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HIV Disclosure and Unprotected Sex among Vietnamese Men with a History of Drug Use

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Abstract

Additional barriers to self-disclosure of HIV status exist for people living with HIV (PLH) with a history of drug use. The objectives of this study were to explore the extent of HIV disclosure, sexual practice patterns and the relationships between HIV disclosure and unprotected sex among Vietnamese male PLH with a history of drug use. We used cross-sectional data of a sample of 133 PLH collected from a randomized controlled intervention trial in Vietnam. More than one-quarter of the participants reported not disclosing their HIV status to any sexual partners. Self-reported rates of condom use were 67.8%, 51.1% and 32.6% with regular, casual, and commercial partners, respectively. Unprotected sex, testing positive for heroin, and fewer years since HIV diagnosis were significantly associated with lower level of HIV disclosure. Future intervention programs should focus on the complex interplay among HIV disclosure, drug use, and unprotected sexual practices in this vulnerable population.

Keywords

People living with HIV; Drug use; HIV disclosure; Vietnam

INTRODUCTION

Self-disclosure plays an important role in stemming HIV transmission and enhancing HIV prevention and treatment (1, 2). Disclosing HIV serostatus to others helps people living with HIV (PLH) garner greater tangible and emotional social support and helps them obtain better health care and counseling services (3-5). In addition, HIV disclosure has been

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Compliance with Ethical Standards:

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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

demonstrated to be positively associated with earlier initiation of antiretroviral therapy (ART), greater adherence to ART, and increased uptake of pre-exposure prophylaxis (PrEP) for partners (6-8).

Despite these potential benefits, HIV disclosure may place significant burdens on PLH and carry potential risks, including stigma, depression, social isolation, abandonment, and even physical assault (9-11). For PLH with a history of drug use, HIV disclosure may involve an even more difficult and complicated decision-making process (12, 13). Past studies have shown that PLH who use drugs may be further marginalized, and their rate of HIV disclosure may be lower than that of other HIV-positive populations (14, 15). PLH who use drugs may face the added burden of disclosing their drug use status. For example, Valle and Levy revealed that drug users who had kept their drug use a secret ran the risk of inadvertently revealing their drug use status when disclosing their HIV status (16). Rudolph and colleagues demonstrated that for PLH who had already disclosed their drug use status, the pre-existing stigma directed at drug users was magnified by an additional layer of HIV-related stigma following disclosure (17). Moreover, HIV disclosure can result in undesirable admission by PLH of their drug-use behaviors and of their income obtained through both legal employment and illicit activities (13, 16).

Given the complexities surrounding HIV disclosure, PLH with a history of drug use tend to first disclose their status to key persons with whom they have strong ties and who provide social support, as this carries the least risk of stigma (5, 14, 18). Go and colleagues revealed that many PLH in Vietnam with a history of drug use chose to disclose their positive HIV serostatus to family members and suggested that this might be related to the influence of Confucianism, in which the family is a core pillar and source of support (12). On the other hand, some PLH with a history of drug use prefer to disclose to friends, who may be more accepting and understanding of drug use and HIV infection and often provide more support than family members (19).

Regarding HIV disclosure to sexual partners, current evidence on the patterns of HIV disclosure is mixed. Some prior studies have shown that HIV-positive drug users disclosed more often to their HIV-positive sex partners than to partners of negative or unknown HIV status. They also disclosed more often to regular partners than to casual partners, as they felt a greater responsibility to regular partners (9, 13, 20). However, Parsons and colleagues indicated that disclosure might be more likely to occur with partners in reduced-anxiety situations, making PLH more likely to disclose to a casual partner than to a regular partner (21).

Like the mixed patterns of HIV disclosure, the relationship between HIV serostatus disclosure and sexual risk practices among PLH with a history of drug use is equally complicated (21). Some studies have shown that disclosure can increase intimacy with a partner and result in taking greater responsibility for safer sex (22). Disclosers may have less unprotected sex because they feel a sense of responsibility to protect their sexual partners from infection (23). Pinkerton and colleagues estimated that HIV disclosure might reduce sexual transmission of HIV by 17.9%-40.6% (24). For non-disclosers, Parsons and colleagues showed that nondisclosure was associated with increased sexual risk practices

(21). Non-disclosers were also less likely than consistent disclosers to believe it was important to protect their sexual partners from HIV and were more resistant to wearing condoms. However, HIV disclosure does not automatically lead to safer sexual behaviors (13). Some individuals disclose their HIV status as a means of serosorting to engage in unprotected sex with other HIV-positive partners (13).

In Vietnam, drug users are one of the three vulnerable populations characterized by high levels of HIV transmission, with an average HIV prevalence of 10.3% by the end of 2014 (25). Little research has systematically examined HIV disclosure patterns and unprotected sexual practices among PLH in Vietnam with a history of drug use. Given the complexities of HIV disclosure patterns and sexual practices by partner type, it is critical to examine these patterns among PLH with a history of drug use. This study aimed to explore the extent of HIV disclosure among male PLH with a history of drug use in Vietnam and to investigate sexual practice patterns with regular, casual, and commercial sexual partners and their relationships with HIV disclosure.

