

Original Article

Nursing Students' Knowledge, Attitudes, and Willingness to Care Toward People with HIV/AIDS

Gulsah Kok, RN, PhD

Assistant Professor, University of Health Sciences, Gulhane School of Nursing, Etlik, Ankara, Turkey

Gulten Guvenc, RN, PhD

Associate Professor, University of Health Sciences, Gulhane School of Nursing, Etlik, Ankara, Turkey

Zeliha Kaplan, RN

Gulhane Training and Research Hospital, Pediatrics Department, Etlik, Ankara, Turkey

Correspondence: Gulsah Kok, RN, PhD, Assistant Professor, University of Health Sciences, Gulhane School of Nursing, Etlik, Ankara, Turkey Email: gulsah.kok@sbu.edu.tr

Abstract

Background: Widespread ignorance, limited and/or incorrect information, and misconceptions about HIV/AIDS are responsible for causing social stigmatization. These misinformed learnings can result in even mildly affecting health care services for patients with HIV / AIDS in the community. Having information about the attitudes of health professionals toward people with HIV/AIDS are an indication of whether or not they are ready and willing to provide these patients with appropriate care.

Aim: To evaluate the knowledge of nursing students, who will eventually be responsible for patient care, about HIV/AIDS and to examine the attitudes they are likely to exhibit when faced with an HIV-positive people.

Method: This descriptive study was conducted with 325 nursing students in Turkey during the 2013–2014 academic year. Data collection form, HIV/AIDS Knowledge Questionnaire, and AIDS Attitude Scale (AAS) were used to collect data.

Results: The current results reveal that nursing students have negative attitudes toward people with HIV/AIDS, and knowledge score increases according to class grades. There was a statistically significant difference between the first- and the fourth-year students in the AAS ($p < 0.001$).

Conclusion: This study can contribute to curriculum development work being carried out in nursing schools to create awareness for promoting nonjudgmental and compassionate care for patients with HIV/AIDS.

Keywords: nursing student, knowledge, attitudes, willingness, HIV/AIDS

Introduction

In recent years, HIV/AIDS has come to be regarded as a major health problem because of its high rates of morbidity and mortality and its high treatment costs throughout the world. Globally, it has been estimated by World Health Organisation (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) that 36.7 million people are living with HIV at the end of 2016. Moreover, according to WHO (2017) statistics, HIV prevalence continues to rise in 2016, and a total of 1.8 million people have become newly infected, and 1.0 million people died from HIV-

related causes globally. HIV/AIDS is also considered as an emerging disease for Turkey. Turkey has a number of risk factors that enable the spread of HIV/AIDS. It is reported by the Ministry of Health of the Turkish Republic that the number of HIV-positive individuals and AIDS cases have been increasing daily, and official reports by the Ministry of Health indicate that there were 9379 HIV-positive and AIDS cases in Turkey between 1985 to 2014 (Hacettepe University Treatment and Research Center 2014).

The rights of people living with HIV/AIDS often may be violated because of their HIV status,

causing them to suffer both the burden of the disease and loss of social and health care rights. Globally, HIV-related stigma and discrimination may prevent their access to treatment and may affect their employment, housing and other rights. This creates the vulnerability of patients with HIV/AIDS, since this stigmatisation and discrimination discourages individuals infected with and affected by HIV from contacting health and social services (United Nations General Assembly Human Rights Council 2011). All countries should have duty on providing policies on HIV-related stigma and discrimination, protecting people against HIV infection, and providing appropriate treatment, care and support when HIV-positive (Stang, et al., 2013). Turkey's Ministry of Health provides both preventive and treatment services for HIV/AIDS patients, who have the same rights as other patients. However, in the report titled "Human Rights Violations Suffered by People Living with HIV," issued by the Positive Life Association in Turkey, people living with HIV suffered from some violations in health institutions (Soyer & Kayar, 2010). Widespread ignorance, limited and/or incorrect information, and misconceptions about HIV/AIDS are responsible for causing social stigmatization and discrimination (Das, et al., 2016). It is essential to avoid compromising patients' safety and personal rights in the reporting of HIV infections. The attitudes of health professionals toward people with HIV/AIDS are an indication of whether or not they are ready and willing to provide these patients with appropriate care (Stang, et al., 2013). Negative attitudes and behaviors may have a negative impact on HIV/AIDS patients, their families, and even the entire community in terms of access to health services and treatment in the early stages of the infection. In nursing schools, it is also important to increase the skills and theoretical courses that aim to provide equal and equitable treatment and health care to individuals who have diseases with high infection and mortality rates in the community, such as HIV/AIDS. Because nurses play critical roles in the prevention and treatment of HIV/AIDS, which continues to spread rapidly, it is important to determine missing, incorrect, or inadequate information as well as nursing students' attitudes about this disease in order to plan, implement, and evaluate the efficacy of treatment (Cimen, et al., 2013).

