

Evaluation of the self-care needs in knowledge, belief and behavior in male students regarding protection against HIV

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Abstract

Introduction: Little information is available on the conditions and reproductive and sexual health needs of young men. Therefore, the need for self-care in this field among adolescents/young men seems to be necessary. We aimed to investigate the need for self-care related to the knowledge, beliefs and behavior of male students regarding the protection against of HIV.

Material and methods: In a cross-sectional study, the male students were selected by random sampling about 350 among the male students of the Isfahan University of Medical Sciences in 2019. Data collection tools included a demographic characteristics questionnaire and a researcher-made questionnaire on the self-care needs related to the knowledge, belief, and behavior regarding prevention of human immunodeficiency virus (HIV) and sexual behaviors.

Results: The first self-care priority in the domain of HIV knowledge was the following phrase: "Familiarity with the ways of rapid diagnosis of HIV by the individual", in the context of belief "Type, number, and duration of sexual intercourse do not influence the transmission of STIs" and in the domain of behavior "The need to be able to perform rapid HIV tests on my own".

Conclusions: We recommend to health officials and universities to implement more effective and comprehensive interventions based on the needs of male students can increase the effectiveness of self-care programs in the field of reproductive, sexual health and practice for protection against HIV/STD in young men.

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Key words: self-care, HIV, male students.

Introduction

The issue of human immunodeficiency virus (HIV) has been one of the most challenging health subjects in recent times, particularly in many developing countries. The United

Nations Programme on AIDS (UNAIDS) reported that there were approximately 36.9 million people with HIV/acquired immune deficiency syndrome (AIDS) [1]. Iran is also one of the countries in the Middle East facing the AIDS crisis [2].

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Young people are the main group prone to contracting AIDS worldwide [3], while studies have indicated that the people, especially men, need fertility and sexual health education and services and are exposed to HIV, and the frequency of unmet needs for sexual health counselling in men has been reported as 62.63% [4]. Given the importance regarding infection of young people with the disease and its potential social, economic, and political risks, unfavorable levels of knowledge and attitudes at various levels of society, especially among university students (as a younger generation) are among the barriers to AIDS prevention. Thus, there is a need for regular monitoring of knowledge and attitudes in different population groups, especially among young people [5].

High-risk behaviors such as having sex with prostitutes and regular and unplanned sexual activity were found to be low among medical students, although the prevalence of such behaviors was also low. Therefore, behavioral modification programs are recommended to be tailored with respect to the needs of medical students for sexual education and condom use, as they are the future educators in the community [6]. Research has also shown that unsafe sexual behaviors are higher in men than women [7]. Iran's health care system is also focused on mothers, and existing studies on men's reproductive and sexual health needs are limited to their role in family planning. Therefore, little information is available on the conditions and reproductive and sexual health needs of men, especially young men [8]. Therefore, the need for self-care in this field among adolescents/young men seems to be necessary [9], which requires the promotion of knowledge, vision, and sexual function of the youth and men; thus, effective educations and interventions are needed in this regard [10].

Effective and correct programs and interventions achieving the ultimate and specific goals begin with needs assessment. Studies have shown that having effective communication with young and active people in terms of sexual relations and surveying them along with increasing their knowledge and insight can be effective in preventing high-risk behaviors [11]. Therefore, education based on needs assessment and considering the traditional and religious culture should be implemented to improve and promote health in men. Therefore, in this study we aimed to estimate the self-care needs related to the knowledge, belief, and behavior of male students regarding protection against of HIV.

Material and methods

Design, setting and sample

This is a cross-sectional study and is part of a grant study with an educational approach based on Orem's self-care theory. The four stages of the Orem model include review and cognition (needs assessment), planning, implementation of self-care, and evaluation of the program [12]. In this study, the stage of review and recognition or needs assessment was performed among the 350 male students of the Is-

fahan University of Medical Sciences in 2019. The participants were selected by the systematic quota and random sampling. Inclusion criteria included the willingness to take part in the research, and male students in the fourth semester onwards, as well as medical, dental and, pharmaceutical students.

