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Assessment of Awareness of High-Risk Sexual Activities in Male Students of a Medical University

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Quantitative Study

Abstract

Background: High-risk sexual activities are a major social concern. Thus, the present study was conducted with the aim to assess the awareness of male medical students regarding high-risk sexual behaviors.

Methods: This cross-sectional study was performed on 86 male students who had been studying at Shahid Beheshti University in 2018-19. We used a researcher-made checklist. The demographic information of students and their knowledge of sexually transmitted diseases (STDs), STD treatments and prevention methods, and human papillomavirus (HPV) were assessed. They were also asked about their Gardasil and Hepatitis B vaccination stage. The collected data were analyzed in SPSS software.

Results: We found that 58.1% of students were sexually active. Moreover, 37.25% of them reported receiving sex education from their parents or at schools. Although 93% of students knew at least one contraceptive device, 20.9% of them had experienced high-risk sexual relationships, which is significantly high. However, none of the students had acquired an STD. In addition, 89.0% and 75.0% of students had knowledge of STDs and their prevention methods, respectively. 68.19% of students had knowledge about HPV. Students were well informed about vaccines against STDs; however, only 18.6% of them were vaccinated.

Conclusion: Overall, students were well informed. A considerable number of them had experienced high-risk sexual activities. It seems that our high rates are due to the fact that we only assessed medical students. We recommend that authorities in the education system reconsider their attitude toward this issue and include sex education in the medical education curriculum in orderto prevent these infections.

Keywords: Sexually transmitted diseases; High-Risk sex; Human papilloma virus; Prevention; Human immunodeficiency virus; medical students

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Introduction

Young people have a significant role in their society. Thus, every nation needs to be concerned about its young generation's social problems (Afshari, Barzegari, & Esmali, 2017; Altaf et al., 2009). One of these significant social concerns is high-risk activities among the youth (Cook et al., 2010). These activities may lead to physical, psychological, and social problems (Zadeh Mohammadi, AhmadAbadi, Peanahi, & Heydari, 2011; Barikani, 2008). People may be led to high-risk behaviors by their emotion regulation strategies for the suppression of low life satisfaction, anxiety, and low self-esteem. Moreover, hormonal imbalance may also impact people's behaviors (Grunbaum et al., 2002; Khademalhosseini, Ahmadi, & Khademalhosseini, 2015). The prevalence of these behaviors is considerably high in young people (Jakic, Jaric-Klinovski, Leko, & Jakic, 2004; Hallfors, Waller, Ford, Halpern, Brodish, & Iritani, 2004; Altaf et al., 2009). In addition, high-risk activities may be the result of physical, psychological, and social problems and do not threaten the individual alone, but impact the whole society (Atadokht, Ranjbar, Gholami, & Nazari, 2013). Such behaviors include drug and alcohol abuse (Madu & Matla, 2003; Kodjo, Auinger, & Ryan, 2004), careless driving, suicide attempts, smoking, and high-risk sexual activities (Stueve & O'Donnell, 2005).

Several studies have shown that multiple factors lead to high-risk activities in young people especially university students. For instance, students who live independently in a house are more susceptible to high-risk activities than those who live in a dorm or with their parents (Atadokht et al., 2013, Bagheri Nesami, Sabourian Jouybari, Mirani, & Alizadeh, 2015). Moreover, Maziak found that young men have a greater desire to perform high-risk activities than young women such as: smoking (Maziak, 2002). Races and ethnicities are also correlated with high-risk behaviors (Agardh, Cantor-Graae & Ostergren, 2012). For example, some studies have illustrated that young Iranian Kurds smoke a great deal. In contrast, Iranian Turks avoid smoking (Mohammadpoorasl, Abbasi, Allahverdipour, & Modaresi, 2014; Abbasi-Ghahramanloo, Fotouhi, Zeraati, & Rahimi-Movaghar, 2015).

A relationship between field of study at university and desire for high-risk activities has also been reported. For instance, biotechnology students had greater inclination toward high-risk behavior; however, psychology students had little inclination toward such behaviors (Mohammadpoorasl et al., 2014). In addition, some studies assessed the role of media, such as movies, internet, social media, and phone applications, in raising awareness about high-risk sexual activities (Dehghani, Erfanian, Khadivzadeh, & Shakeri, 2019; Odeigah, Rasaki, Ajibola, Hafsat, Sule, & Musah, 2019).