Several studies have shown that nursing students have a fear of and negative attitudes toward people living with HIV/AIDS. These have been linked to a lack of knowledge about the infection, the stigma attached to the disease, and a fear of possibly becoming infected; therefore, they may hesitate to provide care to HIV/AIDS patients (Dharmalingam, et al., 2015; Suominen et al., 2015). Students' knowledge about HIV/AIDS was inadequate in the specific areas with vulnerable groups for instance patient living with HIV/AIDS, and they showed discriminatory attitudes toward HIV-positive people. There are not enough studies focusing on nursing students' knowledge and attitudes towards to patients with HIV/AIDS and their health care in Turkey. It is hoped that the findings of this study will increase the awareness of nursing students who about HIV-positive patients' care and contribute to the literature currently available to nursing students who provide services related to this issue in the future. It is believed that nursing education based on the skills and knowledge related to HIV/AIDS and other infectious diseases can be useful for improving the quality of care for patients and can result in more-positive healthcare outcomes. The aim of this study was to evaluate the knowledge of nursing students, who will eventually be responsible for patient care, about HIV/AIDS and to examine the kinds of attitudes and behaviors they are likely to exhibit when faced with an HIV-positive patient.

Methods

A cross-sectional and descriptive design was used in this study. Three hundred twenty-five (n=325) female nursing students were volunteered with an average age of 20.56 (SD =1.05 years). This study carried out in the beginning of the academic year 2013/14. This study was performed in XXX Nursing Faculty located in the capitol city of Turkey, Ankara. The aim of the study and the contents of the questionnaire were explained to all students by the researchers, and voluntary participation was requested. Oral consent to participate in this study was obtained. Questionnaire forms were distributed to all classes by the researchers. After questionnaire forms were filled out by the volunteered students, the researchers collected them. This process took approximately 25 minutes per participant.

Instruments

Data collection form, the HIV/AIDS Knowledge Questionnaire, and the AIDS Attitude Scale (AAS) were used to collect data in the study.

Data Collection Form

This form included 9 questions regarding sociodemographic characteristics, experience with HIV/AIDS patients, and a scale evaluating both positive and negative thoughts about the participants' willingness to care for HIV/AIDS patients in their roles as student nurses. In this section, students were asked to indicate how willing they were to provide nursing care to a patient with HIV/AIDS by marking a scale with points ranging from 0 to 10 (0: I'm not willing at all to 10: I'm very willing).

HIV/AIDS Knowledge Questionnaire

This questionnaire has 20 items (true/false/I don't know) designed to determine the respondent's level of knowledge about HIV, spreading of AIDS, and the prevention of AIDS. The students were asked to mark one of the options—true, false, or “I don't know”—for each of the 20 items in this questionnaire. The scores for this form were calculated according to the number of correct answers that students answered. Each correct answer was calculated as 1 point; thus, the highest possible score was 20 points. “False, and “I don't know” responses were rated as “0” points.

