

Knowledge, Attitude, and Practice of Clerical Students with Respect to HIV/AIDS in Iran, 2011

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Abstract In this study, knowledge and attitude of Iranian clerical students toward HIV and AIDS was assessed. Through a cross-sectional study, 367 clerical students were surveyed, in convenience sampling method, in the Qom seminary in 2011, utilizing a self-administered structured questionnaire. The questionnaire was piloted on 20 clerical student volunteers, internal consistency measured with Cronbach's alpha was 0.89. Participants' scores of knowledge and attitude were calculated out of 100. The level of knowledge in 37.33 % of participants was good (scores >80), whereas 46.05 and 16.62 % had moderate ($40 < \text{scores} \leq 80$) and poor (scores ≤ 40) levels of knowledge, respectively. The mean score of knowledge and attitude was 58.29 (95 % CI 56.11–60) and 77.26 (95 % CI 75.92–78.59) out of 100, respectively. A significant correlation was observed between

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level of knowledge and attitude ($r = 0.33$, $P < 0.001$). Knowledge score appeared to be significantly higher in women compared to men ($p = 0.04$). With an increase in age, the level of knowledge significantly decreased ($r = -0.10$, $P = 0.02$). We could also detect a statistically significant relationship between attending educational courses on HIV/AIDS and inclusion of HIV/AIDS topics in the individual's sermons ($P < 0.001$). Although clerical students had shown some sort of positive attitudes toward HIV, their knowledge still needs to be improved to enable them to deliver more accurate information to the community during the course of their speeches. Having HIV-related courses as part of their curriculum or aside may contribute a lot to this.

Keywords Knowledge · Attitude · Clerical student · Islam · AIDS · HIV · Iran

Introduction

Acquired Immune Deficiency Syndrome (AIDS) has been referred to as 'the plague of the century' (Haghdoost et al. 2011). In Iran, the prevalence of HIV infection is less than 1 % in the general population, and according to result of a systematic review, the range of HIV prevalence is from 0 to 26.6 %, and the pooled prevalence of HIV in male IDUs is 13.6 % (95 % CI 12.5–14.7) in Iran (Haghdoost et al. 2011; Rahimi-Movaghar et al. 2012; Khajehkazemiet al. 2013). However, a low estimated prevalence should not be interpreted as low risk, because in all countries located in Middle East and North Africa, due to issues' such as statistics dependence on reported cases of HIV and AIDS, inconsistent case definitions, misdiagnoses and inadequate HIV testing facilities, lacking of epidemiological surveillance, and monitoring of special risk groups, reporting is uneven and underreporting is likely (Obermeyer 2006).

According to the last Iranian population census in 2012, approximately 48.82 % of the Iranian population belongs to the 10–34 years of age group. This group is at risk of HIV/AIDS infection due to several factors such as first sexual experiences, the higher proportion of sexually transmitted diseases, addiction that begins usually at this age, and so on (Tavoosi et al. 2004).

It has been demonstrated that one of the most successful preventive methods for HIV is to increase the level of knowledge and awareness of HIV/AIDS and prevention methods among different population (Kanda et al. 2013). As more than 80 % of the people around the globe identify themselves as a member of a religious or spiritual community (Cahill et al. 2004), it can be argued that religion is the main institution in the world that bridges the gap of race, class, and nationality (MajidPoor 2006; Niknami et al. 2007; Asekun-Olarinmoye et al. 2013) and religious leaders are viewed as credible sources of information and guidance, as well as having contact with hard-to-reach populations (Lightfoot et al. 2001), which provides religious leaders with a huge potential to help reduce risky behaviors leading to HIV infection and to increase the awareness of people regarding HIV/AIDS (Kanda et al. 2013). A population-based study conducted among general public in Tehran as a capital of Iran showed that the majority of the respondents (87 %) received information about HIV/AIDS from mass media including radio, television, and newspapers (Montazeri 2005).

In Iran, context religious preachers are spread throughout the country, and every little village has one; however, they might not have a doctor. They also have influence on the

government, and they can facilitate intervention programs, also like other Islamic countries, many people refer to religious leaders for guidance on personal or family problems and leaders preach on social aspects of society. In addition, 98 % of Iranians practice Islam. (Adams and Manenti 2012; Kanda et al. 2013).

In the literature review of different international and national databases, several studies on Knowledge, Attitude, and Practice (KAP) among different subgroups of Iranian society regarding HIV/AIDS were retrieved, yet no published studies were found in this field with respect to Iranian clerical students. Therefore, this present study was designed to assess the KAP of clerical students studying in Iran. The results of this study can contribute to a better understanding of the beliefs and viewpoints of this key sector of the community with respect to AIDS. Also can help build foundations for changing social norms, improve population level interventions, and much more.

