

# Awareness, Attitudes and Tendency Toward Providing Services to Patients With HIV/AIDS by Second- and Third-Year Nursing Students in Isfahan, Iran, 2014

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## Abstract

**Background:** Nurses are one of the most significant group exposed to the risk of acquired immune deficiency syndrome (AIDS). Therefore, to determine the disease level in patients and train them in the field are among the most essential subjects of nursing education. The study investigated the nursing students' awareness, attitudes and tendency toward providing services to patients with HIV/AIDS.

**Methods:** This cross-sectional study, conducted in 2014, covered 110 second- and third-year nursing students from Isfahan University of Medical Sciences, Isfahan, Iran. The research tools were demographics and AIDS knowledge questionnaires, an attitude towards AIDS scale and a discrimination against patients questionnaire. The information was analyzed by SPSS using descriptive statistics, t-test and the Pearson correlation coefficient.

**Results:** Males comprised 38.2% of the subjects, and females 61.8%. About 80% of the participants were single and 20% married. Almost two-thirds (60.9%) had a professional background. Regarding the awareness of AIDS and its transmission methods, 52.7% of the students were "a little" aware. Furthermore, 84.5% of students were at the moderate level of discrimination on giving services and taking care of patients with HIV; 52.2% of the subjects were also at a moderate level. A significant direct relationship was observed between the discrimination and attitude scores,  $P = 0.04$  and  $r = 0.19$ .

**Conclusions:** The students' levels of awareness of HIV and its transition methods were low, and this should be promoted thorough training. Discriminatory actions do occur, and it is necessary and possible to decrease their incidence by promoting students' awareness of patients' rights and ethical principles.

**Keywords:** Awareness, Attitude, Stigma, Students

## 1. Background

HIV/AIDS is one of the leading cause of death in human history (1). Infections with the human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) are the second-leading cause of death among adults aged 25 - 44 years old (2). AIDS was first recognized among homosexual males in the United States in 1981, and subsequently in Europe and sub-Saharan Africa (3).

This disease is the world's greatest killer of the young; worldwide; 6800 people are infected with the virus every day, and more than 5700 people lose their lives due to the lack of access to adequate health services (1).

According to Iran's ministry of health, treatment, and medical education, there were 27,041 people in the country infected with HIV/AIDS and 5471 people had died from the disease, up to September 2013 (4).

Young people are the major group which is at risk for this disease, and the only available method to reduce the risk of infection among them is training and enhancing their awareness of AIDS prevention measures (5).

Therefore, it is necessary that nursing students acquire enough knowledge and assume proper attitudes towards giving services to patients with AIDS, and to all aspects of treating people with AIDS, via wise training. In order that nurses take proper care of such patients, during their education, they should be informed about their legal and ethical duties to prevent the transmission of the disease, such as observing sterilization principles (6). In the study by Shouman, about 95.4% of health workers said they needed more detailed information about infection and AIDS (7), and Boole showed that there was insufficient knowledge about AIDS and wrong attitudes towards it and its transmission methods (7). A study conducted on the students of

Iran University of Medical Sciences, Tehran, Iran, showed that more than 60% of the students with different educational levels had considerable knowledge about AIDS and its transmission methods (8).

Exposure to AIDS is considered as one of the occupational hazards of the medical professions. Those who work in this field are typically young and active members of society; so their awareness and attitude towards HIV/AIDS is vitally important (9).

A significant issue in the medical field is discrimination in terms of treatment and care-taking of people with AIDS (10).

Negative attitudes toward providing services to patients with AIDS, or in other words the social stigma of AIDS, is a social misunderstanding, rooted in the values and norms of Iranian society (11).

The outcome of the social stigma of AIDS, and health workers' negative attitudes towards patients with AIDS have undesirable effects on AIDS prevention and treatment and the care extended to such patients (12).

According to a study, some health workers reported "hating" such patients; were afraid of contamination, and feared that exposure to them would lead to a lower job status. They tried to refer HIV-positive patients to other sites for care. However, 83% reported having feelings of sympathy and compassion for them (13).

The results of a study in Tanzania showed that 72% of health workers thought they were at the risk of HIV contamination in their workplaces, and 85% of them did not show a willingness to take care of patients with AIDS (14). The study by Zeighami Mohamadi et al. showed that 31.6% of nurses were truly afraid of the risk of AIDS contamination, and 81.8% of them showed neutral willingness to take care of patients with AIDS (11).

