

A POPULATION-BASED SURVEY OF HIV/AIDS KNOWLEDGE AND ATTITUDES IN GENERAL PUBLIC, BANDAR-ABBAS, IRAN

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ABSTRACT

Objective: To evaluate the knowledge, and attitudes of Bandar-Abbas general public about various aspects of HIV/AIDS,

Methodology: A random sample of individuals aged 15-64 years were interviewed using a multistage area sampling method. A four section questionnaire was used to measure HIV/AIDS-related attitudes and knowledge.

Results: In all, 2123 people participated in the study. The majority of respondents had a relatively poor knowledge about HIV/AIDS. Age and education, were associated with the knowledge about HIV/AIDS. Negative attitudes toward HIV-infected individuals were common. Those with higher education were more positive in their attitudes compared to less educated respondents. "Television" was the main source of information (72.4%) followed by "newspapers and magazines" (51.6%) as stated by the participants.

Conclusions: Poor knowledge and negative attitude about AIDS still exist. There should also be a big push to increase teaching efforts in schools. Moreover, educational advisors, physicians and nurses should be active in educating people.

KEYWORDS: Knowledge, Attitudes, AIDS, Population-based study.

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INTRODUCTION

The Acquired Immunodeficiency Syndrome (AIDS) epidemic is a pandemic disease that threatens the world population. In Iran, the first case of Human Immunodeficiency Virus (HIV) was reported in 1985 in a blood transfusion recipient. Then the number of cases rapidly increased.¹ It is estimated that HIV cases in Iran are approximately 22000 to 30000;² however, there is a belief that this data underestimate the true number of HIV/AIDS cases and it is likely to be four times higher than those the published data indicate. Of the reported cases, 95% are male and mostly aged between 25 and 44 years (72%). The distribution of HIV/AIDS cases mainly consists of Intravenous

Drug Users (IDUs) (85%), and sexually infected cases (10%).³

Iran has a strategic geographic situation. The South-East of the country has a long border with Afghanistan, which produces a substantial proportion of the world's heroin. This situation confronts Iran with the problems of drug trafficking and concomitant drug addiction within the country. On the other hand, the alarming increase in heroin injecting is a recent phenomenon. According to the rapid situation assessment conducted by Razzaghi *et al.* in 1999, there were at least 166,000 IDUs in Iran.⁴ As a result, HIV/AIDS infection has increased amongst domestic injecting drug users and the main concern is the potential spread of infection from injecting drug users to the general population.

Since rising epidemic of the disease, the issue became an important public health concern. Moreover, most of Iranian people unreasonably believe that HIV/AIDS education promotes high-risk behaviors; so sex education about HIV transmission is socially forbidden.⁵ According to the current HIV/AIDS situation in Iran, primary prevention of HIV infection seems to be the most important measurement in controlling the epidemic.

In order to prevent HIV/AIDS, attention to the underlying attitudes and beliefs, which drive the behavior is important. It is known that public's beliefs about diseases has a key role in determination of prevention.⁶ On the other hand, even effective educational programs do not have permanent effects in increasing the knowledge. Therefore, it is essential to have new programs all the time.⁷ The particular aim of this study is to evaluate the HIV/AIDS-related knowledge and attitudes conducted among the general population of a strategic city in the southeast of Iran i.e. Bandar-Abbas.

METHODOLOGY

Setting: Bandar-Abbas with more than two hundred thousand inhabitants is the capital city of Hormozgan province that is situated in the southeast of Iran and 1335KM far from

Tehran. It is one of the most important strategic and commercial centers of Iran in the Persian Gulf.

Study design and population: This was a cross-sectional study. Two thousand one hundred and twenty three individuals (1298 females and 825 males) aged between 15 and 65 years, were randomly selected and face to face interviewed using a multistage area sampling method were conducted from October through December 2003. Four hundred eighty two houses and 203 workplaces situated in ten different districts of the city, each having approximately equal populations were determined. Due to the questionnaire being rather long, the survey being conducted on a general population and there being a possibility that some people in the city are illiterate, ten trained interviewers helped to explain any questions that the respondents found incomprehensible. The sample was representative. It did not differ from the general population in terms of age or sex.

The inclusion criteria of the study was having the ability to answer the questions. Those who came to visit the city from other cities and those with hearing impairments were excluded from the study. In addition, those not willing to participate were also excluded.