AIDS Attitude Scale

The AIDS Attitude Scale (AAS) is a 15-item instrument developed for nursing and medical students by Bliwise et al., (1991). The internal consistency coefficient value of the scale in the study by Bliwise et al., (1991) was found as $\alpha=.86$. The AIDS Attitude Scale was adapted for use in the Turkish context, and its validity was tested by Cimen et al., (2005). The AAS can be calculated according to the both total score and three subscale scores. These are fear of contagion, negative emotions, and professional resistance. Students were evaluated to indicate the extent to which they agreed or disagreed with each of the items on a six-point Likert-type scale with endpoints that were shown as strongly agree and strongly disagree. In this study, the responses of the nursing students were divided into two categories for analysis. Responses on the scale from 1 to 3 were placed together to indicate

disagreement with each of the 15 items of the AAS, and these were compared to responses 4 to 6, which indicated agreement. The attitude scores obtained by adding the points for all 15 items range from 15 to 90. The AAS is scored as Contagion Fear (items 1–5; score: 5–30), Negative Emotions (items 6–9; score: 4–24), and Professional Resistance (items 10–15; score: 6–36). High total scores obtained from the scales and subscales imply that attitudes towards individuals with AIDS are negative. Its Cronbach's alpha value was 0.82. In our study, cronbach's alpha value was also calculated and was found as 0.78.

Ethical Considerations

Before collecting the data, this study was approved by the institutional review board of a training and research hospital. In order to obtain the students' verbal consent, all participants were informed of the purpose of the study and ensured that the collected data would be used only for scientific purposes, would be kept confidential, and would not be shared with others except for the researchers.

Statistical Analysis

Data were analyzed using SPSS for Windows version 15.0. Frequency, percentage, means and standard deviation distributions were used in the evaluation of descriptive statistics. Whether the data were distributed normally was evaluated with the Kolmogorov-Smirnov and Shapiro-Wilk tests. Kruskal-Wallis test and Spearman Correlation were used in the comparison of variables. In all analyses, the statistical significance level was accepted as $p<0.05$.

Results

In this study, all participants were unmarried females with a mean age of 20.56 ± 1.05 . Of the nursing students participating in the study, 19.7% were first-year students; 28.3% were second-year students; 29.2% were third-year students; and 22.8% were fourth-year students. Of the students who participated, 58.5% had lived in a province, 30.7% in a district, and 10.8% in a town.

Information sources related to HIV/AIDS for nursing students, the status of their encounter with an HIV/AIDS patient, and their opinions about caring for a patient with HIV/AIDS are shown in Table 1.

Table 1. Nursing students' knowledge sources on HIV/AIDS and views about giving a care to people with HIV/AIDS

Knowledge resources related to HIV/AIDS	n	%
Nursing Course Curriculum	249	76.6
Television	216	66.5
High School	208	64.0
Internet	174	53.5
Magazines / books	157	48.3
Views about giving a care to people with HIV/AIDS	n	%
Encounter with patients living with HIV/AIDS in clinical practice		
Not encountered	322	99.1
Encountered	3	0.9
Expressing concern about giving care to a patient with HIV / AIDS		
Yes	317	97.5
No	8	2.5
Concerns about infection in the case of giving care to a patient with HIV / AIDS		
Fear to infect herself	284	87.4
Fear to infect other patients	141	43.4
Fear to infect their family members	132	40.6

Table 2. The mean scores of the nursing students and correlations between nursing students' AIDS attitude scale, subscales and willingness to care

Scores	Mean ± SD		Lower score	Upper score								
AIDS attitude scale	49.50	10.57	23.00	82.00								
Contagion subscale	20.88	4.24	9.00	30.00								
Negative emotions subscale	12.99	3.64	4.00	24.00								
Professional resistance subscale	15.61	6.10	6.00	36.00								
Knowledge	13.76	2.88	6.00	19.00								
Willingness to care	4.30	1.76	1.00	10.00								
Correlations between nursing students' AIDS attitude scale, subscales and willingness to care*												
	Willingness to care											
	ρ		p									
AIDS attitude scale	-0.31		<0.001									
Contagion subscale	-0.19		0.001									
Negative emotions subscale	-0.19		<0.001									
Professional resistance subscale	-0.28		<0.001									
Comparison of nursing student's AIDS attitude scale and subscales, knowledge, and willingness to care median scores												
Scores	Knowledge score		AIDS attitude scale		Fear of Contagion		Negative emotions		Professional resistance		Willingness to care	
	Median	Min- Max	Median	Min- Max	Median	Min- Max	Median	Min- Max	Median	Min- Max	Median	Min- Max

