimination.⁷ According to the World Health Organization (WHO), it is imperative for all dentists to treat HIV-positive patients.^{8,9} The purpose of the present study was to assess the knowledge of HIV/AIDS, and attitude of dental students towards HIV/AIDS patients.

METHODS

A cross sectional study was conducted during the academic year in January 2017 among the present batch of undergraduate dental students of Saveetha dental college, Saveetha University, Chennai. All students in the study voluntarily completed the questionnaire. The survey was conducted randomly on 120 students of which 60 of them were final year students and 60 were interns. A Self-administered questionnaire of 29 questions were



prepared and distributed among the final years and intern dental students. The questionnaire included basic questions on the knowledge of HIV/, methods of transmission, precautions and attitude of dental students towards HIV/AIDS patient. The responses were collected based on the positive and negative answers. The data were tabulated using the SPSS software version 17.0, statistically analyzed and results were obtained.

QUESTIONNAIRE

Knowledge of HIV/ Aids and Attitude of Dental Students towards HIV/Aids Patients

Kindly answer all the questions. Choose only one answer for all the questions.

Gender: Male / Female year of Study: Final Year / Interns

- 1) HIV and AIDS are same.
 - a) Yes
 - b) No
- 2) HIV infection is
 - a) Infectious
 - b) Contagious
- 3) Are you aware of the modes of transmission of HIV/AIDS?
 - a) Yes
 - b) No
 - c) Do not know
- 4) Which is the most common mode of transmission of HIV in our dental environment?
 - a) Needle Stick Injury
 - b) Blood Transfusion
 - c) Blood splashes
 - d) Sharing needles
- 5) HIV/AIDS contamination risk by penetration of a needle , contaminated by a well-known HIV+ patient is
 - a) 0.3%
 - b) 5%
 - c) 10%
 - d) 100%
- 6) Which of the following occupation has the highest risk of contracting HIV infection?
 - a) Health workers
 - b) Barbers
 - c) Sex workers
 - d) Tailors
- 7) Which of the following disease has the highest risk of transmission in dental setting?
 - a) Human Immunodeficiency Virus (HIV)
 - b) Tuberculosis
 - c) Hepatitis B
 - d) Hepatitis C
 - e) Hepatitis A
- 8) HIV/AIDS can spread through saliva.
 - a) Yes
 - b) No
 - c) Do not know
- 9) HIV/AIDS can spread through aerosol from handpiece.
 - a) Yes
 - b) No
- 10) HIV /AIDS can spread through spillage of blood from infected patient to the intact skin or mucosal surface of the dentist.
 - a) Yes
 - b) No
 - c) Do not know
- 11) HIV/AIDS patients can be identified by physical appearance.
 - a) Yes
 - b) No
 - c) Do not Know
- 12) HIV/AIDS patient can be suspected from oral manifestations.
 - a) Yes
 - b) No
 - c) Do not know
- 13) Pseudo membranous candidiasis is the most commonest opportunistic infection in HIV/AIDS patients.
 - a) Yes
 - b) No
 - c) Do not know
- 14) Which of the host defense cells are primarily affected in HIV/AIDS?
 - a) Macrophage
 - b) B-lymphocytes
 - c) T-lymphocytes
 - d) Phagocytes
 - e) Do not know
- 15) What is the average time interval between contracting HIV and the production of antibody to it?
 - a) 6-12 weeks
 - b) 13-24 weeks
 - c) 24 weeks - 5 years
 - e) Do not know
- 16) ELISA/TRIDOT test are screening test for HIV/AIDS.
 - a) Yes
 - b) No
 - c) Do not know
- 17) HIV confirmatory test is Western Blot.
 - a) Yes
 - b) No
 - c) Do not know
- 18) Autoclaving can kill HIV.
 - a) Yes
 - b) No
 - c) Do not know
- 19) There is a vaccine to prevent HIV transmission.
 - a) Yes
 - b) No
 - c) Do not know
- 20) Do you take thorough history of patient to rule out HIV/AIDS status?
 - a) Yes
 - b) No