Health centers are the main places where patients with AIDS repeatedly experience discriminatory behaviors and unfair treatment (15). In previous studies, it was emphasized that communication and respect allow patients with AIDS not to hide their disease and to engage in more self-disclosure; this is a point in favor of health provider and other patients (16). A study conducted on medical sciences in South America showed that students who were more aware of AIDS experienced the stigma of this disease and vice versa (17). There is no effective HIV vaccine, and every discriminatory practice against patients with AIDS results in hiding the disease, in which hampers the programs to combat AIDS. Training is the most important solution to prevent the spread of AIDS, thus nurses' knowledge and attitudes, and the way in which they provide service to patients with AIDS are important, because their job requires contact with blood and blood products. Therefore, the current study aimed to investigate second- and the third-year

nursing students' knowledge, attitudes and willingness to provide service to patients with AIDS. After determining their educational needs, necessary effort will be made to promote awareness of AIDS and improved performance.

## 2. Methods

The current descriptive, cross-sectional study covered the statistical population of all second- and third-year nursing students of the nursing faculty at Isfahan University of Medical Sciences, Isfahan, Iran. Inclusion criteria included being a second- or third-year nursing student and interested to take part in the study. Exclusion criteria included filling out the questionnaire incompletely and not being interested in taking part in the study. The questionnaire used to collect data included questions related to:

- 1) Demographic information (age, gender, education, marital status, professional background in the ward)
- 2) Evaluating students' awareness and knowledge about AIDS
- 3) Evaluating students' attitudes towards providing service to patients with AIDS
- 4) Evaluating students' willingness to provide services to patients with AIDS

The questions related to awareness included 20 phrases. Each phrase was labeled as true (1), false (0), or I don't know (0). The range of scores was 0-20, and higher scores indicated greater awareness of AIDS prevention and transmission methods. The questions in this part of the survey were taken from an AIDS awareness questionnaire, item version HIV-KQ-42: 43, developed by Morrison-Beedy and Johnson in 1997 and adopted from the study by Zeighami Mohamadi et al. (11). The total awareness scores ranged 0 - 20. Awareness was then divided into three sub-groups: low (0 - 7), modest (8 - 14), and high (15 - 20).

There were ten questions on attitudes, and they were classically based on a 3-item scale. The maximum and minimum scores were 30 and 10, respectively. Higher scores meant more positive attitudes.

The attitude questions were taken from an AIDS attitude questionnaire developed by Forman et al. in 1992 and adopted from the study by Zeighami Mohamadi et al. ( $r = 0.77$ ) (11). The students' attitudes were categorized as follows: 10 - 15: negative, 15 - 20: neutral, and 20 - 30: positive attitude.

The fourth section of the questionnaire was on discrimination in treating and taking care of patients with AIDS. The section had 15 items scored by a 5-option Likert scale (always, often, sometimes, seldom, never). The minimum and the maximum scores were 15 and 75, respectively. Higher scores indicated more discrimination in the treatment and taking care of patients with AIDS. The following

scoring system to categorize the discrimination in treatment and taking care of AIDS: < 33: low; 33 - 66: moderate; ≥ 67: high discrimination. Zeighami Mohamadi et al. investigated the reliability and validity of the questionnaire ( $r = 0.81$ ) (11).

To observe ethical principles, an anonymous questionnaire was designed, and the informed consent forms were signed by participants with some explanation about optional participation in the study and the confidentiality of all information gathered. After collecting the related information, the data were transferred into the computer and analyzed by SPSS version 16. Data were analyzed using descriptive statistical methods, Chi-square, Pearson correlation, Spearman correlation, and correlation at a significant level of less than 0.05.

### 3. Results

In the current study, 110 nursing students (55 second-year and 55 third-year students) of Isfahan University of Medical Sciences completed the questionnaires. The mean age of the subjects was  $21.39 \pm 1.81$ ; 38.2% were male and 61.8% female and about 80% were single.

In relation to their background of working in the ward, 60.9% had worked there before, and the others had no professional experience.

Table 1 presents the average scores of awareness and knowledge related to HIV/AIDS, participants' attitudes toward patients with AIDS, and discrimination in providing service to and taking care of patients with AIDS.