Measures

Data collection tools included a demographic characteristic (age, field of study, academic semester, marital status, history of substance use, having sex) and a researcher-made questionnaire on the self-care needs related to the knowledge, belief, and behavior regarding protection against of HIV and sexual behaviors. Regarding the design of the questionnaire on the self-care needs, the questionnaire included the following domains: knowledge (13 items), belief (12 items), and behavior (8 items) needs regarding HIV protection (10 items). The survey was carried out on 12 professors and experts in the field of studies on high-risk sexual behaviors and HIV. The questionnaire was given to the group of experts via email. Responses of the expert panel were coded as "necessary", "useful but unnecessary", and "unnecessary". Then, the questionnaire was designed by collecting the opinions of the experts and their approval was obtained. According to Lawshe's table [13], each score that received a content validity rate (CVR) score of more than (56%) was labeled as "necessary" at a 0.05% significance level and was evaluated and retained if necessary. The content validity index (CVI) score above 0.79 was found to be appropriate [14]. Finally, a questionnaire on the self-care needs related to the knowledge (8 items), belief (8 items), and behavior (5 items) was developed. Each item was prioritized and number one was considered as the highest priority and the last number was considered as the lowest priority. The re-test reliability of 0.87 was obtained by 20 male students two weeks after completing the first questionnaire. The procedure was as follows: First, the researcher referred to the Faculty of Medicine, Dentistry, and Pharmacy. Then, among all the classes of the first semester in the 2019-2020 semester, the researcher collected the information from 3 classes in the Faculty of Pharmacy, 3 classes from the School of Dentistry, and 5 classes from the Faculty of Medicine (due to having more students). The students were selected based on the last even or odd number of the student numbers randomly and systematically. Initially, after gaining informed consent, the demographic characteristics questionnaire and questionnaires on the self-care needs in three areas of knowledge, belief, and behavior concerning HIV, were distributed and completed by the students. The data were analyzed using SPSS software version 22 and analyzed by descriptive statistics (absolute and relative frequency distribution and percentages) and inferential statistics (Spearman correlation test, ANOVA).

Ethical considerations

This study was approved by the ethical committee of Isfahan University of Medical Sciences. Considerations including attaining informed written consent from the par-

ticipants to attend the study, respecting anonymity and confidentiality, and students' right to leave the study whenever they liked were all respected.

Results

The findings of the study showed that the mean age of the students was 22.3 ± 2.42 and 288 (82.28%) were single (Table 1). As the results showed, according to the mean (SD) 3.52 (1.88) of self-care needs priority in the domain of HIV knowledge, the first priority for students was the following phrase: "Familiarity with the ways of rapid diagnosis of HIV by the individual" (Table 2).

Moreover, as the results showed, according to the mean (SD) 3.76 (2.78) of self-care needs priority in the domain of HIV belief, the first priority for students was the following phrase: "Type, number, and duration of sexual intercourse do not influence the transmission of STIs" (Table 3). According to the findings, according to the mean (SD) 2.42 (0.89) of self-care needs priority in the domain of behavior related HIV, the first priority for students was the following phrase: "The need to be able to perform rapid HIV tests on my own" (Table 4). The results of Spearman correlation test showed that there was a direct correlation between the self-care needs in the domain of knowledge and having sex ($p < 0.001$, $r = 0.5$), history of drug use ($p = 0.005$, $r = 0.4$), academic semester ($p < 0.001$, $r = 0.6$) and age ($p < 0.001$, $r = 0.4$). The results of Spearman correlation test showed that there was a direct correlation between the self-care needs in the domain of belief and academic semester ($p < 0.001$, $r = 0.3$) history of drug use ($p = 0.005$, $r = 0.2$). The results of Spearman

Table 1. Demographic characteristics of the students

Variable	n (%)
Field of study	
Medical	176 (50.28)
Dental	87 (24.85)
Pharmaceutical	87 (24.85)
Academic semester	
5 th	71 (20.28)
7 th	72 (20.57)
11 th	74 (21.14)
6 th	68 (19.42)
8 th	65 (18.57)
History of substance use	
Yes	100 (28.57)
No	200 (57.14)
Without response	50 (14.28)
Having sex	
Yes	179 (51.14)
No	71 (20.28)
Without response	100 (28.57)

Table 2. Mean of the Priority of self-care needs in the domain of Knowledge towards HIV in students

Domain	Phrase	Priority								Mean (SD) Order
		1	2	3	4	5	6	7	8	
Knowledge about HIV	Types of infections and ways for their transmission to the male reproductive system	6.00	6.70	12.00	5.70	3.40	9.70	3.90	-	32.30 (2.13) Second
	Need to familiarize with the ways of HIV transmission	14.54	3.00	10.53	11.05	5.00	10.00	43.34	4.00	5.10 (2.23) Eighth
	Effect of drugs and alcohol use on the sexual intercourse	38.00	3.50	19.00	7.33	6.00	1.00	5.00	4.54	73.82 (1.57) Third
	Type of HIV diagnosis (examination, disease symptoms, tests)	35.24	6.30	11.00	9.00	6.50	3.50	7.43	5.00	4.17 (2.39) Fifth
	Full of daring in the face of harmful behaviors	25.07	10.00	1.63	12.00	7.00	2.10	4.87	5.15	4.47 (1.89) Sixth
	Familiarity with the care and control of HIV	32.00	8.10	14.00	11.65	6.65	2.40	2.60	6.00	4.11 (0.68) Fourth
	Ways of rapid diagnosis of HIV by the individual	42.23	8.30	13.00	7.45	5.00	1.50	2.50	4.00	3.52 (1.88) First
	Sexual behavior (healthy-high risk)	20.00	5.30	16.00	10.00	6.60	4.00	6.50	8.43	5 (2.68) Seventh

