

Knowledge and Attitude among Dental students of Udaipur, India towards HIV/AIDS

Manish Jain, Anmol Mathur, Santhosh Kumar, Rushabh J Dagli, Prabu D, Suhas Kulkarni

ABSTRACT

Aims & Objective: The aim of the present study was to assess current status of knowledge and attitude among the dental students of Udaipur, India towards HIV/AIDS.

Material and Methods: A cross-sectional questionnaire survey was conducted among 282 dental students of Darshan Dental College. The interview questionnaire comprised of 27 close ended questions. One way ANOVA was applied by using SPSS (11.0) to compare mean level of knowledge and attitude towards HIV/AIDS.

Results: Shows dental students have satisfactory knowledge, but certain misconception was prevalent. It also shows that around 30.20% of the dental students held an overall negative attitude. Mean level of knowledge and attitude towards HIV/AIDS had a statistically significant difference in results among sex and academic periods.

Conclusion: Overall knowledge and attitude among dental students was found to be satisfactory. Most of the Dental Students, near about 69.80% have a positive attitude regarding HIV/AIDS education.

Keywords: Knowledge, Attitude, Dental students, HIV/AIDS.

Contact Author

Dr. Manish Jain

E-mail : mansa.jain@yahoo.co.in

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HIV infection is one of the most devastating health problems that mankind has ever faced.(1-3) AIDS is the serious epidemic problem in India. HIV spreads primarily through sexual contact (85.34%). The greatest number of AIDS cases in India were from, states of Maharashtra and Gujarat in the west; Tamilnadu and Andhra Pradesh in the south; and Manipur and west Bengal in the north east.(4) These six states have been cited as high prevalence states, as the HIV prevalence rates are greater than 5% among high risk group and greater than 1% among antenatal women.(5)

The AIDS epidemic is one of the most destructive health crises of modern times, ravaging families and communities throughout the world. In India, a semi autonomous body called National AIDS Control Organization (NACO) was established under

ministry of health and family welfare to control the HIV epidemic. According to joint UN Programme on HIV/AIDS (UNAIDS) and World Health Organization (WHO) more than 25 million people had died in world by 2005. According to new estimates released by NACO supported by UNAIDS and WHO an estimated 2.5 million people were living with HIV in India by July 2007.

According to NACO August 2006, majority of newly infected people are between 30-49 years of age.(6) HIV/AIDS have devastating effect on adolescents.

Till date very less work has been done to assess the knowledge and attitude among Indian dental students, hence a sincere attempt has been made on this front.

Hence the purpose of study was to assess the existing level of knowledge and attitude towards HIV/AIDS among undergraduate dental students of Darshan Dental College and Hospital, Udaipur, Rajasthan.

Material and Methods

A cross-sectional questionnaire survey was conducted among 282 dental students studying in Darshan Dental College Udaipur, India to assess the HIV/AIDS related knowledge and attitude on March 2007. In India undergraduate dental course comprises four years of study followed by one year in-house Internship training program. The study population comprises of 282 subjects who were present on the days of survey and 90 subjects who were never attending classes due to different reasons were excluded from the study.

Ethical clearance was obtained from the ethical committee of Darshan Dental College and Hospital before the study was initiated.

A specially designed questionnaire consisting of twenty seven closed ended questions spread across two different sets to measure the knowledge and attitude towards HIV/AIDS. Out of 27 questions 15 questions represent knowledge of subjects and 12 questions represent attitude of subjects towards HIV/AIDS. For the closed ended questions, the participants were required to state whether they 'agreed (1)', 'disagreed (2)' or were 'not sure (0)' to a clearly comprehensible statement. The questionnaires were distributed to the respondents and were asked to complete it individually. Each and every question was explained to them before they answered to prevent any ambiguity.

Statistics

Later the data was subjected to statistical analysis by using Statistical Package for Social Sciences (SPSS). One way ANOVA (Analysis of Variance) was used to compare the mean level of knowledge and attitude towards HIV/AIDS between the genders, years of study and age groups. To calculate mean level of knowledge and attitude '0' score was assigned for negative knowledge and attitude, '1' score was assigned for positive knowledge and attitude.

Results

Table 1 Shows the knowledge about HIV/AIDS and its transmission among subjects. As shown dental students had satisfactory knowledge, but certain misconception was prevalent. Only 23.0 % subjects believed that boiling could kill HIV. 36.9 % subjects believed that HIV virus spread through kissing or when saliva is exchanged with HIV positive patients. 12.8 % subjects believed that virus would be transmitted if cook in the restaurant has HIV/AIDS.