**Table 1.** The Average Scores of Awareness, Attitudes Towards Providing Services to Patients With AIDS, and Discrimination in Treating and Taking care of Patients With HIV/AIDS From the Study Subjects Points of View

Variable	Mean ± Standard Deviation
Awareness of AIDS and its transmission methods	13.67 ± 3.32
Individuals' attitudes towards patients with AIDS	17.78 ± 2.91
Discrimination in treating and taking care of patients with AIDS	53.52 ± 1.27

Table 2 depicts students' awareness of HIV/AIDS transmission methods. Regarding awareness, 52.7% were at low, 44.5% at moderate, and the rest at high level.

From the students' point of view, discrimination at the low level was 5.5%, at a moderate level 84.5%, and at the high level 10% when treating and taking care of patients with AIDS (Table 3).

Based on the results of the Pearson correlation test, a significant and positive relationship was observed between discrimination scores in treating/taking care of

**Table 2.** Awareness of HIV/AIDS Transmission Methods in Study Subjects<sup>a</sup>

	True	False	I Don't Know
Sneezes and coughs	84.5	12.7	2.7
Personal items	85.5	10.9	4
Tattoos	85.5	9.1	5.5
Sexual contact	61.8	28.2	10
Injecting blood and blood products	19.1	70.9	10
Saunas and swimming pools	21.8	59.1	19.1
Saliva	20	62.7	17.3
Genital discharge	78.2	15.5	6.4
Mother to child	93.6	6.4	-
Sexual contact during menstruation	7.3	60	32.7

<sup>a</sup>Values are expressed as %.

**Table 3.** Absolute and Relative Frequency of Distribution of Attitudes, Awareness and Discrimination Among the Study Subjects

	Status	No. (%)	P Value
Awareness	Low	6 (5.5)	< 0.001
	Moderate	74 (67.3)	
	High	30 (27.2)	
Attitude	Negative	23 (20.9)	< 0.001
	Neutral	64 (58.2)	
	Positive	23 (20.9)	
Discrimination	Low	6 (5.5)	< 0.001
	Moderate	93 (84.5)	
	High	11 (10)	

AIDS patients and attitude scores ( $P = 0.04$  and  $r = 0.19$ ), but the relationship of awareness scores to age, gender, education level and professional background was not observed ( $P > 0.05$ ) (Table 4).

**Table 4.** The Relationship Between Awareness Scores and Demographic Variables

Variable	P Value	Number
Gender	Awareness score 0.88	110
Marital status	Awareness score 0.38	110
Professional background	Awareness score 0.41	110
Age	Awareness score 0.12	110

The T-test showed a significant relationship between marital status and discrimination, since the discrimination score was higher among single students than the mar-

ried students ( $P = 0.03$ ). However, this test did not show a significant statistical difference between males and females regarding discrimination, attitudes and knowledge ( $P > 0.05$ ).

According to the Chi-square test, there was no significant difference between educational level and gender, between gender and marital status, or between gender and professional background ( $P > 0.05$ ).

The other items showed no significant differences between attitude and demographic variables, there was only a positive relationship between attitude and professional education ( $P = 0.016$ ) ( $r = 0.08$ ) (Table 5).

#### 4. Discussion

The current study was conducted to investigate awareness and attitudes towards providing services to patients with AIDS and nursing students' willingness to provide service to patients with HIV/AIDS among 110 students of Isfahan University of Medical Sciences.

In the current study, on average, 84.5% of students were unwilling to take care of and provide treatment services to patients with AIDS; this finding was compatible with those of Zeighami Mohamadi et al. (11) and Jean-Baptiste (18). Another study conducted in Tanzania indicated that 47% of health workers were not willing to provide services to patients with AIDS and they somehow discriminated against them on base of giving services (19). Lack of awareness about ethical issues and lack of information about respecting patients' right are two of the reasons for this unwillingness to provide services to patients. This can be reduced to some extent through training courses and ensuring that personnel become familiar with patients' right.

In the current study, most of the discrimination cases were related to using protective equipment (gloves, masks and protective glasses) at the time of making contact with patients, and these findings were compatible with those of the other researchers (11, 19). The results of the study by Aghamolaei et al. showed that 93.6% of health workers believed that they should use gloves at all time when taking care of patients with HIV (20). Fear of contact with an infected patient, the fear of becoming infected, and low awareness of AIDS transmission methods are problems for such works, and the reasons why they use protective equipment even when it is not needed.

