

HIV/AIDS awareness and attitude among factory workers in Shiraz, Iran

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Abstract

HIV has been introduced as a causative agent for AIDS which is still considered as a major health problem for the country and a burden on the health care system. Raising awareness and knowledge plays a critical role in controlling HIV infection in all social groups. Therefore, this study aimed to investigate the awareness and attitudes of factory workers regarding HIV/AIDS infection in Shiraz, Iran. This cross-sectional study was conducted on 92 factory workers in Shiraz, selected via the random sampling technique. A standard researcher-made questionnaire was used to collect data. Around 84% of participants were male and 65.2% had 30 years of age or more. The majority of responders considered shared syringe as the main transmission route in Iran. The awareness level of the general aspects of HIV infections and possible transmission modes were high. A large proportion of responders believed that patients should be supported by the governments and that they have the right to lead a normal life, meanwhile they were scared for their children having an infected classmate. It can be concluded that the public programs to increase awareness had a positive effect on factory workers' knowledge. However, some misconceptions toward HIV patients were identified that need to be corrected. In addition, further studies should be conducted in other cities to reach an accurate estimate of HIV/AIDS awareness among factory workers as a big part of our society.

Key words: HIV, AIDS, Awareness, Factory workers, Iran

1. Introduction

Acquired immune deficiency syndrome (AIDS) has started to spread since 1970s rapidly and became a mysterious pandemic in the 1980s; it was revealed that human immunodeficiency virus (HIV) caused AIDS. Since then, it has emerged as the most difficult challenge to public health [1, 2].

The most recent WHO report estimated people living with HIV at the end of 2019 around 38 million [3]. Although the four main HIV transmission routes includes unprotected sexual intercourse, contaminated blood transfusion, breast milk, transmission from an infected mother to her baby at

birth, this report introduced sexual intercourse as the main transmission route especially among the age group 15-49 years [3, 4].

While in most regions of the world a decline of the epidemic has been reported, in the Middle East and North Africa regions a growing epidemic among key populations has been indicated recently [4]. Based on the recent reports from Iran, it was estimated that 59,000 [5] individuals are living with the HIV and based on previous studies, sexual intercourse, needle sharing, and mother to child transmission have been reported as the main routes of AIDS transmission [6].

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Prevention of HIV infections was suggested as the most cost-effective measure to control this disease which needs to raise awareness in all social groups of a country [7], and risky practices and insufficient knowledge are major burdens in preventing the spread of HIV. During the last decades, several public programs were conducted to increase HIV/AIDS awareness in Iran and several studies tried to assess knowledge and attitude toward this disease in different parts of the society. A large proportion of studies have focused on some specific groups including students [8, 9], medical staff [10, 11], and hairdressers [12, 13], and it seemed factory workers who consist a large part of our society were ignored. With this background in mind, the aim of this study was to evaluate the knowledge and attitudes toward HIV infection and assess the effect of public programs among factory workers in Shiraz, South Iran.

2. Materials and Methods

2.1 Study area

In this cross-sectional study, 92 workers enrolled who were randomly selected from different firms in Shiraz, South Iran, during 2017-2018. A standardized questionnaire previously designed by our research group was used including a series of questions about HIV infection, different transmission routes, and treatment.

Different inclusion criteria were considered including, 1) Iranian nationality, 2) being Muslim, 3) working in a firm in Shiraz, and 4) HIV-negative status. In addition, participants with relatives suffering from HIV/AIDS were excluded. To assess the reliability of the questionnaire, it was administered to 15 participants two times with a retest interval of a week, which showed moderate-to-high reproducibility.

2.2 Measurements

Data were collected through a standardized questionnaire containing 26 questions. The questionnaire was considered to be flexible to responders and they were able to answer any question even though they were not informed in this regard.

2.3 Statistical analysis

In the present study, the sample size was calculated using Cochran's formula, and the estimated power was around 0.8, which was acceptable. To

evaluate the construct and concurrent reliabilities the Cronbach's Alpha coefficient was used. Besides, the Pearson's product-moment correlation was employed to analyze the confirmatory and explanatory factors. All data were coded using Microsoft Excel (Microsoft, Mountain View, CA), and data analysis was performed using the SPSS, version 22 (IBM Corp., Somers, NY). Chi-square test and cross tabulation were used to compare groups and a p-value of <0.05 was considered statistically significant.

3. Results

In all 92 workers enrolled, of which 83.7% were male, the majority of participants were more than 30 years old (65.2%), the education level of the majority of them was high school diploma (42.4%) and the majority of participants had diploma (42.4%).

