

## Effects of Social Networking Education on HIV/AIDS Knowledge, Attitude and Practice in Dentistry Students

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### Abstract

Oral and dental cares is a substantial aspect of the overall medical care for people living with Human Immunodeficiency Virus (HIV), although fear of status disclosure is a main barrier to access these cares. Sufficient knowledge and proper attitude can facilitate more access and delivery of dental cares. The aim of this study was to assess the effect of social networking education on HIV/AIDS knowledge, attitude and practice in dentistry students.

This was before and after intervention study which conducted among 60 dental students in Kurdistan University of Medical Sciences, 2017. Study intervention was educational video files posting to all participants through social network, telegram messenger. Mean scores of knowledge, attitude and practice measured and compared between before and after intervention. Data were analyzed by paired t test using SPSS version 21. Sixty students, 55% male and 45% female, included in the study.

Mean scores of knowledge, attitude and practice of studied subjects were increased after intervention. This increase was statistically significant for attitude ( $P=0.002$ ) and practice ( $P=0.004$ ). The improvement of attitude and practice was significantly observed in female ( $P=0.002$ ) and single ( $P=0.01$ ) and senior students ( $P=0.008$ ).

In conclusion, social networking education as an effective intervention can be used to improve the attitude and practice of dentistry students in dealing with HIV/AIDS patients.

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### Introduction

Human immunodeficiency virus (HIV) /acquired immunodeficiency syndrome (AIDS) is still among most important infectious diseases with high burden throughout the world, especially in developing countries.<sup>1</sup> Nowadays, oral and dental problems in HIV/AIDS infected patients are increasingly considered by dental field researchers.<sup>2,3</sup> Possible risk of HIV/AIDS

transmission during dentistry practices is one of the main concerns of students who enter to this field.<sup>4</sup> Many dentistry students and dentists have no reluctance to provide required cares for HIV/AIDS patients. Previous studies shown that concerns about the perceived stigma of treating such patients, together with a fear that HIV is transmitted through dental cares are major reasons why dentists are reluctant to care for HIV/AIDS patients.<sup>5,6</sup> It seems insufficient knowledge and improper attitude regarding people living with HIV/AIDS is main barrier to provide dental care to these patients.<sup>7</sup>

Although dentists are responsible to provide dental care for people living with HIV/AIDS, but many dentists don't like to deal with these patients.<sup>8</sup> Proper education in order to increase the knowledge and attitude of health care providers is a main strategy to cope with this

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problem.<sup>9</sup>

In recent years the survival of HIV/AIDS patients has been improved due to the spread use of antiretrovirus therapy and new combined drugs, whereas stigma is still considered a major barrier to deliver health services to HIV patients in more developing countries such as Iran. According to the previous research in Iran, AIDS related stigma from the side of health workers due to inadequate knowledge of health providers and specific cultural characteristics of Iran was main challenge of clients.<sup>10</sup>

Nowadays, using social networks is one of the common methods in health issue education.<sup>11,12</sup> In recent years the number of new HIV patients in Iran has been increased. Education of health workers in order to increase knowledge and create proper attitude about HIV/AIDS can be effective strategy to deliver the necessary services to people living with HIV. Dentist or dentistry students are among major groups that need to appropriate education regarding HIV/AIDS. Based on these facts we conducted this research to evaluate the effect of social networking education on HIV/AIDS knowledge, attitude and practice in dentistry students.

## Materials and methods

### Study design, participants and setting

This was an interventional trial, before-after, study. Studied participants were all dentistry students who were studying in clinic course in faculty of dentistry, Kurdistan University of Medical Sciences, 2017.

We included the students who were studying in 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> year in dentistry faculty of Kurdistan University of Medical Sciences. Using the telegram messaging service as one of the prevalent internet-based messaging service in Iran was our inclusion criteria for study participants. The students who had any history of working or studying in any other medical or paramedical courses regarding HIV/AIDS were excluded.

### Ethical consideration

Before conducting the study, research objectives and methods of study implementation

were explained for study participants. In addition to approving protocol of the study in ethical committee of Kurdistan University of Medical Sciences, written informed consent was taken from all students.

## Intervention

The intervention of the study was educational video files posting to all participants through social network, telegram messenger. These video files were 4 files that has been sent to the students during 8 weeks, one file per every two weeks. Video files were downloaded from YouTube. These files were the most popular and shared in a defined group. The content of these films is formed from A. Introducing HIV/AIDS, identifying HIV/AIDS oral landmarks including candidiasis, primary herpes simplex, aphtus, oral hairy leukoplakia (video time 18':35"), B. Management of HIV/AIDS patients regarding to the necessary laboratory tests, antiretroviral therapy and ways of transmission and prevention (video time 12':46"), C. Infection control methods (video time 4':09") and D. Proper attitude about HIV/AIDS patients (video time 2':35").

## Outcomes and measurements

Our interesting outcomes were enhancement of knowledge, attitude and practice of study subjects in dealing with HIV/AIDS patients. Data was collected through a questionnaire that includes following parts: Demographic variables such as gender, marital status, academic year and 43 questions related to knowledge (thirty questions), attitude (eight questions) and practice (five questions).

The main body of the questionnaire was adopted from HIV Knowledge Questionnaire (HIV-K-Q) which was translated into Persian language by two linguists separately, then was evaluated and approved by department of oral and maxillofacial medicine. We used the comments of 10 HIV related specialists including infectious disease specialist, epidemiologists and public health experts to confirm the validity of the questionnaire and doing pre-test and post-test analysis among 40 dentistry students at Alborz University of Medical Sciences, Iran. To assess the reliability of the questionnaire, Cronbach's alpha was used ( $\alpha = 77\%$ ).