Materials and Methods

This cross-sectional study was carried out at the Qom religious seminary between October and December 2011. This seminary is one of the most well-known Shi'a seminaries around the world and is located in the city of Qom, 100 km south of Tehran (the capital city of Iran). Currently, more than forty thousand Iranian and foreign students are studying there.

Sampling method: By assuming that 65 % of the Iranian population has good knowledge of transmission routes of HIV infection and ways to prevent it (Haghdost 2012), and setting the alpha level and degree of precision at 0.05, a sample size of 350 was obtained (Levy and Lemeshow 2013). Taking into consideration, the approximately 15 % nonresponse rate, a total sample size of 400 was obtained for study by a convenient sampling method facilitators attended in class and also in dormitories of seminary to take samples.

Instrument

Previous KAP studies regarding HIV/AIDS conducted among religious leaders and other subgroup of population led us to derive a questionnaire (Fadaei Marzieh and Khosravi; 2010; Agrawal et al. 1999; Zandi ghashghaei 2002; Li et al. 2004; Yazdi et al. 2006; Mirnejad et al. 2009; Sanei Moghadam et al. 2009; Abu-Moghli et al. 2010). First prepared questionnaire reviewed with eight experts including three epidemiologists, two biostatisticians, two religious leaders, and one sociologist. Then, questionnaire was piloted on 20 clerical student volunteers, and some changes applied for example questions that not convenient for religious student and cause sensitivity was deleted such as "Homosexuality among students maybe cause transmit AIDS".

Also some questioned that have same idea deleted. Internal consistency measured with Cronbach's alpha (0.89). The questionnaire had four sections. The first section sought information about participants' gender, age, religious educational level, history and duration of their preaching, methods of obtaining information about HIV/AIDS, and participation in educational courses related to HIV/AIDS. The second section focused mainly on knowledge and included 16 questions about the transmission modes of HIV and eight on methods of diagnosis and treatment of AIDS (24 questions in total). The remaining two sections assessed attitude (25 questions).

Data Collection

One male clerical student and one female clerical student were employed as research assistants and trained by the research team to explain the project objectives and deal with possible implications during the implementation of the study. Participants were provided with general information about the project and its objectives, and their verbal informed consent was obtained by a gender-matched research assistant. Participants were asked to fill in the questionnaire in the presence of the research assistants. For positive reinforcement, anyone completing the questionnaire was given a book entitled “The Role of Religious Leaders in the Prevention of AIDS” as an incentive. This study was approved by the Ethics Committee of Kerman University of Medical Sciences.

Outcome Measurement

A total score of knowledge and attitude were calculated by totaling participants’ correct responses of 24 and 25 questions, respectively. Each question was assigned a score of one for a correct response and a score of zero for an incorrect response. Participants’ scores of knowledge and attitude were calculated out of 100 and then categorized as poor (scores ≤ 40), moderate ($40 < \text{scores} \leq 80$), and good (scores > 80). If a person did not reply to a question, this case was deleted in calculation of that question, i.e., the results were calculated based on the valid percepts.

Data Analysis

Analyses were carried out using Stata (version 9). Descriptive statistics were reported for demographic variables. Simple and multiple linear regression models were applied to assess the associations between selected variables and the level of knowledge and attitude. *P* values of less than 0.05 were considered as statistically significant results.

Results

Of 400 recruited clerical students, a total of 367 individuals consented to participate in this survey (response rate of 91.7 %). Mean (SD) age of participants was 34.4 (7.4) years. The majority of participants were male (94.6 %). Only 2.7 % of participants had never been married. Many of the participants were studying at the third (44.3 %) and second (29.4 %) level of seminary education. Only 26.4 % of participants were studying at the first (6.2 % in the lowest level) and fourth or higher (20.2 % in the highest level, which is equivalent to a PhD academic degree) level of seminary education. Nearly three quarters (73.8 %) of participants had prior university education before starting their education in the seminary; about 2.5 % of them had studied in medical-related fields. A history of preaching was reported by 96.2 % of participants. The mean (SD) duration of preaching was 8.2 (6.2) years. Of all participants, 67.3 and 64.6 % stated that the general populations of urban and rural areas were their audiences during their preaching period, respectively. Common sources of information on HIV/AIDS were television (66.8 %), newspaper (20.7 %), Internet (13.4 %), radio (11.7 %), seminars (3.8 %), friends (11.7 %), and other sources (13.3 %). Only 3.8 % of participants reported that they had received information on HIV/AIDS through the seminary. The mean (SD) score of knowledge was 58.29 (95 % CI 56.11–60.). Forty-six percent of respondents had a moderate level of knowledge

regarding HIV/AIDS; 37.33 and 16.6% had good and poor levels of knowledge about HIV/AIDS, respectively.