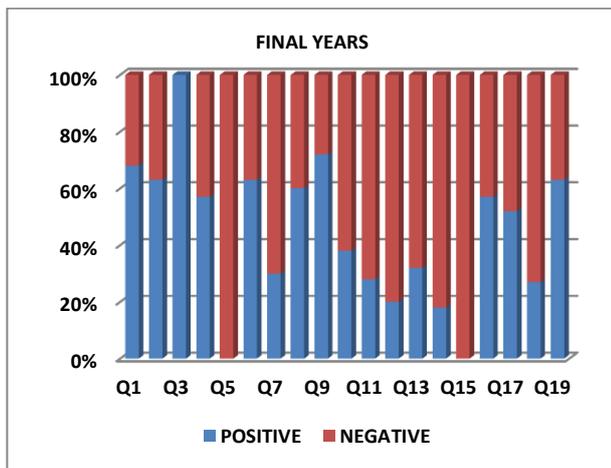


Figure 1: Knowledge of HIV/AIDS among final year dental students

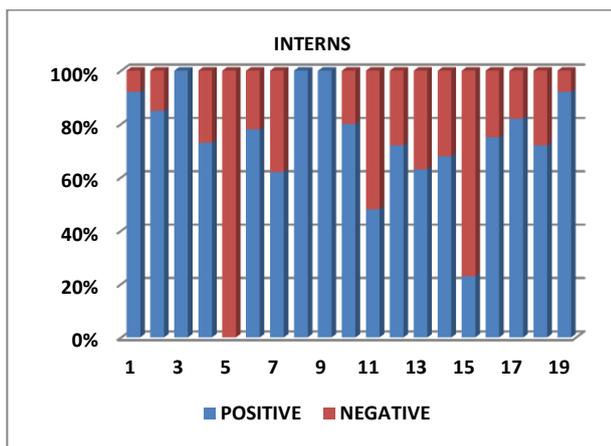


Figure 2: Knowledge of HIV/AIDS among intern dental students

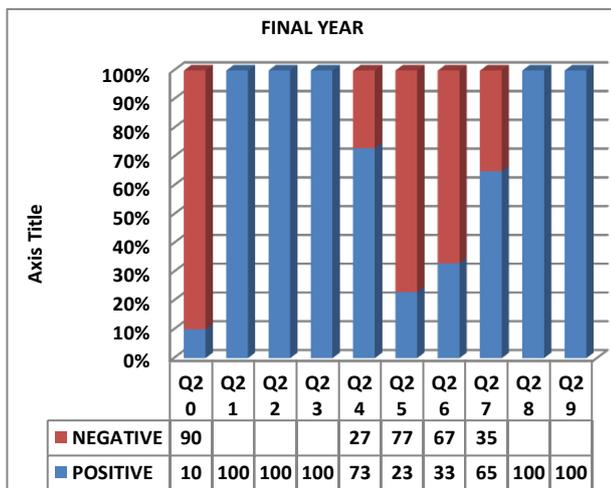


Figure 3: Awareness and Attitude of final year dental students towards HIV/AIDS patient

DISCUSSION

In this study, comparison was made between final year and interns regarding their knowledge and attitude about HIV. AIDS stands for Acquired Immune Deficiency Syndrome and is caused by HIV. The names HIV and AIDS can be confusing because both terms describe the same

disease.¹⁰ According to our study, 32% of the final year and 8% of the interns didn't know the difference between HIV and AIDS.

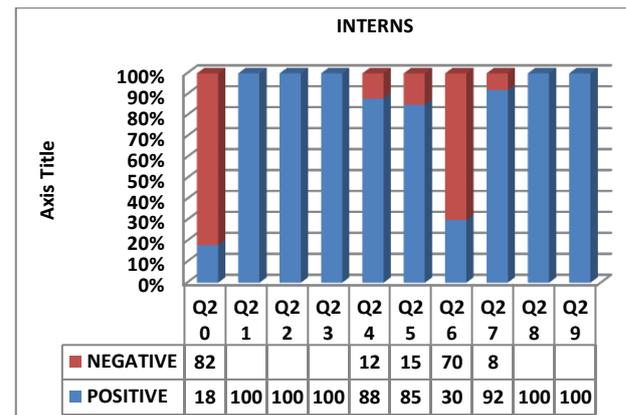


Figure 4: Awareness and Attitude of intern dental students towards HIV/AIDS patient

HIV/AIDS is not a contagious disease and does not spread by contacting or touching HIV/AIDS patient. All the final years and interns were aware of the modes of transmission of HIV/AIDS.

