Original Article

Knowledge about HIV/AIDS among the dental students in Dhaka

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ABSTRACT

Aims: This was a cross-sectional study done in the City Dental College, Malibagh, Chowdhurypara. The objective of the study was to assess the level of knowledge about HIV/AIDS among the final year dental students during the period between April to June 2012.
Materials and Method: Convenient sampling technique was used and a total of 77 final year dental students were included. A pretested questionnaire was used in English and information was gathered by face to face interview regarding demographic characteristics and HIV/AIDS related knowledge which contained; meaning of HIV/AIDS cause of HIV/AIDS, mode of transmission, risk group, preventive measure.
Result: The data were analyzed by computer software SPSS version 17. The study showed that 23.4 percent of the respondents had poor knowledge on HIV/AIDS. About 18.1% know that AIDS can be transmitted if having sexual contact with HIV positive case. Moreover, 13.8% have knowledge about HIV contaminated blood transfusion, 15.1% have knowledge about HIV infected mother to child, 14.6 % know that HIV infection can cause by pricking an infected needle and 10.5% know that it can transmit through body fluids like blood; semen etc. 45.1% had knowledge about injury by infected surgical instrument.
Conclusion: The study revealed that the relationship between the knowledge of HIV/AIDS among dental students and sex of the respondents is statistically significant. It is evident that even in the second decade of the AIDS epidemic, final year dental students continue to have a lack of proper knowledge about HIV/AIDS. Training Programme should be arranged on HIV/AIDS for the dental students during clinical attachment.

Introduction :

Human Immunodeficiency Virus (HIV) infection or Acquired Immunodeficiency Syndrome (AIDS) is increasingly becoming a

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major public concern in the world and is oneof the major pandemics (global) and epidemics (regional) that have devastated large populations almost all over the world. It is now the seventh leading cause of death among 1-4 year olds, sixth among 15-24 year olds and 1st among 25-44 year olds.[1,2] Two hundred sixteen HIV positive cases have been reported from Bangladesh in 2006.Two hundred forty have already developed AIDS among 874 HIV positive cases out of which 109 AIDS patients have already died. In achieving the World Health Organisation (WHO) goal of reducing the global infection of HIV/AIDS and the healthy people 2010 goal of increasing the length and quality of life of individuals with HIV/AIDS.[3,4]

HIV/AIDS is the end stage of a life threatening disease process caused by HIV infection. The possibility of HIV transmission in the oral health care is very low. However, this environment has become a helpful setting for early detection because most lesions of HIV infection present orally during the first stages of the disease. Accordingly, dentists fall into the high-risk category for cross-contamination.[5] Cross-infection can theoretically take place from patient to patient, from doctor to patient and vice versa. About 90% of the HIV infections among health care workers occur in developing countries where occupational safety is a neglected issue. Dental therapeutic procedures frequently involve blood and saliva that may contain a variety of blood borne pathogens and microorganisms, such as HIV.

The dental students need to gain knowledge about HIV/AIDS which help to prevent and control spread of HIV/AIDS and raise the level of understanding the nature of such dreadful disease and help people to avoid becoming infected with HIV. Moreover, a lack of confidence in their own ability to manage HIV/AIDS patients could have amplified their perceived risk of being infected with HIV as well.[6] Since 1988, WHO has stated that all dentists must treat HIV-positive patients. It is not only unethical but also unlawful for a dentist or dental student to refuse treatment to an HIV-positive patient.[7]

The above information show that the dentists and the dental students are among those who are in the risk of AIDS infection in Bangladesh. Apparently, the final year students going to be doctor soon that's why these students were chosen in the study. If the dentists are properly informed about the diseases, it will help to disseminate the information in the society more effectively and efficiency. Thus the present study will provide baseline information about existing knowledge level regarding HIV/AIDS among the dental students.

Methodology :

The study was a cross-sectional and descriptive type which was carried out to assess the level of knowledge of dental students about HIV/AIDS. Selection of topic and area of the study was started in April 2012. Research protocol development and topic approval was also done during this time. Total allocated study period was 3 months commencing from April to June 2012. A total of 77 final year dental students of City Dental College, Malibagh Chowdhurypara, Dhaka were the respondents of the study with the assumption that their knowledge was adequate regarding the study. Those who were willing to participate and co-operate during the study were included.

A questionnaire was developed based on the objectives of the study. . Data collection was started after getting approval from NIPSOM and permission from the authority. The data was collected by face to face interview. Collected data were edited cleaned and analyzed using Statistical Package for Social Science (SPSS) for Windows version 17. The statistical tests used to assess the strength of association between variables included Chi-square and were presented in the form of tables and graphs. Ethical approval for the study was granted by NIPSOM Ethics Committee, Mohakhali, Dhaka. All potential respondents were clearly explained that participation in the study was voluntary and anonymous.