Table 2 Depicts the attitude of dental students towards HIV/AIDS. Table clearly depicts that around 30.20% of the subjects

held an overall negative attitude. Response to the individual item showed that 25.9 % subjects would let a patient die of HIV/AIDS than try and keep him alive. 63.8% subjects preferred to work in AIDS free unit and 46.5% subjects were of the opinion that handling HIV/AIDS patient was too time consuming. 82.3 % subjects thought that precaution could prevent the spread of HIV/AIDS.

Table 3 Shows that there was a statistically significant difference among the year's of study, in terms of mean level of knowledge and their attitude towards HIV/AIDS.

Table 4 Shows that there was no statistically significant difference among the different age group of subjects, in terms of mean level of knowledge and their attitude towards HIV/AIDS.

Table 5 Shows that there was a statistically significant difference among boys and girls in terms of mean level of knowledge and attitude towards HIV/AIDS. It shows girls have better knowledge and attitude towards HIV/AIDS in comparison to boys.

Discussion

This is a cross-sectional survey conducted to assess the knowledge and attitude towards HIV/AIDS among dental students of Udaipur, India. Results of this survey indicated fairly satisfactory knowledge of the dental students. But there were certain important misconceptions and knowledge deficits.

The National Family Health Survey II of India reported that girls harbour a number of misconceptions regarding HIV/AIDS.⁽⁷⁾ But in our study girls had better knowledge and attitude.

Only 23% of the participants in this study were aware that boiling could kill HIV and 37.2% did not have knowledge that double gloving can provide protection from HIV transmission. These findings are consistent with the study conducted by Champa Datta, Debabrata Bandyopadhyay in Calcutta among staff nurses.⁽⁸⁾ The nurses showed a satisfactory level of knowledge (mean percentage score 74.3), but misconceptions regarding disinfection and precautionary measures were present; 33% had overall negative attitudes and 24% subjects unwilling to provide care for HIV-infected patients. While in our study 30.20% dental students had overall negative attitude and 25.9 % subjects would let a patient die of HIV/AIDS than try and keep him alive.

In the present study, 36.9% believed that kissing, with exchange of saliva with HIV positive patients will transmit the infection in contrast to only 33% in a study among New York Physicians by Donald H Gemson et al in 1991.⁽⁹⁾ This was expected because of better qualification and knowledge among physicians.

Table 1: Shows Knowledge about HIV/AIDS and its transmission

		Year				Total
		1	2	3	4	
(S1) Once positive, forever infected with HIV	0	0	6.3%	24.3%	0	7.8%
	1	79.7%	84.1%	67.6%	97.0%	81.6%
	2	20.3%	9.5%	8.1%	3.0%	10.6%
(S2) Condom usage can prevent the transmission of HIV/AIDS	0	13.9%	7.9%	8.1%	0	7.8%
	1	69.6%	81.0%	85.1%	86.4%	80.1%
	2	16.5%	11.1%	6.8%	13.6%	12.1%
(S3) Boiling can kill HIV	0	39.2%	11.1%	18.9%	0	18.4%
	1	36.7%	14.3%	17.6%	21.2%	23.0%
	2	24.1%	74.6%	63.5%	78.8%	58.5%
(S4) No drugs to kill aids virus	0	15.2%	6.3%	16.2%	0	9.9%
	1	68.4%	69.8%	67.6%	86.4%	72.7%
	2	16.5%	23.8%	16.2%	13.6%	17.4%
(S5) Protection from aids by double gloving	0	17.7%	31.7%	18.9%	0	17.0%
	1	29.1%	36.5%	25.7%	97.0%	45.7%
	2	53.2%	31.7%	55.4%	3.0%	37.2%
(S6) AIDS virus increase other infection	0	7.6%	1.6%	9.5%	0	5.0%
	1	77.2%	88.9%	77.0%	98.5%	84.8%
	2	15.2%	9.5%	13.5%	1.5%	10.3%
(S7) Kissing , with exchange of saliva with HIV positive	0	16.5%	7.9%	17.6%	0	11.0%
	1	36.7%	20.6%	36.5%	53.0%	36.9%
	2	46.8%	71.4%	45.9%	47.0%	52.1%
(S8) Cook has aids virus	0	17.7%	11.1%	18.9%	0	12.4%
	1	12.7%	4.8%	12.2%	21.2%	12.8%
	2	69.6%	84.1%	68.9%	78.8%	74.8%
(S9) Shaking hands, touching or kissing on the cheek	0	3.8%	4.8%	4.1%	1.5%	3.5%
	1	13.9%	1.6%	13.5%	3.0%	8.5%
	2	82.3%	93.7%	82.4%	95.5%	87.9%
(S10) Sharing plates / forks/ glasses	0	8.9%	6.3%	9.5%	4.5%	7.4%
	1	20.3%	20.6%	18.9%	47.0%	26.2%
	2	70.9%	73.0%	71.6%	48.5%	66.3%
(S11) Sharing needles for drugs use	0	7.6%	1.6%	8.1%	0	4.6%
	1	74.7%	79.4%	74.3%	86.4%	78.4%
	2	17.7%	19.0%	17.6%	13.6%	17.0%
(S12) Being coughed/ sneezed on	0	26.9%	14.3%	28.8%	6.1%	19.6%
	1	24.4%	31.7%	21.9%	36.4%	28.2%
	2	48.7%	54.0%	49.3%	57.6%	52.1%
(S13) Multiple sexual partners	0	10.3%	4.8%	11.0%	0	6.8%
	1	74.4%	85.7%	74.0%	80.3%	78.2%
	2	15.4%	9.5%	15.1%	19.7%	15.0%
(S14) Drug abuse	0	25.3%	15.9%	28.4%	1.5%	18.4%
	1	57.0%	57.1%	54.1%	59.1%	56.7%
	2	17.7%	27.0%	17.6%	39.4%	24.8%
(S15) From infected mother to foetus	0	6.3%	1.6%	8.1%	0	4.3%
	1	73.4%	88.9%	73.0%	84.8%	79.4%
	2	20.3%	9.5%	18.9%	15.2%	16.3%

