

Stigma and discrimination in the view of people living with human immunodeficiency virus in Isfahan, Iran

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Abstract

Introduction: In Iran, human immunodeficiency virus (HIV) is a stigmatized issue and there is a negative attitude towards the disease. The stigma and discrimination because of HIV can affect both physical and mental health, social activities, and the quality of life of HIV-positive people. The aim of this study was to evaluate the attitude towards HIV infection among people living with HIV (PLHIV) in Isfahan, Iran.

Material and methods: This cross-sectional study examined 99 HIV-positive patients from the Isfahan Health Center, Isfahan, Iran, in December 2017. A standard questionnaire through a cross-sectional study was used to evaluate the attitude concerning HIV infection among PLHIV. In addition, linear regression was used to assess factors affecting attitude among PLHIV.

Results: About 24% of participants had good levels of attitude, whereas 67.71% of them had a moderate attitude. In addition, around 93% of respondents believed that to allow PLHIV to joint freely in all social activities. The evaluated factors such as gender ($p = 0.28$), age ($p = 0.96$), educational level ($p = 0.83$), and marital status and occupation ($p = 0.58$), did not have a significant relationship with the attitude score.

Conclusions: The attitude to HIV infection was not satisfactory among PLHIV in Isfahan, considering that HIV/AIDS-related stigma can cause personal, familial, and social problems. Therefore, appropriate actions are needed to improve the attitude and to reduce stigma associated with HIV infection.

HIV AIDS Rev 2020; 19, 2: 132-138

DOI: <https://doi.org/10.5114/hivar.2020.96489>

Key words: HIV, AIDS, stigma, attitude, Iran.

Introduction

In the current century, acquired immune deficiency syndrome (AIDS) is a major health problem that has become a pandemic threat to the world [1, 2]. In Iran, the first case of this disease was reported in 1986 (a boy with hemophilia) [3]. Together with most countries in Asia, the number of AIDS cases in Iran has risen rapidly [1, 2, 4]. Based on the report

of human immunodeficiency virus (HIV)/AIDS surveillance system in Iran, about 36,600 HIV-infected people have been identified by the end of December 2017 [5]. In Iran, the most dominant route of HIV transmission was injection drug use, while in recent years, sexual contact has been identified as main way of HIV acquisition [3, 6]. Due to the current situation in Iran, including high incidence of drug abuse [7] and frequent exchange of needles among injecting

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Article history:
Received: 15.01.2019
Received in revised form: 06.06.2019
Accepted: 17.07.2019
Available online: 19.06.2020

International Journal
of HIV-Related Problems

HIV & AIDS
Review

drug users [8], high percentage of youth in the country [9], increasing marriage age [10], increased divorce rate [11], growing number of sexually transmitted diseases and defects in sexual health knowledge [12], if the necessary prevention programs are not taken, AIDS can spread rapidly in Iran [12]. Therefore, according to the above, planning to prevent and control HIV in Iran must be of highest importance. The stigma and discrimination towards HIV are the main barriers of successful HIV controlling [13]. Since the first diagnosis, HIV and AIDS have been associated with stigma, discrimination, and fear because in the early years of the advent of this disease, gay men who had extramarital sex [14, 15] have been reported. Stigma, as a negative attitude of the society towards people living with HIV (PLHIV) results in fear of discrimination or experience of discrimination [6, 16]. PLHIV may experience unfavorable conditions related to stigma such as social rejection, discrimination, shame, abuse, general fear of disease, delivery of poor quality healthcare, and separation in hospital sector [6, 13, 17]. Several studies have shown that stigma has a significant impact on some health behaviors such as unwillingness to carry out HIV testing and voluntary counseling, failure to maintain medical regimens, and non-disclosure of HIV infection status to others [17-20]. As a result, stigma leads to spreading of the HIV/AIDS epidemic [18]. Consistent with other countries [15, 19, 21], AIDS in Iran is a highly stigmatized issue, with negative attitude of the society towards the disease [6]. The study by Karamouzian *et al.* in 2015 indicated that PLHIV are exposed to stigma and discrimination from families, communities, and healthcare systems [4]. Therefore, considering that stigma can affect both physical and mental health, social activities and, consequently, the quality of life of people with AIDS [6, 15], the purpose of this study was to evaluate the attitude of PLHIV towards HIV infection in Isfahan, Iran. Since only one similar study was conducted in Iran [4], this research could act as a pilot study, and we hope it will encourage other authors in Iran to consider this subject.

