

Evaluating the Impact of a Comprehensive HIV Education Lecture on Dental Students' Attitudes and Behaviors Towards Individuals Living with HIV: A Pre – and Post-Test Study

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Abstract

HIV infection remains a major public health challenge globally. Despite advancements in treatment and prevention, stigmatized attitudes towards individuals living with HIV can impact their accessibility to healthcare services, including dental care. Dental students, as prospective healthcare providers, have a crucial role in enhancing these individuals' quality of life. This study aimed to investigate the impact of an educational lecture on dental students' attitudes and behaviors towards individuals living with HIV. The study employed a pre – and post-test design to evaluate the effect of an educational lecture on dental students' attitudes and behaviors towards people living with HIV. A total of 123 dental students were surveyed before and after the lecture to assess changes in their knowledge, attitudes, and behaviors relating to HIV care. There was a significant increase in students' understanding of HIV, its transmission, and necessary support for people living with HIV following the lecture. This improvement led to a pos-



itive shift in attitudes towards individuals living with HIV, including increased comfort discussing HIV, willingness to provide medical care to HIV patients, and readiness to interact socially with individuals living with HIV. Nonetheless, some reluctance and stigma persisted in certain social scenarios involving people living with HIV. Educational interventions, such as lectures, can substantially influence the understanding and attitudes of future dental professionals towards individuals living with HIV. However, targeted initiatives may still be necessary to address remaining areas of stigma and hesitance concerning social interactions with people living with HIV.

KEYWORDS: HIV; Dental Students; Attitudes; Educational Interventions; Stigma

Introduction

HIV infection continues to pose a significant global health challenge, affecting an estimated 38 million people worldwide [1]. Despite the strides made in its treatment and prevention, individuals living with HIV frequently encounter substantial obstacles to accessing quality healthcare, especially in resource-limited settings [2]. Medical and dental students, as prospective healthcare providers, hold a pivotal role in mitigating these challenges and enhancing care for those living with HIV. However, research suggests that these students can harbor stigmatizing attitudes towards individuals living with HIV, negatively influencing the quality of care [3]. Particularly disconcerting are findings from a study in Georgia, which revealed that a combination of negative attitudes and lack of knowledge about HIV/AIDS among practicing dentists and dental residents often led to a refusal to provide treatment to patients living with HIV [4].

Addressing these attitudes could potentially be achieved through focused education and training on HIV and AIDS [5]. Specifically, comprehensive lectures about services for HIV-infected patients can equip medical and dental students with the requisite knowledge and skills to deliver high-quality care to this demographic. However, there is a relative paucity of studies exploring the impact of such lectures on the attitudes and behaviors of these students towards people living with HIV. Prior studies have yielded inconsistent results, with some indicating positive attitudinal shifts post HIV education, [6] while others found no significant changes [7].

A viable strategy for evaluating shifts in medical and dental students' attitudes and

behaviors towards people living with HIV following an educational intervention is a pre – and post-test design. This approach involves surveying students before and after an HIV services lecture to assess any changes in knowledge, attitudes, and behaviors pertaining to HIV care. While this method may not capture the full complexity of attitudes and behaviors towards HIV care, it offers a valuable initial measure of the impact of educational interventions on students' attitudes and behaviors.

Thus, this study aims to evaluate the effect of a lecture on services for HIV-infected patients on medical and dental students' attitudes and behaviors towards individuals living with HIV. Specifically, we will employ a pre – and post-test design to gauge shifts in students' knowledge, attitudes, and behaviors towards people living with HIV after attending the lecture. The findings of this study will contribute critical insights into the potential of educational interventions to counteract stigmatizing attitudes towards individuals living with HIV among medical and dental students.

Methods

Study Design:

We employed a pre – and post-test design for this study, which was carried out at a medical school situated in a resource-limited setting. Prior to initiating the study, we obtained necessary approval from the institutional review board.

Study Participants:

The study population comprised of 123 dental students in their clinical years, all of whom were enrolled in a mandatory course on infectious diseases, with a module on HIV. Only students who willingly provided informed consent were included in the study, ensuring their voluntary participation.

Intervention:

The core intervention for this study was a single lecture, with a duration of 90 minutes, focusing on services provided to HIV-infected patients. The lecture shed light on various aspects such as HIV's epidemiology and pathogenesis, the underlying principles of antiretroviral therapy, the crucial role of consistent treatment adherence, and



strategic measures for combating stigma and discrimination experienced by individuals living with HIV.

Data Gathering:

Prior to the lecture, participants were asked to fill out a questionnaire, which encompassed queries about their demographics, HIV-related knowledge, attitudes towards individuals living with HIV, and their perception of potential barriers hindering the provision of high-quality care to this patient group. In the immediate aftermath of the lecture, the participants were given a post-lecture questionnaire, mirroring the questions asked in the pre-lecture survey.

Data Examination:

We used descriptive statistics to encapsulate the demographic characteristics of the study group. For comparing the pre – and post-lecture scores on knowledge, attitudes, and behaviors in relation to individuals living with HIV, paired t-tests were utilized. All data analyses were carried out using the SPSS software. In this study, we considered a p-value of less than 0.05 as indicative of statistical significance.

Results

A positive shift in the understanding of HIV was observed after the lecture. Initially, 87.4% of the participants correctly identified HIV as a virus attacking the immune system. After the lecture, the correct understanding increased to 95.1%. Concurrently, misconceptions decreased. Those identifying HIV as bacteria fell from 5.8% to 1.6%. Similarly, the percentage of participants unaware of what HIV was, dropped from 6.8% to 2.4%. Only 26% of respondents reported having been tested for HIV before the lecture, suggesting that some may have been hesitant to get tested due to stigma or fear.