As previously mentioned, high-risk sexual activity is a high-risk behavior. The impact of sexual education on teenagers has been evaluated in various studies. For example, Santelli et al. (2018) report that training if students learn sexual refusal skills at school they will be protected from future sexual assault (Santelli et al., 2018).

The sexual awareness needs of high school students have been evaluated in some previous studies. Smith, Realini, Buzi, and Martinez (2011) found that students needed more information about sexually transmitted diseases (STDs) and preventive ways.

Thus, it is necessary to raise young people's awareness about the social, psychological, and medical impacts of these activities and preventive ways for STD and HPV (Bagheri Nesami et al., 2015; Jackson, Henriksen, & Foshee, 1998).

Moreover, health care providers have to raise awareness about high-risk sexual activities; therefore, it is necessary that medical students, as future health care providers, receive training in this regard.

On account of these facts, the purpose of this survey was to assess knowledge of high-risk sexual activities among male students studying at the School of Medicine of Shahid Beheshti University in Tehran.

Methods

This cross-sectional study was performed on 96 male students who had studied at Shahid Beheshti University in 2018-19. This research was approved by the ethics committee of Shahid Beheshti University with the code number IR. SBMU. REC. 1397. 343. Cochran's formula was used to calculate sample size. By considering that only 50% of students had enough knowledge about high-risk sexual activity and STDs and d: 0.1 and Z: 1.96, the sample size was estimated to be 96 people. These students were surveyed to assess their awareness and attitude regarding high-risk sexual activities and STDs. Only male medical students who had been studying at Shahid Beheshti University were included in the study.

A researcher-made checklist containing 23 items was used in the present study. This checklist was the result of gathering and summarizing standard categories. The validity of the checklist was approved by an expert committee. The checklist includes items on demographic characteristics, and knowledge on the 3 categories of STDs, STD prevention ways, and human papillomavirus (HPV). Moreover, the checklist includes questions on Gardasil and Hepatitis B vaccination stage. Most of the questions were yes or no types. Moreover, during the checklists' assessment, 10 checklists were excluded due to incomplete answers.

Data analysis was performed using descriptive statistical methods (frequency) in SPSS software (version 26; IBM Corp., Armonk, NY, USA).

Results

In this study, we evaluated 96 male students of Shahid Beheshti University. A researcher-made checklist with 23 questions was prepared.

The demographic characteristics items were related to marital status, living situation, students' previous sex education, and their previous sexual experience. Among the students, 12 (14%) were married and 74 (86%) were single. Moreover, 48 (55.8%) of the students lived with their families, 16 (18.6%) lived in a dorm, 2 (2.3%) students had roommates, and 20 (23.2%) students lived independently in a rented house. In addition, 32 (37.2 %) students stated that they had received sex education from their parents or at schools in their teenage years.

They were also asked about their past experiences. We found that 50 (58.1%) students had experienced sexual relationships; 18 (20.9%) of them had experienced high-risk sexual activity. None of them had acquired an STD. Subsequently, their information about STDs were also assessed (Table1).

We also evaluated students' information about STD prevention methods (Table 2).

Table 1. Information about sexually transmitted diseases (n: 86; response rate: 89%)

Item	Answer	n(%)
People may have STDs without any signs or symptoms	Agree	84(97.67)
	Disagree	2(2.33)
STDs are only transmitted through intercourse	Agree	4(4.65)
	Disagree	82(95.34)
Different types of STDs may increase the risk of HIV transmission	Agree	62(72.09)
	Disagree	24(27.90)
STD lesions of the face and throat will not be transmitted to the genitalia	Agree	6(6.97)
	Disagree	80(93.03)

STDs: Sexually transmitted diseases; HIV: Human immunodeficiency virus

Table 2. Information about prevention methods of sexually-transmitted disease (n: 86; response rate: 84%)

Item	Answer	n(%)
Know at least one contraceptive devices	Yes	80(93.03)
	No	6(6.97)
Ask for immediate preventive actions and diagnostic tests after intercourse	Yes	76(88.3)
	No	10(11.7)
Inform their partners when they get an STD	Yes	76(88.3)
	No	10(11.7
Using contraceptive drugs immediately after intercourse may prevent STDs	Agree	58(67.44)
	Disagree	28(32.56)

STDs: Sexually transmitted diseases

In addition, we assessed students' knowledge about HPV (Table 3).

The total frequency of these 3 categories (information about STD, information about preventive methods of STDs, and students' knowledge about HPV) was 80.33%.