0- Not sure, 1- Agree, 2- Disagree

Table 2: Shows attitude towards HIV/AIDS

(S1) AIDS is a sinful past	0	12.7%	9.5%	13.5%	9.1%	11.3%
	1	26.6%	9.5%	25.7%	39.4%	25.5%
	2	60.8%	81.0%	60.8%	51.5%	63.1%
(S2) let the patient die of AIDS	0	7.6%	4.8%	8.1%	9.1%	7.4%
	1	27.8%	15.9%	28.4%	30.3%	25.9%
	2	64.6%	79.4%	63.5%	60.6%	66.7%
(S3) Isolation of HIV infected patients	0	5.1%	3.2%	6.8%	7.6%	5.7%
	1	31.6%	15.9%	31.1%	33.3%	28.4%
	2	63.3%	81.0%	62.2%	59.1%	66.0%
(S4) HIV infected should not go to cinema	0	2.5%	0	4.1%	9.1%	3.9%
	1	12.7%	14.3%	9.5%	10.6%	11.7%
	2	84.8%	85.7%	86.5%	80.3%	84.4%
(S5) Patients with HIV should not marry	0	10.1%	6.3%	10.8%	9.1%	9.2%
	1	57.0%	52.4%	58.1%	51.5%	55.0%
	2	32.9%	41.3%	31.1%	39.4%	35.8%
(S6) Prefer to work in aids free unit	0	3.8%	6.3%	2.7%	7.6%	5.0%
	1	59.5%	65.1%	59.5%	72.7%	63.8%
	2	36.7%	28.6%	37.8%	19.7%	31.2%
(S7) Precaution can prevent spread of AIDS	0	5.1%	3.2%	4.1%	0	3.2%
	1	78.5%	81.0%	81.1%	89.4%	82.3%
	2	16.5%	15.9%	14.9%	10.6%	14.5%
(S8) Avoidance of casual contact with aids patients.	0	1.3%	3.2%	1.4%	6.1%	2.8%
	1	35.4%	41.3%	35.1%	36.4%	36.9%
	2	63.3%	55.6%	63.5%	57.6%	60.3%
(S9) Informing others about a HIV positive patients	0	10.1%	7.9%	9.5%	0	7.1%
	1	57.0%	76.2%	58.1%	72.7%	65.2%
	2	32.9%	15.9%	32.4%	27.3%	27.7%
(S10) Volunteer for aids specialty centre	0	6.3%	6.3%	6.8%	0	5.0%
	1	72.2%	77.8%	73.0%	74.2%	74.1%
	2	21.5%	15.9%	20.3%	25.8%	20.9%
(S11) Handling aids patients too time consuming	0	25.3%	14.3%	27.0%	6.1%	18.8%
	1	38.0%	42.9%	36.5%	71.2%	46.5%
	2	36.7%	42.9%	36.5%	22.7%	34.8%
(S12) Educating the patient, can prevent the spread of AIDS.	0	1.3%	3.2%	1.4%	0	1.4%
	1	93.7%	92.1%	93.2%	92.4%	92.9%
	2	5.1%	4.8%	5.4%	7.6%	5.7%

