



Assessment of Knowledge and Attitude among Dental Care Workers towards Patients Affected with HIV/AIDS in a Private Dental College in India

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Authors' contributions

This work was carried out in collaboration between both the authors. Author AS designed the study, wrote the protocol and wrote the first draft of the manuscript. Author SS managed the literature searches, analysed the study and made the final corrections in the manuscript. Both the authors read and approved the final manuscript.

Article Information

DOI: 10.9734/BJMMR/2016/16485

Editor(s):

- (1) Roberto Manfredi, Department of Medical and Surgical Sciences, University of Bologna, Bologna, Italy.
- (2) Salomone Di Saverio, Emergency Surgery Unit, Department of General and Transplant Surgery, S. Orsola Malpighi University Hospital, Bologna, Italy.

Reviewers:

- (1) Adeoye, Oluwatosin Adediran, Lautech Teaching Hospital, Nigeria.
 - (2) T. G. Rejani, Gujarat Forensic Sciences University, India.
 - (3) Anonymous, Ladoke Akintola University of Technology, Nigeria.
- Complete Peer review History: <http://sciencedomain.org/review-history/12003>

Data Article

Received 3rd February 2015
Accepted 6th August 2015
Published 28th October 2015

ABSTRACT

Aims: HIV and AIDS is a major public health challenge and India alone accounts for 2.5 million of the Asian sub continent 2009 estimated 4.89 million people were 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. Therefore it is 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.

Study Design: Descriptive cross sectional study.

Methods: A descriptive cross sectional study was carried out for one month among the dentists and dental auxiliary staff. Information, thus obtained from above questionnaire was entered in MS excel spreadsheet and the percentage was calculated.

Results: Fifteen (30%) of the dentists had excellent knowledge regarding modes of transmission

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of HIV/AIDS while 18 (36%) of nurses had extremely poor knowledge. Thirty (60%) of the dentists had a positive attitude towards HIV/AIDS patients while 25 (50%) of the dental nursing staff and 9 (45%) of the Lab Technicians had negative attitudes towards them.

Recommendation: Regular continuous medical examination of dental health workers is advised for the up gradation of their knowledge and building of strong positive attitudes towards HIV/AIDS patients.

Keywords: Dental; HIV/AIDS; positive attitude; knowledge.

1. 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 [7]. 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 [10]. Fear of HIV contagion or AIDS phobia among health care providers including dentists have been attributed as major obstacles in successful 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 professional while treating HIV Positive patients [12]. Similarly, there was lack of knowledge about transmission of HIV among health care professionals in private and government (Gov.) hospitals in India. This has led 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, the aim of this study, is to assess the knowledge of and attitudes towards patients affected with HIV/AIDS by dental care workers in a private Dental College in India.

2. AIMS AND 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.

3. METHODOLOGY

A descriptive cross sectional study was carried out for one month among all 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.

3.1 Inclusion/Exclusion Criteria

All dental workers in Dental College & Hospital, Jaipur were included in the study.

3.2 Sample Size

The respondents were purposely selected to include all the 200 dental care work force in Dental College & Hospital, Jaipur. A self administered questionnaire with 37 questions was designed in line with WHO KABP questionnaire [15] 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 questionnaire was distributed amongst all the dentists and the dental auxiliary staff. However, only 140 subjects responded to the questionnaire. It 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 correct response was scored as 1 and incorrect response or no response as 0. The respondents who showed a positive attitude towards patients infected with HIV/AIDS was given a score of 1 and negative attitude or no comments was scored as 0. The highest possible score was 37 and lowest possible score was 0. Grading of knowledge was as follows. Score >27 was excellent, score >24 was good, score >18 was average and score < 15 was poor.

3.3 Pre-test

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. These people were not employed in that college and they were not included in the current sample. All the participants who responded to the pre tested questionnaire had a minimum experience of 10 years after receiving formal training in the concerned field. Confidentiality of the participants was maintained.

One major shortcoming of the study was that private practitioners and the dental auxiliary staff employed at various private clinics and nursing homes were not included in the study. Also, 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.

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 results were evaluated.

4. 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 1).

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

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 2).

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

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 3).

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.

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

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 4).

5. DISCUSSION

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

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 [16-19].

Table 4. Showing attitude of the dentists and dental auxiliary staff towards patients with HIV

Health care workers	Positive attitude (%)	Negative attitude (%)	Not sure (%)
Dentists	60	35	5
Nurses	35	50	15
Lab technicians	30	45	25
Class IV employees	10	25	65

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 al. [16] in Odisha, India; Mohsin et al. [17] Gujarat, India; Ryalat et al. [18] at University of Jordan; Khosravanifard et al. [19] at Tehran and Patil et al. in India [20].

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 al. [21] among

students regarding HIV/AIDS of a private medical university in Karachi, Pakistan; Chauhan et al. [16] and Chatterjee et al. [22]. 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. In contrast to it, 90% of the dentists had acquired maximum information regarding HIV/AIDS from the curriculum taught during their study periods while the rest of them had acquired 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 al. [23]. They reported an intolerant attitude towards HIV/AIDS patients. A negative attitude of medical students was also seen on the same issue by Kopacz et al. [24]. However, nursing students of Sydney showed a favorable attitude to AIDS patient care in a study by Stiernborg M, et al. [25]. Study conducted by Agarwal et al. [26] showed that the students' knowledge on HIV/AIDS generally increased as they progressed

through the curriculum, but their utilization of all barrier techniques for infection control and clinical protocol lacked consistency and compliance. In contrast to this study, Grover et al. [27] suggested that the dental students had adequate knowledge about HIV/AIDS but their attitude toward this group of people was significantly negative and emphasized on the need and scope to provide correct and detailed information on HIV/AIDS for dental students.

This study is one of the very few studies conducted in North western India and first of its kind in Jaipur, Rajasthan which aimed 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 and this is a major drawback of this study. 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.

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 upgradation and appraisal of knowledge about HIV/AIDS and thus helping in building a strong positive attitude towards such patients.

6. CONCLUSION

It can be concluded from the present study that i) 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. ii) Few dentists and majority of the dental auxiliary staff had a negative attitude towards patients with HIV/AIDS. iii) Authors suggest that CMEs/CDEs should be conducted on 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

Authors have declared that there is no competing interest both financially and non-financially associated with the study.

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Peer-review history:

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