Nigerian Dental Students’ Willingness to Treat HIV-Positive Patients


Abstract: Dental care of HIV-positive individuals plays a vital role in improving their nutritional intake, medication tolerance and effectiveness, treatment success rate, and quality of life. It is therefore important to ensure optimal dental care of this group of people, especially since more of them, with or without knowledge of their serologic status, are now utilizing dental services. The objective of this study was to assess Nigerian dental students’ willingness to treat HIV-positive individuals. A descriptive cross-sectional survey of all seventy-six final-year dental students of the University of Benin, Nigeria, was conducted in December 2007 using a self-administered questionnaire that elicited information on the students’ demography, self-rated knowledge on HIV/AIDS, attitude towards homosexuals, infection control practices, occupational risk perception, and willingness to provide care for HIV-positive individuals. The response rate was 76.3 percent. Over 77 percent of the respondents were in the twenty-five to thirty years age group. The male-female ratio was approximately 1.6:1. HIV-related knowledge was reported as high by only 31 percent of the respondents. Eighty-one percent showed great interest in HIV-related information, while about half (53.4 percent) exhibited significant worry about occupational contagion. Forty-eight (82.7 percent) desired more knowledge about safety precautions during treatment of HIV patients. Fifty respondents (86.2 percent) reported good infection control practices. About three-fourths (74.2 percent) rated the risk of HIV contagion from patients high, while only one-fourth (25.8 percent) reported having an unsympathetic attitude towards homosexuals. Almost all respondents (98.3 percent) agreed that oral care for HIV-positive individuals improves their quality of life, but only 58.8 percent expressed a willingness to treat HIV-positive patients and only 46.5 percent said they will render volunteer dental services in HIV centers. HIV prevalence will determine the location of practice of 41.4 percent of the respondents. The result suggests the need to have a comprehensive educational/motivational program for the next generation of dentists in Nigeria in order to ensure adequate care of HIV-positive individuals. The perceived deficiency revealed in this study can also serve as a vital guide for curriculum change on HIV-related issues.

Dr. Azodo is Senior Registrar/Associate Lecturer, Department of Periodontics, University of Benin Teaching Hospital, Benin City, Nigeria; Dr. O. Ehigiator is Registrar, Department of Oral Medicine and Pathology, University of Benin Teaching Hospital, Benin City, Nigeria; Dr. Oboro is Senior Registrar, Department of Restorative Dentistry, University of Benin Teaching Hospital, Benin City, Nigeria; Dr. Ehizele is Senior Registrar/Associate Lecturer, Department of Periodontics, University of Benin Teaching Hospital, Benin City, Nigeria; Dr. Umoh is Lecturer, Department of Periodontics, University of Benin, Benin City, Nigeria; Dr. Ezeja is Registrar, Department of Orthodontics, University of Benin Teaching Hospital, Benin City, Nigeria; Dr. Omili is Superintendent of Prisons/Medical Officer, Prison Medical Centre, Prison Headquarters, Abuja, Nigeria; and Dr. L. Ehigiator is Medical Officer, Department of Orthopaedics and Trauma, University of Benin Teaching Hospital, Benin City, Nigeria. Direct correspondence and requests for reprints to Dr. Clement Azodo, Department of Periodontics, New Dental Complex, University of Benin Teaching Hospital, P.M.B. 1111 Ugbowo, Benin City, Edo State, Nigeria 300001; clementazodo@yahoo.com.

Keywords: willingness to treat, dental students, HIV, dental education in Nigeria

Submitted for publication 5/14/09; accepted 1/21/10

E do state is home to an estimated 184,000 HIV-positive individuals, ranking fourteenth among states in Nigeria with prevalence above the national average of 4.4 percent. HIV has had a significant impact on oral health delivery services in Nigeria, mainly because of the public and professional perceptions about its contagion. Oral health is an essential aspect of overall medical care for individuals with HIV. 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.

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. It is therefore important to have accepting and knowledgeable oral health care professionals who are experienced in and comfort-
able with treating HIV-positive individuals. Planning models have estimated that patients living with HIV in the United States require 1.9 to 3.4 dental visits a year.\(^7\) There exists long-standing limited access to oral health care for people living with HIV, and dentists’ unwillingness to treat has also been cited as a major barrier to care. Universally, dentists have not been receptive to caring for HIV-positive individuals in the last two decades.\(^8\)\(^-\)\(^10\) It is expected that dental education programs should embrace the responsibility to prepare students to deal with the HIV epidemic. As future oral health providers, the willingness of dental students to treat HIV-positive individuals should be given considerable attention.

