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Original Article

Descriptive Factors associated to acceptability of premarital HIV testing in the Islamic Republic of Iran (2016-2017)

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Abstract

Acquired immunodeficiency syndrome (AIDS) is due to infection by human immuno-deficiency virus (HIV). Premarital examinations include: clinical evaluation for familial clutters, barrenness, liver and kidney function, HIV testing, Blood group, Hemoglobin electrophoresis, semen investigation for males. This study was conducted to evaluate the acceptability of premarital HIV testing among couples referred to Akbari counseling center in Yazd, Iran. The study was cross-sectional and descriptive with a simple random sampling (census) among young couples referred to the premarital counseling center. The couples included 1000 men and 1000 women referred to the mentioned center. This study assessed the acceptability of premarital HIV testing rate among young couples according to age, gender and level of education and HIV knowledge. Statistical analyses were done using SPSS (version 20.0). $P < 0.05$ was accepted as significant. One thousand couples were recruited in this study. The mean age was 20 ± 35 years. In this study, knowledge rate about HIV was 71.7%. Also, knowledge rates about transmission ways among women and men were 49.2% and 50.8%, respectively.52.7% men and 47.3% women had the willingness to test for HIV before marriage. 29.5% of participants stated no willingness for marriage if the HIV test of their spouses was positive. Our findings show that acceptability of premarital HIV testing was greatly related to knowledge about HIV/AIDS.

Keywords: Couples; HIV; Iran; Premarital testing

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Introduction

Acquired immunodeficiency syndrome (AIDS) is caused by infection with human immuno-deficiency virus (HIV). HIV belongs to the retrovirus family [1-5]. HIV/AIDS has been recognized as one of the scourges of humanity in the current century [6]. To date, the majority of HIV/AIDS cases worldwide are due to sexual contacts, intravenous drug user and a few cases of vertical transmission from mother to child in developing countries. However, AIDS is a disease related to human lifestyle. It was assessed by WHO that by the end of 2017, 36.9 million individuals would be HIV-infected [7-11].

People living with HIV who take HIV medication daily as prescribed and get and keep an undetectable viral load have effectively no risk of sexually transmitting HIV to their HIV-negative partners [12,13].

HIV is spreading quickly around the globe, especially in new nations. Asia has now turned into a focus of the pandemic, with a quickly expanding rate of HIV transmission [14,15].

HIV disease epidemiology has been assessed in Iran, Lebanon, Morocco and Saudi Arabia; in Iran mainly among detainees, youngsters, sex laborers and infusing drug users. In 2016, the Islamic Republic of Iran had 5000 (1400 - 13 000) new HIV infections and 4000 (2500 - 6200) AIDS-related deaths. There were 66 000 (37 000 - 120 000) people living with HIV in 2016, among whom 14% (7% - 26%) were accessing antiretroviral therapy [16,17].

Premarital tests include clinical evaluation for familial clutters, barrenness, and laboratory tests like full blood count, blood group, Hemoglobin electrophoresis, Rhesus factor, liver and kidney functions, HIV testing, semen investigation for males [6].

As regards HIV testing on account of its moral contemplations, isn't obligatory in our nation and pre-marriage irresistible tests, for example, syphilis are compulsory [6,18].

A premarital screening program among Muslims is obligatory especially in Iran. The objective of this work was to evaluate the acceptability of HIV testing in Yazd city.

Materials and Methods

This was a descriptive and cross-sectional study in which a simple random sampling (census) was done among young couples referred to the Akbari premarital counseling center. This study assessed the willingness rate of young couples to accept been tested for HIV before marriage. They were enrolled from December 2016 to 2017. The sample size was determined based on the following formula. Also, questionnaire was designed based on new needs in current time[16]:

$$x = \frac{p(1-p)z^2}{d^2 0.03^2}$$

was considered 0.5 and d (5-20% of) is the desired level of precision. By considering, $z = 1.96$, the sample size was determined. Considering the error of 3%, 1000 cases were required. Data was collected using a tested and validated questionnaire. The questionnaire sicked to collect information such as age, gender, level of education, acknowledge about HIV, How HIV is transmitted, opinion on testing asymptomatic people, the willingness to marry an HIV positive partner, belief that HIV is preventable and their wife should know positive result of pre-marital HIV testing, and the Willingness to test for HIV despite the cost. The ethics committee of our university approved the study. The confidentiality of information was explained to the participants. Reliability and validity of the questionnaire were evaluated by experts and Cronbach's alpha test. All the questionnaires were filled and completed by the couples themselves and if they were illiterate, they were filled by the help of the main investigator.

Statistical Analyses

Statistical analyses were performed using Statistical Package for the Social Sciences 20.0 (SPSS Inc., Chicago, IL, USA). $P < 0.05$ was accepted as significant. Acceptance of pre-marital HIV testing was coded as '1', whereas denialwas coded as '0'.

Results

Out of 1000 cases, 252 (27.1%) less than 20 years, 54 (58.6%) between 20 and 29 years and 133 (14.3%) were over 30 years. Among people that had knowledge about AIDS, 24.6% had less than 20 years, 59.6% were between 20 and 29 years old and 15.8% were over 30 years of age. Among non-familiar persons, 30.1% were under age 20, 57% were between 20 and 29 years old and 12.9% were over 30 years of age, Knowledge of HIV/AIDS was associated with age (p=0.004) Also, among these couples, 48.7% were male and 51.3% were female, As well there was a significant difference between the sex and acknowledge about AIDS (p=0.001), females been less aware of HIV/AIDS than males? Of couples with AIDS, 11.4% had high school diplomas and 87.6% had diploma or higher education, and 23.6% were under the diploma and 76.4% had diplomas or higher among people not familiar with the disease (p≤0.001).

Results showed that there was statistically significant difference about frequency distribution of groups answering to questions including "need to learn more about AIDS, familiarity with the ways of AIDS transmission, people's willingness to perform an AIDS test before marriage, and the willingness of people to know their families about the positive test" based on age groups, but, there was no this difference between age groups answering to questions including: "the willingness of individuals to know their spouse from the positive test before marriage, the willingness of individuals to carry out AIDS test of spouse, the willingness of individuals to be informed about result of AIDS test of spouse, the willingness of individuals to marry with person that its test is positive, people's opinion about the need for AIDS testing in asymptomatic individuals, and the willingness of people to do an AIDS test even if cost is high" (Table 1).

Question / Answer \ Age groups		Under 20 years Number (%)	20-29 years Number (%)	Above 29 years Number (%)	Total Number (%)
Need to learn more about AIDS	Yes	106 (28)	220(58.2)	52 (13.8)	378 (100)
	No	103 (23.1)	271(60.8)	72(16.1)	446 (100)
P- value = 0.004	Un-awareness	43 (41)	53 (50.5)	9 (8.6)	105 (100)
	Total	252 (27.1)	544(58.6)	133 (14.3)	929 (100)
Familiarity with the ways of AIDS transmission	Yes	192 (25.2)	458 (60)	113 (14.8)	763 (100)
	No	53 (42.7)	58 (46.8)	13 (10.5)	124 (100)
P- value = 0.001	Un-awareness	7 (17.5)	29 (72.5)	4 (10)	40 (100)
	Total	252 (27.2)	545 (58.8)	130 (14)	927 (100)
People's willingness to perform an AIDS test before marriage	Yes	86 (19.5)	277 (63)	77 (17.5)	440 (100)
	No	109 (30.5)	206 (57.7)	42 (11.8)	357 (100)
P- value ≤ 0.001	Un-awareness	55 (42)	63 (48.1)	13 (9.9)	131 (100)
	Total	250 (26.9)	546 (58.8)	132 (14.2)	928 (100)