Among the students, 70 (81.4%) stated that they were completely vaccinated against hepatitis B. Moreover, although 72 (83.7%) students had known about the preventive effect of the Gardasil vaccine, only 16 (18.6%) of them were vaccinated against HPV.

Finally, we discovered that 44 (51.2 %) students needed more information about STDs and how to prevent them.

Discussion

High-risk sexual activity is a high-risk behavior. In developed countries, education systems (Bagheri Nesami et al., 2015; Jackson et al., 1998) instruct young people and raise awareness about the social, psychological, and medical impacts of these activities.

Sexual activity is a type of high-risk behavior. The health care system in every society is responsible for informing people about high-risk sexual activities and preventive ways for STD and HPV. To reach this goal, health care systems have to instruct health care providers, such as medical students.

Due to these facts, in the present study, we assessed 86 male students of Shahid Beheshti University. Less than half of the students reported receiving sex education from their parents or at schools. We also found that more than half of the students were sexually active. We evaluated their knowledge about STDs and how to prevent them. We discovered that although most of the students knew of at least one contraceptive device, a considerable number of them had experienced high-risk sexual relationships. However, none of the students had gotten an STD. Then, we evaluated their knowledge of STDs, how to prevent STDs, and HPV. We found in our evaluation that that 80.33% of the students had knowledge about these areas, which means students were well informed about STDs and their preventive measures.

Several studies have shown that multiple factors lead to high-risk activities in young people especially university students.

Table 3. Students' knowledge about human papillomavirus (n: 86; response rate: 68%)

Item	Answer	n(%)
People with HPV infection can transmit the disease to others	Agree	22(25.58)
	Disagree	64(74.52)
Using a condom completely prevents HPV infections in both genders	Agree	8(9.30)
	Disagree	78(90.70)
Treatments like cryotherapy can prevent HPV transmission to infected individual's sexual partners	Agree	6(11.7)
	Disagree	80(88.3)

HPV: Human papilloma virus

For example, students' ethnicity and race, their gender, their living status, and their fields of study may affect their attitude toward high-risk behaviors. Although the impacts of these factors are considerable, we did not include them in our study.

In a study performed in Dezful University of Medical Sciences**,** it was reported that 78.1% of students had great awareness about human immunodeficiency virus (HIV) (Maghami, Aghababaeian, Saadati, Daiham, Sadeghi Moghaddam, & Mashalchi, 2012). In addition, 45.2% of them had a positive attitude toward STD prevention methods. Most of their participants were female students, and the comparison showed that female students were more informed about HIV than male students. This finding was confirmed by the findings of Alipour, Eskandari, and Mokhah (2016)). In contrast, we only assessed male students in our study. Based on previous studies, it seems that female students have more information about high-risk sexual activities in comparison to male students. However, confirming this idea requires further assessment of the matter.

Smith et al. (2011) evaluated 1130 ninth grade female and male students in 4 high schools in northwestern cities of the United States of America. They assessed students' needs and preferences. They reported that most of the students wanted to know about STDs and their prevention methods. Moreover, they reported that students needed information about sex and sexuality, for example, the appropriate age for beginning their sexual activity. They also found that the majority of students did not know about contraceptive methods. Finally, they concluded that it was necessary to consider young people's needs in the educational curriculum and raise their awareness about sexual activities and STD prevention methods. There were some differences between our study and they study by Smith et al., for instance, we only assessed male medical students of at least 18 years of age, but they assessed ninth grade female and male students of 15 years of age (Smith et al., 2011).

Sanei Moghaddam, Khosravi, Abiz, Marashi, Nahr, and Sarhadi (2011) assessed the knowledge of 951 students of Islamic Azad University of Zahedan, Iran, regarding HIV. Both male and female students were evaluated in this study. Furthermore, these students were from different faculties. They found that 50.2% of students were well informed about HIV, 44% had average information, and 5.8% were less-informed. They also reported that 56.9% of their students had neutral attitude toward HIV. As they included both male and female students in their study, there may be some differences between their results and our findings.

In the study by Gokengin et al. (2003) in Turkey, 36.9% of students had experienced sexual relationships and their information about STDs was average. In the present study, the students were well informed about STDs. This difference may be due to the fact that we only assessed medical students. In addition, the number of students who had experienced high-risk sexual activities in Turkey was much higher than the number in the present study in Iran. This difference may be the result of cultural differences. Grad et al. (2018) evaluated 3872 university students aged 18-25 years from different parts of Romania. They assessed the respondents in the 3 categories of previous sexual experiences, knowledge on STDs, and their attitude and knowledge regarding STD prevention methods. They discovered that 94% of students had experienced sexual relationships. Furthermore, they found that the students had relatively limited knowledge about STDs. They also found that although most of the students were well informed about STDs, their prevention ways, and contraception devices, one fourth of them had experienced unprotected sex. There are some differences between our results and their findings, for example,

the number of sexually active students in their study was significantly higher than that in our study. This may be due to the cultural differences of the study settings. In addition, their students had limited information about STDs. In contrast, since we only assessed medical students, we found that our students were well informed about STDs.

