

ORIGINAL PAPER

"DEMAND WHAT YOU PREFER": THE ROLE OF SEXUAL ASSERTIVENESS AMONG HIV-INFECTED WOMEN

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Abstract

Aim: This study was conducted to evaluate sexual assertiveness among HIV-infected women, and to address the relationship between sexual assertiveness, sociodemographic characteristics, sexual and fertility profile, and HIV-related variables in this population. *Design:* A cross sectional study. *Methods:* The research was conducted with a sample of 93 eligible HIV-infected women referred to Imam Khomeini hospital between September 2016 and January 2018. The Hurlbert Index of Sexual Assertiveness was used to assess sexual assertiveness. *Results:* Mean and standard deviation of sexual assertiveness was 51.33 (20.16). We found a significant relationship between age (p = 0.04), education (p = 0.03), pregnancy experience (p = 0.003), age at the time of first sexual contact (p = 0.005), and disclosure of HIV sero-status to sexual partners (p = 0.05) and sexual assertiveness. Binary logistic regression results showed that age (p = 0.04), having live children (p = 0.003), and disclosure of HIV sero-status to sexual partners (p = 0.04) could significantly predict sexual assertiveness score. *Conclusion:* Our findings showed that level of sexual assertiveness in HIV sero-positive women deserves more attention. In addition, consideration should be given to sexual health related issues and sexual assertiveness skills during routine HIV care appointments.

Keywords: assertiveness, HIV, safe sex, sexual health, women.

Introduction

Sexual assertiveness reflects the ability of women to talk about their sexual preferences and sexual history, and to initiate safe sex and refuse undesirable sexual behaviors (Loshek, Terrell, 2015; Ramezani et al., 2018). The association between sexual assertiveness and psycho-physical health conditions make it an important concept in sexual health (Loshek, Terrell, 2015). Low sexual assertiveness can be an important factor in predicting risky sexual behaviors. Individuals with low sexual assertiveness are more prone to have more and higher-risk sexual partners. HIV-infected people who participate in high-risk relationships increase the risk of secondary immunodeficiency transmission of human virus/sexually transmitted diseases (HIV/STDs) (Vallejo-Medina, Sierra, 2015).

Heterosexual contact is one of the main routes of HIV transmission throughout the world, especially in the

Corresponding author: Mehrnaz Rasoolinejad, Iranian Research Center for HIV/AIDS, Imam Khomeini hospital, 14-19-733141, Tehran, Iran; email: research.correspondence@gmail.com Middle East and North Africa (MENA) region (DeJong, Battistin, 2015). The MENA region comprises more than 20 countries, with various levels of development and income categories, and 10% of the global youth population (Gökengin et al., 2016). HIV infection incidence in the area is increasing, with women accounting for 44% of all cases (Chahil-Graf, Madani, 2014). Reportedly, 88% of the HIV positive population of MENA lives in Iran, Sudan, Somalia, Morocco and Algeria. Iran was home to 30% of all HIV-infected people in the MENA region in 2013 (Gökengin et al., 2016).

Sexual assertiveness plays an important role in experiencing greater sexual pleasure, and preventing unwanted sex and violence. Nevertheless, there is limited data on the level of sexual assertiveness in women, especially in the HIV positive population. The majority of women have many issues in terms of autonomy and the ability to express their sexual needs and preferences in Iran and many other countries (Azmoude et al., 2016). The relationship between sexual assertiveness and HIV/STDs, noted above, means that boosting sexual assertiveness is likely to

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facilitate HIV/STD prevention (Vallejo-Medina, Sierra, 2015).

Aim

The present study was conducted to investigate sexual assertiveness among HIV infected women, and to address the relationship between sexual assertiveness, sociodemographic characteristics, sexual and fertility profile, and HIV-related variables in this population.

Methods

Design

This cross-sectional study on sexual assertiveness among HIV-infected women was conducted in the volunteer counselling and testing center (VCT) of Imam Khomeini hospital (Tehran, Iran), as the major referral center of HIV psychological, prevention and medical services in Tehran.

