



The prevalence of HIV among female head of household in Shiraz in 2015

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Abstract

Introduction: Female-headed women refer to women without regular attendance or a man's supports carry the family's economic responsibility. This definition includes divorced women, widows, women with addicted husbands, disabled or unemployed, or women whose husbands immigrated, and themselves provide living expenses.

Objectives: Given the low and vague data about the sexual behavior of women vulnerable to HIV and AIDS in the country and given the importance of the issue, the aim of this study was to determine the prevalence of HIV infection in female-headed households in Shiraz.

Patients and Methods: This cross-sectional study was conducted on 455 female-headed households referring to charities in Shiraz. The priority related to women whose husbands have died, been imprisoned or separated because of addiction. Data including age, marital status, number of children, and high-risk behaviors of the spouse were collected by interview. ELISA test was performed for all participants and in the case of a positive test, the Western blot was performed.

Results: Totally, 455 women were included in the study. A total of 455 cases were studied, with an average age of 41.88 ± 7.88 years, and the mean number of children 2.69 ± 1.81 . The highest frequency (37.58%) was for those with primary education level. Most women (68.57%) were unemployed. Of the total number of participants in the study. Regarding marital status, in most subjects, husband died (75.60%). With respect to high-risky wife behavior, 72.57% had high risk sexual behavior and 11.28% had drug abuse, the prevalence of HIV 1.53 estimated.

Conclusion: This study shows that female-headed households are at risk for HIV. If the level of physical, psychological and social life and financial support for this group of women is improved, it will ultimately reduce their negative impact on society.

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Introduction

Human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS) was first introduced in 1981 in the United States by the discovery of several homosexual men with acquired immune deficiency (1). For this reason, the disease has been referred to as the acquired immune deficiency syndrome (AIDS). For one year, the disease was developed in the United States and other countries, and was seen mostly in people who had sexual relationships with many people, especially with other men (2). But the greatest impact of this epidemic was found in Sub-Saharan Africa, with the highest transmission

Key point

In a cross-sectional study on 455 female headed households referring to charities in Shiraz, we found female headed households are at risk for HIV. If the level of physical, psychological and social life and financial support for this group of women is improved, it will ultimately reduce their negative impact on society.

occurring between heterosexuals (3). The human immunodeficiency virus (HIV) causes damage and impairment in the cellular functioning with the gradual loss of the immune system, eventually leads to "immune deficiency" (4). The immune



system is significantly defective and cannot play its role properly against infection and illness (5). AIDS is an expression commonly used in most advanced HIV infections, including one or more 20 opportunistic infections and HIV-related cancers. The main groups of human cells infected by the virus are the T helper CD4+ group, that the count of the pointed cells is a relatively accurate indicator for monitoring the disease's course (2). Although nearly three decades have passed since the advent of the AIDS virus, the infectious disease has become a global dilemma and threatens the health of people around the world (3,5). The disease may be infected through the unprotected sex (vagina or anal or oral relationship) with an infected person or through an infected blood transfusion and the sharing of contaminated needles, syringes, or other tinnitus products. It may also occur between mother and infant during pregnancy, delivery and lactation (1). The transmission of this virus through sexual relations has more than doubled in comparison to the last years (6). In total, 36.9 million people worldwide are infected with HIV, 2 million newly infected with HIV, and 15.8 million people do not have access to antiretroviral therapy (6). Additionally, 1.2 million people died of AIDS-related illnesses (6). According to the recent reports of the Health Ministry of Iran, 32 670 cases of HIV/AIDS infection in the country were identified and recorded (7,8). Moreover, 46.4% of people with HIV infection in Iran are in the age group of 25 to 34 years (7). Risky groups that are more likely to develop a disease than other populations include women who are sex workers, MSM (men who have sex with men), and injecting drug users. Since the family is the smallest and most important social organization composed of parents and children. Today, along with common families, other forms such as extended families or single guardian families have been created. If one of the main pillars of the family (father or mother) is eliminated, its symmetry goes away and many issues are entered in the family fundament (9). In developing countries, there is an increasing trend in the number of female-headed households, although the reasons for this trend are decisive geographic and historical causes, the most worrying concern for women head of household is the relationship between the growing number of these individuals and the feminization of poverty (9,10). In the last two decades, the head of household women have named as the "poorest poor". Women make up 60%-70% of the world's poor. Heads of households are at risk of poverty because of their gender and deprivation (8,10). A survey of family changes over the past thirty years has shown that the proportion of female households in the world has increased in all regions of the world. Based on the results of the 1390 census, 12% of Iranian households are run by women (8,11) that 18% of whom are employed and 82 are unemployed. Over the years 85-90, the growth of male head-of-households has risen by about 18%, and the growth of female supervisors has reached 43% (10,11). According to the ministry of health reports, in the year

