

## Knowledge of Iranian nurses about HIV/AIDS: A cross sectional study from Bandar Abbas

Laleh Hasani<sup>1</sup>, Teamur Aghamolaei<sup>1</sup>, Sedigheh Sadat Tavafian<sup>2\*</sup>, Abdolnabi Sabili<sup>1</sup>

<sup>1</sup> Department of Public Health, Hormozgan University of Medical Sciences, Bandar Abbas, Iran

<sup>2</sup> Department of Health Education, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran

### ABSTRACT

**Background:** Surveying knowledge of nurses about HIV/AIDS can provide an evidence for designing appropriate educational program. This study aimed to investigate the knowledge of a sample of Iranian nurses about patients living with HIV/AIDS in Bandar Abbas, Iran.

**Materials and methods:** In this cross sectional study, 150 nurses completed two questionnaires, one dealing with demographic data and the other inquiring knowledge of nurses about HIV/AIDS based on existing instruments developed by Eckstein in 1987.

**Results:** The mean age of studied sample was  $31.9 \pm 8.2$  years. At the time of the study, 63.3% of the respondents had previously cared HIV-infected subjects. Most of the participants (99.3%) knew that drug abusers were at higher risk for HIV acquisition. Most of the participants (97.3%) also answered correctly that person with HIV could be asymptomatic but still infected. Finally, 29.3% thought that recapping used needles is a good way to prevent HIV infection. Those who had participated in educational program had higher overall scores of knowledge than non-participants ( $10.09 \pm 2.18$  vs.  $9.66 \pm 2.32$ ,  $p=0.002$ ).

**Conclusion:** Results revealed that those previously taken part in educational programs had good knowledge about HIV/AIDS.

**Keywords:** HIV/AIDS, Knowledge, Nurse.

(Iranian Journal of Clinical Infectious Diseases 2010;5(3):161-165).

### INTRODUCTION

HIV/AIDS is a life threatening illness with no available curative treatment (1). During the year 2007, about 33 million HIV-infected people, 2.7 million new cases of HIV and 2 millions of AIDS-related deaths were living worldwide (2).

The association between knowledge regarding HIV/AIDS and positive attitudes towards caring these patients was reported in previous studies

(1,3). These studies showed that improvement in knowledge and attitudes of nurses regarding HIV/AIDS could enhance protective behaviors (1,3).

The HIV epidemic in Iran appears to accelerate at an alarming rate. The high rate of 16090 newly diagnosed HIV infections showed a 3-time increase while comparing this rate during the years 1999-2000 (4).

Although HIV transmission among healthcare workers might probably occur by exposure to contaminated blood through injection, it has been

Received: 4 April 2010 Accepted: 9 May 2010

**Reprint or Correspondence:** Sedigheh Sadat Tavafian, PhD.  
Faculty of Medical Sciences, Tarbiat Modares University,  
Tehran, Iran. P.O. Box 14115-331.

**E-mail:** tavafian@modares.ac.ir

estimated that the rate of HIV contamination through such exposure is about 0.3% (4,5-7).

Many studies have documented health care providers' views about HIV/AIDS patients and the ways of contamination (8-10). Despite positive attitudes of health care providers towards HIV patients, poor communication between patients and health care providers is still as a major health challenge (11).

Since health care professionals including nurses have the responsibility of educating people about the ways of HIV contamination, their knowledge regarding HIV/AIDS patients play an important role in communicating with patients. The purpose of this study is to assess the knowledge of nurses living in Bandar Abbass about patients living with HIV/AIDS.

## PATIENTS and METHODS

This was a cross-sectional study conducted in Bandar Abbas, Iran during the year of 2007. Using stratified sampling method, 150 nurses were selected from three teaching hospitals. Data were collected by means of two questionnaires. The first one dealt with self-administered questionnaire regarding demographic variables such as age, sex, marital status, education level, and duration of caring HIV patients, however, the other was an instrument originally developed by Eckstein (1987) in order to measure knowledge and attitudes regarding HIV/AIDS. In this study we used only the questions related to knowledge. This part of questionnaire was composed of 33 questions regarding HIV knowledge that are summarized in table 2. To enhance the validity of responses and to ensure clear interpretation, the questionnaire was pretested among a small randomly sample of nurses and each item was reviewed for its applicability to the Bandar abbass population. This instrument was translated to Farsi through forward backward. Then minor changes were made. It revealed a Cronbachs alpha coefficient of 0.81.

