



Research Article

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Knowledge and Attitudes of Acquired Immunodeficiency Syndrome among Nurses Working in Teaching University Hospitals, Southwest Iran

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ABSTRACT

Human immunodeficiency virus (HIV) is among the only viruses for them it can be said that prevention is the only and the best treatment. The aim of this study was to assess the knowledge and attitude of acquired immunodeficiency syndrome (AIDS) prevention in nurses of a teaching hospital in Ahvaz. In this descriptive cross sectional study, through a two-stage cluster random sampling, 147 nurses working in four teaching hospitals in Ahvaz south west Iran were studied. Data collected by a questionnaire in three sections consisting of demographic information, occupation history, and knowledge / attitudes was analyzed using statistical software SPSS version 20. The mean knowledge and attitude score was 28.25 ± 7.04 and 13.4 ± 3.79 , respectively. Significant relationship between attitude and sex ($P < 0.05$) and between the knowledge and attitudes were observed ($P < 0.01$). In the present study the knowledge and attitude of the majority of the subjects was moderate. It is essential to implement educational programs in hospitals, in order to change negative attitudes to positive attitudes.

Keywords: HIV/AIDS, Knowledge, Attitudes, Nurse, Standard precaution, Ahvaz

INTRODUCTION

The only and the best treatment for human immunodeficiency virus (HIV) as well as the most serious viral infections is prevention. According to World Health Organization (WHO) estimates at the end of 2011, 34 million people were infected with HIV (1) and each year 2.3 million new cases are infected with HIV and approximately 3/1 million die due to HIV infection. According to data collected through HIV surveillance system, epidemiology of HIV/AIDS in Iran is specific group concentrated. Although the prevalence in the general population is less than one percent, in some high-risk groups this frequency is reached above 5 percent. Health care workers (HCWs) in comparison to normal population due to frequent exposure to contaminated blood and body fluids of HIV suspected cases are at a higher risk for HIV infection. They are encountered with HIV by needle stick injury, the sprinkling of blood and fluid in the eye and mouth from a HIV infected subject. Every day thousands of health professionals around the world suffer accidental exposure to blood borne pathogens. WHO estimates show that 3 millions intravenous occupational exposures to blood and other body fluids occurs in HCWs worldwide, while 90% of them occur in developing countries. HIV infected Patients are referred to hospitals to receive appropriate care and

treatment services and nurses are responsible and have a major role in providing services to these patients. This group of health personnel due to direct contact with blood and body fluids of HIV infected patients are at a high risk of HIV infection. The use of non-sterile or improper sterile equipment, inappropriate use of syringe and needle and non-compliance with health issues when providing care to these patients is likely to increase this risk. A majority of HIV infected patients because of fear of not receiving services or insults and blame, do not report their illness.

HCWs and specially nurses due to disregard to standard precautions, such as safe injection are at repeated risk for HIV infection. Therefore, updating nurses' knowledge about routes of HIV transmission, prevention methods and treatment of HIV have a critical and important role in providing appropriate services to patients despite exposure to HIV. On the other hand, nurses due to low knowledge and awareness of HIV, the fear of getting sick and dying, have negative attitudes towards people with HIV infection which has led to discrimination in the provision of services to people suffering from this disease.

Therefore, as an important strategy illustrated by WHO aimed at primary prevention of HIV infection, is necessary that improving nurse's knowledge and attitudes towards AIDS, should be considered and continuously be assessed. Several studies assessed the knowledge and attitudes of health workers in the country that unfortunately has had disappointing results. Because knowing the knowledge and attitude of health workers in the region of study (who often are non-fixed employees and looking change all the time) is needed to plan AIDS control activities, this study was conducted to assess the knowledge and attitude of AIDS in nurses of four teaching hospitals in Ahvaz.