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 a knowledge, attitudes, and practice survey in Nigeria\(^11\)\(^-\)\(^15\) and in other parts of the world.\(^16\)\(^-\)\(^19\) The objective of this study was to assess Nigerian dental students’ willingness to treat HIV-positive patients.

**Methodology**

This study used a descriptive cross-sectional survey of all seventy-six final-year dental students of the University of Benin, Benin City, Nigeria. The survey was anonymous, and participation was voluntary with no incentives declared. Data were collected using a self-administered questionnaire. The students filled out the questionnaire during a regular class session.

The questionnaire elicited information on demography, self-rated HIV/AIDS knowledge, attitudes towards homosexuals, infection control practices, occupational risk perception, and willingness to care for HIV patients. Demographic data obtained were age, gender, and religion. Self-reported HIV knowledge was categorized as poor, fair, good, and excellent. Attitude towards homosexuals was graded on a five-point Likert scale as very sympathetic, sympathetic, undecided, unsympathetic, and very unsympathetic, but for the purpose of analysis these categories were collapsed into sympathetic, undecided, and unsympathetic.

Questions that assessed knowledge on infection control were as follows: “Do you believe glove-wearing during dental procedures prevents cross-infection?” and “Do you think that precautions needed to prevent cross-infection when treating HIV-positive individuals constitute extra monetary cost to the dental practice?” Infection control practices were assessed by this question: “Would you treat HIV-positive individuals if gloves were not available?” Occupational risk perception was assessed as low, average, or high. Worry about occupational contagion was assessed as worry a lot, worry a little, or do not worry at all. Willingness to treat HIV-positive individuals was assessed by the following questions: “Would you treat HIV-positive individuals?”; “Would you volunteer to render dental services in HIV treatment centers?”; and “Would the prevalence of HIV affect your choice of the location of your practice?”

Respondents were educated on the purpose of the survey and assured of strict confidentiality of their responses. Informed consent was obtained prior to questionnaire administration. This survey was conducted in December 2007, and data analysis was done using SPSS version 13.0.

**Results**

The response rate to the survey was 76.3 percent (58/76). Of the respondents, 77.6 percent were in the twenty-five to thirty years age group, and the male-female ratio was approximately 1.6:1 (Table 1).

When asked about their knowledge of HIV, about one-third (31 percent) of the respondents reported having high knowledge, 56.9 percent adequate knowledge, and 12.1 percent low knowledge (Figure 1). When asked about their knowledge of HIV, about one-third (31 percent) of the respondents reported having high knowledge, 56.9 percent adequate knowledge, and 12.1 percent low knowledge (Figure 1).

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;25</td>
<td>11</td>
<td>19.0%</td>
</tr>
<tr>
<td>25 to 30</td>
<td>45</td>
<td>77.6%</td>
</tr>
<tr>
<td>&gt;30</td>
<td>2</td>
<td>3.4%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>36</td>
<td>62.1%</td>
</tr>
<tr>
<td>Female</td>
<td>22</td>
<td>37.9%</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>55</td>
<td>94.8%</td>
</tr>
<tr>
<td>Married</td>
<td>3</td>
<td>5.2%</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catholic</td>
<td>20</td>
<td>34.5%</td>
</tr>
<tr>
<td>Protestant</td>
<td>13</td>
<td>22.4%</td>
</tr>
<tr>
<td>Pentecostal</td>
<td>29</td>
<td>32.8%</td>
</tr>
<tr>
<td>Islam</td>
<td>1</td>
<td>1.7%</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>8.6%</td>
</tr>
</tbody>
</table>
When asked about their attitudes toward homosexuals, one-fourth of the respondents (25.9 percent) reported having an unsympathetic attitude, 20.7 percent were undecided, 48.2 percent had a sympathetic attitude, and 5.2 percent gave no response (Figure 2). The respondents graded oral health workers’ risk of occupational HIV contagion as follows: 10.3 percent low, 15.5 percent average, and 74.2 percent high.
(Figure 3). Of those responding, 86.2 percent agreed that glove-wearing during dental procedures served as protection against HIV, and 87.9 percent said that precautions needed to prevent cross-infection when treating HIV-positive individuals does not constitute extra monetary cost to the dental practice. When asked about their level of worry about occupational HIV contagion, 53.4 percent of the respondents said they worry a lot, 25.9 percent said they worry a little, and 20.6 percent said they do not worry at all (Figure 4). When asked about their willingness to treat individuals who are HIV-positive, 58.8 percent of the respondents expressed willingness, while 41.2 percent expressed unwillingness (Figure 5).