2015 the number of people infected with HIV in Iran was 32 670 of which 84% were male and 16% were female. If we cannot afford AIDS prevention, we will soon be faced with the fourth wave of the disease (8).

Objectives

Given the low and vague data about the sexual behavior of women vulnerable to HIV and AIDS in the country and given the importance of the issue, the aim of this study was to determine the prevalence of HIV infection in female-headed households in Shiraz.

Patients and Methods

Study population

This study is a descriptive cross-sectional study with the aim of investigating the frequency of HIV infection in female-headed families in Shiraz. Totally, 455 women who were referred to Shiraz-based charity institutions were randomly selected. During an interview, a checklist was filled in, including variables such as age, education, marital status, the number of vocations, occupation, and spouse's characteristics. The ELISA test was then conducted to assess the status of HIV for all individuals, which was performed in the presence of a positive Western Blot test.

Ethical issues

The research followed the tenets of the Declaration of Helsinki and its later amendments. Ethical considerations in this study included explaining the subject of research to individuals and obtaining written consent from them for the preparation of serum samples. Meanwhile, the subjects were assured that their information would be stored confidentially in information gathering forms and the results would be presented as a whole sample population. This research was approved by Shiraz University of Medical Sciences.

Statistical analysis

Data were analyzed by the descriptive statistics including frequency tables and chart as well as analytic statistics including analysis of variance (ANOVA) and student *t* test through SPSS (version 18, SPSS Inc., Chicago) software package. *P* values less than 0.05 were considered statistically significant.

Results

A total of 455 cases were studied, with an average age of 41.88 ± 7.88 , and the mean number of children was 2.69 ± 1.81 . In terms of educational level, the highest frequency (38.8%) was for those with primary education level. Most women (73.3%) were unemployed. The most frequent age group was 31 to 40 years old. Of the total number of participants in the study, 7 patients (1.53%) was positive for HIV. The mean age of HIV positive people was 40.17 ± 3.34 years and HIV negative persons were 40.53 ± 2.75 years that the difference between the two groups was not significant ($P > 0.05$). The mean number of children in

the HIV positive group was 1.73 ± 0.32 and in the HIV negative group was 2.85 ± 0.54 , which was not significantly different between the two groups ($P > 0.05$). The difference between the two groups was not statistically significant in terms of job, education, and high risk behaviors in the spouse ($P > 0.05$) (Table 1).

Discussion

Various factors and circumstances can cause a woman to take care of the household. In this study, we considered the social and economic factors, the level of education, occupation, the status of the spouse and the risky behaviors of the spouse in the female head of household. Lack of social and economic conditions can lead to abnormal conditions in the community. More than 80% of female heads of households participating in this project have lower secondary education and more than 73% of them were unemployed. There is a profound connection between the level of education and income of the individual and the occurrence of high-risk and non-health-related behaviors in the population. Our study also indicated a high percentage of low-educated and unemployed people. The existence of these two factors can cause each other and those who fall into this category are prone to high-risk behaviors that are contrary to health. Because they are forced to live in poor health-poor areas due to lack of income and poverty, due to lack of sufficient knowledge about low literacy, they do not have a good understanding of how to show health-related behavior. Encouraging these people to develop a disease, in addition to becoming self-inflicted puts a risk to the surrounding community.