The willingness of individuals to know their spouse from the positive test before marriage P- value = 0.964	Yes	201 (26.9)	437 (58.6)	108 (14.5)	746 (100)
	No	13 (26)	31 (62)	6 (12)	50 (100)
	Un-awareness	27 (27.3)	56 (56.6)	16 (16.2)	99 (100)
	Total	241 (26.9)	524 (58.5)	130 (14.5)	895 (100)
The willingness of individuals to carry out AIDS test of spouse P- value = 0.054	Yes	102 (23.9)	266 (62.3)	59 (13.8)	427 (100)
	No	96 (27)	206 (58)	53 (14.9)	355 (100)
	Un-awareness	53 (36.6)	75 (51.7)	17 (11.7)	145 (100)
	Total	251 (27.1)	547 (59)	129 (13.9)	927 (100)
The willingness of individuals to be informed about result of AIDS test of spouse P- value = 0.976	Yes	197 (27.1)	428 (58.9)	102 (14)	727 (100)
	No	27 (25)	64 (59.3)	17 (15.7)	108 (100)
	Un-awareness	21 (27.3)	44 (57.1)	12 (15.6)	77 (100)
	Total	245 (26.9)	536 (58.8)	131 (14.4)	912 (100)
The willingness of individuals to marry with person that its test is positive P- value = 0.075	Yes	65 (24.7)	166 (63.1)	32 (12.2)	263 (100)
	No	60 (22.6)	166 (62.4)	40 (15)	266 (100)
	Un-awareness	116 (30.7)	204 (54)	58 (15.3)	378 (100)
	Total	241 (26.6))	536 (59.1)	130 (14.3)	907 (100)
The willingness of people to know their families about the positive test P- value = 0.018	Yes	173 (28.2)	366 (59.6)	75 (12.2)	614 (100)
	No	24 (18.6)	83 (64.3)	22 (17.1)	129 (100)
	Un-awareness	50 (29.2)	88 (51.5)	33 (19.3)	171 (100)
	Total	247 (27)	537 (58.8)	130 (14.2)	914 (100)
People's opinion about the need for AIDS testing in asymptomatic individuals P- value = 0.763	Yes	119 (26.3)	271 (59.8)	63 (13.9)	453 (100)
	No	53 (25.1)	127 (60.2)	31 (14.7)	211 (100)
	Un-awareness	77 (30.1)	143 (55.9)	36 (14.1)	256 (100)
	Total	249 (27.1)	541 (58.8)	130 (14.1)	920 (100)
The willingness of people to do an AIDS test even if cost is high P- value = 0.302	Yes	160 (28.1)	325 (57.1)	84 (14.8)	569 (100)
	No	34 (20.6)	108 (65.5)	23 (13.9)	165 (100)
	Un-awareness	54 (29.2)	106 (57.3)	25 (13.5)	185 (100)
	Total	248 (27)	539 (58.7)	132 (14.4)	919 (100)

Table 1: Frequency distribution of age groups answering to questions.

Also, there was no statistically a significant difference about answer to questions including "familiarity with the ways of AIDS transmission" and "the willingness of individuals to know their spouse from the positive test before marriage" based on gender, but, there was a significant difference about other questions between individuals answering based on gender (Table 2):

There was no significant difference between individuals answering only about question "the willingness of people to know their families about the positive test" based on educational levels (Table 3):