Data collection and Analysis: Data was collected via a four section questionnaire based on the WHO AIDS program knowledge, attitudes, beliefs and practices (KABP) survey in 1988⁸ as well as available literature.^{3,9,10} Then it was translated in Farsi and modified to suit the Iranian culture and norms. The questionnaire has three broad sections: socio-demographic characteristics including age, gender, marital status, educational level and employment status (5 items); questions on AIDS related knowledge covering two main topics on general information, and mode of HIV transmission; statements regarding people's attitudes towards AIDS covering items related to social and cultural issues and finally questions about the main sources of people's information on AIDS. The response categories for the section on knowledge were in 'yes', 'no' and 'I don't

know' form and for items on attitudes, the options "Agree", "Disagree", and "I don't know/I have no idea" were used. The questionnaire included both closed and open-ended questions. Two epidemiologists, a specialist in infectious diseases, and a general physician reviewed the questionnaire. The questionnaire was then pre-tested on a sample of 50 participants from different subpopulations of the city. After analyzing the data, the Cronbach's α was calculated to assess the internal consistency of the questions. Alpha coefficients were found to be 0.81, and 0.75 for knowledge and attitudes on HIV/AIDS, respectively. Responses to all the items were converted to a percentage indicating the proportion of correct responses. Ethical permission for the study was obtained prior to collect data. Participation in the research was voluntarily and confidentiality of data was assured.

The statistical package for social sciences (SPSS) version 10.0 (Chicago, IL, USA) was used to enter and analyze the data on a personal computer. Obtained data was evaluated by frequency and percentages ratios, Chi-square (χ^2) and t tests. The measure for statistical significance was established a priori as $P < 0.05$.

RESULTS

Respondents' demographic characteristics: Two thousand one hundred and twenty three people (61.1% female and 38.9% male) participated in the study. They were aged 15–64 years. The demographic data of participants is shown in Table-I.

Knowledge about HIV/AIDS: The vast majority had correct knowledge about items nine (92.3%), twelve (92.3%), seventeen (92.9%), eighteen (94.8%). However, the knowledge of the people on the other items was relatively poor. The majority of the respondents believed that AIDS is a hereditary disease (75.6%) and using an infected person's belongings such as clothes, comb, and towel transmit the disease (77%). Over 58% of the respondents, thought that a person infected with HIV usually shows symptoms of the disease. Nearly half of the

Table-I: The respondents' characteristics (n=2123)

	No.	%
<i>Gender</i>		
Male	825	38.9
Female	1298	61.1
<i>Age</i>		
≤20	440	20.73
21-30	946	44.56
31-40	451	21.24
41- 50	242	11.4
≥51	44	2.07
<i>Employment status</i>		
Employed	1048	49.3
Student	400	18.8
Unemployment*	640	30.1
Retired	35	1.6
<i>Marital status</i>		
Single	902	43.4
Married	1221	56.5
<i>Educational levels</i>		
Illiterate	361	15.5
Primary	573	17.0
Secondary	748	26.9
High school	330	35.2
Higher education	111	5.1

*House keeper women are categorized as "unemployed"

respondents stated that the appearances of HIV carriers are different from normal population (42.2%); and more than half of them said that exposure to an infected person who coughs or sneezes transmit the disease (54.7%) and sharing public toilets and swimming pools with an infected person transmits the disease (56.7%). There was not an important evidence of sex differences in responses regarding knowledge about HIV/AIDS.

Age and education were significantly associated with the knowledge about HIV/AIDS ($P < 0.01$). Almost in all items, illiterate individuals had more responses that were incorrect. In addition, younger respondents performed better in almost all items. However,

Table-II: The respondents' knowledge on HIV / AIDS (n=2123)