1stClass	11.00	6.0-17.0	46.00	29.0-68.0	20.50	11.0-28.0	12.00	4.0-18.0	13.00	6.0-29.0	4.00	1.0-10.0
2ndClass	13.00	7.0-18.0	51.00	23.0-71.0	23.00	10.0-29.0	13.00	4.0-21.0	15.00	6.0-31.0	5.00	1.0-8.0
3rdClass	16.00	8.0-19.0	49.00	33.0-78.0	20.00	9.0-27.0	13.00	7.0-22.0	16.00	6.0-36.0	4.00	1.0-8.0
4th Class	16.00	10.0-19.0	52.00	28.0-88.0	22.00	12.0-30.0	14.00	6.0-24.0	16.00	6.0-36.0	5.00	1.0-10.0
KW/ p	141.82	<0.001	17.55	0.001	14.55	0.002	11.41	0.01	13.42	0.004	3.53	0.31

*: Spearman's rho was used to correlate.

Table 3. Disagreement and agreement status of the nursing students with the statements of AAS attitude scale

AIDS attitude scale	Disagree		Agree	
	n	%	n	%
Contagion subscale				
AIDS makes my job a high risk occupation	120	36.9	205	63.1
Despite all I know about how AIDS is transmitted, I'm still afraid of catching it	60	18.5	265	81.5
I would not want my child to go to school with a child with AIDS	94	28.9	231	71.1
I would be willing to eat in a restaurant where I know the chef has AIDS	90	27.7	235	72.3
Even following strict infection control measure, it is likely that I would become infected with HIV, if I were working with AIDS patients over a long period of time	168	51.7	157	48.3
Professional resistance subscale				
I would rather work with a better class of people than AIDS patients	190	58.5	135	41.5
I would prefer to refer persons with AIDS to my professional colleagues	180	55.4	145	44.6
Given a choice, I would prefer not to work with AIDS patients	160	49.2	165	50.8
I would consider changing my professional specialty/position if it became necessary to work with AIDS patients	231	71.1	94	28.9
It is best to train a few specialists who would be responsible for the treatment	185	56.9	140	43.1
I don't want those at higher risk for AIDS such as IV drug users and homosexuals, as patients	228	70.2	97	29.8
Negative emotions subscale				
I sometimes find it hard to be sympathetic to AIDS patients	276	84.9	49	15.1
I would feel resentful of AIDS patients accounted for a significant part of my caseload	266	81.8	59	18.2
I often have tender, concerned feelings for people with AIDS	269	82.8	56	17.2
I feel angry about the risk of AIDS which homosexuals have imposed on the straight community	241	74.2	84	25.8