METHODS

Study Design and Participants

This study used cross-sectional baseline data from a randomized controlled intervention trial, aiming to enhance the role of commune health workers in HIV prevention for people with a history of drug use in Vietnam. Baseline assessments were performed in Vĩnh Phúc and Phú Thọ Provinces in northern Vietnam from October 2014 to February 2015. We selected sixty communes from the two provinces as study sites based on the numbers of persons with a history of drug use. The inclusion criteria of this study were as follows: 1) being at least 18 years of age; 2) having a history of heroin use; and 3) being a resident of the selected communes. The recruitment process began at commune health centers, where people with a history of drug use in Vietnam usually seek curative and preventive health services (26).

Providers at the commune health centers introduced the project verbally and via a printed flyer to potential participants. A project recruiter met with prospective participant individually to screen for eligibility. The recruiter explained the study purpose, procedures, confidentiality issues, and potential risks and benefits following a standardized script. The recruiters informed prospective participants about their right to withdraw from the participation at any time. Out of the 900 participants at the baseline of the trial, 133 males were found to be infected with HIV (based on HIV testing at baseline) and currently on ART; thus, they were included in this study. Approval for the study was obtained from the Institutional Review Boards of the University of California, Los Angeles, and the Vietnam National Institute of Hygiene and Epidemiology.

Data Collection

After each participant provided written informed consent, the assessment was administered individually via the Audio Computer-Assisted Self-Interview (ACASI) method in a private place, such as an office at a local health center. Survey questions were delivered to the

participants through both an audio system and laptop computers, where the participants also entered their responses. To provide clarifications of the survey questions and assistance with using ACASI, an interviewer was on standby throughout the assessment. Each assessment lasted approximately 45 minutes. The participants each received 80,000 đồng (U.S. $4.00) for their time and participation.

Measures

HIV disclosure—The study divided HIV disclosure patterns into 9 categories based on relationship to the participant: relatives, sexual partners, friends, neighbors, service providers, community leaders, co-workers, people in their community, and others. Participants were asked to rate the extent to which they disclosed their status (0=no members of the group; 1=some members of the group; and 2=all of the members of the group) to members of each group category. The total number and percent for each extent of disclosure were calculated for every group category in which HIV disclosure occurred. In addition, scores from each category were totaled to create an overall measure of HIV disclosure, with a higher score indicating higher level of disclosure across categories. The internal consistency (Cronbach's alpha) in this sample was 0.91.

Unprotected sex—Unprotected sex was defined as a dichotomous variable (0=no unprotected sex; 1=with unprotected sex). First, the participants were asked to rate condom use when having sex with 1) regular, 2) casual, and 3) commercial sexual partners in the past 6 months (0=no condom use; 1=condom use; 2=no sex). The total number and percent of subjects who used a condom with each type of sexual partner were calculated. The participants were defined as having unprotected sex as long as they reported no condom use with one or more types of sexual partners. Participants who reported either not having sex or always using condoms with the aforementioned sexual partners in the past 6 months were categorized as those who did not have unprotected sex.

Demographic and background characteristics were collected, including age, education, marital status, HIV infection route, and time of HIV diagnosis. Active drug use status was determined by a urine test for heroin detection at the time of assessment.

Data Analysis

First, univariate analyses were performed using descriptive statistics of the demographic characteristics, HIV infection route, year of diagnosis, and results of urine test for heroin. We summarized patterns of HIV disclosure and condom use through the number and percent of participants in each response category. The summed measure of HIV disclosure was linearly regressed on the covariates of interest to discern how the participants' characteristics were associated with their level of HIV disclosure. A logistic model was also fit to assess various factors affecting unprotected sex. The outcome parameter used was the odds ratio of a participant having reported unprotected sex in the last 6 months.

In this study, 22 participants (16.5%) had at least one missing covariate value. To address this absence, we conducted multiple imputations with 10 imputed data sets for the fitting of our regression models (27). Regression coefficients from the linear model, adjusted odds

ratios from the logistic model, and 95% confidence intervals (CI) were estimated. All analyses were conducted using SAS 9.4 software (SAS Institute, Cary, NC).

RESULTS

The demographics and background characteristics are summarized in Table 1. All participants (N=133) in the study were male. The mean age was 38.3 years, with more than half of the participants (N=71; 53.4%) between 36 and 45 years old. The majority (N=87; 65.4%) of the study participants were married or living with a partner at the time of the assessment. Approximately half (N=70; 52.6%) of the participants reported 10 or more years of education. The majority (N=121; 96.0%) of the participants reported being infected with HIV via drug injection and needle sharing. About half (N=57; 51.3%) of the participants reported being diagnosed after 2010. The urine test results showed that more than one-quarter of the participants (N=36; 27.1%) tested positive for heroin at the time of the study assessment.

The distribution of HIV disclosure and condom use behavior is summarized in Table 2. The highest rate of HIV disclosure was to service providers, with 89.6% (N=112) of respondents reporting disclosure to some or all members of this group. Other categories with relatively high rates of HIV disclosure to some or all were friends (N=108; 87.8%) and relatives (N=105; 86.1%). For sexual partners, approximately 27.1% (N=33) of the participants did not disclose to any sexual partners, which was the third-highest rate of nondisclosure among categories.