According to the data obtained in this study, in more than 73% of the women, their husbands died, and the same percentages were unemployed. The two data, along with more than 80% of low literacy level can be a factor in these female-headed households with a tendency toward high-risk behaviors that run counter to their health and the community involved in any type of illness.

In studies in Ethiopia, Malaysia and Nigeria, 10% to 14% of women never heard of HIV/AIDS. Therefore, the findings of the present study indicate that a large number of people are still unaware of these diseases, which makes them more vulnerable that emphasizes the need to increase awareness of this issue in women (12). In addition to a high percentage of unemployment and low literacy among female-headed households, only 0.4% of women were employed in government jobs. Given that these people are responsible for providing salary for their families, these women will be exposed to a variety of health hazards and hardship by appealing to abnormal behaviors. These results are consistent with the results of the study by Zaheer et al in Pakistan (13) and the study by Gani and colleagues in Bangladesh (14). In general, asset status affects the social status of a community as a proxy. The relationship between wealth and education can be explained by higher levels of awareness in high socioeconomic classes (15).

The results of the study indicate that in more than 75.60%

Table 1. Baseline characteristics of the study population

Variable	Subgroups	No. (%)	P value
Age	21-30y	25 (5.4)	>0.05
	31-40y	236 (51.86)	
	41-50y	49 (32.74)	
	>50y	45 (9.89)	
Education level	Illiterate	97 (21.31)	>0.05
	Primary	171 (37.58)	
	Secondary	120 (26.37)	
	Diploma	52 (11.42)	
Job status	Academic	15 (3.29)	<0.05
	Unemployed	312 (68.57)	
	Contractual	123 (27.03)	
	Janitor	11 (2.41)	
	Worker	6 (1.31)	
	Hair stylist	1 (0.2)	
Spouse status	Governmental	2 (0.43)	<0.05
	Non-survived	344 (75.60)	
	Survived	48 (10.54)	
	Temporary	27 (5.93)	
	Divorced	27 (5.93)	
Risky spouse behavior	Never married	9 (1.97)	<0.05
	Unsafe sex	330 (72.52)	
	Addiction	51 (11.28)	
	Truck driver and taxi	22 (4.83)	
	Prison history	47 (10.32)	
HIV	History of traveling abroad	5 (1.09)	>0.05
	Positive	7 (1.53)	
	Negative	448 (98.46)	

of the women, their husbands died and in more than 10.54% of them, the husbands are survived, but were disabled and only had a physical presence in the family. In this survey, only about 5.93% of household women had temporary husbands that of these 4%, more than 80% of their husbands had insecure sexual behavior and also more than 11% of these four percent were addicted that addicted people themselves are exposed to a variety of high-risk behaviors and in final, nearly 11% of these temporary husbands have been in prison. In total, more than 96% of the four percent of the women have husbands exposed to high-risk behaviors that are contrary to health or exposure to high-risk behaviors. Considering the factors mentioned and the effect of these factors on the incidence of HIV-positive female households, approximately 1.53% of these women have a positive test for HIV.

Conclusion

The study found that female-headed households are at risk of developing HIV. Therefore, creating the grounds for promotion of female head of household as vulnerable groups of society is possible by increasing the physical, psychological and social contexts in these women and eventually reducing the negative burden in this group in society. Since control and treatment of the disease is a complex process, the most important strategy to control the disease is to prevent it. In this regard, the knowledge, awareness and governmental support of the female head of

household and the creation of employment for this group of women are the most important step in the primary prevention of the disease that can reduce the risk of HIV / AIDS before the epidemic in the region.

Limitations of the study

The limitations of this study include small sample size and lack of ability to generalize the results to the whole province and the country.

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Authors' contribution

All authors contributed to the design of the research. MM, MS, SLD, MVE and HD collected the data. ZKH, MM and SLD conducted analysis and interpretation of data. PAK, ZKH, MM, MS, SLD, MVM and HD edited the first draft. All authors reviewed, commented and approved the final draft.

Conflict of interest

The authors declare that they have no conflict of interests.

Ethical considerations

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

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