HIV INFECTION AND THE TURKISH PEOPLE: A CROSS-SECTIONAL STUDY ON THE PERCEPTIONS OF SAFRANBOLU INHABITANTS

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ABSTRACT

Objective*: Knowledge and attitudes about HIV/AIDS were examined in a Muslim population living in the Safranbolu District of Turkey.*

Materials and methods*: The survey was conducted over 431 participants in December 2011. A questionnaire, consisting of 47 questions, was used to measure the level of participants' knowledge and attitudes about HIV.*

Results*: The findings indicated that the participants have sufficient knowledge of HIV and present positive attitudes toward persons living with HIV (PLWH). Nevertheless, 84% of participants stated that they would not sit in the same armchair with a PLWH, 60.3% that they would not kiss a PLWH. Mass media was the main source of information. More than half of the participants also stated their desire to learn more about HIV.*

Conclusions*: Participants' levels of knowledge about HIV did not match their behaviors and attitudes about HIV. Due to this, education strategies to enhance knowledge levels and to develop positive attitudes toward PLWH should be employed.*

Key words*: AIDS, attitude, HIV, knowledge, Turkey.*

Received *June 20, 2013;* ***Accepted*** *July 16, 2013*

Introduction

HIV/AIDS infection is an important public health problem that has profoundly changed both medical practice and public health initiatives worldwide[(1)]. HIV has killed more than 25 million people since it was first discovered in 1981, making it one of the most destructive epidemics in human history[(2)]. By 2007, approximately 33 million people were living with HIV and 2 million people had died of HIV/ AIDS-related illnesses[(3)].

Public opinion is an important contributor to the formulation of public policies and also in establishing a common sense for public health[(4)]. Among other factors contributing to the spread of HIV/AIDS in most developing countries, poor knowledge about prevention of the disease is crucial. In the case of Turkey, AIDS is a serious public health problem which is rapidly spreading since its first discovery in 1985. The first cases in Turkey were caused by blood transfusions.

However, the Ministry of Health's report published in 1990 revealed that blood transfusion was only one of the reasons for the spread of the disease[(5)]. Although HIV/AIDS has not reached a threatening level in the country, Turkey is considered at risk due to the increasing number of individuals with HIV/AIDS. According to the records of Ministry of Health, 5224 HIV cases were reported in Turkey between 1985 and 2011[(6)]. These numbers may not accurately reflect the total number of cases in Turkey, due to inadequate registration.

AIDS is an important public health problem with no vaccine having been discovered yet. As such, the most efficient method for HIV/AIDS prevention is education[(7)]. In Turkey, governmental institutions such as the Ministry of Health and National AIDS Commission and non-governmental organizations such as the AIDS Combat Society are conducting studies to increase social awareness about HIV/AIDS. However, studies on Turkey indicate that people have no sufficient knowledge on

the threat posed by HIV/AIDS[5]. Moreover, these studies are limited to small groups of people such as students, soldiers, mariners, nursing students[8-11]. As such, the literature lacks studies on attitudes and beliefs of Turkish people related to HIV/AIDS. It is this void that this study attempts to fill. Therefore, the present study seeks to address the level of knowledge, attitudes and behaviors of Turkish people living in Safranbolu district about HIV/AIDS, to discover sources of information towards HIV/AIDS and to assess the ways to increase social awareness.

Material and methods

Study Design

The study was a descriptive, cross-sectional, community-based study investigating knowledge, attitudes and beliefs of people living in the Safranbolu district of Karabuk province about HIV/AIDS.

Sampling

Participants living in the Safranbolu district of Karabuk province constitute the target population of the research. For accessing target population, the researcher has benefited from the World AIDS day event conducted by the Karabuk University Community Volunteers Student Club that took place between 1st and 7th of December 2011. Inhabitants participating in the event were asked to take part in the interview. The inclusion criteria included individuals older than 18 years of age, possessing at least primary school education, who were able to read and write in the Turkish language, as well as willing to participate in this study and with sufficient knowledge on sexuality. Visitors from other cities, those with hearing and visual impairments and children have been excluded from the scope of the study. Only 431 of the volunteers that agreed to take part in the interview have suited the inclusion criteria for the study.

