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Knowledge and attitude about HIV/AIDS among pregnant women in Yazd, Iran

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Abstract

Background: Since AIDS is not only a vital medical problem, but also a socioeconomic complication, therefore increasing people's knowledge and replacing their unhealthy behavior by a healthy one is of important consideration. Women, specially in reproductive ages of their life, have a special situation regarding the probability of pregnancy and infection of their fetus.

Objective: The aim of this study was to explore pregnant women's knowledge about HIV/AIDS, their perception of risk, risk behavior and management, and their attitudes towards AIDS.

Materials and Methods: In a cross sectional study, a total of 120 pregnant women, who referred to family health clinics in Yazd, were selected by simple random sampling. Information was collected via a special designed questionnaire containing 22 questions for evaluating knowledge and 6 questions for evaluating attitude. Statistical analysis was performed using Chi-square test with SPSS software.

Results: The knowledge of pregnant women about AIDS was not significantly different in different age groups (p=0.151), while it had a significant relationship with their education (p=0.000). There was a correlation between general knowledge and attitude in pregnant women (p=0.033) (r=0.126). The attitude about AIDS in pregnant women was fairly good and there was a significant difference in this regard related to their education (p=0.000), while there was not significant difference regarding their age (p=0.410) (Mean =19.8).

Conclusion: There is an urgent need for HIV prevention efforts, such as health education and focusing on the pregnant women in developing world. Health educators should tailor education programs for women at risk, particularly those with lower education, to enhance their knowledge about HIV and to improve their attitude about AIDS.

Key Words: *AIDS, Pregnant women, Knowledge, Attitude*

Introduction

About two decades after diagnosing Auto Immune Deficiency Syndrome (AIDS), the world epidemiologic pattern of AIDS is still in a state of high tragic pattern. According to the WHO report, 68 million cases were infected with Human Immunodeficiency Virus (HIV) in 2002. By it's wide distribution around the world, 3 million people die each year. There were 4424 infected cases until December 2002 in Iran (1). AIDS is not only a vital medical problem, but also a socioeconomic complication and 8000-11000 U.S dollars up to now has been paid for the treatment of each patient in the United States (1).

Since AIDS is a new issue and people have little information about it, increasing people's knowledge and replacing their unhealthy behavior by a healthy one is of important consideration (1).

Although AIDS rate is lower in women than men (9.3 per 100,000 women versus 32.4 per 100,000 men in 1999), the cumulative percentage of AIDS cases in women has almost been tripled from 6.7% in 1986 to 18% in 1999 (2). Women, specially in reproductive stages of their life, have a special situation regarding the probability of pregnancy and infection of their fetus. There is some evidence that following the diagnosis of HIV infection, women are less sexually active and have lower pregnancy rates (3,4). However,

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many HIV-infected women remain sexually active, and issues of sexuality, contraception, and HIV transmission must be discussed with them as with all healthy women. Counseling these women, regarding the effect of HIV infection on their reproductive choices involves complex issues, including planning the "best" time for pregnancy according to maternal health and balancing the possible benefits with unknown risks in choosing the appropriate therapy to maximize maternal health and to minimize fetal risk during pregnancy (5).

The aim of this study was to explore pregnant women's knowledge about HIV/AIDS, their perceptions of risk, risk behavior and management, and their attitudes towards HIV screening.

Materials and Methods

This study was conducted as a cross-sectional study to determine the level of knowledge and attitude of pregnant women about AIDS in Yazd.

To find the required sample size in this research a pilot study was performed with the defined variables (S.D=4, α=0.05 and d=0.75) which indicated the sample size of 114. For more accuracy 120 pregnant women, who were referred to family health clinics in Yazd in 2004 were selected by simple random sampling.

Information was collected via a special designed questionnaire containing 22 questions for evaluating knowledge and 6 questions for evaluating attitude.
Each knowledge question had 1 score (total score was 22) and each attitude question had 5 scores (total score was 30).

The relationship between these variables and individual characteristics such as age and education were studied. Content validity established by 3 experts, who were health educators and infection disease specialists and a Cronbach's α was calculated for scale (α=0.75) to determine the internal reliability.

Statistical analysis was performed using Chi-square test with SPSS software.

Results

The pregnant women were 18-35 years old with the age average of 25.1 years (S.D = 4.3). The educational level of women was as follows: 17.5% had only primary education, 19.2% secondary education, 35% high school diploma and 28.3% university education.

Our collected data showed that 82.2% of pregnant women selected virus as the agent causing AIDS, 1.7% selected bacteria, 3.3% selected fungi and 12.5% didn't know what the agent of AIDS is.