MATERIALS AND METHODS

This descriptive cross-sectional study conducted from May to July 2013 in four teaching hospitals in Ahvaz, south west Iran. Sampling was conducted in two stages; in the first stage from 7 training hospitals in Ahvaz, 4 hospitals was randomly selected as a cluster, then from the 668 nurses employed in this four hospitals, 147 nurses were randomly selected for inclusion. Inclusion criteria were the willingness of individuals and at least one year of work experience. Before receiving a written consent, the aims of the study were explained to the nurses who tended enrolled. Data collected through three-part self-completed questionnaires. Demographic characteristics of the subjects studied in the first part, the second part of nurses' knowledge of AIDS, and the third part examined their attitudes about the disease. Questionnaire was the researcher - made, and reliability with a Cronbach's alpha test for questions of the nature of the disease, route of transmission, AIDS testing and prevention methods, was 0.682, 0.726, 0.682, and 0.725, respectively and for attitude items was 0.722 ($P < 0.001$). For nature of the disease inquiries, range of score was 0-6, range of 0-2 was considered the poor, 3-4 was medium and 5-6 as a good interpretation. The range of scores for questions of disease transmission was 0-20; which ranges of 0-7 was considered low, 8-14 was medium and 15-20 as good interpretation. The scores of the laboratory testing questions ranged from 0 to 9, interpretation was weak for 0-2, medium for 3-5 and good for 6-9. The scores of the prevention methods questions ranged from 0 to 11, interpretation was weak for 0-3, medium for 4-7 and good for 8-11. The range of scores for total knowledge was 0-46; which interpretation in ranges of 0-15 was considered low, 16-30 was medium and 31-46 was good. The scores of the attitude ranged from 0 to 20, interpretation was weak for 0-6, medium for 7-13 and good for 14-20.

RESULTS

Of total 147 nurses, 28.6% were in the age group of 26-30 years, 57.8% the subjects were married, 91.8% were female and 91.2% had BS academic degree. Of total studied subjects, 42.9% had less than 5 years' experience, 25.9% had 6-10 years, 15.6% had 11-15 years, 6.8% had 16-20 years, and 8.8% over 20 years' experience.

Education in the work place (52.4%), attending the educational seminars (19.8%), pamphlets reading (12.2%) and education through radio and television (15.6%) were the main ways of achieving information. About the nature of the disease, the participants responded to the question whether the two HIV and AIDS are separate diseases and whether the HIV-positive person can be diagnosed based on symptoms? The 101 patients (68.7%) and 131 (89.1%) had correct answered, respectively. But, in response to the question, whether, autoclave, has the lethal effect on HIV, 69 (46.9%) have given the correct answer. In part of the route of transmission; the correct answer to the questions about non transmission by tub and shared bathrooms, toilet, insect bites, kissing, body sweat and sharing in eating utensils was observed in 98 (66.7%), 101 (68.7%), 103 (70.1%), 114 (77.6%), 71 (48.3%), 125 (85%), respectively. To the questions about the possibility of transmission of HIV in young girls; 35 (23.8%), the higher risk of transmitting from male to female in compare with female to male; 54 (36.7%), the high risk of transmitting by uncircumcised men; 34 (23.1%) and higher possibility of transmitting by anal sex in compare to vaginal sex; 24 (16.3%) have given the correct answer. In the part of laboratory tests questions, the participants in response to the question whether the possibility of a negative test result is expected to be in HIV infected person? In case of a

positive test ELISA test should be repeated once again? 96 (65.3%) and 89 (60.5%), respectively answered correctly. Only 35 patients (23.8%) had correct answer to the question of whether HIV can be detected during the window period. In the area of prevention, the answer to the question of whether sexual transmission of the disease can be prevented by condoms? And whether sexually transmitted diseases can be prevented by taking birth control pills? 120 patients (81.6%), and 130 (88.4%) have the right answer. In response to the question whether disease transmission can be prevented by controlling and testing donated blood for transfusion? Only 32 (21.8%) gave the correct answers. Of total studied nurses 131 (89.1%) knew that sterilizing dental equipment, and 128 (87.1) knew that addiction avoidance, not sharing needles to inject drugs and post exposure prophylaxis are effective ways to prevent HIV transmission.

Table 1. Mean score of knowledge and attitude based on the characteristics of the study participants

