



Research paper

Investigating the predictors of routine HIV screening behaviors in nurses based on theory of reasoned action

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ABSTRACT

Introduction: Adequate awareness and a positive attitude of nurses about HIV/AIDS can lead to better care and the provision of accurate information to the general public. Misconceptions about HIV/AIDS infection can affect the attitudes of healthcare staff and inappropriately affect the quality of care.

Aim: The present study aimed to investigate the factors predicting the routine HIV screening behaviors in nurses based on the theory of reasoned action.

Material and methods: This descriptive-cross-sectional study was conducted on 131 nurses working in Vali-e-Asr hospital in Fasa, Iran. The samples were selected by simple random method. Three 75-item standard questionnaires were also used to collect data, including 15 questions on attitudes, 30 questions on the nurses' knowledge, and 30 questions on the nurses' performance.

Results and discussion: In total, 30 male (22.9%) and 101 (77.1%) female nurses entered in the study. Also, 65.6% of participants were 18–29 years and 48.9% (64) were working in emergency department. The mean attitude and knowledge were calculated to be 20.69 ± 3.17 points and 20.98 ± 4.78 points, respectively. Also, the mean of performance, behavioral control, intention, and subjective norms were calculated to be 84.63 ± 8.06 points, 24.56 ± 2.29 points, 63.93 ± 6.68 points, and 30.53 ± 3.27 points, respectively. The results of the present study indicated a significant relationship between the work experience with their attitude ($P = 0.03$) and knowledge ($P = 0.001$) as well as between the age and performance ($P = 0.002$).

Conclusions: In the present study, the mean score of attitude, knowledge and performance was found to be moderate; thus the educational intervention seems necessary.

1. INTRODUCTION

The health staffs are the group at higher risk for occupational infection due to their contact with the blood and fluids of the patients and performing injections without preventive measures. Their knowledge of the disease transmission, especially blood transmissible diseases like HIV, is very important.^{1,2} Although occupational HIV infection risk is low, even one pierce of a needle infected with the blood of the HIV-positive into the hand of a healthy person have an infection likelihood of approximately 3%.^{3,4}

Incorrect beliefs about AIDS might influence the attitude of the healthcare staff and significantly decrease the quality of care.^{5,6} Studies have shown the low knowledge and performance of nurses regarding the prevention of the disease,^{7,8} so a large gap between the knowledge and performance.^{9,10} Since there is currently no vaccine for the AIDS and thus an incurable disease, prevention through education is the only way to fight against it. Moreover, the first step in health education is to provide people with the knowledge of the disease and then to create attitudes and beliefs that finally change the behaviors. Such education programs are successful when they are based on the realities of the society.^{11,12} In health education, the more proper theoretical supports are provided along with basic hygienic requirements, the more effective the educational programs will be. Also, the use of educational theories in proportion to the study population and the expected results can be beneficial.¹³ Based on the previous studies, the theory of reasoned action is one of the best models and theories related to the attitude and behavior.^{14,15} This pattern is laid upon the foundation of a psychological theory. The main assumption of the theory is that, first of all, the individuals make decision based on a rational evaluation of the available information and, secondly, evaluate the outcomes of their performance before making decision.¹⁶ Based on the theory of reasoned action, the most important determinant of an individual's behavior is the behavioral intention.

In a study by Sutherland et al., 25.3% of the subjects had the routine screening and 48.2% had the intention to do so.¹⁷ In a study by Tung et al. on 133 Chinese students, 41.4% thought HIV could be transmitted through insects' sting and 22.6% did not know that the use of condom may prevent the transmission.¹⁸ The results of another systematic review on 24 studies, with a sample volume of 24011, indicated that the knowledge and attitude should be improved.⁴ Thus, based on the theory of reasoned action, the most important determinant of a behavior is the behavioral intention.

2. AIM

Given the importance of routine HIV screening in the nurses, the present study aimed to investigate the factors predicting the routine HIV screening behaviors in nurses based on the theory of reasoned action.

3. MATERIAL AND METHODS

This descriptive-cross-sectional study was conducted on 131 nurses working in Vali-e-Asr hospital in Fasa, Iran. The samples were selected by simple random method.