Knowledge Items	Yes n (%)	No n (%)	Don't know n (%)
<i>General Knowledge::</i>			
1. AIDS is a contagious disease	1622(76.4) ^a	329(15.5)	172(8.1)
2. AIDS is a hereditary disease	1605(75.6)	365(17.2) ^a	153(7.2)
3. A person infected with HIV does not usually show any symptoms of the disease	609(28.7) ^a	1236(58.2)	278(13.1)
4. Resistance to other diseases in an individual with AIDS is rather low	737(34.7) ^a	696(32.8)	690(32.5)
5. There is a vaccine for AIDS	214(10.1)	1849(87.1) ^a	60(2.8)
6. The appearance of HIV carriers are different from normal population	896(42.2)	1021(48.1) ^a	206(9.7)
<i>HIV/AIDS can be contacted through:</i>			
7. Sharing public toilets and swimming pools with an infected person	1204(56.7)	919(43.3) ^a	—
8. Using an infected person's belongings such as clothes, comb, and towel	1635(77)	488(23) ^a	—
9. Touching an infected person, such as hugging, and shaking hands	152(7.1)	1959(92.3) ^a	12(0.6)
10. Sharing the food utensils of an infected person	817(38.5)	1306(61.5) ^a	—
11. Exposure to an infected person who coughs or sneezes	1161(54.7)	962(45.3) ^a	—
12. Having a tattoo done with the same devices after an infected person	1959(92.3) ^a	157(7.4)	637(0.3)
13. The bite of a mosquito	787(37.1)	1199(56.5) ^a	137(6.4)
14. Sharing injection needles of an infected person	1875(88.3) ^a	238(11.2)	10(0.5)
15. Having a tooth extracted with the same devices after an infected person	1807(85.1) ^a	257(12.1)	59(2.8)
16. An infected pregnant woman's infecting her unborn baby	1779(83.8) ^a	334(15.7)	10(0.5)
17. Having sex with an infected person	1972(92.9) ^a	15(0.7)	136(6.4)
18. Receiving blood from an infected person	2013(94.8) ^a	87(4.1)	23(1.1)
19. The breast milk of an infected person	1779(83.8) ^a	238(11.2)	106(5)

^aCorrect responses

among younger respondents those in age group 21–30 years responded better compared than those less than 20 years of age.

Attitudes toward HIV-infected individuals: Negative attitudes toward HIV-infected individuals were common. The majority of the respondents thought that AIDS is a punishment from God (46%). Nearly forty-two percent of the respondents disagreed with the statement that people with AIDS must be supported; treated and helped. Nearly forty-two percent of the respondents believe that people with AIDS should not

have social right to study or work. About 32% of the respondents stated that people with AIDS should be locked up or isolated in a special center. The results are presented in Table-III.

There were no significant differences between sex and age with the respondents attitudes towards AIDS. However, there were significant differences between individuals with different level of education indicating that those with higher education were more positive in their attitudes compared to less educated respondents.

Table-III: The respondents' attitudes towards HIV / AIDS (n=2123)

<i>Attitudes to persons with HIV/AIDS</i>	<i>Agree n (%)</i>	<i>Disagree n (%)</i>	<i>Neither agree nor disagree n (%)</i>
1. People with AIDS should be locked up or isolated in a special center	682(32.1)	√ 451(21.2)	1342(50.4)
2. People with AIDS should have social right to study or work	√ 1093(51.5)	873(41.4)	157(7.4)
3. AIDS is a punishment from God	979(46.0)	√ 957(45.0)	187(8.8)
4. People with AIDS must be supported, treated and helped	√ 495(23.3)	880(41.4)	748(35.2)

√ Positive attitudes

Main sources of information: "Television" was the main source of information (72.4%) followed by "newspapers and magazines"(51.6%), "books"(39.3%), and "radio"(21.2%) as stated by the participants. Only 4.2% of the subjects mentioned "schools" as the main source of information about HIV/AIDS.

The majority of the respondents indicated that their level of information about HIV/AIDS was average (71/03%). However, most indicated that they desired to learn more (91.2%). These results are shown in Table-IV.

DISCUSSION

Because individual's beliefs play a role in their health care behavior, it is important to find and understand such beliefs between various ethnic groups. Health care providers should be aware of community knowledge and attitudes in order to optimize health education. This paper reports data from a population-based study on AIDS knowledge and attitudes among the general population in Bandar-abbas, Iran. In general, the study revealed that the majority of respondents had a relatively poor knowledge about HIV/AIDS. Over 58% of respondents thought that a person infected with HIV does not usually show any symptoms of the disease or the appearances of HIV carriers are different from normal population (42.2%), and sharing public toilets and swimming pools with an infected person transmits the disease (43.3%). Moreover, they believe that exposure

to an infected person who coughs or sneezes transmit the disease (54.7%). These findings are not consistent with other results in both our country and other countries.^{3,10} In a study conducted by Montazeri in 2005, he reported that