Our results showed that the majority of the workers (96.1%) involved in the study had heard about HIV/AIDS. Table 1 also shows the results of the participants' knowledge and reveals that generally their awareness about HIV and AIDS was satisfied and the mean of correct answers for questions was 80.6%. Around 96% believed that AIDS is a serious disease and adherence to moral principles can prevent the spread of AIDS.

Out of 89 participants who answered the question about the major HIV transmission route in Iran, 73.9% selected shared syringes used by addicted people. Besides, 16.3% and 6.5% of them believed sex and blood transfusion are the other transmission routes of AIDS in Iran, respectively.

The results of awareness about HIV transmission methods showed 95.7% of participants believed that contaminated dental and surgical instruments as well as sexual intercourse (marriage) could transmit this virus. Furthermore, the percentage of responders believed that donated organs (blood or tissue) and mother to baby through womb can spread HIV were 94.6% and 92.4%, respectively. Moreover, more than half of responders (52.2%) believed that HIV can be transmitted via breastfeeding.

A large percentage of the responders did not consider sharing the items or places belong to AIDS/HIV patients including the swimming pool or bathrooms with the AIDS patients (73.9%), HIV patients' personal items (55.4%) (i.e., clothes, comb, towel, etc.), their tear (excreta) (70.7%), touching the AIDS patients (88%), using the items and food of

AIDS patients (69.6%), as the HIV transmission routes. It was noticeable that 85% feared using the AIDS patient's razor (shaver).

Table 2 shows the workers' attitude toward HIV infected patients. Comparison study based on sex, age, and education level revealed that in all cases there was no significant difference among participants groups.

Discussion

Compared to two previous studies conducted by this research group in Shiraz which studied awareness among high school students [9] and college students [14]; it can be concluded factory workers and high school student share the same idea and, in both groups, more than 50% believe that HIV infections is

Table 1. The responders' knowledge on HIV/AIDS

General knowledge	Correct answer (%)	Dose not know (%)
Is AIDS caused by a virus?	84.8	13
Is AIDS a contagious disease?	94.6	5.4
Is AIDS a hereditary disease?	81.5	0
Is AIDS a curable disease?	87	1.1
Is AIDS mostly observed in developing or underdeveloped countries?	20.7	2.2
Is AIDS a serious disease or as simple as catching a cold?	95.7	0
Does a person infected with HIV have a less resistant body against other diseases?	92.4	0
Is there any vaccine against HIV infection?	83.7	1.1
Can Patient have Negative diagnosis results?	53.3	1.1
Does a person transmit the HIV virus without showing the AIDS symptoms?	80.4	1.1
Will morality prevent the spread of AIDS?	95.7	0
Can controlling the blood of donators be effective to prevent the spread of HIV?	90.2	0
Can the sterilization of dental instruments by dentists prevent AIDS infection?	95.7	0
Will early diagnosis of HIV virus in people help the prevention of AIDS infection?	76.1	2.2
Which part of body is affected by HIV virus?	83.7	5.4
Which method is used to detect HIV virus in blood?	75.5	1.1

Table 2. The responders' attitudes towards HIV/AIDS patients

General attitudes	Totally agree (%)	Agree (%)	No comment (%)	Disagree (%)	Completely disagree (%)	Dose not answer (%)
Students infected with HIV virus should be educated in a separate school	39.1	17.4	12	16.3	15.2	0
If our children have a HIV infected classmate, we should change the school of our children	38.0	17.4	13.0	20.7	10.9	0
HIV infected patients should be supported	70.7	28.3	1.1	0	0	0
HIV infected patients must benefit from social rights such as studying, working, ...	63.0	30.4	3.3	1.1	2.2	0
We must allow the AIDS patient to use public bathrooms or swimming pools.	30.4	28.3	18.5	8.7	14.1	0
One of the main reasons of AIDS infection is disobeying religious and moral principles	46.7	39.1	8.7	5.4	0	0
People should be aware of AIDS disease since it's a health and public issue	83.7	14.1	2.2	0	0	0

mainly found in developing and underdeveloped countries. Although, in contrary, around 70% of college students disagreed with this idea.

Interestingly in all three reports, responders considered the shared syringe among addicted people as the major transmission route in Iran, along with, in second and third ranks, sex and blood transfusion were placed.

Knowledge about transmission methods in three studies showed similarity in some cases including contaminated medical instruments, sexual intercourse, donated organs (or blood), and mother to baby through the womb which were appropriately high in all studies.

