

A Cross-sectional Study to Assess the Knowledge and Attitude of the Private Dental Practitioners toward the Treatment of HIV/AIDS Infected Individuals

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ABSTRACT

Background: Dentists have an ethical responsibility to provide treatment to HIV-infected patients, particularly because oral lesions are common among these patients. However, there are no official guidelines as to how to treat people living with human immunodeficiency virus (PLWHA) HIV/ acquired immunodeficiency syndrome (AIDS) or how to screen for potentially infectious people. It is obvious that having adequate knowledge about HIV/AIDS enhances confidence in ability to manage infected patients. The present study was conducted to assess self-reported knowledge and attitude of the private dental practitioners toward the treatment of HIV/AIDS infected individuals.

Materials and Method: The present study was a Questionnaire based study which studied the factors associated with “Self-reported knowledge and Attitude of the private Dental Practitioners toward the treatment of HIV/AIDS infected individuals”.

Results: The willingness to treat patients with HIV was found to be 72.0% among the dental practitioners in the present study but majority (64%) of the dentists thought that treating an HIV patient would have an effect on the other patient’s attitude in rendering treatment/dental care from them. Also, majority (70.0%) of the dentists thought that infection control procedures necessary for treatment of the patients with HIV is not a financial burden for the practice.

Conclusion: The level of knowledge regarding HIV and AIDS was found to be average in the present study. However, the dental school curriculum must, be updated and improved in order to enhance the knowledge of students as well teachers in those aspects.

Keywords: AIDS, dental practitioners, HIV, PLWHA, self-reported knowledge

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INTRODUCTION

Worldwide, more than 6800 people become infected with HIV every day and more than 5700 individuals die from acquired immunodeficiency syndrome [AIDS] (1). The important issue is that the number of newly reported HIV infection cases is increasing every year with a changing epidemic pattern but dental care workers are unprepared to treat this increasing number of people living with HIV (PLWHA) / AIDS (2).

Oral health is an essential aspect of overall medical care for individuals with HIV (3). Oral care for HIV-positive individuals plays a vital role in improving their nutritional intake, medication tolerance/effectiveness, treatment success rate and quality of life (4). With improved survival rates, it is expected that more HIV-positive patients, with or without knowledge of their serologic status, will be seeking dental care in the near future (5).

It is essential that every effort be made to protect both healthcare workers and patients from HIV exposure in the dental practice as the usual route of transmission is through an individual's contact with infected blood or other bodily fluids (6). The reports indicated that about 90% of the HIV-infections among healthcare workers occur in developing countries where occupational safety is a neglected issue (7–9).

It is of major importance that attitude and knowledge regarding HIV/ AIDS together with possible relationships are studied to highlight their role in fulfilling the intentions of the authorities and expectations of the consumers concerning the risk-group patients. The dental students play an important role in healthcare delivery of HIV/AIDS individuals and are therefore of special interest and importance in this respect (10–12).

All dental professionals 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 healthcare 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 (13).

Clinical dental students in particular may encounter a number of incidents where infections, including AIDS, from patient's body fluids may occur. In comparison to other infectious diseases, dental students were found to be more willing to treat hepatitis B (HBV) and hepatitis C (HCV)-infected patients than those with HIV-infection (14).

Several studies have been conducted to assess the willingness of oral health professionals to treat HIV-positive individuals either as a main survey or as part of knowledge, attitudes and practice survey in Nigeria and in other parts of the world (15–18). But very few studies have been conducted among the private dental practitioners. Thus, the present study was carried out to assess the knowledge and attitude of the private dental practitioners towards the treatment of HIV/AIDS infected individuals.

MATERIALS AND METHOD

The present study was a Questionnaire based study which studied the Knowledge and attitude of the private dental practitioners regarding dental treatment of HIV/AIDS patients. The study was carried out among the private dental practitioners working New Delhi, India.

Questionnaire

The Questionnaire assessed the knowledge and attitude of the private dental practitioners regarding the dental treatment of HIV/AIDS Patients. The Questionnaire used for the study was a structured Questionnaire which included 16 Questions of objective type with response in terms of Yes, No and Do not know.

Collection of data

The data was collected among the private dental practitioners practicing in the Delhi. The questionnaire was distributed to the randomly selected 1350 practitioners randomly selected from the different zones of Delhi region and was thoroughly explained to the dentist. The reminders were given at one weekly interval. The questionnaire was collected after three weeks.