### Statistical analyses

Data were analyzed by paired t test using SPSS version 21. P value of <0.05 was considered statistically significant.

### Results

A total of 71 students were enrolled in the study initially. Eleven students were excluded from the research due to previous experience of working with HIV patients and other reasons. Finally, 60 students remained and completed the study. Mean and standard deviation (SD) of age of studied participants was 23.73±2.47 years. Demographic characteristics of studied students are summarized in table 1.

Variable	N (%)
Gender	
Male	33 (55)
Female	27 (45)
Marital status	
Single	50 (83.2)
Married	10 (16.8)
Educational grade	
Year 4	18 (30)
Year 5	24 (40)
Year 6	18 (30)

**Table 1.** Demographic characteristics of dentistry students

	Before intervention	After intervention	P value
Knowledge	16.33±3.63	17.86±3.37	0.2
Attitude	3.43±2.30	4.26±1.85	0.002
Practice	2.10±1.05	2.65±1.10	0.004

**Table 2.** Mean and SD of total scores of HIV/AIDS knowledge, attitude and practice of dentistry students

Mean scores of knowledge, attitude and practice of studied subjects were increased after intervention. As shown in table 2, this increase was significant for attitude (P=0.002) and practice (P=0.004).

The changes in mean scores of knowledge, attitude and practice of students after the intervention were assessed in three subgroups including gender, marital status and educational grade. Table 3 shows the difference between mean scores of knowledge, attitude and

practice before and after intervention.

As shown in table 3, changes in knowledge scores were not significant but there was significant changes in attitude scores of females (P=0.002) and single students (P=0.01). In addition, changes in practice scores of students in females (P=0.008), single students (P=0.007) and in all three years of education were statistically significant (P<0.05).

### Discussion

In this before-after study, we assessed the effect of social networking education on knowledge, attitude and practice of dentistry students. The results showed that this intervention was effective in improving of attitude and practice of participants. The improvement was observed in female and single and senior students significantly.

Dental care is one of the required health services for HIV/AIDS patients. In recent years, with the advancement of therapeutic approaches and greater access to antiretroviral drugs, the survival and life expectancy of HIV patients has increased significantly. Following this increased survival, the need for dental care has also increased. Promoting of knowledge and attitude and practice of dentists and dentistry students to cope with these new conditions and providing proper dental cares for these patients as an effective strategy is undeniable necessity.

According to the results, despite significant changes in attitude and practice, no significant change was observed in knowledge of study subjects. It seems knowledge of studied students regarding HIV/AIDS disease is increased during the educational courses, but improper attitude of dentistry students is main barrier in dealing with dental services in HIV patients.

Factor	Knowledge			Attitude			Practice		
	Before	After	P	Before	After	P	Before	After	P
<b>Gender</b>									
Male	16.45±3.96	17.39±2.98	0.4	3.63±2.36	4.40±1.85	0.2	2.12±1.08	2.58±1.09	0.1
Female	17.2±3.18	18.3±3.8	0.3	3.18±2.25	4.51±1.9	0.002	2.08±1.16	2.94±1.15	0.008
<b>Marital Status</b>									
Single	17.02±3.64	18.07±3.18	0.1	3.34±2.24	4.01±1.82	0.01	2.04±1.06	2.64±1.01	0.007
Married	15.77±4.94	16.77±4.02	0.6	3.88±2.84	5.11±2.20	0.1	2.55±0.88	2.88±1.05	0.4
<b>Academic year</b>									
Year 4	16.88±3.00	18.33±4.96	0.1	3.77±1.76	4.0±1.73	0.5	1.77±0.87	2.61±0.83	0.007
Year 5	16.50±3.38	17.79±3.16	0.2	3.12±2.38	4.77±1.47	0.002	1.91±0.97	2.71±1.10	0.01
Year 6	17.22±4.18	17.50±3.91	0.9	3.28±2.78	4.05±2.33	0.09	2.0±1.23	3.11±1.23	0.01

**Table 3.** Mean and SD of total scores of HIV/AIDS knowledge, attitude and practice of dentistry students by studied factors.

Many previous studies are addressed these findings.<sup>7, 13</sup> Our finding is similar to the study of Erasmus et al. study that indicated students' knowledge on HIV/AIDS generally increased as they progressed throughout their curriculum but their practice and utilization of standard precaution for infection control was low,<sup>14</sup> whereas Jason et al. indicated that knowledge of HIV among dentistry students and patient responsibility were predictive of negative attitudes for dental cares.<sup>15</sup> The main advantage of this study is designing the new intervention approach. For first time in this field, we used formation of a social network and training of network members regarding HIV/AIDS with video files as intervention. Other strength of our intervention was using diverse video files with the theme of reducing stigma in order to change in attitude and practice of study subjects. In conclusion, social networking education is effective method to train the dentists and dentistry students about dental care delivery for AIDS and other stigma-related diseases. This intervention can be used in Iran and countries with similar cultural conditions to Iran. A potential limitation of our study is that the data were collected from students of one single dental program. Care should be taken in interpreting the results as the study is solely based upon self-reported information and was solicited from individuals volunteering to complete the survey.

### Conclusions

According to the results of this research, social networking education as an effective intervention can be used to improve the attitude and practice of dentistry students in dealing with HIV/AIDS patients.

### Declaration of Interest

All authors declare that there is no conflict of interest.

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