Regarding the main ways of AIDS transmission, most of the women chose blood transmission (85.8%), sexual transmission (82.5%), mother to child transmission (73.3%), unsteril dentistry (70.8%), shared hairdressing tools (69.2%), occupational transmission (65.8%) and sharing needles in drug abusers (47.5%). A few believed that AIDS can be transmitted by, insect bite (10.8%), kissing (7.5%), using the same toilet and bath (6.7%), using shared clothing (5%), sharing dishes (5%) and coughing (4.2%) (Table I).

When they were asked about the sources of AIDS agent in the body, 39.2% of them knew that the AIDS agent is found in blood, however the rate was only 0.8% for saliva, 5% semen, 0.8% vaginal secretion, 50.8% breast feeding, and 50% believed that the agent could be found in all of them, and 3.3% didn't answer the question.

With regard to preventing methods, 61.7% answered using condom, 59.2% chose sterilization dentistry tools and 49.2% knew that avoiding sharing needles in drug abusers can prevent the AIDS transmission.
Regarding their age, the knowledge of pregnant women about AIDS had no significant difference in different age groups (p=0.151).

Table I. The participant's knowledge about the ways of AIDS transmission

Way of AIDS transmission	Yes		NO		Total answers	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Mother to child	88	73.3%	29	24.2%	*117	97.5%
Blood transmission	103	85.8%	14	11.7%	*117	97.5%
Common cloth	6	5.0%	111	92.5%	*117	97.5%
Sexual transmission	99	82.5%	18	15.0%	*117	100%
Occupational transmission	79	65.8%	41	34.2%	120	100%
Insect bite	13	10.8%	107	89.2%	120	100%
Dentistry tools	85	70.8%	35	29.2%	120	100%
Hairdressing tools	83	69.2%	37	30.8%	120	100%
Coughing	5	4.2%	115	95.8%	120	100%
Common dishes	6	5.0%	114	95.0%	120	100%
Common toilet	8	6.7%	112	93.3%	120	100%
Kissing	9	7.5%	111	92.5%	120	100%
Sharing needles	57	47.5%	63	52.5%	120	100%

** In these questions we had 3 missing answers*

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Table II. The association between general knowledge and education level.

Knowledge score / Education	4-12.5		12.6-16.5		16.6-22	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Primary	10	8.3%	10	8.3%	1	0.8%
Secondary	8	6.7%	11	9.2%	4	3.3%
High school diploma	15	12.5%	12	10%	15	12.5%
University	1	0.8%	6	5%	27	22.5%
Total	34	28.3	39	32.5%	47	39.2%

p-Value=0.000

Table III. The source of information about AIDS in pregnant women

The source of information about AIDS	Frequency	Percentage
Radio & Television	89	74.1%
Magazine & newspaper	13	10.8%
School	3	2.5%
Family & Friends	3	2.5%
Internet	2	1.6%
Teachers & courses	10	8.5%
Total	120	100%

Table IV. The result of answers to the attitude questions.

Question	Strongly disagree Frequency (Percentage)	Disagree Frequency (percentage)	No difference Frequency (percentage)	Agree Frequency (percentage)	Strongly agree Frequency (Percentage)	Total Frequency (Percentage)
The infected people should be quarantined	22 (18.3%)	44 (36.7%)	9 (7.5%)	34 (28.3%)	11 (9.2%)	120 (100%)
I am afraid of contact with infected people	20 (16.7%)	35 (29.2%)	23 (19.2%)	27 (22.5%)	15 (12.5%)	120 (100%)
AIDS is special for unrestrained people	28 (23.3%)	45 (37.5%)	14 (11.7%)	18 (15%)	15 (12.5%)	120 (100%)
The infected person should not have intercourse with his wife	14 (11.7%)	49 (40.8%)	23 (19.2%)	16 (13.3%)	16 (13.3%)	120 (100%)
AIDS can be transmitted to the nurse	20 (16.7%)	48 (40%)	18 (15%)	25 (20.8%)	9 (7.5%)	120 (100%)
Speaking with infected people can transmit the AIDS	35 (29.2%)	42 (35%)	12 (10%)	14 (11.7%)	17 (14.2%)	120 (100%)

p<0.001

The general knowledge of AIDS in pregnant women was relatively good (Mean score=14.6/22). Regarding their knowledge 28.3% of the pregnant women had low knowledge (score 4-12.5), 32.5% had moderate knowledge (score 12.6-16.5) and 39.2% had good knowledge (score 16.6-22) and this had a significant relationship with their education level (p=0.000) (Table II).

There was a correlation between general knowledge and attitude in pregnant women (p-value=0.033) (r=0.126).