A number of studies have calculated the risk of HIV infection from any single needle stick injury where HIV-contaminated blood is involved and it is around 0.32%.¹¹ Some studies have also calculated the risk of HIV infection on the basis of person-years, and showed similarly a low chance of infection.¹² This is because the quantity of blood passed on from a needle stick injury is likely to be much smaller than that from an injection of blood when sharing injecting equipment. A 1991 study estimated that the volume of blood likely to be injected as a result of a needle stick injury was approximately one-seventh of the quantity passed on when sharing injecting equipment.¹² Although deep injection has been suggested as another factor which increases the likelihood of infection, reports of documented sero conversions fail to show a consistent pattern of type of needle stick injury which leads to HIV infection. According to the research done, none of the students irrespective to the year of study knew about the risk of transmission by a needle stick injury.

We found that final year students showed moderate knowledge with respect to modes of HIV transmission and infection control practices compared to interns. A similar finding was reported by Sadeghi et al¹⁰ among Iranian dental students, and by Ryalat et al¹³ among Jordanian dental students. In our study, 28% of the final years answered that HIV/AIDS can be transmitted through aerosol from hand piece and 62% said that HIV/AIDS can be transmitted from the spillage of infected blood on intact skin.

A rather surprising finding of the present investigation indicated that only 23% of the interns knew the average time period of 6-12 weeks required for HIV sero conversion. Providing proper dental care to HIV/AIDS



patients necessitate good knowledge in the recognition of the oral lesions associated with the disease. As many as 40 oral manifestations of HIV infection have been reported. The results in this study showed presence of adequate knowledge of dental students regarding the lesions strongly associated with HIV/AIDS such as oral candidiasis. However, the clinical students needed a broader knowledge of lesions less strongly associated with HIV such as oral melanotic hyper pigmentation, idiopathic thrombocytopenic purpura, and salivary gland disease. Students should also be educated that even the lesions strongly associated with HIV/AIDS are not exclusive to HIV/AIDS. Kaposi sarcoma, hairy leukoplakia and oral candidiasis may also be seen in patients not having HIV infection or AIDS. Similarly in a study, the overall knowledge of the Jordanian dental students about the oral manifestations of HIV/AIDS was considered satisfactory compared to that of dental students in countries where AIDS is endemic.¹³

Since oral lesions are common in HIV/AIDS patients, oral health care is an important component of their treatment plan. According to Shan et al¹⁴ in their study found that only 62% dental students were aware of universal precautions, where else in the current study majority of the students from final year and intern were aware of the universal precautions of treating the HIV/AIDS patients.

Although many dentists used to reject providing dental treatment to AIDS patients, dentists' attitudes toward the treatment of these patients have improved in recent years.¹⁵ In our study, the attitude and willingness to treat HIV/AIDS patients was assessed and there was an overall positive attitude of students towards HIV/AIDS patients. This finding differs from previous research from Seacat et al¹⁶ and Azodo et al¹⁷ who reported dental students having negative attitude towards HIV/AIDS patients. In the present study, only 35% from final years and 8% from intern were unwilling to treat HIV/AIDS patients. This could be attributed to the recent lectures which were given to the students about HIV/AIDS condition and they were emphasized about the duty of dentists in treating HIV patients. Dentists have a responsibility to provide oral health care in HIV-infected patients, particularly because oral lesions are common among these patients. It is obvious that having adequate knowledge about HIV/AIDS enhances confidence in student's ability to manage HIV infected patients.

CONCLUSION

From the present study we found that although the overall knowledge of students about HIV/AIDS was adequate, there were inadequacies in terms of modes of HIV transmission, risk of contamination, average time interval for production of antibody and the defense cell which is involved in HIV/AIDS. Besides that, it is also concluded that interns have more knowledge and awareness compared to final year students. Overall students showed positive attitude towards HIV/AIDS patients. However some of the final year students were

unwilling to treat HIV/AIDS patients. Hence, dental students must therefore be made aware of and should understand the importance of treating HIV/AIDS patients. This can be achieved by proper modelling and making the students more sensitized towards HIV/AIDS patient apart from giving appropriate knowledge of the disease, regarding its ways of transmission, recognition of oral manifestations, treatment and monitoring the condition. It is recommended that a comprehensive training of the dental students be done, to promote a good delivery of accurate information on HIV/AIDS to the public and to provide proper patient care.

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