**Discussion**

HIV-related oral conditions occur in a large proportion of individuals who are HIV-positive and frequently are misdiagnosed or inadequately treated. The provision of dental care for people who are HIV-positive is essential for their overall health and well-being.

This study assessed final-year dental students’ willingness to treat HIV-positive patients and their attitudes on related issues. The vast majority (98.3 percent) of the respondents agreed that oral health care will be beneficial to HIV-positive individuals, but only 58.8 percent expressed willingness to treat these individuals.

The level of willingness found in this survey was low when compared to previous reports of various groups’ willingness to treat: 63.3 percent of Nigerian preclinical students, 63.6 percent of Nigerian dentists, 62 percent of U.S. dental school seniors, 84.3 percent of final-year dental students in the United Kingdom, and 83 percent of U.S. dental students. Our finding for Nigerian students was higher only than the 49 percent recorded among Taiwanese dental students and 15 percent of Jordanian dentists. Willingness to treat is thought to be the most significant predictor of actual treatment of an HIV-positive patient. 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. It is important when using the social intervention approaches to HIV prevention to avoid discrimination against people who are HIV-positive. Therefore, the low willingness to treat found in our study should be a source of concern.

Oral health problems among individuals living with HIV can be complicated and hard to treat and often require the attention of both highly knowledge-
able dental and medical providers. Data from this study found that only 31 percent of the respondents rated their knowledge about HIV high. This is lower than the 71.9 percent reported among preclinical dental students at the same university. The exposure of the final-year dental students to a wider range of individuals with HIV during medicine and surgery postings may have influenced their rating of their

---

**Figure 4. Respondents’ self-reported level of worry about occupational HIV contagion**

![Figure 4](image)

**Figure 5. Respondents’ self-reported willingness to treat HIV-positive individuals**

![Figure 5](image)
knowledge, and they may now realize that there is more to know about HIV based on their experience. A sound basis of knowledge about HIV is essential to allow students to become dentists who will undertake appropriate measures during clinical practice.

Eighty-one percent of the students in our study showed great interest in HIV-related information, and 82.7 percent desired more knowledge on safety precautions during treatment of HIV-positive patients. This is similar to the 90 percent of Japanese dental health workers who requested additional education about HIV, particularly information about the prevention and spread of the virus and cross-infection requirements.31

Negative attitudes toward homosexuals are known to have a negative influence on medical students’ intentions to treat HIV-positive individuals in their preclinical and clinical training years.32,33 Many dentists and health professional students are not comfortable with homosexuality, and this stands out as one of the best predictors of refusal of treatment to HIV-positive patients.34,35 In our study, 25.8 percent of the responding students reported unsympathetic attitudes towards homosexual HIV-positive patients.

It is essential that every effort be made to protect both health care 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.36 Barrier usage is an effective infection control practice, and 86.2 percent of the respondents in our study reported good consistent infection control practices.

Low occupational risk of HIV exposure has been reported among dental professionals despite frequent accidental puncturing of the skin with sharp instruments.37 In our study, 74.2 percent felt the risk of HIV contagion from patients is high. This would explain why 53.4 percent exhibited significant worry about occupational contagion. Similarly, in Mexico City, 79 percent of dentists perceived the risk of contracting HIV in their practice as very strong.38

Personal and professional satisfaction from working in a clinic that provides care to individuals with HIV has been found in another study as a reason for volunteering by students.39 In our study, 46.5 percent of the respondents said they would provide volunteer dental services in HIV centers. This is comparable to 58.8 percent of Greek family physicians who said they would participate as volunteers in an HIV-related program.40

Research has found that HIV prevalence may influence a dental practitioner’s location of practice and choice of specialty.41 In our study, respondents said that HIV prevalence would influence their choice of practice location after graduation. Forty-one percent of the respondents said that they would prefer to work in areas where the HIV prevalence is low.

Conclusion

Our study found that the willingness of Nigerian dental students to treat HIV-positive individuals is low when compared with the findings among Nigerian dentists. Forty-one percent of the dental students included in our study said they would be unwilling to treat HIV-positive patients. This suggests the need to introduce into the dental curriculum a comprehensive educational and motivational program for the next generation of dentists in order to ensure adequate care of HIV-positive patients.

Acknowledgments

The authors wish to thank all the dental students whose participation made this study possible.

REFERENCES


