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## Knowledge and awareness among dental interns, post graduates students and private practitioners about AIDS/HIV in north Karnataka

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### Abstract

**Background:** The HIV epidemic poses significant challenges to the healthcare providers including dentists. The present study is aimed to estimate the knowledge of HIV/AIDS and the attitude of dental students towards HIV/AIDS patients and to know whether knowledge has any influence on the attitude and willingness to treat HIV/AIDS patients.

**Materials and Methods:** A cross-sectional survey was carried out on 219 dental students studying at the SB Patil Dental College and Hospital, Bidar (K.S) India. The students completed a predesigned self-administered questionnaire assessing the knowledge, attitude and willingness to treat HIV/AIDS patients. The data were analyzed using ANOVA test (all the results are calculated at 1% level of significance) and Pearson correlation test.

**Results:** The total mean knowledge score was 76.5% (excellent knowledge). There was a significant difference in knowledge among the third-year, final-year students and interneers, which was found to be statistically significant ( $P > 0.001\%$ ). The study showed that the overall mean attitude score was 62.9% (negative attitude). There was no significant difference in the attitude of the students among the three groups ( $P > 0.001\%$ ). Karl Pearson correlation test showed no significant correlation between the knowledge of HIV/AIDS and the attitude of students towards HIV/AIDS patients ( $P > 0.01\%$ ).

**Conclusions:** The findings suggest that although the students had adequate knowledge about HIV/AIDS, their attitude towards this group of people was negative. From the study, fear of HIV contagion was observed as a major reason for the negative attitude of students towards HIV/AIDS patients.

**Keywords:** AIDS, attitude, dental students, HIV

### Introduction

Faced with the high number of patients with HIV/AIDS, it has become necessary to adapt the attitudes of health professionals and students to reality<sup>1-5</sup>. From 2012 to mid-2013, 35.3 million people worldwide were reported to be living with AIDS<sup>6</sup>, Controlling infectious diseases is an aspect that deserves close attention in dentistry, due to both the environment in which a dental surgeon works (the oral environment, with its numerous microorganisms) and to the wide range of sharp instruments and invasive procedures, exposing the dentist to various infectious/ contagious diseases, such as AIDS and Hepatitis B and C, depending on factors including depth of the cut, the volume of potentially infectious fluid on dental instruments and the patient's viral load during seroconversion<sup>8-13</sup>. Therefore it is essential to seek and constantly update knowledge on occupational diseases to which the dental professional may be exposed, routes of infection, modes of transmission, bio-security standards, sterilization and disinfection of the materials used, proper disposal of waste, respect for the environment and on post-exposure measures. In this way, a professional will be able to protect him/herself and his/her entire team, as well as the patients themselves<sup>14-15</sup>. Of equal importance is knowledge concerning the main oral manifestations of HIV-infected patients. Dental professionals have an important role in the early detection of the disease as these manifestations may be its first symptoms<sup>3, 16</sup>. However, due to a lack of adequate knowledge, dental surgeons are routinely influenced by fear, prejudice, confusion and ambivalence concerning the proper conduct with regard to HIV+ patients and previous experiences with AIDS patients. Their fear may stem from having lost other patients to the disease, thus denying care to or referring HIV+ patients,

transgressing the ethical principles that govern the profession<sup>3,15</sup>. It is during graduation course that students should acquire knowledge about HIV/AIDS and other infectious diseases and make a habit of adopting biosecurity measures in order to be aware of the best course of action to take after exposure to possible pathogens<sup>2,4,19</sup>, thereby developing an understanding that all knowledge acquired will have repercussions on their attitudes and behavior in their daily professional practice of dentistry<sup>4</sup>. Therefore, it is important to study the current situation of interns, PG students and professionals, in order to influence subsequent students and raise awareness in current students. The main objective of this study is to assess the levels of knowledge, risk perception and attitudes in Dentistry students at North Karnataka Region.

### Materials and Methods

Cross-sectional study was conducted utilizing questionnaire survey format among 200 participants belonging to five different dental colleges of North Karnataka. The custom formulated questionnaire was objective type including open- and close-ended questions. The survey was designed, keeping in mind that the participant group population is equally distributed among all five colleges wherever possible.

Study samples were divided into three groups which were chosen as representatives of the strata of hierarchy in dental education. Subjects were selected randomly keeping in mind the ratio of their respective population in college.