Three 75-item standard questionnaires were also used to collect data. The validity of the questionnaires had been evaluated by the medical, nursing and epidemiology experts. Also, the reliability of the questionnaires had been previously confirmed (Cronbach's α coefficients of the knowledge and attitude were 0.76 and 0.74, respectively). The questionnaires consisted of 85 questions, including 10 questions on demographic information and 75 questions on the knowledge, attitude, and performance. The questions on the performance included 6 questions of behavioral control (scored 6–30 points), 7 questions of subjective norms (scored 7–35 points), and 18 questions of intention (scored 18–90 points).

All of the nurses working in emergency department, gynecology ward, pediatrics unit, internal recovery ward, surgery, operating room, heart ICU, nursing office, dialysis unit, and delivery room as well as those who had not previously participated in any screening program were entered into the study.

The exclusion criteria were unwillingness to participate and uncompleted questionnaires. Sample size was selected based on the previous studies with a 95% confidence and 80% test power. After the questionnaires were completed by the nurses, the information was inserted into SPSS software v. 21, and analyzed using χ^2 , *t*-test, and Mann-Whitney test (in case of non-normality of the data distribution).

4. RESULTS

Overall, 30 male (22.9%) and 101 (77.1%) female nurses entered in the study. Also, 86 (65.6%) of participants were 18–29 years and 64 (48.9%) were working in emergency department (Table 1).

The mean score of the attitude towards performing routine HIV screening was 20.69 ± 3.17 points and no significant difference was observed between male and female nurses ($P = 0.078$). Furthermore, the mean scores of the different age groups were identical ($P = 0.13$). The attitudes of the nurses from different departments toward performing routine HIV screening behaviors were not significant different ($P = 0.74$). It was while the work experience was found effective in the attitude score so that the highest and lowest attitudes were of the nurses with a work experience of 10–20 years and less than 1 year, respectively ($P = 0.032$).

In the present study, the mean score of the knowledge of routine HIV screening behaviors was 20.98 ± 4.78 points. The mean of knowledge was also 20.90 ± 5.04 points and 21.26 ± 3.82 points in female and in male nurses, respectively, with no significant difference between them ($P = 0.83$). Moreover, the mean score of the performance was 84.63 ± 8.06 points, with a significant difference between the differ-

Table 1. Demographic information and the mean score \pm SD (in points) of behavioural control, intention, and subjective norms.

Variable	N(%)	Behavioral control	P value	Intention	P value	Subjective norms	P value
Gender							
Male	30(22.9)	23.82 \pm 2.43	0.06	64.44 \pm 6.77	0.67	29.30 \pm 3.20	0.01*
Female	101(77.1)	24.78 \pm 2.22		63.79 \pm 6.69		30.92 \pm 3.20	
Age							
18–29 years	86(65.6)	24.33 \pm 2.39	0.25	62.82 \pm 6.68	0.02*	30.06 \pm 3.42	0.07
30–39 years	40(30.5)	24.97 \pm 2.14		66.42 \pm 6.30		31.44 \pm 2.93	
40–49 years	5(3.8)	25.40 \pm 0.89		62.33 \pm 4.04		31.80 \pm 0.83	
Work place							
Emergency	64(48.9)	24.44 \pm 2.33	0.65	63.53 \pm 6.89	0.63	30.42 \pm 3.30	0.84
Out-patient	24(18.3)	24.41 \pm 1.79		63.38 \pm 5.31		30.38 \pm 3.20	
General treatment	43(32.8)	24.83 \pm 2.51		64.76 \pm 7.13		30.78 \pm 3.30	
Work experience							
Less than 1 year	19(14.5)	24.15 \pm 1.70	0.01*	64.05 \pm 7.26	0.88	31.64 \pm 3.12	0.009*
1–5 years	75(57.3)	24.14 \pm 2.67		63.55 \pm 6.65		29.67 \pm 3.30	
5–10 years	30(22.9)	25.60 \pm 1.32		64.80 \pm 7.04		31.65 \pm 3.08	
Over 10 years	7(5.3)	25.57 \pm 0.78		63.80 \pm 3.48		31.85 \pm 0.89	

Comments: * A $P < 0.05$ is considered as significant.

ent age groups ($P = 0.002$) so that the highest and lowest performance score was of the age groups of 30–39 (88.53 \pm 5.99 points) and 18–29 years (82.82 \pm 8.44 points), respectively.