		Male Number (%)	Female Number (%)	Total Number (%)
Need to learn more about AIDS P- value ≤ 0.001	Yes	163 (42.2)	223(57.8)	386 (100)
	No	263 (57.8)	192(42.2)	455(100)
	Un-awareness	42 (39.6)	64 (60.4)	106 (100)
	Total	468 (49.4)	479(50.6)	947 (100)
Familiarity with the ways of AIDS transmission P- value = 0.064	Yes	395 (50.8)	383 (49.2)	778 (100)
	No	50 (40.0)	75 (60.0)	125 (100)
	Un-awareness	22 (55.0)	18 (45.0)	40 (100)
	Total	467 (49.5)	476 (50.5)	943 (100)
People's willingness to perform an AIDS test before marriage P- value = 0.015	Yes	236 (52.7)	212 (47.3)	448 (100)
	No	181 (49.7)	183 (50.3)	364 (100)
	Un-awareness	51 (38.3)	82 (61.7)	133 (100)
	Total	468 (49.5)	477 (50.5)	945 (100)
The willingness of individuals to know their spouse from the positive test before marriage P- value = 0.767	Yes	378 (49.9)	380 (50.1)	758 (100)
	No	26 (49.1)	27 (50.9)	53 (100)
	Un-awareness	46 (46.0)	54 (54.0)	100 (100)
	Total	450 (49.4)	461 (50.6)	911 (100)
The willingness of individuals to carry out AIDS test of spouse P- value ≤ 0.001	Yes	190 (43.6)	246 (56.4)	436 (100)
	No	212 (58.7)	149 (41.3)	361 (100)
	Un-awareness	65 (44.2)	82 (55.8)	147 (100)
	Total	467 (49.5)	477 (50.5)	944 (100)
The willingness of individuals to be informed about result of AIDS test of spouse P- value = 0.008	Yes	350 (47.2)	391 (52.8)	741 (100)
	No	70 (63.1)	41 (36.9)	111 (100)
	Un-awareness	39 (50.6)	38 (49.4)	77 (100)
	Total	459 (49.4)	470 (50.6)	929 (100)
The willingness of individuals to marry with person that its test is positive P- value = 0.005	Yes	150 (55.6)	120 (44.4)	270 (100)
	No	141 (52.0)	130 (48.0)	271 (100)
	Un-awareness	166 (43.3)	217 (56.7)	383 (100)
	Total	457 (49.5)	467 (50.5)	924 (100)
The willingness of people to know their families about the positive test P- value ≤ 0.001	Yes	303 (48.4)	323 (51.6)	626 (100)
	No	84 (64.6)	46 (35.4)	130 (100)
	Un-awareness	73 (41.7)	102 (58.3)	175 (100)
	Total	460 (49.4)	471 (50.6)	931 (100)

People's opinion about the need for AIDS testing in asymptomatic individuals P- value = 0.014	Yes	216 (47.1)	243 (52.9)	459 (100)
	No	125 (57.9)	91 (42.1)	216 (100)
	Un-awareness	120 (45.8)	142 (54.2)	262 (100)
	Total	461 (49.2)	476 (50.8)	937 (100)
The willingness of people to do an AIDS test even if cost is high P- value ≤ 0.001	Yes	271 (46.6)	10 (53.4)	581 (100)
	No	107 (64.5)	59 (35.5)	166 (100)
	Un-awareness	84 (44.4)	105 (55.6)	189 (100)
	Total	462 (49.4)	474 (50.6)	936 (100)

Table 2: Frequency distribution of individuals answering to questions based on gender.