Statistical analysis

The data was tabulated and entered into Microsoft excel 2010 and analysed using the SPSS software 16.0. The descriptive analysis of the responses was carried out and the results were expressed in the form of number and percentages.

RESULTS

A total of 500 private dental practitioners participated in the study with a response rate of 37% out of total 1350 dental practitioners who were delivered the proforma. The mean age of the study population was 35.84 ± 3.49 with 280 (56%) male and 220 (44%) females. The mean years of practice of the private dental practitioners was 12.23 ± 2.26 .

The willingness to treat patients with HIV/ AIDS was high (52.8%) among the private dental practitioners in the present study and majority (51.4%) of the dental practitioners agreed that treating an HIV-positive patient is an ethical responsibility of the dentist (Table 1).

A small proportion (33.6%) of the private dental practitioners had an opinion that treating an HIV-positive patient places a dentist at an increased risk of HIV-infection and 54.8% of the dentists had an opinion that treating an HIV-positive patient in your clinic will

affect other patient's attitude in rendering treatment/dental care from the dentist (Table 1).

Table 1: Questions related to attitude towards treatment of HIV/ AIDS patients

Questions related to attitude	Response	Frequency
Question 1: Will you willingly treat a patient if you know he/she is HIV positive?	Yes	264 (52.8%)
	No	236 (47.2%)
	Total	500 (100.0%)
Question 2: Treating HIV positive patient is an ethical responsibility of the dentist?	Yes	257 (51.4%)
	No	187 (34.4%)
	Do not know	49 (9.8%)
	Total	500 (100.0%)
Question 3: Treating an HIV positive patient places a dentist at an increased risk of HIV infection?	Yes	168 (33.6%)
	No	312 (62.4%)
	Do not know	12 (2.4%)
	Total	500 (100.0%)
Question 4: Treating an HIV patient would have an effect on the other patient's attitude in rendering treatment/dental care from you?	Yes	274 (54.8%)
	No	140 (28.0%)
	Do not know	40 (8.0%)
	Total	500 (100.0%)
Question 5: Is it difficult to deal with staff/assistant fears about patients with HIV/AIDS?	Yes	320 (64.0%)
	No	140 (28.0%)
	Do not know	40 (8.0%)
	Total	500 (100.0%)
Question 6: Infection control procedures necessary for treatment of the patients with HIV/ AIDS is a financial burden for the practice?	Yes	213 (42.6%)
	No	247 (49.4%)
	Do not know	40 (8.0%)
	Total	500 (100.0%)
Question 7: Are you confident that you can safely treat a person with HIV infection in your office?	Yes	272 (54.4%)
	No	188 (37.6%)
	Do not know	40 (8.0%)
	Total	500 (100.0%)
Question 8: You treat all your patients as if they have HBV or HIV?	Yes	412 (82.4%)
	No	88 (17.6%)
	Total	500 (100.0%)

When asked about whether infection control procedures are a financial burden to the practice of the dentist, 213 (42.6%) of the dentists agreed whereas 247 (49.4%) did not agree to it

being a financial burden. A major proportion (54.4%) of the private dental practitioners were confident of treating a patient with HIV-infection safely in dental practice whereas 37.6% were not confident. Majority (88.0%) of the dentists followed the practice of treating all patients as if they have HBV or HIV-infection taking all universal precautions whereas 17.6% did not follow that practice (Table 1).

A large proportion (60.4%) of the private dental practitioners in the present study had knowledge regarding the precautions to be taken for treating the patients with HIV/AIDS. Most (82%) of the dentists were of the opinion that HBV is more infectious than HIV and majority (83.0%) of the dentists had opinion that infection control practices for HBV are adequate for protection against HIV. A large majority (87.4%) of the dentists thought that exposure to Saliva can readily transmit HIV. Most (43.6%) of the dentists were not aware of the immediate measures to be taken in case of needle stick injury from an HIV-infected person (Table 2).

The risk of contracting HIV-infection from an HIV-contaminated needle stick injury was reported to be less than 1% by 190 (38.0%) of the dentists, 1–10% by 100 (20.0%), 11–50% by 100 (20.0%), more than 50% by 30 (6.0%) of dentists and 80 (16.0%) dentists were not sure (Table 2).

Most (81.6%) of the dentists had knowledge regarding the oral manifestations present in HIV/AIDS patients. More than half (54.6%) of the dentists knew about the drugs to be taken under ART therapy for the treatment of HIV/AIDS (Table 2).