- Group A – Interns–105
- Group B – PG students–50
- Group C – Private practitioners–45

Questions were based on three categories for evaluation of different aspects of AIDS/HIV:

1. Basic knowledge and awareness
2. Diagnosis and prognosis
3. Prevention and treatment

General awareness and knowledge section included the questions about awareness of the disease in general, modes of transmission, etc. Diagnosis and prognosis includes questions of oral manifestations of HIV/AIDS. Whereas treatment and prevention section had questions about post exposure prophylaxis and referral of HIV patients. Participants were instructed to attempt all the questions and were asked to indicate one answer per question. Responses were then transferred to Microsoft Excel sheet and evaluated for results. We applied percentage analysis instead of statistical analysis because of number of variables involved, large sample size, number of permutation possible and most importantly the complexity of statistical analysis will somehow overshadow

the picture that we intended to project.

The idea was to assess the awareness of dental practitioners/PG/UG regarding AIDS/HIV. The study was carried out by the same administrator and anonymity was maintained regarding the name, age, sex and religion of an individual.

### Results

Of the total number of respondents which participated in survey, 17 were excluded from the final analysis as they either did not complete the survey form or indicated more than one choice per question.

The question regarding HIV/AIDS being the same entity or different was correctly responded by 41% of the group A members who thought that they are indeed the two stages of same entity. It was less than 58% among group B and 64% in group C members. The response to question on the type of HIV virus most prevalent in India showed a poor response. Approximately 14% group A members, 36% of group B and 18% among group C could correctly answer it as HIV type I. The question regarding the routes of transmission of HIV was correctly answered by 87% group A, 92% group B and 96% group C respondents (Table 1). When a question regarding fate of needle after injection was asked, only 40% of group A participants were found aware of the fact that ideally the needle should be incinerated after use compared to 74% of group B and 72% of group C participants.

The awareness about the rapid HIV antibody test being the screening test for HIV was found to be about 25% in group A, 40% in group B and 32% in group C. When posed with the question on confirmatory test post screening, the result was no different as only 26% of group A compared to 36% group B and 50% group C gave correct response as Western blot. When confronted with the critical CD4 count we found a different trend contrary to the educational qualification, 60% group A posted correct answer compared to 40% group B and 30% group C respondents. When made to indicate commonest opportunistic infection, again majority of group A, i.e. 72% answered candidiasis opposed to 66% group B and 58% group C members (Table 2).

Awareness that the place where first referral of HIV patients is made after confirmation of HIV-positive status is antiretroviral therapy (ART) center was known to only 18% group A members compared to 34% group B and 42% group C counterparts. Post exposure prophylaxis is available free of cost in government medical hospital and was known to 25% group A, 42% group B and 50% group C members (Table 3). Only 35% of the total survey population claims to have attended HIV/AIDS awareness program.

**Table 1:** Results of data collected from knowledge and awareness section indicating correct response

Knowledge and awareness	Group A	Group B	Group C
HIV is different from AIDS	42 (41%)	29 (58%)	32 (64%)
HIV virus A is commonest in India	13 (14%)	18 (36%)	9 (18%)
Needle should be incinerated after use	42 (40%)	37 (74%)	32 (72%)
Correct mode of transmission of HIV	92 (87%)	46 (92%)	48 (96%)

**Table 2:** Results of data collected from knowledge and awareness section indicating correct response

Knowledge and awareness	Group A	Group B	Group C
HIV is different from AIDS	42 (41%)	29 (58%)	32 (64%)
HIV virus A is commonest in India	13 (14%)	18 (36%)	9 (18%)
Needle should be incinerated after use	42 (40%)	37 (74%)	32 (72%)
Correct mode of transmission of HIV	92 (87%)	46 (92%)	48 (96%)

**Table 3:** Results of data collected from treatment and prevention section indicating correct response

Treatment and prevention	Group A	Group B	Group C
HIV patients are first referred to ART centers PEP against HIV is available at govt. medical hospital	12 (18%) 24 (25%)	18 (34%) 21 (42%)	21 (42%) 25 (50%)

### Conclusion

The study was a genuine endeavor to assess the knowledge of dental interns P.G student and private practitioners about ethics, record keeping, informed consent and medico-legal issues. The participants were knowledgeable about medical ethics and informed consent but when it came to record keeping and medical negligence their information was basic, they lacked knowledge about finer details. Local bodies and medical associations should increase their participation in holding seminars, CME's for the students to increase awareness of medico-legal issues in medical practice. The curriculum for students needs to be more detailed in regard to medico-legal aspects. During residency, thorough literature review of malpractice cases should be considered compulsory and hospital cases with possible legal implications should be discussed. This will help the student to understand the medico-legal process and the ramifications attached to them. The limitation of our study is that it was conducted in one institute, even though the hospital consists of a diverse group of students coming from different backgrounds, it cannot predict the overall situation in the country.

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