Collected data were analyzed using SPSS software version 13 (SPSS Inc., USA). Student's *t*-test and one-way analysis of variance (ANOVA) were used, when appropriate.

The research project was approved by the Research Ethics Committee of Hormozgan University of Medical Sciences, however, written informed consent was signed by all participants.

## RESULTS

The study population included 120 female and 30 male nurses with the mean age of  $31.9 \pm 8.2$  years while 102 (68%) were married.

Of 150 subjects, 82(54.3%) had participated in educational programs prior to the study. Those participating in educational programs had overall higher scores of knowledge than non-participants ( $10.09 \pm 2.18$  vs.  $9.66 \pm 2.32$ ;  $p < 0.001$ ). Table 1 shows the frequency of correct answers among nurses. We categorized the participants according to mean score of knowledge, thus, scores ranged 0 to 15 were considered as weak, 16 to 22 as moderate and 23 to 33 as good knowledge. There was no statistically significant relationship between knowledge and experience of HIV patient caring (NS).

This study showed no statistically significant relationship between level of knowledge and educational level ( $p = 0.58$ ), age ( $p = 0.46$ ), and years of HIV patient caring ( $p = 0.16$ ). Meanwhile, gender discrepancy was not associated with higher level of knowledge ( $p = 0.19$ ).

## DISCUSSION

Given the importance of minimizing the risk of HIV transmission, adequate knowledge about this disease and the ways of its transmission is warranted. However, up to now, there is little evidence regarding the knowledge of nurses about AIDS patients.

**Table 1.** Correct response of different items of knowledge

Item	Statement	Correct response	Frequency of correct response	Percentage of correct response
1	HIV/AIDS can be transmitted by casual contact.	F	142	94.7
2	Pneumocystic carinii can cause HIV/AIDS.	F	99	66
3	Heterosexual women do not get HIV/AIDS.	F	132	88
4	HIV/AIDS has been transmitted to people receiving blood transfusion.	T	130	86.7
5	The greatest risk of exposure to HIV/AIDS is caring for an incontinent patient with HIV/AIDS.	F	58	38.7
6	Intravenous drug abusers are considered to be at risk for contracting HIV/AIDS.	T	149	99.3
7	The HIV/AIDS virus is very difficult to kill with disinfectant in the environment.	F	64	42.7
8	The incubation period for HIV/AIDS is 2-5 weeks.	F	121	80.7
9	HIV/AIDS is highly contagious	F	107	71.3
10	People with HIV/AIDS should have separate bathroom/toilet facilities.	F	117	78
11	HIV/AIDS is characterized by a decrease in T <sub>4</sub> lymphocytes, causing an impaired cellular immunity.	T	109	72.7
12	A person with antibody to the virus is protected against HIV/AIDS.	F	53	53.3
13	Opportunistic infections (such as <i>Candida esophagitis</i> ) in a previously healthy person is suggestive of HIV/AIDS.	T	45	30
14	Numerous cases of HIV/AIDS have been reported among nurses and midwives.	T	81	54
15	The sexual partners of a person with HIV/AIDS should be blood precaution if hospitalized	T	121	80.7
16	Gloves are not necessary when handling the specimen of a patient with HIV/AIDS.	F	120	80
17	Following an accidental needle stick, there is a greater likelihood of infection with hepatitis B virus than with HIV/AIDS.	T	117	78
18	Persons with HIV can be asymptomatic, but still infectious.	T	146	97.3
19	It is possible to transmit the virus to family members of a nurse providing care for persons with HIV/AIDS, even though the nurse is not infected.	F	77	51.3
20	HIV/AIDS has been transmitted to blood donors during blood transmission.	F	52	34.7
21	The risk of infection with the HIV/AIDS virus after an accidental needle stick is high.	F	52	34.7
22	An individual may be infected with the HIV/AIDS virus even if the test for an antibody is negative.	T	103	68.7
23	The average length of time from the diagnosis of HIV/AIDS until death is 5 years.	F	88	58.7
24	There are many more people infected with HIV than actual AIDS.	T	133	88.7
25	The risk of infection with HIV/AIDS among nurses is high.	F	12	8
26	Gloves and gowns are required for any contact with patients with HIV/AIDS.	F	72	48
27	People with HIV/AIDS should have different waiting rooms before admission to the ward.	F	115	76.7
28	HIV/AIDS is caused by a retrovirus known as HTL VIII/LAV.	T	58	38.7
29	One should suspect the diagnosis of HIV/AIDS in young persons who present with Kaposi's sarcoma.	T	61	40.7
30	The risk of transmission of the HIV/AIDS virus during mouth to mouth resuscitation is extremely low.	T	123	82
31	Members of the high-risk groups for HIV/AIDS are permitted to donate blood if they test negative for the antibody to the virus.	F	72	48
32	It is appropriate to use blood precautions on anyone known to be from HIV/AIDS high risk group (such as a hemophilic admitted for a tooth extraction) even though they do not have a diagnosis of HIV/AIDS.	T	137	91.3
33	To prevent accidental injury, contaminated needles should be recapped immediately after use on patients with HIV/AIDS.	F	44	29.3