Table 2: Questions related to Knowledge regarding treatment of HIV/ AIDS

Questions related to Knowledge	Response	Total
Question 9: Do you have adequate knowledge regarding the precautions to be taken for treating the patients with HIV/AIDS?	Yes	302 (60.4%)
	No	136 (27.2%)
	Do not know	62 (12.4%)
	Total	500 (100.0%)
Question 10: HBV is more infectious than HIV?	Yes	410 (82.0%)
	No	90 (18.0%)
	Total	500 (100.0%)
Question 11: Infection control practices for HBV are adequate for protection against HIV?	Yes	415 (83.0%)
	No	75 (15.0%)
	Do not know	10 (2.0%)
	Total	500 (100.0%)
Question 12: Exposure to Saliva can readily transmit HIV?	Yes	437 (87.4%)
	No	37 (7.4%)
	Do not know	26 (5.2%)
	Total	500 (100.0%)
Question 13: Are you aware of the immediate measures to be taken in case of needle stick injury from an HIV-infected person?	Yes	218 (43.6%)
	No	260 (52.0%)
	Do not know	22 (4.4%)
	Total	500 (100.0%)
Question 14: What is the risk of contracting HIV infection from an HIV-contaminated Needle stick injury?	Less than 1%	190 (38.0%)
	1–10%	100 (20.0%)
	11–50%	100 (20.0%)
	More than 50%	30 (6.0%)
	Don not know	80 (16.0%)
	Total	500 (100.0%)
Question 15: Are you having the knowledge regarding the Oral Manifestations associated with the HIV/AIDS?	Yes	408 (81.6%)
	No	58 (11.6%)
	Do not know	34 (6.8%)
	Total	500 (100.0%)
Question 16: Do you have knowledge regarding the drugs taken under ART therapy for the treatment of HIV/AIDS?	Yes	273 (54.6%)
	No	149 (29.8%)
	Do not know	78 (15.6%)
	Total	500 (100.0%)

Figure in parenthesis indicates percentage.

DISCUSSION

The present study was conducted to evaluate the knowledge and attitude of the dental practitioners towards the treatment of HIV/AIDS infected individuals. Due to advances in treatment of HIV-infection, people with HIV are now living longer. Patients who are well controlled on HAART with very low levels of viral load and high numbers of CD4 in the plasma pose very little risk of transmission to the healthcare professional who uses universal precautions (19, 20). As part of the health professional team, it is important for dental practitioners to be aware of a new era for dental management for people living with HIV.

Knowledge and attitude of dental practitioners towards HIV has been studied in several countries and revealed surprising results. Dental practitioners have been found to have discriminatory attitudes that potentially affect dental treatment for patients with HIV (21).

Human immunodeficiency virus-related oral conditions occur in a large proportion of individuals who are HIV-positive and frequently are misdiagnosed or inadequately treated (22). The provision of dental care for people who are HIV-positive is essential for their overall health and well-being. Previous studies have suggested that knowledge may affect attitudes towards treatment of HIV/AIDS patients (23, 24).

The overall willingness (52.8%) to treat HIV-positive patients in the present study was similar to the study conducted by Azodo *et al* (25) [58.8%] and Hu *et al* (26) [49%] recorded among Taiwanese dental students but was higher than 15% among the Jordanian dentists (17). However, the level of willingness found in this survey was comparatively lesser in comparison to the previous reports such as 63.3% among the Nigerian preclinical students (27), 63.6% among Nigerian dentists (28), 78.4% of Nigerian dentists by Utomi *et al* (29), 62% of US dental school seniors (30), Bennett *et al* (31) [67%], 84.3% of final-year dental students in the United Kingdom (32) and 83% of US dental students (33, 34).

Willingness to treat is thought to be the most significant predictor of actual treatment of an HIV-positive patient (35). Consequently, if HIV-positive individuals feel abandoned by caregivers, they are less likely to understand the need for prevention and to be motivated to protect others (36). It is important when using the social intervention approaches to HIV prevention to avoid discrimination against people who are HIV-positive (37, 38). The fear of treating HIV-infected patients may be due to inadequate knowledge of HIV transmission.

Evidence indicates a low occupational risk for HIV-infection among healthcare professionals (32).

Azodo *et al* (25) reported that 81% of the final-year dental students showed great interest in HIV-related information and 82.7% desired more knowledge on safety precautions during treatment of HIV-positive patients. Majority (90%) of Japanese dental health workers also requested additional education about HIV, particularly information about the prevention and spread of the virus and cross-infection requirements (20).