Huang, Bova, Fennie, Rogers, and Williams (2005) evaluated 1326 students aged between 17 and 28 years. They found that 14% of Chinese students were sexually active and 40% of them had never used a condom for prevention; . On the other hand, in our study, we found that half of our students were sexually active. These differences may be due to the difference in the study populations of the studies; they only included teenage students in their study. What more, they assessed students with different fields of study. In contrast, we only evaluated medical students in our study.

Mirnejad, Kiani, Jeddi, and Alaedini (2009) assessed 425 students of different faculties of Iran University of Medical Sciences, Iran. They found that in general students were well informed about HIV and how it is transmitted. Medical students had more information in this regard in comparison to students of other fields. Moreover, they noted that students mostly take information from social media. Furthermore, they reported that 75% of their students had a positive attitude toward preventive methods. They concluded that it was necessary to include educational programs about HIV in both the medical curriculum and social media to raise students' awareness. There were some differences between this study and our study, for instance, they only assessed students' information about HIV, but assessed both male and female students from different faculties. However, we only assessed male students of the medical faculty. Moreover, we did not evaluate the impacts of social media in our study.

Odeigah et al. (2019) assessed sexual awareness in 438 students of 10-24 years of age in Nigeria. In contrast to our study, they reported that their students had poor information about high-risk sexual behaviors. In addition, they evaluated the impacts of religion, ethnicity, and family sizes in their study. They also mentioned the causes of high-risk sexual behaviors, for example, money, gifts, and services (Odeigah et al., 2019). Although, these factors are important, we did not assess them.

Cooper, Zellner-Lawrence, Mubasher, Banerjee, and Hernandez (2018) assessed 190 male students of 18-27 years of age. The investigation was performed to assess students' knowledge of HPV, their sexual behaviors, and their point of view on HPV vaccination. They reported that 73.2% of students had previously experienced sexual relationships. They also found that 79.5% of students had information about HPV; however, only 29% of students had received the Gardasil vaccine. In addition, 86 students that they had been recommended to receive this vaccine by a health-care provider, though this matter was averagely important. This finding was in line with the present study findings. Our students were also well informed about HPV and HPV vaccination, but only a few of them had received the Gardasil vaccine.

In the study by Santelli et al. (2018), 1661 students of 18-29 years of age were evaluated. They found that 1590 students had received formal sexual education on topics such as sexual refusal, contraceptive methods, and sexually transmitted infection (STI) and HIV prevention before the age of 18. Although they assessed various types of sexual education in their study, only education on sexual refusal was significantly related to prevention of sexual assault. We also assessed the impact of sexual education. However, there are some differences between our study and study

by Santelli et al. (2018). For example, only male medical students were evaluated in our study, but they assessed both male and female students of various fields of study. Furthermore, in the study by Santelli et al. (2018), the impact of formal sexual education was evaluated in greater detail than in our study. This difference is due to the fact that there is no official sexual education program in the educational curriculum for teenage students in Iran.

Limitations: The only limitation that we faced during the study was that some students were ashamed to answer our questions.

Conclusion

To conclude, we discovered that students were well informed about STDs and their prevention methods. It seems that since we only assessed medical students, they had more knowledge about STDs in comparison to students in other studies. In addition, we found that although most of the students had knowledge of contraceptive devices and protection methods, a considerable number of them had experienced high-risk sexual relationships. Despite the fact that most of the students knew about the preventive impacts of the Gardasil vaccine, a large number of them had not been vaccinated. This may be on account of the fact that most of the students believed that the Gardasil vaccine was only useful for women.

Suggestions: We recommend that the authorities in the education system reconsider their attitude toward this issue and include sex education in the medical education curriculum to raise students' awareness of high-risk sexual activities and how to prevent such activities. This may increase students' knowledge as future health care providers and they will pass on this knowledge to others. As a result, the knowledge of the whole society about high-risk sexual activities will be improved.

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Conflict of Interests

Authors have no conflict of interests.

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