Data Collection

Data for the study has been obtained through face-to-face interviews. Participants were given a 3-page self-administered questionnaire. The average time spent for each interview was 15 minutes. Those who had difficulty in reading the questionnaire were read out the questions by nursing students that are members of the Karabuk University Community Volunteers Student Club.

Questionnaire

The questionnaire used in this survey has been adopted from the knowledge, attitudes, beliefs and practices survey of the Joint United Nations Programme on HIV/AIDS and World Health Organization[12], and from the relevant literature[8,13-15]. The questionnaire was translated into Turkish and some items in the questionnaire related to sexual habits were modified to suit Turkish culture and norms. The questionnaire consisted of 49 questions in 4 sections. Section one comprised socio-demographic characteristics section, including age, gender, marital status, religion, education and employment status, which include 6 questions. Section two comprised HIV/AIDS related knowledge covering three main topics on general information, diagnosis and mode of HIV/AIDS transmission (31 items) and section three comprised peoples' attitudes towards HIV/AIDS covering items related to social and cultural issues (9 items). Finally, section four included three questions about the source of peoples' information on HIV/AIDS. People were asked to mark the answer for each question (yes, no or don't know). On each question, 1 point indicated a correct answer and 0 point for an incorrect choice or no response. Therefore, total scores for each participant ranged from 0-40. Higher scores indicate people with much knowledge of the sources and transmission methods of HIV/AIDS and more tolerant attitudes towards people with HIV/AIDS. The questionnaire was tested on 10 people and was refined according to the results of the pilot study. No substantial difficulties were encountered during the testing and only minor corrections were made. The participants of the pilot study were not included in the final analysis. Alpha coefficients for reliability and internal consistency of the questions were found at 0.82 for knowledge and at 0.78 for attitudes about HIV/AIDS, respectively. Completed questionnaires were checked for consistency and completeness. Responses to all the items were converted into a percentage indicating the proportion of correct responses.

Legal Ethical Consent

We obtained permission for the study first by applying to the local ethics committee. The subjects have been reminded that participation in the investigation was strictly voluntary and have been told that data collected would not be used for anything except the research aim. Participants were assured of confidentiality of their responses and were pro-

vided informed verbal consent. Objectives and expected outcome of the study were explained to the participants, their right not to participate in the study was explained and interviewees were thanked for their participation. Participants were also informed that refusal to participate in the study would not affect their life.

Statistical Analyses

The statistical package for social sciences (SPSS) version 16.0 (Chicago, IL, USA) was used to analyze data. Obtained data were evaluated by frequency and percentages ratios, t tests and confidence internals. The measure for statistical significance was established as $P < 0.05$.

Results

Participants' Characteristics

All of the 431 participants completed the questionnaires, with no discarded questionnaires or missing information. The characteristics of the respondents are shown in Table 1. Mean age of the participants is 34.6 (SD=12.2) years (range between 18 and 73). 57.1% of the participants were male and 42.9% were female. Of the participants, 59.2% were married, 82.3% had attained an education level of secondary education or above, and, all were Muslims.

Participants' Knowledge

Data analysis indicates that most participants had a good knowledge about HIV/AIDS in terms of items listed in Table 2. In general, percentages of "correct" responses for all the knowledge items are higher than "incorrect" and "don't know" answers. However the participants did not have sufficient knowledge regarding the transmission of AIDS which is reflected in the rates of answers to the statements "donating to another person the organs and tissue of an infected person" (52.0%), "having a tattoo done with the same devices after an infected person" (36.7%) and "innocent kissing" (49.7%). Moreover, 42.9% of the respondents stated that they have no idea on the statement "a virus causes AIDS". In terms of gender, there are no significant differences among male and female participants. Finally, those that have had prior information on HIV/AIDS had higher level of general knowledge on HIV/AIDS compared to those who did not have prior knowledge (t [429]=5.92, p= 0.000).