The most effective source of information for the participants was radio and television (74.1%) and the least effective one was Internet (1.6%) (Table III).

The attitude of AIDS in pregnant women was fairly good (Mean =19.8/30). There was no significant difference in their attitude among different age groups (p=0.410), while regarding their education level, the attitude toward AIDS had significant difference (p=0.000). The mean of attitude score in women with primary education was 18.18, in secondary education 18.47, in high school diploma 19.51, and in university education was 21.60 out of 30. Table IV shows the answers of the pregnant women to the attitude's questions.

Discussion

This study reports the knowledge and attitude toward HIV infection among pregnant women.

The mean score of general knowledge on AIDS in pregnant women was 14.6/22 (SD= 4.3). In a similar study on pregnant women carried out in Hong Kong, they had fairly good general knowledge (mean= 4.8/6) (6) and there were statistically significant differences in general knowledge among the pregnant women regarding different levels of education similar to our study (p<0.001).

Regarding the ways of AIDS transmission in our study, 85.8% said that AIDS can be transmitted through blood transmission, 47.5% said sharing needles and 82.5% selected sexually transmission; but

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the study which was done by Tanzanian DHS survey in 1993 reported that only a few knew that AIDS could be transmitted with sharing needles and through blood transmission while 80% knew that the disease can be transmitted through sexual transfer (7). In another study 74% of women thought that drug users who share needles can get HIV (8).

In the study of Lahiri *et al* (9), 55% knew that AIDS can be transmitted by sexual transmission, also in Norr *et al* (10) study, nearly all of the 56 women were aware that the virus is sexually transmitted and believed that condoms are effective for prevention. However, one third had incorrect knowledge about transmission, lacking a full understanding of sexual transmission and believing that transmission can occur through careless contact (10).

More than 50% of the participants in the Winningham *et al* (8) study were incorrect that a person has to had lots of different sex partners to get HIV and 40% were incorrect that AIDS is only a problem for gay men.

Our results indicated that 73.3% of participants knew that AIDS can be transmitted from mother to child and 50.8% knew that it can be transmitted thorough breast feeding. In a similar study Walter *et al* (11) reported that 95% of women were aware of perinatal HIV transmission and 60% knew that HIV can be transmitted through breast feeding. In a study in India, 54% of women knew that breast feeding could transmit HIV, but less than a third were aware that HIV-positive mother does not always infect her infant at delivery (12). Researchers, in Duke University Medical Center, found that almost 40% of the 1400 surveyed women were not certain if HIV-positive woman could transmit the virus to her baby via breast feeding. In addition, nearly 33% believed that babies born to a woman with HIV would definitely become infected (13). In a study in India, over 75% of 707 women displayed knowledge of primary transmission routes, nearly 70% of women demonstrated knowledge of maternal to child transmission, but only 8% knew of any methods of prevention (14).

In this study, 61.7% of women knew that using condom can prevent transmission of AIDS, similarly in the Tanzanian DHS survey (7) 90% of women knew that using condom reduces the risk of AIDS transmission, while Lahiri *et al* (9) reported that only 28% of women were aware that using condom can prevent AIDS transmission, and some of the studies as well reported a low level of knowledge in women about sexually transmitted diseases (STDs) /HIV and the importance of condoms as an effective method to prevent STDs (15-17).

The most effective source of information in our study was radio and television (70%), which was similar to Lahiri *et al* (9) findings and Singh *et al* (18) study, which reported that mass media was the source of information on HIV/AIDS among 86.3% of participants and television was the most popular source (74.6%). But the majority of subjects (48.6%) had preference to get information on AIDS from doctors.

Finally, the present study is in agreed with the findings by Ross (19) who has reported a correlation between knowledge and attitude.

Conclusion

In general, in our study the pregnant women held correct attitude about HIV infected people and had a good general knowledge about AIDS. Only 40% agreed with the statement "The infected people should be quarantined" and only 33.3% agreed with "I am afraid of contact with infected people", which shows that some of them had an incorrect attitude toward AIDS. This problem should be eliminated with proper education by health educators and doctors. Radio and television could have an important role in this regard.

The recent increase number of infected cases in Iran put the pregnant women at an increased risk of HIV infection. Therefore, there is an urgent need for HIV prevention efforts, such as health education, with special focused on the pregnant women. Health educators should tailor education programs for women at risk, particularly those at lower education levels, to enhance their knowledge about HIV transmission from mother to child, and to promote their awareness of safe sex.

As mentioned before radio and television are the most effective source of information about AIDS. In addition teachers should give more information about AIDS to convey information to the population.

Finally, in health policy, providing pre-marriage and pre-pregnancy HIV screening should be considered.

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