This study aimed to investigate the knowledge of nurses with regard to HIV infection and AIDS disease in Hormozgan province, Iran.

Our study showed that the level of nurses' knowledge was moderate. Our finding is in agreement with some other studies (13,14), while disagreed the others (15,16) in which level of knowledge was reported low. Although this study revealed that the mean score of knowledge among men was higher than women, the difference did not reach a statistically significant level. This is in agreement with Montazeri study (17).

In contrary to other studies, there was no relationship between knowledge and the level of nurses' literacy (1,17,20,21). Even though not significant, this study showed the mean score of knowledge was higher in younger participants. In contrast, other studies failed to show association between age and knowledge of nurses (16,22), however, some studies showed older nurses had higher level of knowledge regarding HIV infection (17).

In general, as expected, this study showed those who had higher level of education and were younger had obtained more knowledge about HIV/AIDS. A recent study showed that level of education, age and gender were associated with the number of questions answered correctly (23). According to the results of this study, there is considerable rationale to include HIV/AIDS education as an integral part of nursing curriculum. Moreover, educational advisors and physicians should intervene in educating nurses about different modes of HIV prevention.

In conclusion, our findings provide basic information on AIDS knowledge among nurses working in teaching hospital of Bandar-Abbas. Unexpectedly, moderate knowledge about AIDS still exists. Since higher educated nurses had higher knowledge, addressing more health education programs for the nurses is recommended.

## ACKNOWLEDGEMENT

This study was approved and funded by the Research Committee of Hormozgan University of Medical Sciences. The authors would like to thank Deputy of Research for their financial supports.