Frequency of correct answers to the knowledge questions regarding the transmission modes of HIV varied from 11.7 to 92.2 %. Regarding the question “what is the most common transmission mode of HIV in Iran?” forty-eight percent of participants answered correctly that sharing a used syringe or needle contaminated by the virus is the main transmission mode of HIV in Iran, while 47.5 and 4 % chose the incorrect responses of unprotected sexual contact and transmission via blood transfusion or blood products (Table 1).

The mean score of knowledge was higher among women than men and among those individuals who had never married compared to married ones. These associations were statistically significant in both simple and multiple linear regression models. In addition, regression analysis also revealed that there was a significant negative association between age and the level of knowledge (Table 2).

Eighty-eight percent of the participants stated that they did not have enough information on HIV/AIDS, while only 43.9 % of them stated that they needed to obtain further information on the current HIV epidemic status and the spread of the disease worldwide; 67 % stated that they needed more information on preventive methods and controlling the disease, 52 and 50 % stated the need to obtain information regarding transmission modes and the treatment of the disease, respectively.

Sixty percent believed that they could play an important role in informing people with respect to HIV/AIDS. In addition, 43.9 % of participants demonstrated that they needed more information on the current status and spread of the disease worldwide.

Sixty-seven percent felt the need to obtain more information on preventive methods and controlling the disease, whereas this feeling was 52 and 50 % for obtaining more information on transmission modes and the treatment of the disease, respectively.

In response to the question “do you consider yourself at risk of HIV infection?”, only 5.7 % responded “yes”, 75.5 % responded “no”, and 18.8 % responded “I don’t know”.

The mean (SD) score of attitude was 77.26 (95 % CI 75.92–78.59). Participant’s age and the score of knowledge were significantly associated with the level of attitude in crude and adjusted regression models. Younger participants and those with a high level of knowledge had significantly higher levels of attitude (Table 3).

Preaching about HIV/AIDS was reported by 6.16 % of participants, while talking about extra marital sexual relationship in sermons was reported by 64.6 %. Only 6.8 % of participants had ever attended educational courses on the subject of HIV/AIDS. Of those who had attended these educational courses, 57.1 % claimed that they had talked about HIV/AIDS in their sermons, while 81 % had talked about extra marital sexual contacts in their sermons. Those who had attended educational courses on HIV/AIDS had given significantly more lectures on HIV/AIDS and extra marital sexual contacts ($p < 0.001$) than those who had not attended these courses.

Discussion

Our findings showed that 46 % of participants had a moderate level of knowledge of HIV/AIDS and 16.62 % had a poor level of knowledge. We observed that the knowledge level in our study was comparable with two recent studies result conducted in Nigeria (Umar and Oche 2012) and Sri Lanka (Cahill et al. 2004). However, it was lower than the study carried out in Uganda, with a knowledge level of more than 80 % among Muslim religious

Table 1 Correct knowledge about modes of HIV transmission among clerical students in Iran

Transmission mode	Correct answers	Female % (95 % CI)	Male % (95 % CI)
Questions related to Injecting transmitted routes			
Sharing common needles while injecting drugs	Yes	100	91.80 (88.57–94.63)
Using instruments infected with the virus in surgeries or dental interventions	Yes	94.71 (84.63–104.77)	85.91 (82.11–89.69)
Tattoos with instruments contaminated with the virus	Yes	94.72 (84.63–104.77)	79.56 (75.56–87.44)
Using a razor blade already used by an infected person	Yes	89.56 (75.73–103.28)	83.23 (78.91–89.09)
Questions related to sexual transmitted routes			
Having sexual intercourse with an infected person without using condoms	Yes	100	89.62 (86.31–92.89)
Questions related to Mother-To-Child transmitted routes			
Vertical transmission	Yes	78.92 (59.5–98.3)	74.41 (69.66–79.24)
Breast feeding in an infected mother	No	47.45 (24.33–70.47)	18.22 (13.90 –22.50)
Misconceptions			
Hugging, shaking hands, and living with an infected person in the same house	No	89.51 (75.34–103.66)	68.32 (63.00–73.60)
Receiving an organ or tissue from an infected donor	Yes	89.51 (75.34–103.66)	65.71 (60.48–70.92)
Kissing an infected person	No	89.51 (75.34–103.66)	64.32 (58.84–69.76)
Eating or drinking with an infected person from the same dish	No	89.51 (75.34–103.66)	61.41 (55.87–66.93)
An infected person's cough or sneeze	No	78.92 (60.05–97.75)	59.72 (47.12–58.28)
Swimming with an infected person in a public pool	No	63.21 (40.92–85.48)	52.71 (47.12–58.21)
An infected person's mucus	No	63.21 (40.28–86.12)	45.32 (39.43–50.57)
An infected person's urine	No	52.62 (28.86–76.34)	37.21 (31.78–42.62)
Transmission of the virus via mosquito bite	No	100	12.41 (7.94–16.86)

