**Assessment of knowledge and attitude towards patients affected with HIV/AIDS in a private Dental college in India: A questionnaire study**

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**Abstract**

Objectives & background: HIV and AIDS is a major public health challenge where India, alone accounts for 2.5 million people living with HIV/AIDS. The oral manifestations are often among the first symptoms of HIV/AIDS and thus can be useful in early detection of the disease. Thus it becomes a professional and ethical responsibility of the dentist to provide treatment to such patients. Therefore, the present study was carried out to assess the knowledge and attitude of dentist and Dental auxiliary staff in a private Dental College in Jaipur, Rajasthan, India.

Methods: A cross sectional questionnaire survey was conducted among the dentists and dental auxiliary staff at Jaipur Dental College & Hospital, Jaipur. Information, thus obtained from above questionnaire was entered in MS excel spreadsheet and the percentage was calculated.

Results: There is poor level of knowledge regarding modes of transmission, risk groups for HIV/AIDS, diagnosis & treatment of patient among dentists and dental auxiliary staff.

Conclusion: The authors suggest that CMEs/CDEs should be conducted on a regular basis for continuous upgradation and appraisal of knowledge about HIV/AIDS and thus helping in building a strong positive attitude towards such patients.

**Introduction**

HIV and AIDS is a major public health challenge where India, alone accounts for 2.5 million people living with HIV/AIDS.1,2 The estimated prevalence of HIV/AIDS is 0.91 %3. An estimated 4.89 million people were living with HIV in 2009 on the Asian sub continent.2

HIV/AIDS may particularly manifest in the oral cavity in the form of oral candidiasis, oral ulcers, non tender bilateral swelling of the parotid glands and nodular tumours or kaposi’s sarcomas.4, 5 These oral manifestations are often among the first symptoms of HIV/AIDS and thus can be useful in early detection of the disease. Thus it becomes a professional and ethical responsibility of the dentist to provide treatment to such patients.

It is generally accepted that both dentists and other health care workers should provide quality treatment care to all such individuals’ indiscriminately.6 The various Dental associations (American Dental Association, Canadian Dental association, Indian Dental Association) have issued recommendations that dentists should provide quality care for patients with infectious diseases, including HIV/AIDS. According to World Health organization (WHO), it is imperative for all dentists to treat HIV positive patients.8,9

The risk for cross infection comes into particular focus in dental practice because of the possible transmission of HIV virus through direct contact with blood.10 The risk of occupational transmission of the virus from a patient to a health care provider has been estimated to be 0.3% after a single per cutaneous exposure to HIV infected blood. Fear of HIV contagion or AIDS phobia among health care providers including dentists have been attributed as major obstacles in successfully delivery of dental care to such patients.11

Even though it is widely accepted that health care professional play a crucial role in prevention and control of HIV/AIDS, less attention has been given to assess knowledge and attitude of health care professionals. A study conducted by Asia Pacific network of people living with HIV/AIDS in south Asian region reported stigma and discrimination by health care professionsl while treating HIV Positive patients.12 similarly there occurs a lack of knowledge about transmission of HIV among health care professionals in private and government (gov.) hospitals in India. This has lead to refusal of treatment to persons living with HIV.13 Also there are reports, where the dentists were reluctant to treat such patients including denial of treatment to such patients.14 However, there are limited studies which have explored the knowledge and attitude of dentists and dental auxiliary staff, particularly in North Western part of India.

Keeping this in view, a study was conducted to assess the knowledge and attitude of dentist and Dental auxiliary staff in a private Dental College in Jaipur, Rajasthan.

**AIMS &OBJECTIVES:**

The study had the following aims and objectives:-a) to assess the knowledge regarding modes of transmission, risk groups for HIV/AIDS, diagnosis & treatment of patients, source of information and need for further education . b) to assess the attitude towards patients affected with HIV/AIDS.

**Materials & Methods**

A cross sectional questionnaire survey was conducted among the dentists and dental auxiliary staff at Jaipur Dental College & Hospital, Jaipur. Dental auxiliary staff comprised of nursing staff, lab technicians and class IV employees. Class IV employees refer to the cleaners and maintenance personnel

A self administered questionnaire with 37 questions was designed in line with WHO KABP questinairre15 to assess the knowledge and attitude. It comprised of 37 questions in two sections exploring the, knowledge regarding HIV/AIDS including the socio demographic characteristics and attitude towards treating HIV positive patients respectively. The study population included 50 dentists, 50 nursing staff, 20 lab technicians and 20 class IV employees. All the 140 subjects who participated in the study were volunteers and they comprised of 70 % of the total workforce (200 subjects) at the institution.

The questionnaire was pilot tested on a small group of population which included 5 dentists, 5 nursing staff, 5 lab technicians and 5 class IV employees who were requested to complete it and indicate any questions which they found to be unclear. Confidentiality of the participants was maintained.

The participants of the study were explained in detail regarding purpose of the study, informed consent was obtained and questionnaire was distributed.