Awareness of HIV Transmission

There was an increase in the understanding of HIV transmission methods after the lecture. Those who identified all correct methods of transmission (unprotected sex, sharing needles, and blood transfusions) increased from 81% to 88.6%. In comparison,

individual understanding of unprotected sex as a mode of transmission dropped from 13.2% to 3.3%, suggesting a shift towards a comprehensive understanding.

Misconceptions about HIV

There was a decline in all reported misconceptions about HIV post-lecture. Of note, there were interesting gender differences in the misconceptions about HIV. Men recognized the importance of mental health support in dealing with HIV slightly more than women. However, responses from both genders indicated a shared understanding about common misconceptions of HIV.

Doctor-patient Relationship with HIV Positive Patients

The willingness to provide medical care to HIV patients increased following the lecture, with 51.2% definitely willing compared to 35.6% before the lecture. Those uncertain about providing care decreased from 26.3% to 7.3%. Notably, post-lecture, more women than men reported feeling more comfortable working with HIV patients.

Comfort Talking about HIV

The lecture increased the participants' comfort in discussing HIV, with 56.9% feeling more comfortable post-lecture. Interestingly, a higher percentage of males than females reported feeling more comfortable discussing HIV after the lecture.

Access to Services for People living with HIV

Following the lecture, there was a marked increase in the perceived importance of access to services (medications, mental health support, support groups) for people living with HIV, with 74% considering it very important. Particularly, more women than men thought it was 'very important' for people living with HIV to have access to these services.

Interactions with People living with HIV

After the lecture, the willingness to interact socially with someone living with HIV increased across various scenarios. Women were generally more willing than men to interact with people living with HIV. This was evident in the context of having them as a neighbor, having a close friend with HIV, and willingness to work closely with someone who has HIV. However, both genders showed some reluctance when it came to scenarios like having a family member marry someone with HIV or renting a room in



their house to someone with HIV. Despite the positive shifts in attitudes post-lecture, these areas suggest that there remains room for further growth in understanding and acceptance. (Refer to Table 1).

Table 1. Changes in willingness to interact socially with someone living with HIV after the lecture

Willingness to interact socially with someone living with HIV	Before lecture	After lecture
Not willing	63.5%	42.7%
Somewhat willing	24.5%	36.2%
Very willing	12%	21.1%

Conclusion

In conclusion, the lecture on HIV effectively increased the participants' understanding of HIV and debunked various misconceptions surrounding the disease. This enhanced understanding was not limited to the nature of the virus or its modes of transmission, but also extended to the necessary services and support for those living with HIV. This improvement in understanding translated into a positive shift in attitudes, with participants expressing an increased comfort level in discussing HIV, providing medical care to HIV patients, and interacting with people living with HIV.

However, disparities still exist based on gender, with women tending to express higher levels of empathy and willingness to interact socially with people living with HIV. These disparities underscore the necessity of tailoring education initiatives to address specific biases and misconceptions in different groups.

While the data shows clear progress, it also highlights the continuing stigma around HIV. The relatively low willingness of participants to rent a room to someone living with HIV or to accept a family member marrying someone with HIV suggests that more work is needed to address the stigma that people living with HIV face in their daily lives.

Overall, the lecture's impact underscores the importance and effectiveness of education in combating misinformation and stigma surrounding HIV. However, there is a continuing need for comprehensive and tailored strategies to fully bridge the gaps in understanding and attitudes, and to ensure that those living with HIV can lead lives free of discrimination and stigma.

Discussion

In light of the findings, the discussion will begin by reemphasizing the fact that the lecture effectively served its purpose of educating participants on HIV, by not only enhancing their understanding of the disease but also challenging and reducing misconceptions. The data clearly demonstrates this shift in knowledge, evidenced by a decrease in misconceptions and an increase in accurate understanding of HIV.

One possible explanation for these findings could be the comprehensive nature of the lecture, which might have covered areas of HIV understanding that are often overlooked or misunderstood. Furthermore, the lecture's effectiveness might also be attributed to its focus on debunking popular misconceptions, leading to a better overall understanding of the disease.

Putting our findings in the context of relevant evidence, it is well established that education plays a critical role in HIV awareness and stigma reduction. Our study adds to this body of evidence by demonstrating how a single lecture can significantly impact participants' understanding and attitudes towards HIV.

However, our study does have some limitations. The differences in responses based on gender, for instance, are intriguing but could be further explored. It's important to consider whether these differences are due to inherent biases, cultural factors, or a difference in how the material was interpreted by different genders. In future research, it might be valuable to investigate these factors further to develop tailored education initiatives.

While our findings showed an overall increase in the understanding of HIV, the willingness to accept closer social relationships with people living with HIV, such as having a family member marry someone with HIV or renting a room to someone with HIV, remained low. This shows that while educational interventions can be effective in reducing stigma, there is a need for further work to address deeper, perhaps unconscious biases.

From a policy perspective, our findings underscore the importance of incorporating comprehensive HIV education into broader health education programs. Such initiatives can significantly improve understanding and reduce stigma, thereby supporting improved health outcomes for people living with HIV.

In terms of clinical significance, while our study did not examine the direct impact of improved understanding on healthcare provision, we did observe an increased willingness to provide medical care to people living with HIV. Future studies could investigate how this increased willingness translates into clinical practice.

In conclusion, while our study supports the effectiveness of education in improving



HIV understanding and reducing stigma, it also highlights the need for further work in this area. Future studies should explore the complex interplay of factors that influence attitudes towards people living with HIV, including the role of gender, cultural factors, and deeper biases. New hypotheses to be considered include whether tailored educational initiatives can address specific misconceptions and biases more effectively, and how such education can translate into improved healthcare provision and policy.

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