Sample

Data were collected between September 2016 and January 2018. All HIV-infected and sexually active women between 18 and 45 years of age, with no current history of drug or alcohol dependence, or physical disability six months prior to enrollment were invited to participate in the study. The study was publicized by invitation brochures on the bulletin board of the voluntary counselling and testing center of Imam Khomeini hospital. The study objectives were explained to 161 women volunteers. From this total, 28 HIV sero-positive women opted out of the study, and 40 HIV-infected clients did not meet the study criteria. Eventually, 93 eligible HIV seropositive women provided written informed consent, and participated in the study. Participants completed demographic and sexual profile questionnaires. Level of sexual assertiveness was also assessed. One member of the research team was in charge of data collection, providing information about questionnaires. All questionnaires were distributed to participants and completed on the same day. Completion of the questionnaires took about 15 minutes. Participants who were undergoing infertility treatment, or had severe depression based on Beck Depression Inventory-II, were excluded from the study. Volunteers received 100,000 Rials for their participation.

Data collection

The Hurlbert Index of Sexual Assertiveness (HISA) was used to assess level of sexual assertiveness among our participants. The HISA was introduced in 1991 by David Farley Hurlbert (Hurlbert, 1991) and consists of 25 questions, answered according to a five-point

Likert scale from 0 (always) to 4 (never). The total score is calculated by adding the score of all 25 items. The total HISA score ranges from 0 to 100, with a higher score indicating higher sexual assertiveness (Santos-Iglesias, Sierra, 2010; Santos-Iglesias, Sierra, Vallejo-Medina, 2013). The psychometric properties of the HISA has been validated for the English version, with reliability ranging between 0.84 and 0.92, and a construct validity of 0.82 (Santos-Iglesias, Sierra, 2010). The reliability of the Iranian version of the HISA has also been validated (Cronbach's alpha = 0.91) (Sayyadi et al., 2018).

Data analysis

The present study was conducted to evaluate sexual assertiveness among HIV-infected women, and to investigate the relationship between sexual assertiveness, socio-demographic characteristics, and sexual profile. For analysis we used descriptive statistics, the Independent samples t-test, the chisquare test, Fisher's exact test, and the Mann-Whitney U test. All analyses were performed using the Statistical Package for Social Sciences (SPSS 16.0).

Results

Mean and standard deviation of sexual assertiveness among our participants was 51.33 (SD = 20.16; range 5–86). We used the median score of sexual assertiveness inventory (53) to divide our participants into two groups. Participants with an assertiveness score ≤ 53 were assigned to the non-assertive group, and women who obtained a score ≥ 54 were classified as sexually assertive women (Hurlbert, 1991). Mean and standard deviation of age among our participant was 34.29 (SD = 5.91; range 23-45) years. Younger women in our setting were more likely to be sexually assertive (p = 0.04). Diploma or higher level of education was significantly related to sexual assertiveness (p = 0.03). Other sociodemographic variables and their relationships to assertiveness score are presented in Table 1.

Our results showed that women who had experienced pregnancy (p=0.003), and had live children (p=0.001) obtained significantly lower scores for assertiveness. The Mann-Whitney U test results also indicated that sexually assertive women had started sexual activity at older ages (p=0.005). Other fertility and sexual profile variables are addressed in Table 2.

Table 1 The relationship between sociodemographic variables and sexual assertiveness score

		Assertiveness			
		all participants	nonassertive	assertive	p-value
		$n = 9\overline{3}$	n = 47	n = 46	-
			mean (SD)		
Age (years)		34.29 (5.91)	35.53 (5.56)	33.02 (6.05)	0.04^{a}
\mathbf{BMI}^* (kg/m ²)		24.91 (5.83)	25.39 (7.29)	24.42 (3.83)	0.42^{a}
Cigarettes smoked per day		8.56 (5.89)	10.80 (5.93)	5.75 (5.18)	0.22^{a}
-		median (Q25-Q75)			
Number of hookah sessions per week		1 (1.00–2.00)	1 (1.00–2.00)	1.50 (1.00-2.75)	0.61^{b}
	-	n (%)	n (%)	n (%)	
Marital status	married	64 (68.8)	32 (68.1)	32 (69.6)	0.970
	other	29 (31.2)	15 (31.9)	14 (30.4)	0.87^{c}
Education	lower than diploma	47 (50.5)	29 (61.7)	18 (39.1)	0.03°
	diploma or higher education	46 (49.5)	18 (38.3)	28 (60.9)	0.03
Occupation	housewife	75 (80.6)	37 (78.7)	38 (82.6)	0.620
	other	18 (19.4)	10 (21.3)	8 (17.4)	$0.63^{\rm c}$
Economic status	satisfactory	56 (60.2)	26 (55.3)	30 (65.2)	0.33°
	unsatisfactory	37 (39.8)	21 (44.7)	16 (34.8)	
Cigarette smoking	yes	9 (9.7)	5 (10.60)	4 (8.7)	> 0.99 ^d
	no	84 (90.3)	42 (89.40)	42 (91.3)	≥ 0.55°
Hookah smoking	yes	15 (16.1)	7 (14.9)	8 (17.4)	0.74 ^c
	no	78 (83.9)	40 (85.1)	38 (82.6)	0.74