Table-IV: The respondents' source of information and their informational needs (n = 2123)

	<i>Number *</i>	<i>Percentage</i>
<i>Level of information about HIV/AIDS</i>		
Average	1508	71.0
Bad	217	10.2
Good	398	18.7
<i>Source of information</i>		
Television	1539	72.4
Newspapers and Magazines	1096	51.6
Schools	89	4.2
Friends and family	106	5
Books	836	39.3
Radio	451	21.2
Doctors and Nurses	11	0.5
Internet	15	0.7
Workplace	0	0
<i>Desire to learn more</i>		
Yes	1936	91.2
No	187	8.8

* The total exceeds the sample size since each respondent could choose several response categories.

the respondents had good knowledge about AIDS; however, misconceptions did exist. This difference may be because of the difference in the study populations. His study was done in Tehran, the capital of Iran, where people are more literate on average.³ The comparison of these studies show the significant variations in the knowledge of people in different settings.

There was not an important evidence of sex differences in responses regarding knowledge about HIV/AIDS. In contrast, as expected, those who had higher levels of education and younger respondents generally had more correct answers relating to knowledge about AIDS. A recent study showed that education level age and gender were associated with the number of questions answered correctly.¹⁰ A study from the US among the general population also showed significant differences in AIDS-related knowledge with age, education, race, and gender indicating that minority groups, less-educated and older respondents were less likely to respond correctly to general AIDS knowledge questions.¹¹

People in the city showed a relatively negative attitude towards AIDS and those with AIDS. For example, majority of the respondents thought that AIDS is a punishment from God (46%) or nearly forty-two percent of the respondents disagreed with the statement that people with AIDS must be supported; treated and helped. Nearly forty-two percent of the respondents believe that people with AIDS should not have social right to study or work. These findings are consistent with the findings of some other studies conducted in Iran, Turkey and India.^{9,12,13} This can be explained by the similar socio-cultural design of the populations' attitudes towards HIV/AIDS, especially in the light of religious factors. On the other hand, it may also be explained by the respondents having poor knowledge towards HIV/AIDS. In his study, Montazeri reported a more positive attitude towards AIDS and those with AIDS infections than expected.³ This may result from different levels of knowledge on AIDS in different settings. People in the community who do not know much about

AIDS or people with AIDS have less positive attitudes toward them.

In the current study, there were significant differences between individuals with different level of education indicating that those with higher education were more positive in their attitudes compared to less educated respondents. This is compatible with the study of Ayranci (2005).¹⁰ This indicates that raising educational levels is a key tool in fighting the epidemic.

In this study, the media were the most common means of obtaining information about HIV/AIDS. Most important AIDS related knowledge source for the majority of the respondents was the mass media such as television (72.4%), newspapers and magazines (51.6%), followed by books (39.3%) and radio (21.2%). It appears that the mass media, especially television, has an important role in raising AIDS awareness within the Iranian community. In contrast, institutions such as school were not important sources of information and only 4.2% of the respondents named schools as their main sources of information. On the other hand, specialist persons such as doctors and nurses (0.5%) had less important role in educating people. These should be more involved in AIDS education. In addition, surprisingly none of them said that their workplace informed them about the disease. The sources of knowledge of HIV/AIDS for the general population reported here are approximately similar to those previously reported.^{3,10,13} It shows the important role of mass media and its widespread role in raising people's information about AIDS-related problems. Such findings show that prevention campaigns on media should be encouraged and these have the potential role to limit the emergence of HIV/AIDS epidemic.

In the present study, the respondents desired to learn more about HIV/AIDS (91.2%). This indicates that people are anxious about the rapid spread of AIDS and it is a proper time to raise their knowledge and attitudes.

The major limitation of the study was in designing the questionnaire. Since Iran has a

religious society, especially in small cities, the researchers were restricted in asking questions concerning respondents' sexual beliefs and behaviors.

CONCLUSION

The findings from this study provide basic information on AIDS knowledge and attitudes among the general population of Bandar-Abbas. Poor knowledge and negative attitude about AIDS still exist and need to be addressed by health education programs targeting those at higher risk. There should also be a big push to increase teaching efforts in schools. There is considerable rationale to include HIV/AIDS education as an integral part of high school curriculum. Moreover, educational advisors, physicians and nurses should be active in educating people about modes of prevention of HIV contamination.

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