Result :

The statistically analyzed data of the study have been presented through different tables which were made on the basis of expression of different aspects of the information collected. In

Table 1 the percentage of the participants have been demonstrated according to sex distribution, where among the total of 77 dental students, 54.5 % were female and 45.5 % were male. They were also distributed according to their knowledge about the meaning of HIV/AIDS and the difference between HIV and AIDS. Among them 66.2 % of the students were found to have knowledge about the meaning of HIV/AIDS and 26.8 % knew that AIDS was caused by HIV. However, a large percentage of about 73.2 % students did not know the difference between HIVandAIDS.

Table no. 1: Distribution of respondents regarding the sex and knowledge about HIV/AIDS

Difference	Frequency	Percent
AIDS caused by HIV	11	26.8
Do not know	30	73.2
Total	41	100.0

Moreover, Table 2 shows the data on the knowledge about the causes of HIV/AIDS among those selected dental students. The data indicated that about 18.1 % of the students were having knowedge that AIDS could be transmitted if having sexual contact with HIV positive cases and 12.3 % believed that having multiple sex partner could cause such disease. About 13.8 % students were having the knowledge about HIV contaminated blood transfusion, 15.1% having the knowledge that HIV infected mother can transmit to her child, 14.6 % had the knowledge by pricking an infected needle and 10.5 % knew that through body fluids like blood, semen etc are the potential causes of HIV/AIDS transmission.

Table-2. Distribution of the respondents by their knowledge about the causes of HIV/AIDS

Causes of HIV/AIDS	Frequency	Percent
Sexual contact with HIV positive case	72	18.1
Multiple sex partner	49	12.3
HIV contaminated blood transfusion	55	13.8
Sharing injectable needles for drug abuse	59	14.8
HIV infected mother to her child	60	15.1
Pricked by an infected needle	58	14.6
Through body fluids like blood, semen etc	42	10.5

The data and information on the assessment of the respondents' knowledge about the name of agent of AIDS showed that 57.1 % were aware of the HIV and 49.4% had knowledge about the chance of getting infection from a patient with HIV /AIDS. Furthermore, 36.6% knew about the pricked infected needle as the mode of transmission of HIV, whereas 12.6% thought splashing of blood fluids in the wound as mode of transmission and 45.1 % believe that injury by infected surgical needle as another potential way of transmission of HIV infection. Moreover, the knowledge about the preventive measures of HIV infection among the respondents was also being evaluated. The data on table 3 revealed that 22.3% among total 77 students believed that the transmission of HIV could be prevented by safer sex, where as 16.1% thought that it could be prevented by avoiding multiple sex partners and 26.5% of students had opinion about the safe blood transfusion as preventive measure against HIV/AIDS.

Table- 3: Distribution of the respondents by their knowledge on preventing transmission of HIV/AIDS

Preventing transmission of HIV/AIDS	Frequency	Percent
Safer sex	58	22.3
Avoid multiple sex partner	42	16.1
Safe blood transfusion	69	26.5
Using disposable syringe	34	13.1
Using PPE at work place	24	9.2
By mass campaign	33	12.6

The dental students were also questioned to assess their knowledge about the group of people that were at high risk for HIV/AIDS. The results are presented in Table 4. The table shows that 22.3 % had knowledge that sex workers are high risk persons for HIV/AIDS. About 20.6 % knew that those using injecting drug users, 23.5 percent were having knowledge that Doctors are of high risk group and 12.5 percent had knowledge that professional blood donors are of high risk groups.

Table - 4. Distribution of the respondents by their knowledge about group of people is in high risk for HIV/AIDS. n=77

Group of people are in high risk for HIV/AIDS	Frequency	Percent
Sex worker	55	22.3
Injecting drug users	51	20.6
Lab technician	33	13.3
Doctor	58	23.5
Professional blood donor	31	12.5
Homosexual persons	19	7.6

Finally, the relationship between the knowledge of HIV/AIDS among dental college students and sex of the respondents were compared by Pearson's Chi square test in which the 'P' value is 0.05 which was lower than the expected value that is 0.05. So the relationship was statistically significant.

Table – 5 : Relationship between sex and knowledge of HIV/AIDS among dental college students

Sex	Knowledge HIV/AIDS among dental college students				Total
	Poor Knowledge		Good Knowledge		
	Frequency	Percent	Frequency	Percent	
Male	16	45.7	19	54.3	35
Female	28	66.7	14	33.3	42
Total	44	57.1	33	42.9	77

$\chi 2 = 3.422$; P-value = <0.05

Discussion :