Table 4. Nursing students' correct responses by item of knowledge

Item	Statement	Correct Response	n	%
1	AIDS always occurs in a human infected with HIV.	T	170	52.3
2	HIV can be transmitted through blood, semen and vaginal fluid	T	276	84.9
3	The most effective way to avoid HIV is to abstain from unprotected sexual intercourse.	T	272	83.7
4	When one has HIV/AIDS, his/her body becomes more susceptible to other infections.	T	283	87.1
5	AIDS has a definitive treatment.	F	253	77.8
6	The virus is likely to infect the fetus in a pregnant woman with HIV.	T	138	42.5
7	Needles used for a patient with AIDS cause the infection.	T	309	95.1
8	Many people can have HIV or a sexually transmitted infection but symptoms may not appear.	T	198	60.9
9	HIV/AIDS can be transmitted to another person by the use of personal items such as a toothbrush or razor.	T	248	76.3
10	An HIV-positive mother can transmit the infection to her baby through breast-feeding.	T	219	67.4
11	The correct use of condoms is effective in the prevention of HIV.	T	231	71.1
12	It is possible to prevent AIDS by vaccination.	F	170	52.3
13	A person who is infected with HIV may not have AIDS symptoms for 10 or more years.	T	138	42.5
14	HIV/AIDS can be transmitted by social kissing and cuddling.	F	236	72.6
15	Ear-piercing with non-sterile instruments can pose a risk for HIV infection.	T	287	88.3
16	Anti-HIV antibodies in the blood of an HIV-infected person can be seen within the first month after the infection.	T	121	37.2
17	Those infected with HIV should have good nutrition and regular exercise in order to prevent AIDS from developing.	T	199	61.2
18	HIV/AIDS can be transmitted to people through blood transfusions.	T	294	90.5
19	A person who is infected with HIV may seem healthy or feel good.	T	241	74.2
20	A person can be infected with HIV by swimming in the same pool or using the same toilet as an HIV infected person.	F	187	57.5

The students' information sources about HIV/AIDS are mostly the nursing education curriculum (76.6%), television (66.5%), and the high school from which they graduated (64.0%). During their education process, they firstly met HIV/AIDS course when they were 2nd grade. Almost none of the students (99.1%) have met a patient with HIV/AIDS before. In regard to caring for a patient with HIV/AIDS, 97.5% of the participants stated that they would be concerned about doing so; 87.4% reported fear of becoming

infected themselves; 43.4% feared infecting other patients; and 40.6% feared infecting their own family members (Table 1). Table 2 displays the AIDS attitude scale scores, knowledge, and HIV/AIDS willingness to care scores.

The mean score for the AIDS attitude scale was 49.50 ± 10.57 . The mean subscale scores for contagion, negative emotions, and professional resistance were 20.88 ± 4.24 , 12.99 ± 3.64 , 15.61 ± 6.10 , respectively. The mean knowledge

score was 13.76 ± 2.88 , and the mean score for willingness to care was 4.30 ± 1.76 (Table 2).

There was a significant and negative correlation between the AIDS attitude scale, subscales, and the willingness to care scores. Students' willingness to provide care decreases as negative attitudes towards AIDS increase (Table 2). No statistically significant relationship was found between the knowledge of the nursing students that are not included in the table and the attitudes towards HIV/AIDS ($r = -0.085$, $p = 0.12$) and the scores of willingness to care ($r = -0.023$, $p = 0.68$).

In Table 2, the median scores for the AIDS attitude scale and its subscales, HIV/AIDS knowledge, and willingness to care were compared in relation to nursing students' years of academic study. There were significant differences in median scores for knowledge and for the AIDS attitude scale and its subscales among nursing students. When the results were further analyzed, a statistically significant difference was found between first-year and second-year students, between first- and third-year students, between first- and fourth-year students, between second- and third-year students, and between second- and fourth-year students in terms of HIV/AIDS knowledge scores ($p < 0.001$). The HIV/AIDS knowledge score increases as the year of academic study progresses. No difference was seen between third- and fourth-year students in regard to scores related to HIV/AIDS knowledge. There is a statistically significant difference between the first- and the fourth-year students ($p < 0.001$) in the AIDS Attitude Scale; between the first and second years ($p = 0.003$) and the second and third years ($p = 0.003$) in the Contagion Subscale; and between the first and fourth years ($p = 0.001$) and the second and fourth years ($p = 0.01$) in the Negative Emotions Subscale. Fourth-year students were found to be more negative than first-year students in their total AIDS attitude scale score and had more negative emotions than first- and second-year students. There is no difference between the data related to where the students had lived the longest and their parents' educational status that weren't shown in the table and HIV/AIDS Knowledge and AIDS Attitude Scales.