Variables	No	%	Knowledge				Total knowledge	Attitude
			Nature disease	Transm. route	Lab tests	Prev. methods		
			Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD		
Age, years								
20-25	34	23.1	4.1±1.5	11.3±4.6	3.4±2.1	7.5±2.8	26.3±9.7	11.5±4.6
26-30	42	28.6	4.5±1.1	12.6±3.4	4.1±1.8	8.1±2.3	29.4±5.6	12.6±3.7
31-35	28	19	4.0±1.2	11.6±3.1	3.9±1.3	8.5±1.9	27.9±5.2	13.3±3.1
36-40	23	15.6	4.4±0.9	12.6±3.6	3.8±1.8	8.2±2.2	29.0±6.6	12.3±4.0
41-45	14	9.5	4.6±1.2	12.6±3.4	3.8±1.8	8.3±1.4	29.3±5.1	12.2±2.9
46-50	6	4.6	4.0±2.0	11.3±5.1	3.8±2.3	7.5±1.6	26.7±1.0	13.0±1.8
Sex:								
Male	12	8.2	4.4±1.8	12.3±4.0	4.6±1.9	8.1±1.5	29.4±7.9	13.9±3.8
Female	135	91.8	4.3±1.2	12.0±3.8	3.8±1.8	8.0±2.3	28.1±6.9	13.3±3.8
Exp.,year:								
0-5	63	42.9	4.3±1.4	12.2±4.1	3.7±1.9	7.9±2.5	28.1±5.8	12.2±4.1
6-10	38	25.9	4.2±1.0	12.1±3.3	3.6±1.7	8.1±2.4	28.7±6.8	12.3±3.6
11-15	23	15.6	4.4±1.1	11.6±3.5	4.5±1.7	8.2±2.1	29.1±2.9	12.6±3.9
16-20	10	6.8	4.6±1.0	12.7±2.1	3.4±1.6	8.4±1.2	27.7±8.2	12.5±3.0
20+	13	8.8	4.0±1.6	11.8±4.6	3.8±1.9	8.1±1.6	28.1±8.1	12.8±3.1
Mari. Stat.:								
Single	62	42.2	4.2±1.4	11.8±4.5	3.8±1.9	7.9±2.5	27.7±8.4	12.4±4.1
Married	85	57.8	4.4±1.1	12.3±3.1	3.8±1.8	8.1±2.1	28.6±5.9	12.4±3.6
Ed. Level:								
Dip.	3	2	4.6±1.5	11.6±2.1	4.3±2.1	8.6±0.6	29.3±1.5	12.3±1.5
Sup-Di	10	6.8	3.7±1.9	12.4±4.3	3.5±1.7	8.6±1.6	28.2±8.2	14.0±2.0
Bachelor	134	91.2	4.3±1.2	12.0±3.8	3.8±1.8	8±2.3	28.2±7.0	12.3±3.9
Edu.in WP								
Yes	77	52.4	4.1±1.1	12.1±3.7	3.6±1.7	7.9±2.2	27.2±4.3	12.2±3.4
No	70	47.6	4.4±1.3	12.0±3.7	3.9±1.9	8.1±2.3	28.1±5.6	12.6±4.1

Table 2. Knowledge and attitudes about AIDS and HIV among studied subjects

Knowledge/attitude	Weak		Medium		Good	
	No.	Percent	No.	Percent	No.	Percent
Knowledge						
Disease nature	11	7.5	66	44.9	70	47.6
Transmission route	11	7.5	107	72.8	29	19.7
Laboratory tests	38	25.9	81	55.1	28	19.0
Prevention methods	8	5.4	30	20.4	109	74.2
Total knowledge	8	5.4	78	53.1	61	41.5
Attitude	12	8.2	72	49.0	63	42.8

In part of attitudes assessment, in response to questions such as "I prefer do not provide health care to patients with HIV / AIDS, 90 (61.2%) and to question "I prefer to maintain my own health and my family by refusal serving patients with HIV / AIDS", 80 (54.4%) gave the correct answer. Ninety nurses (61.2%) because the fear of rejection by family and friends for the provision of services to HIV / AIDS patients were concerned. In providing services to patients with HIV / AIDS, 130 (88.4%) of the nurses believed that patients should be hospitalized in separate sections and 120 (81.6%) believed that patients should be admitted to an isolated hospital. 116 (78.9%) participants in the study in response to the words "treat a person with HIV / AIDS wasting resources" and 110 (74.8%) in response to the words "Many people with HIV / AIDS are unrestrained loads persons and entitled to have the disease " gave the correct answer. 123 (7/83%) nurses were disagreed with the term "social protection could encourage people to become infected and spread the disease ". The results showed that there was no statistically significant relationship between the mean score and age, education, sex, marital status and work experience, ($P > 0.05$). There was also no statistically significant relationship between attitude and work experience, age group,

education level and marital status ($P > 0.05$), but, there was a significant relation between attitude and sex ($P < 0.05$). A significant relationship was found between knowledge and attitude scores ($P < 0.01$).

DISCUSSION

The present study revealed that most studied nurses had moderate knowledge of AIDS, mainly knew that HIV is transmitted by sexual contact, mother to child, breast feeding and by blood transfusions. These findings are consistent with studies conducted in some different regions of the world such as Turkey and South Africa (2, 3). In the most countries from developing area nurses had weak knowledge of AIDS about route of transmission (1, 4-7), but in some other countries this knowledge was good (8-11). The reason for these differences may be attributed to socioeconomic status, level of nurse education, health facilities, local HIV status and study participants.