Material and methods

This is a cross-sectional study that was approved by the Research Review board of the Isfahan University of Medical Sciences, with IRB code of 196015. HIV attitude among PLHIV in Isfahan was evaluated in December 2017.

Sample size and sampling

Due to low number of PLHIV in Isfahan city, we used the census method instead of sampling. Finally, 99 eligible participants were selected.

Data collection

In order to collect the data, a health worker was trained who was associated and familiar with participants. After providing a brief explanation of study objectives, interviewing

method and confidentiality of information was provided by the interviewer and verbal informed consents from all participants were obtained. Then, the interviewer asked them questions and inserted the answers in the questionnaire.

The survey instrument was a part of a standard questionnaire, which was designed and standardized by Tavakoli [22]. The Cronbach α coefficient for attitude towards HIV/AIDS in the current sample was 0.74. The questionnaire consisted of 5 items on demographic characteristics and 18 items on attitude. Items on the attitude included 5 items on patient's social status, 4 items on social support, 7 items on social understanding of the disease, and 2 items on social harassment domain. Questions were designed based on Likert scale with 5 options (*strongly disagree*, *disagree*, *no idea*, *agree*, and *strongly agree*), meaning that if *strongly disagree* to *strongly agree*, scores were 1 to 5, and in the opposite questions, if *strongly disagree* to *strongly agree*, scores were 5 to 1. The total score of attitudes was determined by collecting the scores of attitude questions (18-90). To rate the attitude score, we used statistical quartiles, which were already used in other paper [15]. The poor attitude group included those individuals with score lower than or equal to the value of second quartile or median (≤ 54); for a moderate attitude, we considered the ranging from second quartile to third quartile (55-72), while the high attitude group included those who scored greater than the third quartile, ranging from 73-90, the attitude score variable.

Statistical analysis

Following data collection, questionnaires were checked, and their deficiencies resolved before coding. Then, the results were entered into State v. 14 software. Data entry errors were checked, and missing data were corrected by referring to the questioner and request the missing data from PLHIV.

Descriptive statistics including mean, standard deviation, and frequency were used to describe the results. Variables were compared in male and female by χ^2 and *t*-test. Linear regression was conducted to assess factors affecting the attitude among PLHIV. All *p*-values were two-sided, and a significant level of less than 5% were considered for all analysis.

Ethical consideration

Given the sensitivity of the subject, a written informed consent was not feasible. Therefore, after explaining the purpose of the study, and ensuring the confidentiality of information and independence of individuals in participating in the study, verbal informed consent was obtained from all participants.

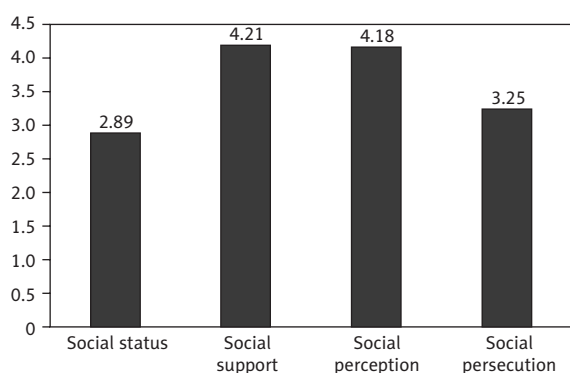
Results

Demographic information

As shown in Table 1, a total of 99 (36.36% men) respondents aged 18-71 years old were enrolled. The mean (SD) age was 40.74 (10.46) years. More than half of participants