The mean score of the behavioral control was 24.56 \pm 2.29 points, and there was with a significant difference between the behavioral control and work experience ($P = 0.01$). As for the gender, age, and work place, no significant difference was observed. The mean score of the intention was 63.93 \pm 6.68, and a significant relationship was observed between the intention and the age so that the highest score was of the nurses 30–39 years. In addition, the mean score of the subjective norms was 30.53 \pm 3.27, which was significantly higher in the female than male ($P = 0.01$).

5. DISCUSSION

Based on the results of the present study, the age had no effect on the nurses' attitude. Although the attitude was a little improved with the increase in age, the difference was not significant. In terms of the work place, all nurses working in emergency, out-patient, and general treatment units had similar attitudes towards the routine HIV screening. In the present study, there was a significant relationship between the work experience and the attitude so that the nurses with a work experience of over 10 years and less than 1 year had the highest and lowest score of attitude, respectively. Nevertheless, all nurses with different work experience had a moderate score of attitude.

It was made clear in a study by Li et al. that the nurses' attitudes towards HIV is in a good level. Also, it was suggested that 94% of the nurses sympathize with the HIV patients.¹⁹ The nurses' feelings towards the patients were not evaluated in

the current study and it can be investigated in future studies. The study by Kazeruni et al. showed that the nurses moderate knowledge and attitude towards HIV. Moreover, no significant relationship was found in their study between the knowledge and attitude with age, gender, marital status and workplace.²⁰

The mean score of the attitude towards HIV in a study by Shamsipour et al.⁵ was 77 out of 100, which was higher than that of the present study. In their study, the study population was consisted of university students, and data collection tools were different from those of the present study. It was made clear in the study by Yazdi et al. that the attitudes of nursing students towards HIV are not in a good level. Also, there was no significant difference between the male and female students regarding the attitude, which was consistent with the results of our study.²¹

In the present study, the knowledge of the nurses was found to be moderate. Also, there was no significant association between the knowledge and attitude with the age, gender and workplace. However, a significant association was observed between the knowledge and work experience. The nurses with a work experience of over 10 years and less than 1 year had the highest and lowest score of knowledge, respectively. It was assumed at first that the nurses with few work experience would have a high level of knowledge due to the fact that not much time has elapsed since their graduation, but the assumption was not confirmed. It can be concluded that the nurses' closeness to the patients and their presence in the hospital have led to a high level of knowledge regarding the HIV. According to the results of the present study, since knowledge leads to attitude, there is a strong relationship between the knowledge and attitude.

In a study by Kocić B et al., the healthcare staff had and appropriate knowledge of AIDS and its transmission, which

could be attributed to appropriate educational programs.⁷ As mentioned earlier, the nurses who had previously participated in the educational programs were allowed to enter the study and this is why the attitude and knowledge in the abovementioned study were higher than that of our study. In the study by Yazdi et al., and Nall et al., showed that the attitudes of participants towards HIV are not in a good level. Also, there was no significant difference between the male and female students regarding the attitude, which was consistent with the results of our study.^{21,22} In the present study, the mean score of attitude, knowledge and performance was found to be moderate. In a study by fun et al and by Siuki et al., the subjects had appropriate knowledge and performance regarding the AIDS.^{23,24} In these studies, the appropriate knowledge comes after the necessary education, which was not consistent with our study. In the present study, the behavioral control was in an appropriate level so that the subjects could obtain approximately 82% of the total score. Also, the study results indicated that gender, age and workplace have no effect on the behavioral control. It is while the work experience had a significant relationship with the behavioral control.

6. CONCLUSIONS

Although the education of different high-risk groups, especially the healthcare staff, on the AIDS and its transmission is very important, there is still much to do. The insufficient knowledge of AIDS and its transmission adversely influences its transfer trend. The present study warns the necessity of programs aimed to increase the knowledge of nurses regarding the disease, its transmission, and attention to the individuals' attitudes towards the solutions for changing the negative attitudes.

Conflict of interest

Authors have no conflict of interest.

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