More than half (51.4%) of the dentists thought that treating HIV-positive patient is an ethical responsibility of the dentist which was almost comparatively lesser in comparison to the findings by Ryalat *et al* (39) in which, 73.7% of fifth-year students and 60.8% of third-year students thought that HIV/AIDS patients should be treated at any dental facility with same respect and dignity as other patients.

A substantial proportion (33.6%) of the respondents believed that treating an HIV-positive patient places a dentist at an increased risk of HIV-infection. This was similar to the study conducted by Crossley (34) [34%] and Bennett *et al* (31) [31%] but was quite lesser than the study conducted by McCarthy *et al* (24) [63%].

A high (54.8%) number of respondents reported that treating an HIV patient would affect other patient's attitude in rendering dental care from that dentist. This was higher in comparison to the study by Crossley (34) [34%] but similar results were obtained by

McCarthy *et al* (24) [68%]. Whereas Bennett *et al* (31) reported that 75% of the subjects reported that they were afraid of displaying a willingness to treat HIV-positive patients for fear that they would lose other patients.

The fear of respondents related to dealing with staff fears, was reported with 64% of respondents expressing concern. This was similar to the findings reported by Crossley 34 who reported almost same level of concern (59%) among the respondents and McCarthy *et al* (24) [67%]. In the present study, 42.6% of the dentists reported that infection control procedures necessary for treatment of the patients with HIV/ AIDS is a financial burden for the practice which was similar than the study by Crossley (34) [32%] and McCarthy *et al* (24) [45%].

Further research is necessary to fully understand the reasons for these seemingly contradictory sentiments, the hypothesis that fear and stigma might be playing a significant role in the existing attitude of the dental practitioners. Human immunodeficiency virus-infection is a stigmatizing condition and some theorists (40, 41) have noted that ambivalence is the most common reaction to stigmatized people.

Exposure to Saliva can readily transmit HIV was agreed by majority (87.4%) of the respondents which was similar to the study conducted by Seacat *et al* (42) [84%] and Samaranayake *et al* (12) [100%] but was much higher than the study conducted by Sadeghi *et al* (43) in which 24.5% students agreed that saliva can be a vehicle for the transmission of AIDS, Sheikh *et al* (44) [33.6%] and Jian *et al* (45) [36.9%]. There was no gap in the knowledge among the private dental practitioners in the present study in terms of route of transmission of HIV.

Human immunodeficiency virus testing prior to dental treatment and knowledge about patients' infection state can reassure dentists and allow them to confidently do their jobs. Up to now, several types of HIV testing have been developed that use whole blood or an oral

fluid specimen. One of the latest types of testing is Ora Quick Advance, which detects antibodies to HIV-1 and HIV-2 in oral fluid. The manufacturer indicates a specificity of 99.8% with oral fluid and 100% with whole blood (46).

Taking measures required for infection control is an important part of daily dental practice from both patients' and practitioners' point of view. In this regard, it is necessary to have a good knowledge of the required measures and a positive attitude, as well as the appropriate practices in place. Hepatitis B (HBV) is more infectious than HIV was agreed by most of the dental practitioners which was a correct response.

In the current study, 81.6% were aware of the oral manifestations associated with the HIV/AIDS which was similar to the study conducted by Sadeghi *et al* (43) [95.2%]. Sadeghi *et al* (43) also showed that 98.1% respondents correctly identified oral Candidiasis, 95.8% correctly identified major aphthous and 93.8% correctly identified Kaposi's sarcoma.

Outcome of other studies conducted in countries such as United States, Italy, Nigeria, and England indicate a low level of dentists' knowledge, attitude and practice towards the treatment of HIV-infected patients (47–50). Therefore, there seems to be a need for more education and emphasis regarding infection control for dental students and dentists.

Additionally, providers of dental services and supervising organizations should focus more on the subject. Also, incorporating psychological aspects of treating HIV/AIDS patients 51 and continuing dental education programmes should be conducted on a regular basis for updating of the knowledge of the dentists working in private practice and institutional based practice regarding the treatment of this special population.

CONCLUSION

This study suggests the need to introduce into the dental curriculum a comprehensive educational and motivational programme for the next generation of dentists in order to ensure

adequate care of HIV-positive patients. It is suggested that healthcare workers should be instructed for the appropriate management and counselling HIV and AIDS patients and imparted sufficient knowledge of symptoms as well as how to diagnose and treat infected patients appropriately.

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