Characteristic	n	%
Age (years)		
≤ 20	87	20.2
21-30	148	34.3
31-40	100	23.2
≥ 40	96	22.3
Age, mean ± SD 34.64±12.22 (min:18;max:73)		
Sex		
Female	246	57.1
Male	185	42.9
Maritial status		
Married	255	59.2
Single	151	35.0
Eparated/Widowed	25	5.8
Educational level		
Primary	76	17.7
Secondary	63	14.6
Hight school	150	34.8
Higher education	142	32.9
Employment status		
Employed	229	53.1
Unemployed	118	27.4
Housewife	61	14.2
Retired	23	5.3
Religious belief		
Muslim	431	100.0

Table 1: Participant Characteristics (n = 431).

Participants' Attitudes

In general, the participants' attitudes towards HIV/AIDS and infected people are found to be positive (Table 3). Nevertheless, the participants presented some negative attitudes. For example, 84% of the participants stated that they would not sit in the same armchair or desk with a person with AIDS, 60.3% that they would not kiss someone with AIDS. In this sense, while the participants were against isolation of HIV infected people, they did not want to get into physical contact with the people living with HIV/AIDS.

Source of Information

As shown in Table 4, 54.5% of the participants have had an average level of information about HIV/AIDS. Those that have had information about the disease noted that mass media (internet, 25.3%; television, 37.3%; newspaper, 13.0%) was the main source of information about HIV/ AIDS. However, 63.6% of the whole participants stated that they desired to learn more.

Knowledge items (Alpha 0.82) for these 31 items	Correct		Incorrect		Don't know	
General knowledge	n	%	n	%	n	%
1. HIV/AIDS is an infectious disease	406	94.2	13	3.0	12	2.8
2. AIDS is a hereditary disease	306	71.0	46	10.7	79	18.3
3. AIDS is a hereditary	115	26.7	131	30.4	185	42.9
4. There is a vaccine for AIDS	164	38.1	114	26.5	153	35.5
5. There is an active treatment for AIDS	219	50.8	104	24.1	108	25.1
6. AIDS is mostly seen in the developing or underdeveloped countries, mostly in countries least able to afford to care for infected people	290	67.3	83	19.3	58	13.5
7. Resistance to other diseases in an individual with AIDS is relatively low.	280	65.0	87	20.2	64	14.8
8. Appearance of HIV carriers does not differ from that of normal people	362	84.0	25	5.8	44	10.2
9. A person infected with HIV does not usually show any symptoms of the disease	303	70.3	37	8.6	91	21.1
10. AIDS is not serious disease. It is a simple disease like the common cold	219	50.8	104	24.1	108	25.1
Diagnosis of HIV						
11. A person infected with HIV is usually diagnosed with symptoms of the disease	247	57.3	53	12.3	131	30.4
12. An ELISA test is used to check for the HIV virus in the blood	280	65.0	50	11.6	101	23.4
13. Urine, X-Ray, total blood count and biochemistry analyses are used to check for the HIV virus in the blood	240	55.7	65	15.1	126	29.2
Modes of transmission of HIV						
14. Having vaginal, oral, and anal sex with an infected person	414	96.1	6	1.4	11	2.6
15. Innocent kissing	143	33.2	214	49.7	74	17.2
16. Touching an infected person, such as hugging, holding, and shaking hands	327	75.9	37	8.6	67	15.5
17. From infected pregnant woman to her unborn baby	325	75.4	46	10.7	60	13.9
18. Having a tooth extracted with the same devices after an infected person	210	48.7	107	24.8	114	26.5
19. Receiving infected blood	378	87.7	25	5.8	28	6.5
20. Insect/mosquito bite	205	47.6	97	22.5	129	29.9
21. The mucus, nasal, urine, and tears of an infected person	299	69.4	28	6.5	104	24.1
22. Sharing a razor blade with an infected person	196	45.5	140	32.5	95	22.0
23. Donating to another person the organs and tissue of an infected person	122	28.3	224	52.0	85	19.7
24. Sharing forks, spoons, knifes, etc.	326	75.6	33	7.7	72	16.7
25. Sharing public toilets and swimming pools with an infected person	272	63.1	67	15.5	92	21.3
26. Sharing an infected person's belongings such as clothes, comb, and towel	248	57.5	88	20.4	95	22.0
27. Sharing injection needles	342	79.4	47	10.9	42	9.7
28. Having a tattoo done with the same devices after an infected person	156	36.2	158	36.7	117	27.1
29. Sharing the food utensils of an infected person	265	61.5	52	12.1	114	26.5
30. From to an infected person who coughs or spits	339	78.7	19	4.4	73	16.9
31. From the breast milk of an infected person	304	70.5	37	8.6	90	20.9

Table 2: Participant Knowledge About HIV (n = 431).