Table 2 The association between participant's level of knowledge and selected variables, results of crude and adjusted regression models among clerical students in Iran

Variable	Group	Number	Mean score	Difference in means		Adjusted difference	
				Amount of difference	P value	coefficient	P value
Sex	Women (Ref.)	19	68.41	–	–	–	–
	Men	347	57.70	–10.70	0.03	–2.45	0.04
Marital status	Single (Ref.)	10	74.58	–	–	–	–
	Married	355	58	–16.59	0.01	–3.03	0.05
Educational level in seminary	Level 1 (Ref.)	22	60.41	–	–	–	–
	Level 2	105	59.54	–1.21	0.80	0.30	0.82
	Level 3	158	58.04	–2.71	0.57	0.04	0.097
	Level 4	67	58.33	–6.39	0.22	–0.27	0.84
Background of non-seminary education	Upper than level 4	5	58.95	–2.46	0.81	1.28	0.64
	No (Ref.)	69	58.95	–	–	–	–
Participation in HIV-related courses	Yes	271	58.62	0.50	0.85	0.64	0.38
	No (Ref.)	349	58.45	–	–	–	–
	Yes	25	54.41	–2.84	0.53	–0.58	0.57
Age	–	–	–	–0.14	<0.01	–0.10	0.02

Table 3 The association between participant's level of attitude and selected variable in crude and adjusted regression models among clerical students in Iran

Variable	Group	Number	Mean score	Difference in means		Adjusted difference	
				Amount of difference	P value	coefficient	P value
Sex	Women (Ref.)	19	78.30	-	-	-	-
	Men	347	77.20	-1.08	0.67	-0.27	0.85
Marital status	Single (Ref.)	10	79.40	-	-	-	-
	Married	355	77.24	-2.14	0.54	1.51	0.41
Educational level in seminary	Level 1 (ref.)	22	79.26	-	-	-	-
	Level 2	105	75.64	-2.16	0.19	-1.53	0.27
	Level 3	158	78.00	-1.26	0.64	0.12	0.92
	Level 4	67	77.24	-2.16	0.46	0.04	0.98
Background of non-seminary education	Upper than level 4	5	80.00	0.72	0.89	2.08	0.48
	No (Ref.)	69	76.48	-	-	-	-
Participation in HIV-related courses	Yes	271	77.54	1.06	0.48	0.16	0.82
	No (Ref.)	349	77.30	-	-	-	-
Age	Yes	25	76.72	-0.58	0.81	-1.65	0.21
	-	-	-	0.21	0.01	-0.11	0.02
Knowledge score	-	-	-	0.76	<0.01	0.33	<0.01
	-	-	-	-	-	-	-

leaders (Year 1999). The participants' mean score of knowledge in the present study was 58 (out of 100). A systematic review and meta-analysis of knowledge regarding HIV/AIDS among Iranian subpopulations reported that the mean score of knowledge in different Iranian subgroups varied from 14.7 to 84 (out of 100) (Haghdoost 2012). It seems that this score is acceptable as and better than other subgroups, but noting the religious leaders' sensitive role and the influence of their knowledge and attitude on society, this mean is somehow low. In addition, 88 % of participants stated that they do not have sufficient knowledge regarding HIV/AIDS and are need to obtain more information on different aspects of the disease. Therefore, religious leaders need to be much better equipped with basic and comprehensive knowledge toward HIV/AIDS.

This study also explored the willingness of clerical students to participate in HIV prevention programs. Results showed that 60 % of the participants believed that they could play a crucial role in informing people regarding HIV/AIDS. This result is consistent with the result of a study carried out in Sri Lanka (Cahill et al. 2004).