The deficiency of knowledge on HIV/AIDS among the dental student's generation made our country more vulnerable towards the deadly disease. Sex education is the most vital step to create mass awareness among them. Thus, a cross sectional type of descriptive study was carried out among 77 final year dental students of Dhaka city to assess their knowledge about HIV/AIDS. In our study, most of the respondents were Muslim, about 74.0 % and only 26.0 % were Hindu. This study revealed that majority of the final year dental students had some knowledge about the meaning of HIV/AIDS, which is a good sign that they are at least aware of the deadly disease. However, it is unfortunate that they did not have the knowledge on the difference between HIV and AIDS, which, as final year students they should have had. The reason for the lack of proper knowledge on the difference between HIV and AIDS might be that they were not interested in getting knowledge on it or they were not given correct knowledge through teaching. A cross-sectional survey was conducted on all dental students who participated in the 10th Dental Student Congress in Isfahan, Iran, in 2008. The result showed knowledge scores of 76.5 percent, 21.9 percent, and 1.6 percent of the students were excellent, good, and moderate.[8]

Regarding the cause of HIV/AIDS it is good that the students are to some extent aware of it. The students showed that the majority of them had good knowledge that sexual contact was an important cause of spreading disease and infected mother could transmit to her child, use of infected needle was also the important causes of the disease. Source of this knowledge of the students could be the publicity of the government and NGOs, medical practitioner, media etc. A study was done by departments of Family Medicine and Neurosurgery, Ziauddin Medical University; Karachi which revealed that majority of the students (98%) agreed that an infected person is a major source for transmitting these infections.[9] Similar study revealed that final year dental students of the University of Lagos in southwestern region of Nigeria had adequate knowledge of routes of transmission of HIV in clinical practice.[9] However, there was need for improvement in teaching of the students on virology and recognition of blood-borne virus risk group.[10]
The respondents' knowledge about the name of agent of AIDS, any chance of getting infection from a patient with HIV /AIDS, the mode of transmission of HIV, symptoms of HIV/AIDS patients and the knowledge about the preventive measures of HIV infection showed about the poor perception of knowledge about HIV/AIDS among the selected dental students. This could be due to their negligence in acquiring in depth knowledge on the issues other than that included in the study curricula and syllabus. However, this area should be given emphasis by the respective authority. The study of Nigeria[11] cited above also showed that the maximum of the respondents (57.1 percent) had the knowledge that the agent of AIDS is a virus.

It is indicated from the study that the doctors are at high risk of being infected with the HIV/AIDS since majority of the dental students opined. They mentioned that the next high risk group was sex workers followed by injecting drug users. This is a good finding of the study which could be explained by the fact that the doctors are more vulnerable to infection because they are handling the patients every day and it is difficult for them to be hundred percent conscious all the time and so in any unprepared circumstance the deadly disease could be transmitted. The sex workers are also at high risk of infection as they are in direct contact with the infected person. Therefore it is good that the students are having proper knowledge about the risk groups.

Finally regarding the relationship between knowledge and sex of the respondents it is clear that there is a significant relationship between sex and knowledge about the HIV/AIDS. The males are much more aware of the disease than those of the females. The reason is unknown and needs explanation.

Conclusion :

The dental students are having deficiency of proper and in depth knowledge about HIV/AIDS. They are also not fully aware of the cause of this disease. Even many of them do not know the difference between the terms HIV and AIDS. However, regarding the cause of infection and mode of transmission to other person they have some knowledge. They also aware that the doctors are at high risk group and precautions must be taken against it. Among the respondents males are more aware of the disease than females. It is suggested that the dental students must be given enough and complete knowledge on HIV/AIDS and preventive measures against it.

References :

1. Stine GJ, AIDS Update : An annual review of Acquired Immunodeficiency Syndrome; New Jersey : Prentice Hall; 1997: 208-54.
2. World Health Organization. AIDS epidemic update, December, 2005.
3. U.S. Department of Health and Human Services (2001).Healthy people in healthy Communities. Washington, D.C, U.S Government printing press.
4. World Health Organization (2004). Scaling up antiretroviral therapy in resource-limited settings: Treatment guideline for a public health approach. Retrieved July 8, 2006.
5. Askarian M, Mirzaei K, Assadian O. Iranians' attitudes about possible human immunodeficiency virus transmission in dental settings. Infect Control Hosp Epidemiol 2007; 28(2):234–7.
6. Oliveira ER, Narendran S, Falcão A. Brazilian dental students' knowledge and attitudes towards HIV infection. *AIDS Care 2002*; *14*(4):*569*–76.
7. McCarthy GM, Koval JJ, MacDonald JK. Factors associated with refusal to treat HIV-infected patients: the results of a national survey of dentists in Canada. *Am J Public Health 1999*; *89*(4):*541*–5.
8. Dental students' knowledge of AIDS and HIV infection in Helsinki, Finland, and in Dar es Salaam, Tanzania.
9. Knowledge of students regarding Hepatitis and HIV/AIDS of a private medical University in Karachi.
10. Gakonyo M.J Mutave R.J,Matu N.K,Gathee l.W.Knowledge,Practices and attitudes of dental students at the university of Nairobi towards HIV/AIDS patients-2010.
11. HIV and AIDS related knowledge, sources of information, and reported need for further education among dental students in Sudan- a cross sectional study.