## REFERENCES

1. Mahat G, Eller LS. HIV/AIDS and universal precautions: knowledge and attitudes of Nepalese nursing students. *J Adv Nurs* 2009;65(9):1907-15.
2. UNAIDS/WHO Joint United Nations Program on HIV/AIDS. Epidemiological global facts and figures. August 2008. Available at <http://www.unaids.org/hivaidinfo/statistics/fact-sheets/pdfs/fs-mena-en-pdf>.
3. Veeramah V, Bruneau B, McNaught A. Exploring knowledge and skills on HIV in student nurses and midwives. *Br J Nurs* 2008;17:186-91.
4. Askarian M, Hashemi Z, Jaafari P, Assadian H. Knowledge about HIV infection and attitude of nursing staff toward patients with AIDS in Iran. *Infect Control Hosp Epidemiol*. 2006;27:48-53.
5. Do AN, Ciesielski CA, Metler RP, Hammett TA, Fleming PI. Occupationally acquired human immunodeficiency virus (HIV) infection: national cases surveillance data during 20 years of the HIV epidemic in the United States. *Infect Control Hosp Epidemiol* 2003;24:86-96.
6. Mendelson MH, Lin-Chen BY, Solomon R, Bailey E, Kogan G, Goldbold J, et al. Evaluation of a safety resheathable winged steel needle for prevention of per coetaneous injuries associated with intravascular-access procedures among health care workers. *Infect Control Hosp Epidemiol* 2003;24:105-12.
7. Cardo DM, Culver DH, Ciesielski C, Srivastava MS, Marcus R, Abiteboul D, et al. A case-control study of HIV sero conversion in health care workers after per coetaneous exposure. *N Engl J Med* 1997;337:1485-90.
8. Chan KY, Stooove MA, Reidpath DD. Stigma, social reciprocity and exclusion of HIV/AIDS patients with illicit drug histories: A study of Thai nurses' attitudes. *Harm Reduct J* 2008;5:28.
9. Deacon H, Boule A. Commentary: Factors affecting HIV/AIDS-related stigma and discrimination by medical professionals. *Int J Epidemiol* 2007;36:185-86.
10. Dieleman M, Bwete V, Maniple E, Bakker M, Namaganda G, Odaga J, et al. I believe that the staff have reduced their closeness to patients': an exploratory

study on the impact of HIV/AIDS on staff in four rural hospitals in Uganda. *BMC Health Serv Res* 2007;7.

11. Driessche KV, Sabue M, Dufour W, Behets F, Van Rie A. Training health care workers to promote HIV services for patients with tuberculosis in the Democratic Republic of Congo. *Hum Resour Health* 2009;7:23.

12. Melby V, Boore JR, Murray M. AIDS, knowledge and attitudes of nurses in northern Ireland. *J Adv Nurs* 1997;17:1068-77.

13. Dijkstra A, kangawaza E, Martens C, Boer H, Rasker JJ. Knowledge about HIV/AID and policy knowledge in a south African state hospital. *Journal of Social Aspects of HIV/AIDS*. 2007;4:636-39.

14. Taghizade M. Attitude and knowledge Of adolescent girls about prevention of HIV/AIDS. *Nurse J India*. 2005;96(2):40-2.

15. Askarian M, Mirzaei K, Cokson B. Knowledge, attitudes, and practice of Iranian dentists with regard to HIV related disease. *Infect Control Hosp Epidemiol*. 2007;28:83-87.

16. Acaroglu P. Knowledge and attitudes of mariners about AIDS in Turkey. *J Assoc Nurs AIDS Care* 2007;18:48-55.

17. Montazeri A. AIDS knowledge and attitudes in Iran: results from a population – based survey in Tehran. *Patient Education and Counseling* 2005;57:199-203.

18. Quek JT, Li SC. A study of the effectiveness of AIDS health education interventions among the adolescent population of Singapore. *Singapore Med J* 2002;43:359-64.

19. Tavoosi A, Zaferani A, Enzevaei A, Tajik P, Ahmadinezhad Z. Knowledge and attitude towards HIV/AIDS among Iranian students. *BMC Public Health* 2004;4:17.

20. Lanovette NM, Noelson R, Ramamonjisoa A, Jacobson SH, Jacobson JM. HIV/AIDS related knowledge, awareness, and practice in Madagascar. *Am J Public Health* 2003;93:917-9.

21. Walusimbi M, Okonsky JG. Knowledge and attitude of nurses caring for patients with HIV/AIDS in Uganda. *Appl Nurs Res* 2004;17(2):92-99.

22. Adebajo SB, Bamgbala AO, Oyediran MA. Attitudes of health care provider to persons living with HIV/AIDS in logos state. *Afr J Reprod Health*. 2003;7(1):103-12.

23. Aghamolaei T, Tavafian SS, Hasani L, Zare Sh. Attitudes of healthcare providers towards patients with HIV/AIDS in Bandar Abbas. *Arch Iran Med* 2009; 12(3):298–301.

24. Ayranci U. AIDS knowledge and attitudes in a Turkish population: An epidemiological study. *BMC Public Health* 2005;5:95.