Table 1. Demographic characteristics of participants

Parameter	Men (n = 36)	Women (n = 63)	p-value*
Age (mean ± SD) (years)	37.80 ± 10.48	42.42 ± 10.15	0.03
Marital status (%)			
Single	4 (11.43)	27 (42.86)	0.002
Married	21 (60.00)	30 (47.62)	
Divorced	5 (14.29)	5 (7.94)	
Widow	5 (14.29)	1 (1.59)	
Educational level (%)			
Illiterate	2 (5.56)	4 (6.35)	0.960
Incomplete/ Complete high school	30 (83.33)	53 (84.13)	
Graduated	4 (11.11)	6 (9.52)	
Occupation (%)			
Healthy worker	0	0	< 0.0001
Government's employee	2 (5.88)	2 (3.23)	
Homemaker	4 (11.76)	24 (38.71)	
Student	20 (58.82)	0	
Other	1 (2.94)	0	
Unemployed	7 (20.59)	36 (58.06)	

**Figure 1.** The results of attitude scale with mean of the four subscales

had incomplete/complete high school educations (83.84%) and about 52.4% of them were married. Also, 44.33% of participants were unemployed. In addition, as can be seen in Table 1, there was a significant difference in terms of age, marital status, and occupational position in males and females.

Attitude toward people living with HIV

Results showed that mean (SD) score of HIV attitude was 3.72 (0.43). A total of 23.96%, 67.71%, and 8.33% of the

spondents presented good (range, 73-90), moderate (range, 55-72), and poor (range, 18-54) levels of HIV attitude, respectively. Mean (SD) score of attitudes among women was 3.68 (0.42) and among men was 3.78 (0.43). However, no significant difference between them was noted ($p = 0.28$). More than 40% of participants agreed that PLHIV would be embarrassed by themselves and their families. In addition, around 93% of respondents believed to allow PLHIV to joint freely in all social activities. Also, 82.29% of them strongly agreed that PLHIV should receive healthcare and treatment similar to other patients. Respondents strongly opposed that PLHIV are sinful (60%). Moreover, the participants believed that PLHIV should not be punished due to their disease (73.6%). About 43% and 17.52% of participants stated that PLHIV are abused verbally and physically, respectively. Finally, 31.6% of respondents specified that HIV infection is a consequence of wrong past behaviors (Table 2).

As showed in Table 3, in social support scope, age ($p = 0.038$) was associated with score of attitudes, but this association was not found in another domain.

The results of attitude scale with mean of the four subscales are shown in Figure 1. The mean scores for the four subscales were patient's social status (2.89 ± 0.97), social support (4.21 ± 0.71), social understanding of the disease (4.18 ± 0.62), and social harassment (3.25 ± 1.05).

Discussion

The result of this data analysis from a cross-sectional study of PLHIV aged 18-71 years showed that the overall attitude score of patients on HIV was on moderate level. In addition, the attitude scores were evaluated in four subscales including patient's social status, social support, social understanding of the disease, and social harassment. The mean scores of attitudes in the patients' social status and social harassment were estimated on moderate level, while in the social support and social understanding of the disease, the mean of attitude scores was on good level.

In our study, we found that more than half of the participants had moderate level of attitude towards HIV infection, which is consistent with a literature from other countries. A study conducted in China reported a moderate level of HIV-related stigma among HIV-infected individuals [23]. In addition, Baugher *et al.* described an average stigma score of 2.4 among HIV-infected adults in the US [24]. The present study is in line with some other studies from Iran. A study by Hedayati-Moghaddam was conducted to assess people's attitudes towards PLHIV in Mashhad, and showed that attitudes were not satisfied [12]. A systematic review evaluated 62 eligible studies published between 1978 and 1987 in Iran. Among those, in 16 eligible studies on attitude (including 11,104 individuals), the reported mean score varied between 32.6 and 78.4, with an overall mean attitude score of 68 (on a scale of 100), which is on moderate level of attitude towards HIV infection [25]. Given that HIV/AIDS-related stigma has an impact on health and quality of life of PLHIV [13, 20, 26], it seems that moderate level of atti-

