

## KNOWLEDGE OF HIV/AIDS AND ATTITUDE TOWARDS HIV/AIDS PATIENTS AMONG DENTAL STUDENTS IN KHYBER PAKHTUNKHWA, PAKISTAN

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### Abstract

**Objectives:** The aim of this study was to analyze knowledge of human immunodeficiency virus (HIV/AIDS) and attitude towards HIV/AIDS patients among dental students of different dental colleges in the province of Khyber Pakhtunkhwa, Pakistan.

**Materials & Methods:** A cross-sectional survey was conducted among dental students studying in 4 public sectors and four private sector dental colleges in the province of Khyber Pakhtunkhwa, Pakistan, from October 2017 to December 2017. A total of 550 self-administered questionnaires were distributed among the students to assess knowledge, attitude and willingness to treat HIV/AIDS patients. The received data was analyzed on SPSS version 17. All results were calculated at 95% confidence interval, and student t-test was the test of significance.

**Results:** Majority of public sector students (68%) showed good knowledge about HIV/AIDS as compared to private sector students (56%). There was a significant statistical difference in knowledge among females and males. Majority of students (71%), both public and private sectors showed a positive attitude towards HIV/AIDS patients. Over 96% of the students were of the view that HIV/AIDS can be transmitted by contaminated sharp instruments.

**Conclusion:** Our findings suggest that students had adequate knowledge about HIV/AIDS and their attitude towards people with HIV/AIDS was positive. Public sector students had better knowledge than private sector students

**Key Words:** AIDS, attitude, dental students, HIV, knowledge

### Introduction

Human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS) is a global public health problem. Pakistan accounts for over 200,000 people living with HIV/AIDS (PLWHA)<sup>1</sup>. Approximately 20,000 new cases are being reported in Pakistan each year<sup>2</sup>. Needs of oral health care among PLWHA are also higher, as oral conditions are of great occurrences in a large population of them<sup>3</sup>. With the improvement in survival rates, it is estimated that more PLWHA will seek dental

health care in future. Because transmission of HIV is possible through direct blood contact, the chances of cross-infection come into focus particularly in dental practice<sup>4</sup>. Risk of cross-infection of HIV from patients to healthcare providers is estimated to be at 0.3% after an exposure of single percutaneous HIV-infected blood<sup>5</sup>. Phobia of AIDS fear of the HIV contagion has been reported as a major obstacle in the successful delivery of dental health care to PLWHA<sup>6</sup>. Oral health care providers have ethical and professional responsibility to provide care and dental treatment to all individuals without any discrimination<sup>7</sup>. According to WHO (World Health Organization), it is the responsibility of all dentists to provide dental treatment to HIV-positive patients<sup>8</sup>. It is unlawful and unethical for a dental student or dentist to refuse dental treatment to HIV-positive patients<sup>9</sup>. In spite of these recommendations, health care providers are

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shown to be reluctant or even refuse treatment to HIV/AIDS patients because of lack of knowledge or ignorance regarding the disease. Control of the cross-infection and Infectious diseases' including HIV/AIDS is a part of the curriculum of the dental course, beginning in the third year of BDS. Purpose of the present study was to assess the knowledge and attitude of dental students towards HIV/AIDS patients, and their willingness to treat them.

**Materials and Methods**

A cross-sectional survey was conducted among the dental students who were studying in third and inal year of BDS course in 4 public sector dental colleges and four private sector colleges in Khyber Pakhtunkhwa, Pakistan. Public sector dental colleges included Khyber College Of Dentistry, Peshawar, Kohat Institute of Dental Sciences, Kohat, Bacha Khan Medical College, Mardan and Ayub Medical College, Abbottabad. And private sector Dental Colleges included Sardar Begum Dental College, Peshawar, Peshawar Dental College, Peshawar, Frontier Dental College Abbottabad and Abbottabad International College, Abbottabad. A total of 550 Questionnaires were distributed among the students of 3rd and 4th year BDS in these 8 Dental colleges. The questionnaire was adapted from the survey questionnaire used by Sadeghi M and Hakimi H 10 (Table 1). Some minor changes were made in these questionnaires keeping in view the norms of culture and customs of the society. All the students voluntarily participated in the study and were informed that their participation would not affect their grades. Information about age gender and the year of study was obtained from all the participants.