Education / Question / Answer		Illiterate	Able to read	High School Diploma	Diploma	Higher Diploma	Total
Need to learn more about AIDS P- value = 0.05	Yes	2 (0.5)	8 (2.1)	39 (10.2)	113 (29.4)	222 (57.8)	384 (100)
	No	3 (0.7)	9 (2.0)	70(15.5)	146 (32.2)	225 (49.7)	453(100)
	Un-awareness	0 (0)	3 (2.8)	19 (17.8)	41 (38.3)	44 (41.1)	107 (100)
	Total	5 (0.5)	20 (2.1)	128(13.6)	300 (31.8)	491 (52.0)	944(100)
Familiarity with the ways of AIDS transmission P- value ≤ 0.001	Yes	3 (0.4)	10 (1.3)	92 (11.9)	239 (30.8)	431 (55.6)	775 (100)
	No	2 (1.6)	5 (4.0)	31 (24.8)	50 (40.0)	37 (29.6)	125(100)
	Un-awareness	0 (0)	5 (12.5)	3 (7.5)	13 (32.5)	19 (47.5)	40 (100)
	Total	5 (0.5)	20 (2.1)	126 (13.4)	302 (32.1)	487 (51.8)	940(100)
People's willingness to perform an AIDS test before marriage P- value ≤ 0.001	Yes	3 (0.7)	5 (1.1)	41 (9.1)	109 (24.3)	291 (64.8)	449 (100)
	No	2 (0.6)	12 (3.3)	63 (17.4)	145 (40.1)	140 (38.7)	362(100)
	Un-awareness	0 (0)	3 (2.3)	24 (18.3)	47 (35.9)	57 (43.5)	131 (100)
	Total	5 (0.5)	20 (2.1)	128 (13.6)	301 (32.0)	488 (51.8)	942(100)
The willingness of individuals to know their spouse from the positive test before marriage P- value = 0.030	Yes	2 (0.3)	14 (1.8)	97 (12.8)	235 (31.0)	409 (54.0)	757 (100)
	No	0 (0)	2 (3.8)	11 (21.2)	18 (34.6)	21 (40.4)	52(100)
	Un-awareness	2 (2.0)	2 (2.0)	18 (17.6)	39 (38.2)	41 (40.2)	102 (100)
	Total	4 (0.4)	18 (2.0)	126 (13.8)	292 (32.1)	471 (51.7)	911(100)
The willingness of individuals to carry out AIDS test of spouse P- value ≤ 0.001	Yes	4 (0.9)	4 (0.9)	43 (9.9)	109 (25.2)	273 (63.0)	433 (100)
	No	1 (0.3)	14 (3.9)	55 (15.3)	137 (38.2)	152 (42.3)	359(100)
	Un-awareness	0 (0)	2 (1.3)	27 (18.1)	55 (36.9)	65 (43.6)	149 (100)
	Total	5 (0.5)	20 (2.1)	125 (13.3)	301 (32.0)	490 (52.1)	941(100)

The willingness of individuals to be informed about result of AIDS test of spouse	Yes	4 (0.5)	10 (1.4)	94 (12.8)	218 (29.6)	410 (55.7)	736 (100)
	No	1 (0.9)	6 (5.3)	18 (15.9)	45 (39.8)	43 (38.1)	113(100)
	Un-awareness	0 (0)	4 (5.1)	12 (15.4)	31 (39.7)	31 (39.7)	78 (100)
P- value = 0.001	Total	5 (0.5)	20 (2.2)	124 (13.4)	294 (31.7)	484 (52.2)	927(100)
The willingness of individuals to marry with person that its test is positive	Yes	2 (0.8)	10 (3.8)	44 (16.5)	94 (35.3)	116 (43.6)	266 (100)
	No	1 (0.4)	2 (0.7)	33 (12.3)	71 (26.4)	162 (60.2)	269(100)
	Un-awareness	2 (0.5)	6 (1.6)	50 (13.0)	125 (32.4)	203 (52.6)	386 (100)
P- value = 0.011	Total	5 (0.5)	18 (2.0)	127 (13.8)	290 (31.5)	481 (52.2)	921(100)
The willingness of people to know their families about the positive test	Yes	4 (0.6)	12 (1.9)	83 (13.3)	193 (30.9)	333 (53.3)	625 (100)
	No	0 (0)	4 (3.1)	18 (14.1)	46 (35.9)	60 (46.9)	128(100)
	Un-awareness	1 (0.6)	4 (2.3)	27 (15.3)	55 (31.3)	89 (50.6)	176 (100)
P- value = 0.869	Total	5 (0.5)	20 (2.2)	128 (13.8)	294 (31.6)	482 (51.9)	929(100)
People's opinion about the need for AIDS testing in asymptomatic individuals	Yes	3 (0.7)	11 (2.4)	44 (9.6)	136 (29.6)	266 (57.8)	460 (100)
	No	1 (0.5)	2 (0.9)	38 (18.0)	69 (32.7)	101 (47.9)	211(100)
	Un-awareness	1 (0.4)	7 (2.7)	46 (17.5)	92 (35.0)	117 (44.5)	263 (100)
P- value = 0.006	Total	5 (0.5)	20 (2.1)	128 (13.7)	297 (31.8)	484 (51.8)	934(100)
The willingness of people to do an AIDS test even if cost is high	Yes	4 (0.7)	9 (1.6)	64 (11.1)	182 (31.4)	320 (55.3)	579 (100)
	No	1 (0.6)	4 (2.4)	33 (19.8)	50 (29.9)	79 (47.3)	167(100)
	Un-awareness	0 (0)	7 (3.7)	31 (16.5)	63 (33.5)	87 (46.3)	188 (100)
P- value = 0.037	Total	5 (0.5)	20 (2.1)	128 (13.7)	295 (31.6)	486 (52.0)	934(100)