Table 3. Mean of the Priority of self-care needs in the domain of belief towards HIV in students

Domain	Phrase	Priority								Mean (SD) Order
		1	2	3	4	5	6	7	8	
Attitude towards HIV	Familiarity with the									
	Examination and sampling from the genital warts can cause discomfort in people	4.70	7.00	13.40	7.09	1.00	3.40	4.70	19.00	3.68 (1.29) Fourth
	I am not willing to go to a health care center because I am ashamed of being affected with HIV	22.70	4.06	1.69	1.44	3.00	7.30	2.16	2.80	14.20 (2.56) Fifth
	Timely treatment of HIV promotes the health of a spouse, or a sexual partner	14.05	3.00	10.12	11.21	5.00	10.32	43.65	4.00	5.10 (1.67) Seventh
	Type, number, and duration of sexual intercourse are effective in transmitting STIs	3.91	8.23	14.00	9.40	3.00	3.50	23.00	4.20	3.76 (2.78) First
	If a man or woman becomes infected, they should tell their sexual partner honestly	30.00	6.50	16.00	8.60	2.90	6.00	2.55	4.40	8.90 (3.26) Second
	Using a condom when a person is infected	28.32	4.00	13.90	9.20	3.00	8.40	30.00	3.40	4.16 (1.47) Sixth
	Prevention of HIV infection is more important than its treatment	14.87	3.00	10.00	11.22	5.56	10.00	43.36	4.00	5.10 (1.09) Eighth
HIV diagnosis is nothing more than anxiety	31.00	6.00	12.43	10.00	3.00	7.20	27.08	3.40	4.43 (0.69) Third	

Table 4. Mean of the Priority of self-care needs in the domain of behavior towards HIV in students

Domain	Phrase	Priority					Mean (SD) Order
		1	2	3	4	5	
Performance towards HIV	The need to know what to do if a person or sexual partner is suspected of being infected with HIV	47.00	11.70	17.80	4.70	15.90	32.90 (1.23) Second
	Need to go to a healthcare center or behavioral diseases counseling center to be tested for HIV	39.20	8.60	23.00	5.50	2.60	62.90 (2.01) Fifth
	Need to be able to perform the rapid tests of HIV diagnosis by myself	53.80	7.80	1.69	2.90	12.80	2.42 (0.89) First
	The need to learn how to use healthy sexual practices	46.00	8.40	17.80	7.80	16.70	52.10 (2.08) Third
	Conditions for having sex while acquiring a sexually transmitted disease and treatment	4.20	15.10	15.70	7.10	16.20	2.57 (3.11) Fourth

correlation test showed that there was a direct correlation between the self-care needs in the domain of behavior and having sex ($p < 0.001$, $r = 0.5$), history of drug use ($p = 0.005$, $r = 0.2$), academic semester ($p < 0.001$, $r = 0.7$). Also, the results of ANOVA showed that there was a direct correlation between the self-care needs in the domain of knowledge, behavior and having sex ($p = 0.005$), ($p < 0.001$). The results of analysis of variance (ANOVA) showed that there was a direct correlation between the self-care needs in the domain of belief and academic semester ($p = 0.03$).

Discussion

University students may engage in risky sexual behaviors and substance misuse, that this situation increase their risk of exposure to HIV/AIDS [15]. Therefore, there is a need to battle the pandemic through evidence based approaches that focus on reducing deficiency in knowledge, attitude and response against the infection [16]. Based on these principles, there have been arguments that HIV can be managed through the acquisition of relevant knowledge, realizing

attitudinal change, and practicing basic preventive [15]. In the current study, the majority of the participants selected the phrase of “Need to be familiar with the ways of rapid diagnosis of HIV by the individual” as the first priority was selected as educational needs in the field of HIV knowledge considered by the students. In a study, the results shown that the patients mostly preferred the oral rapid HIV testing (ORHT). They preferred the ORHT (96%) over routine serum-based tests (28%) [17]. The results of a study on men’s reproductive and sexual health needs showed that the first priorities were men’s perceived needs, expressed needs, and unmet needs including prevention skills for the STD and HIV/AIDS, how to receive the counseling services, proper use of contraceptive methods, and how to resist against the peer pressure. It was found that men have many unmet needs regarding their reproductive and sexual health [18]. These findings are consistent with the results of the present study.