Discussion

Prevention of HIV/AIDS remains an important task for health care professions such as doctors and nurses. This paper reports data portraying the level of knowledge, attitudes and source of information of the people living in the Safranbolu district related to AIDS. Overall, the findings indicate that people in Safranbolu demonstrate some knowledge about diagnosis and transmission of AIDS. However, misconceptions are present. The participants showed limited knowledge about the ways that HIV and AIDS can be transmitted.

Different beliefs, cultures, religions and historical events have significant impact over the atti-

Attitudes item	Agree		Disagree		Don't know	
Attitudes toward persons with HIV/AIDS (Alpha 0.78)	*n*	%	*n*	%	*n*	%
1. I can occupy the the same job with an HIV-infected person	204	47.3*	121	28.1	106	24.6
2. I would divorce with my wife/husband if s/he was AIDS	86	20.0	252	58.5*	93	21.6
3. I would not get into contact with my friend/relative if s/he was infected with HIV	73	16.9	296	68.7*	62	14.4
4. I would not sit in the same armchair or desk with a person with AIDS	362	84.0**	35	8.1	34	7.9
5. I would do whatever I could for treatment of a friend/relative who is AIDS	339	78.7*	41	9.5	51	11.8
6. I would provide financial support for my friend/relative but never get into contact with him/her.	76	17.6	262	60.8*	93	21.6
7. Students with AIDS should go to special schools with those with AIDS	85	19.7	256	59.4*	90	209
8. I would not kiss someone with AIDS	260	60.3**	92	21.4	79	18.3
9. I would share public toilets and swimming pools with someone with AIDS	132	30.6	194	45.1*	105	24.3

Table 3: Participant Attitudes Toward HIV (n = 431).
Note. *Positive attitudes; ** Negative attitudes.

tudes and behaviors towards diseases. Most societies direct the blame to the people who have diseases that are found threatening. Similar to cases of other countries, there are various beliefs related to AIDS in Turkey[16-19]. Beliefs such as that AIDS does not belong to Turks and that Turks will not be infected with AIDS due to religious and cultural differences are widespread in Turkish society. In a sense, Turkish society rejects the disease[16]. AIDS is related with forbidden love or taboos in many societies. The belief that AIDS can be transmitted only through sexual deviation and feckless sexual engagement paves the way for stigmatization of infected people living with HIV.

Together with deadliness and infectiousness of HIV/AIDS, fears that arise from inadequate information on HIV/AIDS and the ways that the disease is transmitted contribute to stigmatization of the people living with HIV. On the other hand, HIV/AIDS infected people are denied the right to education on some occasions. That is, due to misinformation about AIDS, parents might compel the authorities to remove the children living with HIV from schools. Although there are few children living with HIV in Turkey, authorities should secure these children's education and should prevent their isolation. In this respect, increasing public awareness towards HIV/AIDS has a great importance to educate parents, to prevent children living with HIV from isolation because of fear, avoidance and/or prejudice.

The main reason behind the negative attitudes towards HIV/AIDS is the lack of sufficient information about the disease. Misinformation and wrong beliefs lead to isolation of the HIV/AIDS infected people from the society. Several studies conducted in Turkey found imperfect knowledge and misinformation related to HIV/AIDS[8-11]. On the other hand, Turkish society tends to blame individuals with sexually transmitted diseases such as AIDS for their own misfortune due to the widely accepted social norm among the public which regards sexual life outside marriage unacceptable[8]. Despite such a negative attitude towards sexually-transmitted disease, people in Safranbolu show a more positive attitude towards AIDS. The findings reveal that people will adopt positive attitudes such as providing emotional support and doing everything for healing and helping people infected with HIV. With the exception of Majdi and colleagues (2010), several studies have shown similar findings[9,13,14,20-22].

	n	%
Level of knowledge about HIV		
Poor	96	22.3
Average	100	23.2
Good	235	54.5
Source of Information		
Television	161	37.3
Internet	109	25.3
Newspaper	26	13.0
Friend	35	8.1
Books	25	5.8
School	24	5.6
Family	21	4.9
Desire to Learn More		
Yes	274	63.6
No	105	24.4
Undecided	52	12.1

Table 4: Sources of Information and Needs.