The questionnaire included 17 multiple choice questions to determine knowledge regarding HIV infection. Participants were given the options to agree, disagree and don't know. Of the 17 questions eight questions were related to modes of HIV transmission, six questions were asked about knowledge regarding highest Risk group by profession, and three questions were about basic knowledge of HIV-infection.

Data received was analyzed on SPSS version 17. All results were calculated at 95% confidence interval, and student t-test was a test of significance.

**Results**

A total of 550 Questionnaires were distributed

among the students of 3rd and 4th year BDS in these 8 Dental colleges. Of these 550 questionnaires, 399 were returned making a return percentage of 72.5%. Age of the students ranged from 21-23 years and male to female ratio was 1:3. Majority of public sector students (68%) showed good knowledge about HIV-AIDS as compared to private sector students (56%) Figure1. There was a significant statistical difference in knowledge among females and males (P>.001). Females (61.5%) showed a significantly higher knowledge as compared to males (48.3%). Majority of students (71%), both public and private sectors showed a positive attitude towards HIV/AIDS patients (Table 2). The statement regarding "Risk of HIV contagion exists when treating HIV/AIDS patients" received the highest percentage of "yes" (97%) answers (Fig.2). The overwhelming majority of students (89%) considered health workers as the highest risk group as a profession (Fig.3). Over 96% of the students were of the view that HIV-AIDS can be transmitted by contaminated sharp instruments (Table 3).

**Table 1: Questionnaire**

<p>Knowledge and awareness of HIV/AIDS (Marking a: correct b: incorrect)</p> <ol style="list-style-type: none"> <li>HIV infection can spread by Touching, Kissing, Sharing food and Drinks a. b.</li> <li>Saliva can be a vehicle for transmission of HIV infection a. b.</li> <li>HIV/AIDS patients can be identified by physical appearance a. b.</li> <li>Needlestick injury can transmit HIV/AIDS a. b.</li> <li>Aerosols from handpiece can be a vehicle for transmission of HIV infection a. b.</li> <li>Medical &amp; paramedical staff is more prone to HIV infection a. b.</li> <li>Negative Elisa test rules out HIV infection a. b.</li> <li>Which host defence cells are primarily affected by HIV/AIDS?  <ul style="list-style-type: none"> <li>• Macrophages</li> <li>• B-Lymphocytes</li> <li>• T-Lymphocytes</li> <li>• Phagocytes</li> <li>• Don't Know</li> </ul> </li> <li>If an individual carries anti-HIV antibodies, are they ___?</li> </ol>
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- Definitely suffering from HIV
  - Immune to HIV
  - HIV carrier
  - Don't know
- Attitude towards and willingness to treat HIV/AIDS patients  
(Marking a. Strongly agree on b. Agree on c. Neutral d. Disagree e. strongly disagree)
- It is my moral responsibility to treat HIV/AIDS patients  
a. b. c. d. e.