^aIndependent samples t-test; ^bMann-Whitney U test; ^cChi-square test; ^d Fisher's exact test; ^{*}Body Mass Index

Table 2 The relationship between sexual assertiveness and fertility and sexual profile

		Assertiveness				
		all participants	nonassertive	assertive	p-value	
		n = 93	n = 47	$\mathbf{n} = 46$		
			median (Q25-Q75			
Age at time of first sexual	contact	19 (17.00–22.00)	18 (16.00-20.00)	20.50 (17.75–24.00)	0.005^{a}	
Number of deliveries		1 (1.00–2.00)	2.00 (1.00–2.00)	1.00 (1.00–2.00)	0.04^{a}	
Number of children		1 (1.00–2.00)	2 (1.00–2.00)	1 (1.00–1.75)	0.02^{a}	
Number of sexual contacts month	during the last	3 (1.50–4.00)	3 (1.00–4.00)	3 (2.00–4.00)	0.17^{a}	
Number of sexual partners month	s during the last	1(1.00-1.00)	1 (1.00–1.00)	1 (1.00–1.00)	0.75 ^a	
		n (%)	n (%)	n (%)		
Pregnancy experience	yes	79 (84.9)	45 (95.7)	34 (73.9)	0.002h	
	no	14 (15.1)	2 (4.3)	12 (26.1)	0.003^{b}	
Having live child(ren)	yes	71 (76.30)	43 (91.50)	28 (60.90)	0.001 ^b	
	no	22 (23.70)	4 (8.50)	18 (39.10)	0.001	
Contraception method	condom	74 (79.60)	36 (76.6)	38 (82.60)	0.47^{b}	
-	other	19 (20.40)	11 (23.40)	8 (17.40)	0.47	
Overall condom use	always/often	61 (65 60)	20 (61 70)	22 (60 60)		
	sometimes/	61 (65.60)	29 (61.70)	32 (69.60)	0.42^{b}	
	never	32 (34.40)	18 (38.30)	14 (30.40)		
Vaginal discharge in the	yes	37 (39.80)	17 (36.20)	20 (43.50)	0.47 ^b	
last year	no	56 (60.20)	30 (63.80)	26 (56.50)		
Experience of first sexual	yes	84 (90.30)	43 (91.50)	41 (89.10)	0.74^{c}	
contact after marriage	no	9 (9.70)	4 (8.50)	5 (10.90)	0.74	
Regular menstruation in	yes	65 (69.90)	31 (66.00)	34 (73.90)	O 40b	
the last three months	no	28 (30.10)	16 (34.00)	12 (26.10)	0.40^{b}	

^aMann-Whitney U test; ^bChi-square test; ^cFisher's exact test

We analyzed the relationships between HIV-related variables and sexual assertiveness using the chisquare test, Mann-Whitney U test, and Fisher's exact test. Lower rate of HIV sero-status disclosure to sexual partners was significantly related to sexual assertiveness (p = 0.05). Other HIV-related variables were not significantly associated with sexual assertiveness (Table 3).

Additionally, we analyzed sexual assertiveness results using binary logistic regression. Independent variables including: age, education, occupation, Body Mass Index, pregnancy experience, having live children, transmission route, timed since diagnosis, antiretroviral therapy (ART), genital wart in last month, genital herpes in last month, the first CD4 cell count after diagnosis, the last CD4 cell count, active

membership of HIV positive club, marital status, age at time of first sexual contact, number of sexual partners during the last month, contraception method, disclosure of HIV sero-status to sexual partner, HIV sero-status of sexual partner, worries about HIV transmission, experiencing first sexual contact after marriage, and regular menstruation in the last three months were considered in the model. After checking for confounding variables, we found significant associations between age (OR = 0.92; p = 0.04); having live children (OR = 6.6; p = 0.003); and disclosure of HIV serostatus to sexual partner (OR = 10.63; p = 0.04) and sexual assertiveness (Table 4).