The obtained results of the study indicated that 30.9% of respondents believed that patients with AIDS should be kept in isolated rooms; these results were compatible with those of Zeighami Mohamadi et al. and Aghamolaei et al. (11, 20).

In addition, the results of another study by Reis et al. showed that 59% of health workers thought it was necessary to keep patients with AIDS isolated (21).

The very real fear of becoming infected with AIDS disease and a lack of awareness of how AIDS is transmitted has resulted in the utmost caution being taken when treating such patients.

In the present study, regarding discrimination against patients, there was no significant difference between males and females, and this finding was not compatible with those of Zeighami Mohamadi et al. (11). The difference in the target group might be the reason for these results. It means that students do not come into contact with patients as often as nurses do. The current study found no significant relationship between students' awareness and discrimination scores considering age; that is to say, being older does not mean more awareness and knowledge. It was compatible with the findings of the studies by Mohammadnejad et al. (22) and Mohammad Nejad et al. (1).

The current study found a positive significant relationship between professional background and attitude, where the attitude scores among third-year students were higher than those of the second-year students. These results were compatible with those of the studies by Aghamolaei et al. (20) and Mohammad Nejad (1). This can explain the fact that students in their third year of study have higher attitude than second-year students, since they have passed several courses on HIV and developed more positive attitudes.

In total, 64% of participants had a moderate attitude toward the disease and patients with AIDS. A majority, 61.8%, believed that most people think that patients with AIDS are bad or criminal, and 52.7% believed that other people's attitudes towards AIDS cause them to feel bad about AIDS, too. The results of the current study were compatible with those of Balfour et al. (17).

The current study observed a significant relationship between discrimination and attitude, which was compatible with those of Zeighami Mohamadi et al. (11) and Thanavanh et al. (23).

Although the Iranian training system mostly focuses on students to become familiar with disease transmission and prevention, it seems that the emotional debate about the relationship of nurses and students to AIDS patients is ignored.

In other words, if the emotional relationships with patients improved, negative attitudes and the unwillingness to provide services to such patients would decrease.

Generally speaking, regarding awareness, more than half of the participants had low or moderate awareness of AIDS. Their knowledge about some questions was high, and about some questions low. Most students had great

**Table 5.** Regression Analyses of the Attitude and Demographic Variables Among the Study Subjects

	Dependent Variable: Attitude			
	B	S.E	t	P Value
Educational level	-0.32	0.802	-0.040	0.968
Age	0.003	.0234	0.015	0.988
Gender	-0.177	0.566	-0.312	0.756
Professional background	1.05	0.617	2.441	0.016
Marital status	-0.512	0.722	-0.709	0.480

awareness of AIDS' transmission through sexual contact, mother-to-child, tattoos and genital discharge, which was compatible with the results of the study by Mansoor conducted on Afghan students (24). However, lack of awareness of AIDS transmission through swimming in public pools or using saunas was compatible with the results of the study by Thanavanh et al. (23). These results indicated the urgent necessity of training students and providing them with more information about some AIDS transmission methods.

One of the limitations of the current study was that it only investigated students, because of a time limit. This makes it difficult to generalize the findings of the study. Feelings of tiredness in subjects, complaints about the large number of research questions, lack of trust, and no feelings of responsibility to answer the research questions were also limitations of the study.

#### 4.1. Conclusions

In general, the results of the current study and those of other researchers show that medical sciences students do not have enough awareness of AIDS. Considering this fact, and that these students have regular contact with blood and blood products and are at the risk of infection, it is necessary to increase the students' awareness and plan their training more carefully to prevent the disease. It is also possible to run special courses and train students to change their attitudes towards patients and decrease their negative motivation. This should be done to oppose and decrease discriminatory behaviors toward patients with AIDS, which is a result of nurses' unwillingness to provide services to patients with AIDS. Special policies should be developed to combat AIDS, one of which should be increasing students' awareness of social stigma outcomes.

In short, decreasing discrimination in giving services to HIV/AIDS individuals encourage them to mention their disease when they are using treatment services and not to hide their problem which can result in AIDS spread in the community.

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#### Footnote

**Authors' Contribution:** Maryam Hasanshahi: design of the study, gathering of data, providing intellectual content of critical importance to the work described, and reading and approving the final manuscript. Abdolvahhab Baghbanian: design of the study, revising the manuscript, and reading and approving the final manuscript. Nasrin Moztaezian: supervising the study, revising the manuscript, and reading and approving the final manuscript.

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