The study was approved by the ethical committee of Jaipur Dental College, Jaipur, Rajasthan, India and written consent was taken from all the subjects prior to start of the study.

Necessary steps were taken to maintain anonymity. Information, thus obtained from above questionnaire was entered in MS excel spreadsheet and the percentage was calculated.

**Results:**

Out of 140 subjects, 2 class IV employees and 2 nurses failed to respond to the questionnaire. It was surprising that only 30% of the dentists had excellent knowledge regarding modes of transmission of HIV/AIDS while 36 % of nurses had extremely poor knowledge about it. (Table I)

When the level of knowledge regarding risk group for HIV/AIDS was assessed, it was seen that 40% of the dentists had excellent knowledge while 68% of class IV employees had a poor knowledge regarding it. (Table II)

The knowledge regarding diagnosis and treatment of patients infected with HIV/AIDS was also found to be insufficient. Only 60% of the dentists, 30% of the nurses, 14% of lab technicians and 7% of class IV employees had an excellent knowledge about it. (Table III)

It was seen that only 40% of the dentists and 28% of dental nursing staff had received some kind of a formal training to treat patients infected with HIV/AIDS. On the contrary, 80% of the class IV employees and 50 % of the Lab technicians didn’t know anything about any kind of formal training to treat such kind of patients. Also, 80% of the dentists and 35% of the dental nursing staff had acquired maximum information regarding HIV/AIDS from the curriculum taught during their study period while class IV employees and Lab technicians had acquired the maximum information regarding it from Radio/television. However it was noteworthy, that more than 90% of all the dentists and dental auxiliary staff felt the need for further education regarding diagnosis and management of patients with HIV/AIDS.

When the attitude of the dentists and dental auxiliary staff was assessed towards the patients affected by HIV/AIDS, it was seen that 60% of the dentists had a positive attitude towards such patients while 50% of the dental nursing staff and 45% of the Lab Technicians had a negative attitude towards them. It was surprising to note that only 10% of the class IV employees had a positive attitude and 65% were not sure about their attitude towards such patients. (table IV)

**Discussion:**

This is a cross-sectional survey conducted to assess the knowledge and attitude towards HIV/AIDS among dentists and dental auxiliary staff in a private Dental College in jaipur.

The success of a study based on self administered questionnaire essentially depends on the manner in which the questions are formatted, question content, analysis and response rate. In order to avoid any recall bias, most of the questions designed were of closed end type.13 Such questions are easy to analyze with response rate being quicker.

One of the added advantages of this study was that all the participants in the study were working at the same work place, so all were following the similar guidelines for management of such patients.

The results of the present study show that there is poor level of knowledge about Patients suffering from HIV/AIDS among Dentists, Nurses, Dental Technicians and Class IV employees. Also there are certain important misconceptions and knowledge deficits. These results are in accordance with other studies cities in the literature.

Only 30% of the dentists, 14% of nurses, 15% of lab technicians and 5% of Class IV employees had excellent knowledge about the modes of transmission of HIV/AIDS. Similar findings were reported by Chauhan et al16 in Odisha, India; Mohsin et al17 Gujarat, India; Ryalat et al18 at University of Jordan and Khosravanifard et al19 at Tehran.

The knowledge about the risk groups for HIV/AIDS was also found to be insufficient. It was surprising to see that 52 % of lab technicians and 45% of the nurses had poor knowledge about the risk of acquiring HIV/AIDS infection from needle stick injuries and dental impressions. This lack of knowledge can negatively affect the attitude and treatment practices of the dentists and dental auxiliary staff and this is again confirmed by the results of our study.

Even the knowledge regarding diagnosis and treatment of such patients was also found to be inadequate. 68% of the class IV employees, 56% of the lab technicians and 15% of the nurses felt that there are no intraoral signs of HIV/AIDS infection and autoclaving cannot kill HIV/AIDS virus. Only 60% of the dentists had an excellent knowledge about it wherein they believed that double gloves should be worn while treating such patients and there is no vaccine and no cure for HIV/AIDS infection.

Inadequate knowledge can act as a barrier to appropriate treatment of HIV positive patients in healthcare settings. Similar findings were reported in study by Anjum Q et al21among students regarding HIV/AIDS of a private medical university in Karachi, Pakistan; Chauhan et al16 and Chatterjee et al22. This knowledge gap may refrain the dentists and dental auxiliary staff from using precautionary measures and fear of HIV contagion may prevent them from treating such patients.

It was surprising to see that 80% of dental technicians, 70% of nurses, 5% of dentists and all the class IV employees had not received any formal training to treat such patients. 90% of the dentists claimed that they had acquired the maximum information regarding HIV/AIDS from the curriculum taught during their study periods while the rest of them claimed to acquire maximum information through internet. It was also seen that all the dentists, dental technician, nurses and 50% of the class IV employees felt the need for further education regarding diagnosis and treatment recommendations for such patients. It is understood that all the dentists and dental auxiliary staff would have undergone a basic training about the diagnosis and treatment planning of such patients. However, this is not reflected in the results of the present questionnaire. This suggests that the current education system pertaining to HIV/AIDS should be reviewed and elementary sex education including HIV/AIDS should be started at secondary education level. This will also help the Class IV employees because these people hardly complete their secondary education level. The minimum requirement for a person to be employed as Class IV personnel is Class V Pass in India.