For example, 52% of the participants believed that AIDS cannot be transmitted through "donating the organs and tissue of infected person to another person" and 36.7% said that "having a tattoo done with the same devices after an infected person" does not induce risk of infection. Moreover, 42.9%

of participants think that AIDS is not caused by virus. Although spread of HIV with social contact is impossible, a considerable number of people believe that the virus might spread through kissing each other, handshaking, sharing the pool or toilet with infected people. Hence, 49.7% of the participants believe that AIDS can be transmitted by being casually or socially kissed by an infected person. Imperfect knowledge and wrong beliefs are the main causes behind the isolation of people infected with HIV/AIDS. Misconceptions must be taken into account when developing an education program for the public[23]. Similar findings have been reported in Turkey and other countries([10,20,23-27]). Our study has also found a significant relationship between prior knowledge on HIV/AIDS and knowledge scores about HIV/ AIDS (t [429] =5.92, p= 0.000). These findings are consistent with findings of studies conducted both in Turkey and abroad[20,22,28]. This might be a consequence of better opportunity for access to information and higher awareness of the disease among educated part of the population.

Regarding the source of information about HIV/ AIDS, most of the participants reported that mass media (internet, 25.3%; television, 37.3%; newspaper, 13.0%) are the major ones. It appears that the mass media, especially television, plays a vital role in raising AIDS awareness in Turkey. In contrast, only 4.9% of the participants stated their family is the main source of information about the disease and 5.6% noted that they had been familiar with HIV/AIDS at school. This indicates little communication regarding HIV/AIDS at school and within the family. It is natural for the participants to be familiar with HIV/AIDS due to the importance given to the disease in mass media. Similar findings related to the sources of information about HIV/AIDS have been reported both in Turkey and other countries[22,24,27,29,30].

Hence, teachers and health workers might also provide information regarding HIV/AIDS. Additionally, most indicated that they desire to learn more about the disease[63.6%]. This indicates that reports dealing with the rapid spread of AIDS have increased the level of anxiety over contagion among the participants. As such, the participants demand for increasing their basic knowledge regarding HIV/AIDS. This indicates that the health care professionals should organize educational programs about HIV/AIDS. Health sector workers such as doctors and nurses whose main missions are to protect and improve individual, family, and social health, should assume an active role in these educational programs. Moreover, this investigation presents the need for consistency of public awareness campaigns against AIDS regardless of moral and ideological beliefs. In addition to The Ministry of Health, there are various voluntary associations working to increase public awareness and public education in preventing HIV/AIDS[16]. The expansion of educational campaigns through the media is crucial since the media might be the only means for providing information about the diseases for some sectors of the society. Besides, by taking ethical concerns into consideration, living with HIV/AIDS people might come into contact with the target population of educational activities. Also, nurses, whose key function is to protect and improve individual, family, and social health, should assume an active role in educational programs that provide appropriate and adequate information about HIV/AIDS and help to change risk behaviors.

Limitations of the Study

Results obtained from the sample group of this study cannot be generalized to the Turkish population. However, the results provide indications for health care professionals for future studies with larger sample groups.

Conclusion

In conclusion, there is a moderate level of knowledge among people living in Safranbolu-Turkey. Besides, misconceptions and negative attitudes toward HIV/AIDS continue to prevail. These might be changed by means of health education programs targeting those at higher risk. There should also be a big push to increase education about HIV/AIDS in educational institutions. Therefore, nurses have a very important role in AIDS education programs, preventive interventions and help to change wrong health beliefs and risk behaviors. Also, health care workers should be using social media to educate. However, there is need for further research about people's HIV/ AIDS knowledge, attitudes and beliefs in Turkey.

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Acknowledgements
The authors wish to thank the study participants for their valuable efforts and time, Dr. Gülay Günay for statistical analysis, and Lecturer Ozhan Demirkol for English editing.

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