Table 2. Attitude toward people living with HIV

Statements (response for positive attitude)	Strongly adverse, n (%)	Adverse, n (%)	No idea, n (%)	Agree, n (%)	Strongly agree, n (%)
Patient's social status					
Having AIDS can cause the patient's embarrassment ^a	17 (17.17)	19 (19.19)	11 (11.11)	42 (42.42)	10 (10.10)
PLWA [®] causes his family to be embarrassed	11 (11.11)	22 (22.22)	9 (9.09)	41 (41.41)	16 (16.16)
In our society, PLWA are abandoned by their family ^a	22 (22.22)	28 (28.28)	19 (19.19)	25 (25.25)	5 (5.05)
In our society, PLWA are abandoned by their friends ^a	15 (15.63)	16 (16.67)	19 (19.79)	35 (36.46)	11 (11.46)
PLWA are losing their respect and status in the community ^a	13 (13.40)	19 (19.59)	11 (11.34)	39 (40.21)	15 (15.46)
Score of patient's social status: mean ± SD	14.45 ± 4.87 (2.89 ± 0.97)				
Social support					
Physicians, nurses and other health care providers should accept and treat PLWA as those infected with other diseases ^b	5 (5.21)	6 (6.25)	6 (6.25)	38 (39.58)	41 (42.71)
It should be allow PLWA to participate freely in all social activities ^b	1 (1.04)	2 (2.08)	4 (4.17)	48 (50.00)	41 (42.71)
PLWA should be allowed to work with others ^b	1 (1.03)	3 (3.09)	5 (5.15)	49 (50.52)	39 (40.21)
PLWA must be treated in the same way as other people in the community ^b	5 (5.10)	2 (2.04)	5 (5.10)	42 (42.86)	44 (44.90)
Score of social support: mean ± SD	16.84 ± 2.85 (4.21 ± 0.71)				
Understanding the social about the disease					
All PLWA are sinful ^a	57 (60.00)	18 (18.95)	12 (12.63)	6 (6.32)	2 (2.11)
PLWA are disgusting ^a	60 (62.50)	23 (23.96)	7 (7.29)	5 (5.21)	1 (1.04)
Only those who have high-risk sexual relationships are infected with AIDS ^a	49 (52.13)	12 (12.77)	17 (18.09)	14 (14.89)	2 (2.13)
PLWA should be punished ^a	70 (73.68)	15 (15.79)	7 (7.37)	3 (3.31)	No case
HIV infection is penalty of wrong behaviors in the past ^a	25 (25.51)	17 (17.35)	14 (14.29)	31 (31.63)	11 (11.22)
The best way to prevent AIDS is quarantine ^a	67 (69.07)	22 (22.68)	5 (5.15)	2 (2.06)	1 (1.03)
Should not buy fruit and vegetable from HIV-infected shopkeeper	70 (71.43)	16 (16.33)	5 (5.10)	4 (4.08)	3 (3.06)
Score of understanding the social about the disease: mean ± SD	29.28 ± 4.38 (4.18 ± 0.62)				
Social harassment					
PLWA are verbally abused ^a	17 (17.53)	13 (13.40)	25 (25.77)	36 (37.11)	6 (6.19)
PLWA are physical abused ^a	27 (27.84)	20 (20.62)	33 (34.02)	15(15.46)	2(2.06)
Score of social harassment: mean ± SD	6.50 ± 2.10 (3.25 ± 1.05)				
Total score of attitude: mean ± SD	67.03 ± 7.75 (3.72 ± 0.43)				

^aA for these questions strongly adverse is the correct answer. B for these questions, "strongly agree" is the correct answer
 PLWA – people living with AIDS

tude towards HIV infection can cause personal, familial, and social problems. Therefore, appropriate actions are needed to improve the attitude and to reduce the stigma regarding HIV infection. In present study, no significant difference was found between the attitude towards HIV infection of men and women. This finding is consistent with a study by Tavooosi *et al.*, conducted in Iranian high-school student [2]. In a study of Baugher, females had a higher stigma scores in comparison with males [26]. However, a study by Hasan *et al.* indicated the opposite [15]. The results of our study revealed no significant difference regarding level of attitude

toward HIV infection among different age groups. However, some studies have reported that older people have a higher attitude than younger people [23, 27]. Further, we found no significant relationship between attitude toward HIV infection and educational level. But, some studies conducted among PLHIV have shown that participants with higher education were more stigmatized than those with lower level of education [23, 28]. Moreover, a study by Li *et al.* among general individuals in China reported that participants with lower education have a worse negative attitude [19]. In our study, the attitude towards HIV infection was the same among