Fig: 1 Knowledge about HIV/AIDS

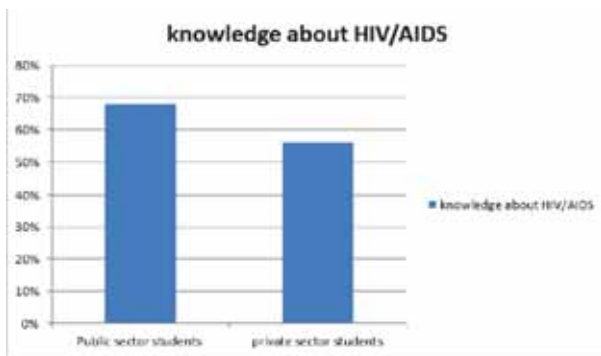


Table 2: The attitude of students toward PLWA

No. of students	percentage
Positive	284 71%
Negative	115 29%

Fig: 2 risk of infection while treating patients with HIV

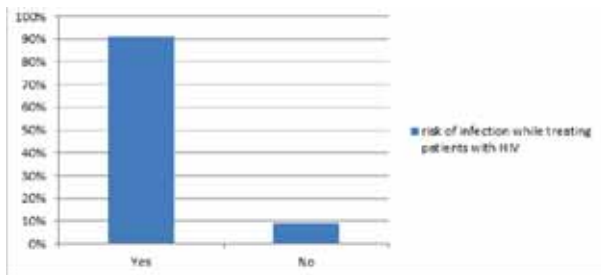


Fig: 3 Health workers as highest risk group

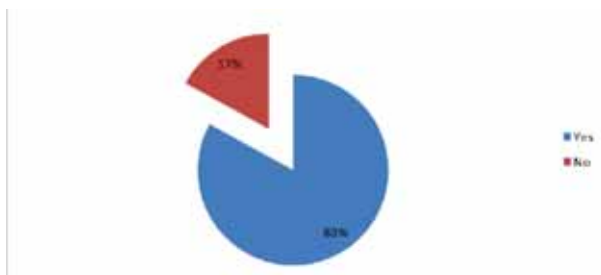


Table 2: The attitude of students toward PLWA

No. of students	%age
Yes	383 96%
Negative	16 4%

Discussion

Majority of students showed a higher level of knowledge about HIV/AIDS (P>0.001%), a finding that is in accordance with previous studies by Seacat et al<sup>3</sup> and Shaikh et al<sup>11</sup>. This can be the result of improved knowledge through the curriculum. However, we found some gaps in the knowledge as well. For example, 32% of students in our study stated that HIV-AIDS could be transmitted through mosquito bites and 18% stated that HIV-AIDS could be transmitted through utensils sharing. This is in contrast to findings of Sadeghi M, Hakimi H<sup>10</sup> among Iranian dental students, and by Ryalat et al<sup>12</sup>. among Jordanian dental students and by Azodo et al<sup>13</sup> among Nigerian dental nursing students. Majority of students (73%) in our study thought that contamination of salivary droplets and aerosols in dental clinics as a means of HIV transmission. These findings are in accordance with studies conducted by Shane et al<sup>14</sup>.

In the present study, we found that the majority of students (63%) were willing to treat HIV-AIDS patients. These findings are in contrast to Seacat et al. 3, and Azodo et al. 15. in their research found out that the majority of students were reluctant to treat HIV-AIDS patients. In a similar study by Khan H et al.<sup>16</sup> in Peshawar university found that students had a satisfactory knowledge about HIV-AIDS which is in accordance with our study. Anjum Q et al<sup>17</sup>. reported in a study in Karachi that students lack awareness of HIV-AIDS related knowledge which is in contrast to our study.

We tried to generalize our study by covering almost all the public and private dental colleges of Khyber Pakhtunkhwa province of Pakistan with adequate sample size. But at the same time, we advise our readers to interpret the results with caution, as a much larger study in this regard is required may be at the national level.

Conclusion

From this study, we find out that students had adequate knowledge of HIV/AIDS, but there were still some inadequacies regarding modes of HIV

transmission and universal precautions. Though the knowledge of them was appropriate, a high percentage(29%) of student's attitude towards PLWHA was negative. The results indicate that dental students are not well prepared to treat HIV/AIDS patients and are unsympathetic towards this group of patients. Dental students must, therefore, be made aware of and should understand the importance of treating HIV/AIDS patients. This can be achieved by proper modelling and making the students more sensitized towards PLWHA apart from giving appropriate knowledge of the disease; emphasis should be given to knowledge regarding its ways of transmission, recognition of oral manifestations, treatment and monitoring the condition.

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