Table 3 The relationship between sexual assertiveness and HIV-related variables

		Assertiveness			
		all participants	nonassertive	assertive	p-value
		n = 93	n = 47	n = 46	
		n	nedian (Q25-Q75)		
Time since diagnosis (years)		4 (2.00-8.00)	5 (2.00–10.00)	4 (2.00–6.25)	0.48^{a}
		n (%)	n (%)	n (%)	
Transmission route	sexual contact	64 (68.80)	31 (66.00)	33 (71.70)	0.54 ^b
	other	29 (31.20)	16 (34.00)	13 (28.30)	0.34
\mathbf{ART}^*	yes	75 (80.60)	38 (80.90)	37 (80.40)	0.95 ^b
	no	18 (19.40)	9 (19.10)	9 (19.60)	0.93
Genital warts in last month	yes	6 (6.50)	4 (8.50)	2 (4.30)	0.67°
	no	87 (93.50)	43 (91.50)	44 (95.70)	
Genital herpes in last month	yes	4 (4.30)	2 (4.30)	2 (4.30)	> 0.99 ^c
	no	89 (95.70)	45 (95.70)	44 (95.70)	
The last CD4 cell count (cells/ml)	≤ 350	19 (20.40)	10 (21.30)	9 (19.60)	0.83 ^b
	> 350	74 (79.60)	37 (78.70)	37 (80.40)	0.83
The first CD4 cell count after	≤ 350	42 (45.20)	19 (40.40)	23 (50.00)	0.35 ^b
diagnosis (cells/ml)	> 350	51 (54.80)	28 (59.60)	23 (50.00)	0.55
The last viral load	< 1,500	42 (77.80)	23 (79.30)	19 (76.00)	0.77 ^b
	\geq 1,500	12 (22.20)	6 (20.70)	6 (24.00)	0.77
Active membership in HIV positive	yes	32 (34.40)	15 (31.90)	17 (37.00)	
club ^{**}	no	14 (15.10)	8 (17.00)	6 (13.00)	0.81^{b}
	no answer	47 (50.50)	24 (51.10)	23 (50.00)	
Disclosure of HIV sero-status to	yes	86 (92.50)	46 (97.90)	40 (87.00)	0.05°
sexual partner	no	7 (7.50)	1 (2.10)	6 (13.00)	0.05
HIV sero-status of sexual partner	positive	48 (51.60)	27 (57.40)	21 (45.70)	0.25 ^b
_	negative	45 (48.40)	20 (42.60)	25 (54.30)	0.23
Worries about HIV transmission	no	55 (59.10)	30 (63.80)	25 (54.30)	0.35 ^b
	yes	38 (40.90)	17 (36.20)	21 (45.70)	0.33

^aMann-Whitney U test; ^bChi-square test; ^cFisher's exact test; ^{*}Antiretroviral therapy; ^{**}HIV positive club provides social supports for HIV-infected individuals

Table 4 Analysis of sexual assertiveness results using binary logistic regression

	OR (95% CI)	SE	p-value
Age (years)	0.92 (0.85–0.99)	0.04	0.04
Having live child/children	6.6 (1.94–22.49)	0.63	0.003
Discloure of HIV sero-status to sexual partner	10.63 (1.1–103.16)	1.16	0.04

Discussion

Our results identified the current level of sexual assertiveness among HIV-infected women referred to the VCT center of Imam Khomeini hospital (Tehran, and the relationship between assertiveness and sociodemographic and HIV-related variables, and sexual and reproductive profile. Unprotected sex is one of the main HIV transmission routes in Iran and many other countries (Mozafari, Mayer, 2017). The majority of our participants had contracted HIV infection through heterosexual intercourse. Additionally, gender disparities and cultural assumptions lead to increased vulnerability in intimate relationships and sexual life among women. Sexual acquisition of HIV brings additional complications to these settings (Ahmadabadi et al., 2015). Due to the lack of attention given in recent research to assertiveness as an important psychological factor (Speed, Goldstein, Goldfried, 2018), we evaluated sexual assertiveness and related factors in the present study. Our sample comprised an approximately equal proportion of sexually assertive and sexually non-assertive HIV-infected women.