Table 3: Frequency distribution of individuals answering to questions based on educational levels.

Discussion

This study showed that there was statistically a significant difference about frequency distribution of groups answering to questions including "need to learn more about AIDS, familiarity with the ways of AIDS transmission, people's willingness to perform an AIDS test before marriage, and the willingness of people to know their families about the positive test" based on age groups. Also, there was a significant difference about all of questions between individuals answering based on gender except two questions including: "familiarity with the ways of AIDS transmission" and "the willingness of individuals to know their spouse from the positive test before marriage". About investigation based on educational levels only there was no significant difference about question "the willingness of people to know their families about the positive test".

Similar study by Ayatollahi*, et al*examined the ability rate of couples alluded to the family control pre-marriage mentoring place for performing HIV test before marriage in Yazd, Iran. There was a huge factual distinction between the age bunches about readiness for HIV testing before marriage and also positive comments about AIDS testing in asymptomatic people. This examination likewise demonstrated a critical measurable distinction between the two sexual orientation bunches about readiness to wed after HIV positive trial of their spouses. Also, our study showed significant statistical difference between the age groups about willingness for HIV testing before marriage. The present study was also better towards mentioned study, because in our study added educational levels for better investigation.

Wu *et al.* examined the ability rate of couples wishing to be hitched to perform premarital HIV testing in China. As a rule, almost 1600 members went to the clinics or wellbeing communities for marriage mentoring amid the investigation time frame. Almost, 14% men and 20% ladies trusted that required pre-marriage AIDS testing ought to be performed[14]. In the present study, 52.7% men and 47.3% women had the willingness for testing.

Another study in sub Saharan Africa showed that a majority of individuals had good knowledge about HIV. Obligatory HIV screening was low almost 6% while the eagerness for testing was 30%. A greater part almost 70% were canceling marriage designs if their life partners tried positive to AIDS / HIV[19]. In the present study, 47.6% had the willingness for HIV testing. Also, in our study, 29.5% individuals had not willingness for marriage if the test of their spouses was positive for HIV.

A study in Sokoto, North Western Nigeria researched the information of HIV/AIDS among religious pioneers in Sokoto and in the event that they routinely interest for compulsory pre-marriage HIV testing for all proposing couples. Almost half of the people had sufficient learning of HIV/AIDS with more Christian ministers contrasted with Muslim Clerics having better information of HIV[20]. In the present study, adequate knowledge rate was 71.7%.

Another investigation in Egypt studied awareness of a few regenerative wellbeing and HIV issues and to decide the wellsprings of conceptive wellbeing learning.17% women and 18% men had information about the ways of disease transmission. Also, almost 70% – 80% both women and men had awareness about AIDS[21]. In the present study knowledge rate was 71.7%. Also, knowledge rates about transmission ways among women and men were 49.2% and 50.8%, respectively.

Conclusion

Our findings show that acceptance of premarital testing was related to greater knowledge about HIV/AIDS. Because almost 70% of individuals were interested to pay money for testing even if it was high, therefore, knowledge about HIV testing is more important for prevention.

Funding

It was author's own work.

Compliance with Ethical Standards

The ethics committee of our university approved the study. The confidentiality of information was explained to the participants.

Conflict of interest

There are no conflicts of interest.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

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