When the answers regarding attitude towards patients affected with HIV/AIDS was assessed, 50% of the nurses and 35 % of the dentists had a negative attitude towards such patients. however 65% of the class IV employees were not sure about their attitude. The low attitude score among the dental auxiliary staff can be attributed to the fact that they have not received any or insufficient formal training for diagnosis and management of such patients. These findings are in contrast to the study conducted by Tavosi A et al23. They reported an intolerant attitude towards HIV/AIDS patients. A negative attitude of medical students was also sen on the same issue by Kopacz et al24. However, nursing students of Sydney showed a favorable attitude to AIDS patient care in a study by Stiernborg M et al25.

This study is one of the very few studies conducted in North western India and first of its kind in Jaipur, Rajasthan to explore the knowledge and attitude of dentists and dental auxiliary staff towards patients affected with HIV/AIDS. However the results of this study cannot be generalized to all the dentists and dental auxiliary staff employed at other dental colleges across India. Even the private practitioners and the dental auxiliary staff employed at various private clinics and nursing homes were also not included in the study.

Another major shortcoming of this study was that it did not cover the socio demographic characteristics (like family income, religion, caste etc) of the participants in the study which might have influenced the knowledge and attitude of these subjects.

India, alone accounts for 2.5 million people living with HIV/AIDS.1,2 Thus, it is very crucial for the Dentists and Dental auxiliary staff to have adequate knowledge and positive attitude towards patients affected by HIV/AIDS. Our study revealed inadequate knowledge and attitude of dentists and dental auxiliary staff towards such patients. Thus it is strongly recommended to incorporate basic sex education including education about HIV/AIDS at school level which can later be extended in their curriculum to benefit the dentists and dental auxiliary staff and demystifying misconceptions if any, amongst them. The various dental colleges must foster an environment for conducive learning and development of a positive attitude and behavior towards such patients. Empathy plays a crucial role in the Dentist-patient relationship and a negative or unfavorable attitude towards the patients can lead to inadequate treatment. Also, non judgmental attitude should be cultivated towards the care of people who are infected with HIV/AIDS. This requires systematic and sensitive educational programs. Hence, CMEs/CDEs should be held on a regular basis for continuous up gradation and appraisal of knowledge about HIV/AIDS and thus helping in building a strong positive attitude towards such patients.

**Conclusion**

It can be concluded from the present study that there is poor level of knowledge regarding modes of transmission, risk groups for HIV/AIDS, diagnosis & treatment of patient among dentists and dental auxiliary staff in a private Dental College in Jaipur, Rajasthan, India. A subsequent literature review suggests that this is a common problem amongst various other teaching institutions in India and abroad and authors suggest that CMEs/CDEs should be regular basis for continuous upgradation and appraisal of knowledge about HIV/AIDS and thus helping in building a strong positive attitude towards such patients.

**Competing Interests**

The authors declare that there is no competing interest both financially and non financially associated with the study.

**Authors contribution**

**AS** conceived and designed the study, performed the literature search, was responsible for carrying out the study, acquiring the data, statistical analysis, and writing the paper.

**SS** conceived and designed the study, and was responsible for the literature search, data analysis and statistical analysis, and the preparation, editing and review of the manuscript.

All authors contributed to: 1) conception and design of key aspects; 2) acquisition of data, or planning/implementing analysis and interpretation of data; 3) drafting the article and revising it critically for important/substantive intellectual content; and 4) read and approved the final manuscript

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**Table 1: Level of knowledge regarding modes of transmission for HIV/AIDS**

|  |  |  |  |
| --- | --- | --- | --- |
| Health care workers | Excellent (%) | Good to average (%) | Poor (%) |
| Dentists | 30 | 45 | 25 |
| Nurses | 14 | 50 | 36 |
| Lab technicians | 15 | 45 | 40 |
| Class IV employees | 5 | 50 | 45 |

**Table 2: Level of knowledge regarding risk groups for HIV/AIDS patients**

|  |  |  |  |
| --- | --- | --- | --- |
| Health care workers | Excellent (%) | Good to average (%) | Poor (%) |
| Dentists | 40 | 45 | 15 |
| Nurses | 15 | 40 | 45 |
| Lab technicians | 12 | 36 | 52 |
| Class IV employees | 4 | 28 | 68 |

**Table 3: Level of knowledge regarding diagnosis and treatment of patients infected with** HIV/AIDS

|  |  |  |  |
| --- | --- | --- | --- |
| Health care workers | Excellent (%) | Good to average (%) | Poor (%) |
| Dentists | 60 | 35 | 5 |
| Nurses | 30 | 55 | 15 |
| Lab technicians | 14 | 30 | 56 |
| Class IV employees | 7 | 25 | 68 |