Despite great progress made towards eliminating HIV progression since ART, prevention remains the most cost-effective way of controlling the HIV epidemic (Günthard et al., 2016; Lin et al., 2016). Condom use is known to be the most important method in preventing sexual transmission of HIV (Smith et al., 2015). Previous studies have reported that sexual assertiveness is an important predictor of condom use (Javier et al., 2018). We also found higher overall condom use among sexually assertive participants. Other studies argue that many other factors, such as male partner resistance, perceived risk of STDs, access, and cultural context, are also important determinants of condom use (Campbell et al., 2016; Merghati-Khoei et al., 2017; Wegner et al., 2018). Therefore, we were not surprised to find no significant difference in condom use between assertive and non-HIV-infected assertive participants. women, especially those in societies with rigid cultural norms toward sexuality, have less freedom to assert their sexual rights or disclose their sexual preferences. These women are more prone to engage in unwanted sexual activities, and they also have little likelihood of experiencing safe sex. In addition, the stigma associated with HIV and consequent employment issues cause financial insecurity and related consequences (Amin, 2015; Robinson et al., 2017).

In our setting, we found significant differences between assertive and non-assertive groups in terms of pregnancy experience, having live children, and number of children. HIV sero-positive women who had more children were less likely to be sexually assertive. This might be attributed to sexual health issues following child birth, motherhood responsibilities, and prioritizing the needs of children over sexual life, which is more pronounced in some cultures such as Iran (McDonald, Woolhouse, Brown, 2015; Azmoude et al., 2016; Arbil et al., 2017; Ghorat et al., 2017; Leavitt et al., 2017).

Sexually non-assertive participants in our study had initiated sexual activities at younger ages compared to the assertive group. This significant difference reflects the impact of sexual assertiveness on ability to reject unwanted sexual encounters (Loshek, Terrell, 2015). In addition, young sexually active women are at much higher risk of sexual violence, which can negatively affect sexual assertiveness (Cooper, Crockett, 2015).

Although it seems that a higher level of assertiveness is associated with more confidence in HIV sero-status disclosure, we found lower rates of HIV sero-status disclosure among assertive women, which might be related to partner reaction following disclosure, and female perception of partner reaction. Previous studies have mentioned a higher probability of physical or emotional violence following HIV sero-disclosure (Colombini et al., 2016).

Sexual assertiveness and related predictors have a significant influence on sexual assault prevention programs, sexual satisfaction, and participation in risky sexual behaviors (Santos-Iglesias, Sierra, Vallejo-Medina, 2013; Hahn, Morris, Jacobs, 2017). Despite the importance of sexual assertiveness in secondary HIV transmission prevention, mean and standard deviation of sexual assertiveness in our study was lower than that of the uninfected female population of Mashhad, Iran (Azmoude et al., 2016). These findings indicate that, in addition to various social supports and healthcare services already available to the HIV-infected population, there is an urgent need for consideration of sexual health related issues and sexual empowerment strategies in routine HIV care appointments.

A potential limitation in our study was the convenience sampling method. Our interpretation of results was also limited by the small sample size.

Conclusion

Regarding the high prevalence of HIV in Iran, and the lack of data on sexual assertiveness among women living with HIV, our study provided new data for Iran and the MENA region (Gökengin et al., 2016). We also determined some predictors of sexual assertiveness in our study. The role of assertiveness among HIV sero-positive women has been overlooked and requires further investigation and intervention.

Further studies are also recommended to address the relationship between partner reaction to HIV sero-status disclosure and female sexual assertiveness among sero-discordant couples. Comparison of the sexual assertiveness levels of HIV-infected men and women might be another step forward.

Ethical aspects and conflict of interest

The ethical principles of the 1964 Helsinki declaration and its later amendments were considered in our study, and the ethics committee of Tehran University of Medical Sciences (TUMS) approved the study protocol (approval No: IR.TUMS.VCR.REC.1395.182). All participants provided verbal and written informed consent before study enrollment. The authors declare that they have no conflict of interest.

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Author contribution

Conception and design (FV, MR, EMK), data collection (FV), data analysis and interpretation (AA, FV), manuscript draft (FV), critical revision of the manuscript (EMK, AA, MR), final approval of the manuscript (FV, AA, EMK, MR).

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