In Table 3, on the Contagion Subscale, 81.5% of the nursing students stated that "despite all I

know about how AIDS is transmitted, I'm still afraid of catching it," and 72.3% said, "I would be willing to eat in a restaurant where I know the chef has AIDS."

On the Professional Resistance Subscale, 50.8% of the participants agreed that if given a choice, they would prefer not to work with AIDS patients, and 44.6% of them said, "I would prefer to refer persons with AIDS to my professional colleagues."

On the Negative Emotions Subscale, 25.8% of the nursing students reported, "I feel angry about the risk of AIDS that homosexuals have imposed on the straight community," and 18.2% said, "I would feel resentful if AIDS patients accounted for a significant part of my caseload" (Table 3).

The correct answers that participants gave to the statements related to HIV/AIDS are presented in Table 4. The students gave correct answers at the highest rates to the following statements: contaminated needles used by a patient with AIDS cause the infection (95.1%); HIV/AIDS is transmitted to people by blood transfusion (90.5%); and ear-piercing with non-sterile instruments may constitute a risk of HIV infection (88.3%). The least accurate statements were the following: anti-HIV antibodies may be seen in an HIV-infected person's blood after 1 month (37.2%); there is a possibility that HIV will not be transmitted to the infant in a pregnant woman (42.5%); and an HIV-infected person may not have symptoms of AIDS for more than 10 years (42.5%).

Discussion

Investigating nursing students' HIV/AIDS knowledge and their attitudes towards caring for people with HIV/AIDS is essential to improving professional educational programs. The results from our study demonstrate that the majority of nursing students have a moderate level of HIV/AIDS knowledge. Inconsistent results about nursing students' knowledge levels related to HIV/AIDS have been reported in the literature. Knowledge about HIV/AIDS among nursing students is reported to be good in some studies (Abolfotouh, et al., 2013; Suominen, et al., 2010); moderate in some studies, similar to our results (Dharmalingam, et al., 2015; Suominen, et al., 2015); or inadequate (Akin, et al., 2013). In this study, third- and fourth-year nursing students had significantly higher levels of knowledge

compared to first- and second-year students. Similar to the present study, some studies have reported increased knowledge in the last and later years of nursing education (Nazik, et al., 2012; Ozakgul et al., 2014). As the incidence of HIV/AIDS increases, it is essential for nursing students to have detailed knowledge about HIV/AIDS. Overall, the findings of this study showed that, although nursing students' HIV/AIDS knowledge improved each year, their attitudes were not positively influenced by the nursing curriculum.

In this study, almost all of the nursing students (99.1%) reported that they had never met a patient with HIV or AIDS. Likewise, almost all students (97.5%) stated that they would be concerned about providing care for a patient with HIV/AIDS. The results of this study showed that fear of contracting HIV/AIDS from patients was an important concern for nursing students. Fear of infection and a moderate level of HIV/AIDS knowledge were determined to be important reasons for nursing students' reluctance to care for people with HIV/AIDS. Studies about attitudes of nurses towards caring for people with HIV/AIDS reported that one of the causes for US and Indian nurses' reluctance to care and negative attitudes toward people with HIV/AIDS was recognized as a lack of education (Frye, et al., 2017; Shah, et al., 2014). Therefore, it can be accepted that building capacity of education for sensible topics about vulnerable groups especially patients with HIV/AIDS among nursing students is an effective strategy across the globe.