In this study there was no significant relationship between gender and level of knowledge. These findings are consistent with some studies (1, 3) but disagree with the results of studies of other researchers (12, 13). The reason for this difference is not clear. We believe that differences between male and female in access to education or occupation, sexual preference and ethical considerations in some communities may be reasoned.

This study also showed that there is no significant relationship between age and level of knowledge. In previous studies age as an independent factor has not been discussed but, if it be regarded as a marker for experience, in some study it was shown that there is a significant relation between experience and AIDS knowledge (1, 3, 12, 13).

In the present study, there was no significant relationship between knowledge and marital status; these findings are in disagreement with Mohsen *et al* from Egypt, who demonstrated that married people have more information against HIV/AIDS (13). Muslims, due to the special look at the marriage and family are very sensitive about their health issues.

We did not find relationship between knowledge and experience, while some studies have found this association (1, 3, 12, 13), whatever; experience increases, awareness about HIV/AIDS will increase.

The present study showed that the majority of these nurses have moderate attitudes about patients with HIV/AIDS and most of them believed that these patients should be kept in a separate ward or hospital that represents the fear of AIDS. In most past studies nurses had negative attitudes about HIV/AIDS patients with no willing to give nursing care the patients (1, 2, 4, 5, 8, 11, 14-16). We found only two reports of positive attitudes among studied nurses (3, 10). In a study, Oyeyemi *et al.* concluded that Nigerian nurses hesitate to care for AIDS patients and that there was potential for avoidance behavior towards them (1). Bektash and colleagues from Turkey reported that fear of being infected and feelings of pity and empathy were the feelings most commonly indicated by nurse students (2).

Increase awareness of the disease can lead to better and more positive attitudes to the disease. We also observed a significant relationship between attitudes and knowledge which is in consistent with the results of other studies (1, 4, 5, 10, 14, 17). According to the logic of reason those with good AIDS awareness, such as nurses and students must have good attitude towards AIDS. In previous studies, relationship between knowledge and attitudes was associated with controversy; in some studies there have been positive relationship (1, 4, 5, 10, 14, 17), but in some other have not (3, 8, 9, 11, 13). The general belief is that medical students, who have a high level of education, should be aware of AIDS hazards and its complications and should therefore have positive attitudes and concern about sexual behavior as a main route of HIV transmission. Sallah and colleagues in a study conducted in Togo a high HIV endemic area reported that although students were aware of the way of HIV spread and of risky sexual behavior, they did a high frequency of high-risk behavior such as multiple sexual partners, intravenous drug use and homosexuality (1). HIV positive attitude, besides serving a good nursing care to patients is caused standard precautions in dealing with the disease. Many studies have shown that nurses and health care workers who had poor attitude to AIDS had not taken standard precautions (6, 7, 11, 17, 18). The main sources for obtaining the information about HIV/AIDS in our study population were seminars, pamphlets and radio and television broadcasting. In several studies the most subjects have received HIV related information by similar sources (2, 3, 10, 16). In this study, the informational role of texts in the light of AIDS is in agreement with results of Pital and colleagues (16). With regard to occupational medical hazards in nurses and health care workers, the issue should be considered in writing academic books and academic curriculum plans.

Study strengths and weaknesses: Our study due to random selection of samples has a high value generalization, but because of abnormal distribution of characteristics of participants, the study results may be put at risk of bias.

CONCLUSION

In the present study the knowledge and attitude of the majority of the subjects was moderate. Given the important role of knowledge and attitude in providing high quality nursing care, it is essential to plan and to implement an educational programs in hospitals and health centers, in order to change negative attitudes to positive attitudes.

Suggestions: We suggest that in-service educational courses by teachers certified in infectious disease and by public health experts experienced in HIV/AIDS management to be convened periodically to nurse, while raising their awareness toward HIV/AIDS to modify their attitudes from negative to positive.

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Authors' Contribution

S M Alavi; writing 60%, revision 100%, search 30%. S. Salmanzadeh; design 30%, writing 10%, search 20%. F. Maniavi, M. Meripoor and Z. Rahimi; design 10%, writing 30%, search 50%.