Exploring the relationship between certain factors and scores of knowledge indicated that participants' age had a negative association; which is comparable with what was reported in a study conducted in Nigeria (Asekun-Olarinmoye et al. 2013). It seems that younger people pay more attention to HIV/AIDS. Gender of participants was also associated with the knowledge score; women had a higher level of knowledge than men, and this finding is also in accordance with another study conducted among Iranian high school students (Tavoosi et al. 2004). However, the much smaller sample size of clergywomen compared to clergymen was a barrier that reduced the reliability of this association. Considering that no female-specific educational courses have been held in the seminary, it seems that clergywomen have obtained more information regarding HIV due to personal interest. Some studies have shown that women are more interested in obtaining knowledge regarding health and medical issues than men (Agrawal et al. 1999; Zandi ghashghaei 2003).

Knowledge of the main HIV modes of transmission (i.e., via unsafe injection or unprotected sexual contact) was high (>90 %). This was similar to other study results, which found high levels of awareness and knowledge of HIV transmission (Year 1999; Asekun-Olarinmoye et al. 2013); this high rate of knowledge might be due to Islamic rules which condemn extra/premarital sexual contact and use of drugs. However, this study demonstrated that participants' correct knowledge about other transmission routes (i.e., mother-to-child transmission) and misconceptions about HIV transmission (i.e., transmissions via mosquito bites, through infected person's urine, and swimming in public pools) was very low; we found that only 11 % of participants stated that HIV cannot be transmitted via mosquito bites.

Similar to the findings of other studies conducted in Iran (Ramezan Khani et al. 2003; Tavoosi et al. 2004), television was the main source of information regarding HIV/AIDS. Studies in other countries (Nigeria and Uganda) also showed that radio and television are major information sources of HIV/AIDS (Umar and Oche 2012). Considering the important role of the media in enhancing knowledge levels among different populations of society, it seems that maximum benefit would be gained from educational programs continuously prepared and released by the media. It is worth noting that a very small fraction of participants (3.8 %) stated that they had gained some information on HIV/AIDS via the seminary's education. It is highly recommended that HIV-related education courses be planned and added to the student's curriculum in religious seminaries.

In the present study, the mean score of attitude was calculated as 77 (out of 100). This can be compared to the results of a systematic review and meta-analysis study of sixteen studies in Iran (the score of attitude ranged from 32.6 to 78.4) (Haghdoost 2012). Findings

suggest that the majority of respondents had a positive attitude toward HIV/AIDS. As there was a direct positive association between the knowledge and attitude score, positive attitude can be promoted by improving clerical students' knowledge.

There was a significant association between participating in educational courses related to HIV/AIDS and lecturing on these topics while preaching. We believe that attending educational courses and increasing the level of knowledge will affect the content of clergymen and clergywomen's lectures accordingly.

Preaching about extra marital sexual contact was reported by 64.6 % of participants. However, only 24.4 % of participants declared that they had received lectures about HIV/AIDS. On the other hand, social stigma surrounds people living with HIV, which encourages them to hide their HIV status and deprives them of access to treatment services. High risk sexual behaviors like selling sex, having sexual contacts with a female sex worker, men having sex with men are highly stigmatized; this stigma prevents people who are engaged in these behaviors to seek HIV preventive and treatment services. This in turn leads to an increase in transmission risk of the disease in society (Mahajan et al. 2008). As clerical students' attitudes toward contributing to HIV prevention programs were positive and some of them have already discussed HIV/AIDS-related subjects, we believe that religious leaders have a potentially important role in increasing society's level of knowledge and diminishing social stigma and discrimination about HIV/AIDS in the Iranian population. In addition, religious leaders have an extreme influential effect on major policies of the country due to their substantial role in the parliament, the judiciary, and governmental departments; hence, we believe that they could also influence the effects of HIV/AIDS-related programs and interventions.

We acknowledge the limitations of this study. The study was conducted using convenient sampling method which is prone to selection bias. Therefore, these findings should be interpreted and generalized with caution as our sample was not representative of all clerical students in Qom and in the country.

Conclusion

Our result showed lower level of knowledge, positive attitude of clerical students toward HIV/AIDS, positive association between participation in HIV-related educational courses and lectures on HIV/AIDS while preaching, the great interest in participation in HIV prevention programs, lack of a comprehensive educational course in the seminaries, and the close contact with a large section of the community, we can say that holding educational programs in the form of continuous courses for religious scholars could directly affect their level of knowledge and indirectly result in more effective interventions.

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Conflict of interest None.

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