Since nursing students will become future nurses, their positive attitudes toward caring for people with HIV/AIDS are important if they are to provide high-quality and nonjudgmental care. In the literature, nursing students' positive, neutral, and negative attitudes toward people with HIV/AIDS were reported all over the world. For instance, positive attitudes toward people with HIV/AIDS were reported in Australia (Pickles, King, & Belan, 2012) and in Greece (Ouzouni & Nakakis, 2012). Similar to our results, negative attitudes towards people with HIV/AIDS were reported in Russia (Suominen et al., 2015), Turkey (Akansel, et al., 2012; Nazik, et al., 2012; Ozakgul et al., 2014), Saudi Arabia (Abolfotouh, et al., 2013), and Iran (Tavoosi, et al., 2004). In a study comparing Turkish and

American undergraduate nursing students' attitudes toward HIV/AIDS patients, American nursing students' attitude scores were reported to be significantly more positive toward HIV-positive people than those of Turkish students (Atav, et al., 2015). A study conducted in Australia indicated that nursing students from China, East Asia, Southeast Asia, and Central Asia and the Middle East had more negative attitudes and were less willing to provide care for people with HIV/AIDS than students from other countries/regions (Pickles, et al., 2012). Negative attitudes toward people with HIV/AIDS and unwillingness to care can result in a poorer quality of nursing care and poor health outcomes for patients. Therefore, the importance of this issue should be emphasized in the nursing curriculum.

The relationship between nursing students' HIV/AIDS knowledge and attitudes toward people with HIV/AIDS has been reported by several studies. Different results have been reported in the literature on this topic. Some studies reported a positive correlation between nursing students' knowledge and attitudes toward people with HIV/AIDS (Chan, Lam, & Thayala, 2012; Ouzouni & Nakakis, 2012). This study revealed that the knowledge level of nursing students did not influence their attitudes and willingness to care for HIV/AIDS patients. Similar to the present study, Akin et al., (2013) reported no correlation between Turkish nursing students' knowledge and their attitude mean scores in their study. The results of our study may be associated with student nurses' unwillingness to provide care to HIV/AIDS-positive patients in clinical practice. This result may also be related to the fact that caring for patients with HIV/AIDS is a rare condition in clinical practice, and the training program is not sufficient to increase students' willingness to provide nursing care to HIV/AIDS patients and enable them to develop a positive attitude. In this issue, Qu et al, (2010) developed a structural equation model (SEM) to explore the relationship between student nurses' HIV/AIDS knowledge and their attitude. Training programs and curriculum for healthcare students should create awareness of personal biases and prejudices toward HIV patients according to Philip et al's study (2014).

In this study, there was a significant and negative correlation between the AIDS attitude scale, subscales, and willingness to care scores. It can be considered that nursing students' educational and clinical experiences will help to shape their attitudes and values. Studies have reported that students who previously provided care to patients with HIV/AIDS demonstrated more-positive attitudes than other students (Pickles, et al., 2012; Ozakgul et al., 2014). Diesel et al., (2017) also emphasized that sharing the correct knowledge on providing care to patients with HIV/AIDS in the nursing programs help the students decrease their fears of contracting HIV/AIDS when providing care and improve their attitudes and willingness to care for the patients with HIV/AIDS. Appropriate education is critical for improving nursing students' attitudes and willingness to care (Ben Natan, Dubov, & Raychlin, 2015). Pickles, et al. (2017) suggested in this issue that nurse educators have an essential role about their own attitudes about HIV/AIDS and showing positive role modeling and also need to recognise many nursing students have ingrained personal beliefs and values which have the potential to impinge on their ability to provide unbiased nursing care for people with HIV/AIDS.

Conclusion

The current results reveal that nursing students have a moderate level of knowledge about HIV/AIDS and that their attitudes need to improve. This study emphasized that nursing students' willingness to provide care decreases as negative attitudes toward AIDS increase. They may have negative attitudes because of lack of knowledge about HIV/AIDS, and fear of possibly becoming infected. There was a statistically significant difference between the first- and the fourth-year students in the AIDS Attitude Scale Fourth-year students in this study. It was found that HIV/AIDS knowledge score of nursing students increased as the year of academic study progresses.

This study can contribute to curriculum development work being carried out in nursing schools to promote qualified care for patients with HIV/AIDS, educational programs implemented for nursing students need to be evaluated for their impact on the attitudes, knowledge, and work practices of those participating. Further research is also

recommended to explore the effects of different variables such as gender, cultural values, and clinical experience on nursing students' attitudes.

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