0-Not sure, 1- Agree, 2- Disagree

Table 3: Year wise difference in knowledge and attitude

Year	N	Mean	Std. Deviation	Std. Error
1	79	37.10	6.13	.69
2	63	39.70	6.15	.77
3	74	36.85	6.18	.72
4	66	37.65	5.44	.67
Total	282	37.74	6.06	.36

ANOVA F-VALUE-3.089, P- 0.028

Table 4: Age wise differences in knowledge and attitude

Age	N	Mean	Std. Deviation	Std. Error
17	12	35.75	4.85	1.40
18	63	38.60	5.58	.70
19	65	36.00	6.03	.75
20	81	39.09	6.08	.68
21	40	37.38	6.49	1.03
22	17	36.94	6.09	1.48
23	4	38.50	7.14	3.57
Total	282	37.74	6.06	.36

ANOVA F VALUE-2.123, P VALUE-0.051

Table 5: Sex wise differences in knowledge and attitude

Sex	N	Mean	Std. Deviation	Std. Error
Male	124	35.88	6.44	.58
Female	158	39.21	5.32	.42
Total	282	37.74	6.06	.36

ANOVA F VALUE-22.597, P – 0.000

87.9% of the participants in this study believed that HIV / AIDS were not transmitted by shaking hands, touching or kissing on the cheek. This finding was consistent with study conducted among New York Physicians by Donald H Gemson et al in 1991.(9)

In our study 78.2% had correct knowledge on having multiple sexual partners and sharing needle, which increase the risk of contracting AIDS and transmission of HIV. This finding consistent in the study conducted by Barbara Gerbert in 1987 among California dental students.(10)

The attitude scale did not show encouraging results. Around 30.20% of the participants held an overall negative attitude towards HIV /AIDS patients and this was consistent with other studies (Champa Datta, Debabrata Bandyopadhyay 1997·Kohi TW, Horrocks MJ 1994, Tsai YF, Keller ML 1995, Kumar Ret al 2002).(8,11-13) Fear of contagion was cited as the most important reason for developing negative attitude. In contrast Loharmann et al in 2000(14) reported more tolerant and positive attitude among German staff nurses towards HIV/ AIDS patients.

25.5% of the participants in this study considered AIDS as a result of sinful past. This finding was consistent with study conducted by Champa Datta, Debabrata Bandyopadhyay in 1997.(8)

74.1 % of the participants in this study were willing to volunteer for AIDS speciality centre, this finding was consistent with the study conducted among international nurses following educational intervention by Mc Cann TV, Sharkey RJ 1998.(15)

There was no statistically significant difference in term of mean level knowledge and attitude towards HIV/AIDS between the different ages. But there was a statistically significant difference in term of mean level knowledge and attitude towards HIV / AIDS among the boys and girls, and among the different year of degree course. Second year dental student have better knowledge and attitude in comparison to other students. While girls have better knowledge and attitude than boys.

In a study conducted by Faris R and Shouman A in 1994(16) among Egyptian health care workers, 83.5% mentioned that AIDS patients should be isolated in quarantine. And in another study conducted by Hentgen V, Jaureguiberry S, Ramiliarisoa A et al in 2002(17) among health care workers of Tamatave (Madagascar), 20% mentioned that AIDS patients should be isolated in quarantine. While in our study only 28.4% mentioned that AIDS patients should be isolated in quarantine.

A study conducted by Stiernborg M in 1992(18) among nursing students of Sydney showed that a majority 72% had favourable attitude to AIDS patients care. This finding was consistent with our study in which 69.80% dental students had positive attitude towards HIV/AIDS.

A study conducted by Manish Kumar *et al*(19) showed that only 32% of participants were aware that boiling could kill HIV, 33.3% did not have the knowledge that double gloving can provide protection from HIV transmission, 59.7% believed that kissing, with exchange of saliva with HIV +ve will transmit the infection and 96.5% believed that HIV/AIDS was not transmitted by shaking hand, touching or kissing on the cheek while in our study it was 23%, 45.7%, 36.9% and 87.9 % respectively and in that study 46% staff nurses held an overall negative attitude towards HIV/AIDS patients while in our study 30.20% dental students held an overall negative attitude.

Conclusion

The current moral panic about HIV/AIDS and the theories of deviance that go with it are not a new phenomenon. People expect dental students to know all about HIV/AIDS, but many experience the same fear and ignorance as the public.

Empathy is crucial in the dentist- patient’s relationship and the unfavourable attitude leads to less than optimal care.

There is a need to cultivate non judgemental attitude towards the care of people infected with HIV/AIDS. This requires systematic and sensitive educational programmes. Hence for maximum effectiveness, CME/CDE Programs need to be held on a continuous basis as it has been well documented that such programs can have great impact on dental student's AIDS related knowledge and attitude.