Table 3. Factors associated with the attitude score

Parameter	Attitude									
	Patient's social status		Social support		Understanding the social about the disease		Social harassment		Total	
	B (95% CI)*		B (95% CI)*		B (95% CI)*		B (95% CI)*		B (95% CI)*	
	Crude	Adj.	Crude	Adj.	Crude	Adj.	Crude	Adj.	Crude	Adj.
Gender**	0.01 (-2.03,2.06)	0.12 (-2.22,2.48)	-0.02 (-1.23,1.17)	-0.13 (-1.51,1.24)	-0.83 (-2.67,0.99)	-0.61 (-2.75,1.52)	-0.83 (-1.69,0.03)	-0.64 (-1.65,0.36)	-1.77 (-5.01,1.47)	-1.34 (-5.15,2.46)
Age (mean ± SD) (years)	-0.09 (-0.18,0.001)	-0.08 (-0.19,0.01)	0.05 (0.003,0.11)*	-0.05 (-0.008,0.11)	0.03 (-0.04,0.12)	0.03 (-0.06,0.12)	-0.003 (-0.04,0.03)	0.002 (-0.04,0.04)	0.003 (-0.14,0.15)	0.003 (-0.16,0.17)
Educational level										
Illiterate	-	-	-	-	-	-	-	-	-	-
Incomplete/complete high school/diploma	0.41 (-3.71,4.55)	-0.17 (-4.39,4.04)	-0.12 (-2.73,2.48)	0.04 (-2.64,2.73)	-1.35 (-5.37,2.67)	-1.07 (-5.25,3.09)	-0.9 (-2.83,1.03)	-0.64 (-2.61,1.32)	-0.74 (-7.86,6.37)	-0.95 (-8.37,6.47)
Graduated	1.00 (-4.05,6.05)	0.98 (-4.12,6.08)	1.4 (-1.70,4.50)	1.28 (-1.87,4.45)	-0.2 (-4.58,4.98)	0.22 (-4.6,5.13)	-1.30 (-3.59,0.99)	-1.12 (-3.44,1.18)	2.50 (-5.95,10.95)	2.20 (-6.50,10.97)
Marital status										
Single	-	-	-	-	-	-	-	-	-	-
Married	-0.65 (-2.89,1.58)	-0.18 (-2.65,2.28)	0.83 (-0.49,2.17)	0.56 (-0.87,2.01)	0.59 (-0.87,2.01)	0.33 (-1.90,2.57)	0.06 (-0.88,1.02)	-0.09 (-1.14,0.94)	1.00 (-2.62,4.62)	0.66 (-3.32,4.65)
Divorced	-3.23 (-6.77,0.30)	-2.87 (-6.60,0.86)	1.45 (-0.63,3.55)	1.04 (-1.13,3.23)	2.51 (-0.67,5.70)	1.97 (-1.41,5.37)	1.26 (-0.24,2.77)	1.04 (-0.54,2.63)	2.16 (-3.53,7.85)	1.32 (-4.71,7.35)
Widow	-2.06 (-6.40,2.26)	-1.34 (-6.13,3.44)	0.09 (-2.47,2.65)	-0.17 (-2.97,2.63)	0.91 (-2.99,4.81)	0.32 (-4.02,4.67)	1.26 (-0.58,3.11)	0.68 (-1.35,2.73)	0.36 (-6.59,7.32)	-0.35 (-8.10,7.38)

different marital groups and occupational groups. Therefore, the evaluated factors did not have a significant relationship with the attitude score. Different results of our study can be due to smaller sample size, when compared with other studies. Furthermore, differences in the results of present study with studies from other countries are caused by differences in the cultural backgrounds of participants.