Our findings showed that the majority of the participants selected the phrase of “Type, number, and duration of sexual intercourse are effective in transmitting STIs” as the first priority in relation to self-care needs in the field of belief. Also, the phrase of “Prevention of HIV infection is more important than its treatment” was selected as the last priority as educational needs in the field of attitudes towards HIV by the subjects. The officials also pointed out to the latter statement in a study on students’ level of knowledge and attitudes toward the AIDS. However, there are still misconceptions about the ways of spreading, the attitudes of the students, and the students who are directly exposed to the disease [19]. Another study showed that 20.9% of the students had a positive attitude toward the HIV. Negative attitudes such as “All travelers coming from abroad should be tested”, “People with AIDS should not have children”, and “People with AIDS should be quarantined and expelled from society” were seen among the students. Totally, 17.7% of the students did not consider AIDS as a problem, indicating that they were not fully aware of the transmission ways of AIDS, or they were confident in using preventative measures, both of which could be dangerous [5], to some extent as a priority for the participants. In the present study, the attitude was associated with the poor understanding of vulnerability by the subjects. In fact, it was not found that the university acts as a source of protection against major sexually transmitted infections (STIs). There are many factors that go beyond the risk of STIs among adolescents. The university can and should be more effective in increasing the knowledge and correction of the attitudes towards the risk of HIV infection among students as a young and risky group and improve the health of students. In the present study, students were very confident about selecting the phrase of “Prevention is prior to treatment” as one of their last priorities with a very low percentage. The phrase of “Type, number, and duration of sexual intercourse have no effect on the transmission of STIs” was chosen as the first need for self-care in the field of attitudes, indicating their skepticism about safe sex.

The majority of the subjects selected the phrase “Need to be able to perform the rapid tests of HIV diagnosis by myself” as the first priority in relation to self-care needs in the field of behavior. According to the results, the items such as “Need to go to a healthcare center or behavioral diseases counseling center to be tested for HIV” were selected as the last priorities as educational needs in the field of behavior in relation to HIV. Studies have indicated that young people misbehave in relation to sexual activity and health. According to a study, 63% of college boys had more than two sexual partners in one year, and 25% of them did not use a condom at the first sexual intercourse and about 40% of them did not use it at the last sexual intercourse, so they were at risk. They had STDs including HIV [20]. In line with the results of the present study, results of another study also reported on the barriers and facilitators of HIV rapid testing in a small number of high-risk young people who had never been tested for herpes simplex virus (HSV) testing. As they had not received it, they mentioned little understanding of the risk. Participants reported an increase in the availability of ORHT methods as well as free trial tests to facilitate the acceptance of HIV testing by the participants. Young people aged between 18 and 24 years old reported that HIV testing with quick and confidential results encouraged them to have access to the HIV testing services. Early diagnostic approaches should be tailored to increase the access and acceptance of HIV testing services among adults and adolescents [21]. This finding is consistent with the findings of the present study as the subjects selected this item as the first priority regarding the need for self-care in the field of behavior.

The current study showed a significant association between the students’ self-care needs in the domain of knowledge, belief and behavior with having sex and history of drug use. As shown, high risk sexual behavior is considered to be a process by which knowledge, belief, values, beliefs, and social norms about sexuality are acquired. The study of adolescent risk behavior has been motivated by public health concerns such as the prevention of pregnancy and sexually transmitted infections [22]. Research indicated that self-care training about sexual behavior in adolescents increases their knowledge, insight and sexual performance and reduces the incidence of high-risk behaviors. (9). The present study showed a significant association between the participants’ self-care needs in the domain of knowledge, attitude and performance with having sex and academic semester. Correlation between the knowledge, attitude and performance and academic semester of study was observed in previous studies [23, 24].

Limitations

The unwillingness to participate in the research at the beginning of the study was due to the concerns about the disclosure of students’ private issues, which was resolved by the researcher’s interaction with the students. The relative knowledge of the medical students about HIV was one

of the limitations of the study, which may not have influenced the needs for self-care in relation to HIV. Given that all the participants were medical students and the random sampling method was used for their selection, their knowledge of HIV did not influence the overall results.

Conclusions

The results of this study showed that medical students need to acquire special knowledge and skills in maintaining sexual health. They acknowledged sufficient knowledge and skills in the field, familiarity with the ways of rapid detection of HIV, emphasis on telling the sexual partner honestly if a man or woman is infected with HIV, and rapid tests for HIV diagnosis being performed by them. Based on the results, we recommend to health officials and universities to implement more effective and comprehensive interventions based on the needs of university students in the field of HIV prevention and management which can increase the effectiveness of self-care programs in the field of reproductive and sexual health in university students, especially in young male students.

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Conflict of interest

The authors declare no conflict of interest.

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