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THE AUTHORS

Dr. Manish Jain

(BDS)
Lecturer,
Department of Preventive & Community Dentistry,
Darshan Dental College and Hospital,
Udaipur, Rajasthan 313001
Phone+91-9414489459.
Fax : +91-2942452273.
E-mail address: mansa.jain@yahoo.co.in

Dr. Anmol Mathur

(BDS)
Lecturer,
Department of Preventive & Community Dentistry,
Darshan Dental College and Hospital,

Dr. Santhosh Kumar

(BDS)
Department of Preventive & Community Dentistry
Darshan Dental College and Hospital,

Dr. Rushabh J Dagli

(BDS)
Lecturer,
Department of Preventive & Community Dentistry,
Darshan Dental College and Hospital,

Dr. Prabu D

(MDS)
Associate professor,
Department of Preventive & Community Dentistry,
Darshan Dental College and Hospital,

Dr. Suhas Kulkarni

(MDS)
Professor,
Department of Preventive & Community Dentistry,
Darshan Dental College and Hospital

References

1. National AIDS Control Organisation (NACO), National Scenario 1997-1998. Govt. of India. Ministry of Health and Family Welfare; 1988:1-20.
2. Pavri K. Facts and figures about HIV/AIDS. Surveillance is for what and what cost? CARC calling 1992;5-29.
3. Gangakhedkar RR. HIV/AIDS update. IX International conference on AIDS, Berlin. CARC calling 1993;1-9.
4. Monthly update on AIDS, NACO, 31 August 2007.
5. NACO 'An Overview of the spread and prevalence of HIV/AIDS in India' http://www.nacoonline.org/facts_oveview.htm. Accessed 18 Jan, 2008.
6. Thaper, V. Background paper presented on Family Life Education in the National Convention on FLE. NIPCCD, New Delhi; 1998:1-6.
7. NFHS, <http://www.nfhsindia.org/india2.html>. Accessed 18 Jan, 2008.
8. Champa Dutta, Debabrata Bandyopadhyay : Knowledge and attitude in relation to HIV/AIDS among in-service nurses of Calcutta. *JIMA* 1997;**95**:75-77.
9. Donald H Gemson, John Colombotos, Jack Elinson et al: Acquired Immunodeficiency Syndrome Prevention. Knowledge, Attitude and Practices of Primary Care Physicians. *Arch Intern Med* 1991;**151**:1102-08.
10. Barbara Gerbert: AIDS and infection control in dental practice: Dentists' attitude, knowledge and behaviour. *JADA* 1987;**114**:311-14.
11. Kohi TW, Horrocks MJ. The knowledge, attitude and perceived support of Tanzanian nurses when caring for patients with AIDS. *Int J Nurs Stud* 1994;**31**:77-86.
12. Tsai YF, Keller ML. Predictors of Taiwanese nurses' intention to care for patients who are HIV+ ve. *Clin Nurs Res* 1995;**4**:442-64.
13. Kumar R, Mohan N, Seenu V, et al. Knowledge, attitude and practices towards HIV among nurses in a tertiary care teaching hospital; two decade after the discovery. *J Commun Dis* 2002;**34**: 245-56.
14. Lohrmann C, Valimaki M, Suominen T, et al. German nursing students' knowledge of and attitudes to HIV and AIDS; two decade after the first AIDS case. *J Adv Nurs* 2000;**31**:696-703.
15. McCann TV, Sharkey RJ. Education intervention with international nurses and changes in knowledge, attitude and willingness to provide care to patients with HIV/ AIDS. *J Adv Nurs* 1998;**27**:267-73.
16. Faris R, Shouman A. Study of the knowledge, attitude of Egyptian health care workers towards occupational HIV infection. *J Egypt Public Health Assoc* 1994;**69**(1-2):115-128.
17. Hentgen V, Jaureguiberry S, Ramiliarisoa A, Andrianantoandro V, Belec M. Knowledge, attitude and practices of health personnel with regard to HIV/AIDS in Tamatave (Madagascar). *Bull Soc Pathol Exot* 2002;**95**(2):103-08.
18. Stiernborg M. Knowledge about, and attitudes to, HIV/AIDS among students in a Sydney nursing college. *Nurse Educ Today* 1992;**12**(3):207-14.
19. Manish Kumar, Chandu GN, Md. Shafiulla Knowledge and Attitude among staff nurses of Davangiri, Karnataka in relation to HIV/AIDS. *JIA PHD* 2005;**6**:14-17.