Based on the outcomes, around half of participants felt that PLHIV would humiliate themselves and their families. A key reason was that Iran is a family-oriented society, and the Iranian culture is traditional and religious [4], in which people oppose behaviors that lead to AIDS, such as drug addiction, prostitution, adultery, alcoholism, and homosexuality. Such behaviors are perceived as abnormal and religious sins. The results of this study are consistent with a study by Karamouzian *et al.* [4]. Moreover, a study on women living with HIV in Iran shows that since HIV diagnosis, the participants experienced fear and shame [29]. Similar studies conducted in China and Bangladesh support this finding [15, 20].

The result of our study showed that, most participants (around 93%) believed to allow PLHIV to joint freely in all social activities. Although a study on attitudes towards HIV/AIDS among staff of an international organization in Bangladesh found that 41% of participants ($n = 293$) believed that people with AIDS should not be allowed to work [30].

Here, we found that 60% of the respondents were strongly declaring that PLHIV are sinful. Furthermore, another study from Iran reported that PLHIV often believed that HIV transmission and stigma were related to religious sins [31]. Dissimilarity of these results on this subject could be due to different questionnaires to evaluate this aspect.

Based on the reports, respondents believed that PLHIV should receive healthcare and treatment similar to other patients. According to the rights of patients with AIDS in domestic and international arenas, patients with AIDS in healthcare services should be considered similar to other patients [32]. Unfortunately, the reality is different. In a recent study from Iran, healthcare providers demonstrated such discriminatory behaviors to patients with AIDS more than towards other people in the community [4]. Moreover, a study by Rahmati *et al.* in Iran showed that PLHIV reported experiencing stigma and discrimination from healthcare

providers [31]. These discriminatory behaviors and attitudes are not only in Iran, and have been reported in the literature from other countries [17, 33, 34]. Therefore, it seems that when PLHIV face discriminatory behaviors, they prefer not to reveal their HIV-positive status, subsequently expanding HIV prevalence. In this connection, some rules should be applied for PLHIV receiving healthcare and treatment like other patients.

This study has some limitations that must be considered. First, this was a cross-sectional study; therefore, the causal relationship in this study was not determined. Second, it was conducted only in Isfahan, and it is recommended to be carried out nationwide throughout the country. Finally, since the coverage of the medicine deputy system for registering the number of AIDS patients in Iran is poor [35], it seems that a large percentage of AIDS patients are not diagnosed or registered. In this study, all patients registered in Isfahan (including 99 people) were examined, but the sample size was small. If all not diagnosed patients were evaluated and studied, results of the study might differ.

To avoid or improve negative attitude towards PLHIV, we recommend national education program on HIV and its transmission routes for general population, healthcare workers, patients, and their families, so they can perceive HIV/AIDS as other diseases. Also, we suggest utilizing mass media as a quick and inclusive approach to community education. Education of youth and teenagers could improve society attitude in future generation, whereas regular and serious re-training programs are advised to improve the attitude of healthcare workers on PLHIV. In addition, managing and dealing with PLHIV should be included in educational curriculum of all medical sciences students. Furthermore, necessary educational programs should be provided to PLHIV and their families to release their fears and concerns. Most importantly, patients should receive supportive, psychological, non-ART interventions to erase the feeling of guilt and shame due to their status.

Conclusions

Our result indicated that attitude towards HIV infection were not satisfactory among PLHIV in Isfahan and HIV/AIDS-related stigma can cause personal, familial, and social problems. Therefore, appropriate actions are needed to improve the attitude and reduce the stigma toward HIV infection.

Acknowledgment

The authors wish to express their gratitude to the Isfahan University of Medical Sciences for its support and all the participants who agreed to take part in the study. In addition, the authors would like to appreciate the HIV/STI Surveillance Research Center and WHO Collaborating Center for HIV surveillance, the Institute for Futures Studies in Health of Kerman University of Medical Sciences for advice

on study implementation. We are also grateful to Dr. Marjan Meshkat for his help with data collection.

This research was supported by the Research Deputy of Isfahan University of Medical Sciences, with IRB code of 196015.

Conflict of interest

The authors declare no conflict of interest with respect to the research, authorship, and/or publication of this article.

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