While, in extremely rare cases, HIV can be transmitted by sharing razors, using the AIDS patient's razor was considered by 74.2% of college students, 76% high school students, and 85% factory workers as a mode of transmission.

It is established that breastfeeding substantially increases the risk of HIV-1 transmission from mother to child [15], the awareness about this route amongst high school students was 62% which was higher than factory workers (52.2%) and significantly higher than college students (42.7%).

Comparison results of three studies in misconceptions about modes of transmission showed high school students had the highest rates of misconceptions. Using HIV patients' personal items showed varied results, while only 18.2% of college students feared of using shared personal items, this subject was significantly high among factory workers (44.6%) and high school students (67%). Additionally, sharing the swimming pool or bathrooms was considered by 15% of college students, 32% of high school students, and 26.1% of factory workers as a route of transmission. Besides, 8% of college students, 18% of high school students, and 12% of workers considered touching as a route. Also urine, tears, and saliva was recognized as a spread way by 25.2%, 24%, and 29.3% of college students, high school students, and factory workers, receptively.

College students showed the best attitude toward HIV patients in comparison with high school students and factory workers. While a majority of college students disagreed with using separate schools for HIV infected students and changing the school if there is an HIV positive classmate; the majority of high school students and workers agreed with these

subjects. Furthermore, contrary to the majority of high school students who believed that public bathrooms or swimming pools are not supposed to be available for AIDS patients, the majority of college students, and workers thought they must be allowed to use these facilities.

To the best of our knowledge, there was no published study on HIV awareness in factory workers in Iran as well as limited studies were done in other countries. Mullany et al., 2003 researched to assess HIV awareness among 725 Burmese migrant factory workers in Tak Province, Thailand [16]. The average percentage of questions answered correctly about HIV transmission was 41.3% which was lower than our results which were around 77%. Besides, only 12% of Burmese workers believed that HIV was not transmitted through casual contact (kissing, coughing, sharing a toilet, etc.) which was significantly higher in the present study (88%). In general, it can be concluded that the level of awareness in the present study was significantly higher than in Mullany's study. In another study, Abera et al., 2003 conducted a cross-sectional study to investigated HIV/AIDS awareness among Workers in the informal sector in Ethiopia [17]. While, in the present study we could not define any different between male and female responders, in Abera's study females were less aware than males. Furthermore, 88% Ethiopian workers considered sex as a rout of transmission which was lower than our results (95.7%). Only 13.9% of Ethiopian workers found HIV patients' personal items as the HIV transmission routes [17]; however, this was around 45% among Iranian workers which showed a big misunderstanding about HIV transmission route. In addition, Islam et al., 2010 collected data using a questionnaire from 123 participants (female migrant workers) who were ready to fly from Bangladesh to other countries to take up an overseas job. Similar to our result the majority of Bangalees workers were familiar with potential modes of acquiring HIV infection. Contrary to our study, only 46.3% of Bengalese workers found unprotected sex as a potential mode of HIV infection, while it was 95.7% among Iranian workers [18].

Hasan et al., 2013 [19] investigated the level of awareness on HIV/AIDS amongst the garment workers in Bangladesh. In this study, 303 workers in three selected garment factories in Dhaka city were enrolled. Similar to our study the vast majority of

workers knew AIDS as a transmissible and preventable disease. Contrary to our results, Bangalees workers believed that sexual intercourse is the main route of HIV transmission; however, Iranian workers considered shared syringe as the major route which may be related to different social disorders in Iran and Bangladesh. Additionally, while, Hasan et al., showed the level of awareness increased significantly with age; in the present study, we did not find any relationship.

The main limitation of the present study was the inclusion of 92 factory workers, which was due to the short duration of the study. Hence, the sample size was too small to find a comprehensive perspective on the level of awareness among workers. However, our results could show the level of knowledge about the transmission and treatment of HIV/AIDS which can be practical for further studies.

In general, the HIV/AIDS awareness of factory workers was satisfactory and in many cases, the prevalence of correct answers was higher than 90%. It seems there is no need to raise awareness about general aspects of HIV/AIDS and their transmission routes. However, there are some misconceptions and misunderstandings toward HIV-positive patients, especially regarding infected students which showed the immediate need of raising awareness.

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Author contributions

Conception or design of the work: BD and ZS; Data collection: ZS, AD; Data analysis and interpretation: BD, ZS; Drafting the article: BD, AD; Critical revision of the article: BD, AD. All authors read and approved the final version of manuscript.

Conflict of Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical declarations

The researchers obtained the approval of the Human Research Ethics Committee of the University. In addition,

prior to the study, the written informed consent forms were read and signed by each participant in the study.

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