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REFERENCES

- Oyeyemi A, Oyeyemi B, Bello I. Caring for patients living with AIDS: knowledge, attitude and global level of comfort. *Journal of Advanced Nursing*. 2006;53(2):196-204.
- Bektaş H, Kulakaç Ö. Knowledge and attitudes of nursing students toward patients living with HIV/AIDS (PLHIV): A Turkish perspective. *AIDS care*. 2007;19(7):888-94.
- Delobelle P, Rawlinson JL, Ntuli S, Malatsi I, Decock R, Depoorter AM. HIV/AIDS knowledge, attitudes, practices and perceptions of rural nurses in South Africa. *Journal of advanced nursing*. 2009;65(5):1061-73.
- Williams AB, Wang H, Burgess J, Wu C, Gong Y, Li Y. Effectiveness of an HIV/AIDS educational programme for Chinese nurses. *Journal of advanced nursing*. 2006;53(6):710-20.
- Pickles D, King L, Belan I. Attitudes of nursing students towards caring for people with HIV/AIDS: thematic literature review. *Journal of advanced nursing*. 2009;65(11):2262-73.
- Earl CE. Thai Nursing Students' Knowledge and Health Beliefs about AIDS and the Use of Universal Precautions A Cross-Sectional Descriptive Research Study. *AAOHN Journal*. 2010;58(9):331-4.
- Mouodi S. Health Education still needs the Knowledge level and Attitude of Male Students about IV/AIDS. *Caspian J Intern Med* 2014; 5 (1): 55-56. Simin Mouodi (MD, MPH) 1 Seyed Jalil Seyedi Andi (MSc)* 2 Mostafa Javanian (MD) 3 Iman Jahanian (MD) 1 Rozita Rezaee (MSc) 4 Ziba Shirkhani Kelagari (MSc) 5 Neda Ghazinezhad (BSc) 6 1-Education Development Center, Babol University of Medical Sciences, Babol, Iran. 2-Faculty of Medicine, Babol University of Medical Sciences, Babol, Iran. *Caspian J Intern Med*. 2012;5(1):54-5.
- Kohi TW, Horrocks MJ. The knowledge, attitudes and perceived support of Tanzanian nurses when caring for patients with AIDS. *International Journal of Nursing Studies*. 1994;31(1):77-86.
- Li Y, Scott CS, Li L. Chinese nursing students' HIV/AIDS knowledge, attitudes, and practice intentions. *Applied Nursing Research*. 2008;21(3):147-52.
- Lohrmann C, Välimäki M, Suominen T, Muinonen U, Dassen T, Peate I. German nursing students' knowledge of and attitudes to HIV and AIDS: two decades after the first AIDS cases. *Journal of advanced nursing*. 2000;31(3):696-703.
- Mahat G, Eller LS. HIV/AIDS and universal precautions: knowledge and attitudes of Nepalese nursing students. *Journal of advanced nursing*. 2009;65(9):1907-15.
- Oyeyemi AY, Oyeyemi BO, Bello IS. AIDS care in Nigeria: Are nurses comfortable performing procedures? *International Journal of Nursing Practice*. 2008;14(1):11-8.
- Mohsen A. Assessment and upgrading of knowledge and attitudes among nurses and university graduates towards AIDS. *The Journal of the Egyptian Public Health Association*. 1997;73(5-6):433-48.
- Mockiene V, Suominen T, Välimäki M, Razbadauskas A. Impact of intervention programs on nurses' knowledge, attitudes, and willingness to take care of patients with human immunodeficiency virus/acquired immunodeficiency syndrome: a descriptive review. *Medicina (Kaunas)*. 2010;46(3):159-68.
- Liu H, Bravata DM, Olkin I, Friedlander A, Liu V, Roberts B, et al. Systematic review: the effects of growth hormone on athletic performance. *Annals of internal medicine*. 2008;148(10):747-58.

16. Pisal H, Sutar S, Sastry J, Kapadia-Kundu N, Joshi A, Joshi M, et al. Nurses' health education program in India increases HIV knowledge and reduces fear. *Journal of the Association of Nurses in AIDS Care.* 2007;18(6):32-43.
17. Askarian M, Memish ZA, Khan AA. Knowledge, practice, and attitude among Iranian nurses, midwives, and students regarding standard isolation precautions. *Infection Control & Hospital Epidemiology.* 2007;28(02):241-4.
18. Askarian M, Mirzaei K, Mundy LM, McLaws M-L. Assessment of knowledge, attitudes, and practices regarding isolation precautions among Iranian healthcare workers. *Infection Control & Hospital Epidemiology.* 2005;26(01):105-8.