The total number of participants who reported engaging in each type of sexual encounter in the past six months varied widely, with 90 (67.7%) participants reporting sex with a regular partner, 45 (33.8%) reporting sex with a casual partner, and 43 (32.3%) reporting sex with a commercial partner in the last 6 months. The self-reported rates of condom use were 67.8% (N=61), 51.1% (N=23) and 32.6% (N=14) with regular partners, casual partners, and commercial partners, respectively. These rates were calculated based on the participants who reported engaging in that type of sexual encounter.

In Table 3, the linear model coefficients show how each variable is related to the levels of HIV disclosure. The results suggest that the longer a participant had known his HIV status, the higher level of his HIV disclosure (coefficient=0.36; 95% CI=0.17, 0.55; $p<0.001$). Testing positive for heroin via a urine test was statistically significant and linked to lower level of HIV disclosure (coefficient=-2.10; 95% CI=-4.00, -0.21; $p=0.032$). No other variables were found to be statistically significant in this model. The logistic regression model showed that the increased level of HIV disclosure was associated with decreased odds of engaging in unprotected sex (adjusted OR=0.86; 95% CI=0.78, 0.95; $p=0.003$). In addition, while not statistically significant at the alpha level of 0.05, we found that increased years of education might also be associated with increased odds of having unprotected sex (adjusted OR=1.15; 95% CI=0.99, 1.33; $p=0.063$).

DISCUSSION

This study underscored the complexities and challenges surrounding HIV disclosure among PLH with a history of drug use in Vietnam. A substantial proportion of male PLH with a history of drug use in our study reported not disclosing their HIV status to any sexual partner. This finding supports previous studies demonstrating that the HIV disclosure process is difficult and complex for this population, as highlighted by the relatively low rates of HIV disclosure (12-14). Many PLH with a history of drug use may have concerns that the risk of HIV disclosure outweighs its potential benefits (12, 16, 17). The risks associated with HIV disclosure to sexual partners include increased discrimination, rejection by partners, and loss of income obtained through trading sex, especially when the sexual partners are HIV-negative and/or not sharing needles (13, 16, 17). Furthermore, Parsons and colleagues found that those who were less likely to disclose their HIV status had lower perceptions of their responsibility to protect their sexual partners (21). Because HIV disclosure provides a critical initial opportunity for sexual partners to make an informed choice before sexual contact and to take measures to prevent HIV transmission, HIV nondisclosure may prevent HIV risk-reduction behaviors by partners, thus increasing the potential risk of HIV acquisition (9, 20, 28). In addition, consistent with previous studies, this study revealed that PLH disclosed most often to service providers, relatives, and friends, possibly due to the increased perceived social support and health care services they provide (3, 12).

This study found that unprotected sex was common among male PLH with a history of drug use in this study. A significant proportion of the participants reported having casual or commercial sex with a low rate of condom use. This finding is consistent with other studies conducted in Vietnam that have demonstrated that many PLH with a history of drug use still encounter difficulties in reducing risk behaviors and continue to engage in unprotected sex (29). Factors contributing to unprotected sex among drug users mainly include taking drugs, drinking alcohol, and trading sex for drugs or money (30). Furthermore, Meader and colleagues summarized that limited progress has been made in recent years in developing more effective interventions for the HIV sex risk behaviors of people who use drugs (31). This finding underscores the importance of expanding the existing prevention strategies and developing innovative interventions to reduce unprotected sex among PLH who use drugs.

Our findings demonstrated that HIV disclosure was negatively associated with unprotected sex, suggesting that participants who disclosed their HIV status reported less unprotected sex than those who did not disclose their status. Those who disclose their HIV status may be more likely than non-disclosers to believe that they have a responsibility to protect their partners, leading them to avoid unprotected sex after learning of their HIV infection (20, 21, 22). Moreover, PLH who are active drug users (confirmed by urine test) were less likely to have disclosed their HIV status than those who were not active drug users (14). Given the significant association between active drug use and lower level of HIV disclosure, PLH who are active drug users should be provided with appropriate harm reduction programs, such as methadone maintenance therapy. We also found that the number of years since HIV diagnosis was a significantly associated factor of HIV disclosure. One possible explanation may be that PLH with a history of drug use who have been diagnosed with HIV for a longer

period may have developed more coping skills over the years, increasing their willingness to disclose their HIV status to others.

As with other studies, some limitations should be considered when interpreting our results. First, the data were taken from a cross-sectional study, which restricts our ability to draw causal inferences between HIV disclosure to sexual partners and unprotected sex. Second, HIV disclosure and sexual behavior data were based on self-reports that may have potential recall biases. Third, active drug user status was based on urine tests, which is more accurate than self-reports; however, the urine test tested for heroin only, not measuring other drugs such as amphetamine. Fourth, as the study participants were exclusively male PLH in two provinces in Vietnam, our conclusions cannot be generalized to all PLH with a history of drug use throughout the whole country.

Despite the limitations, this study has important implications for HIV-related policies and practices. PLH with a history of drug use are a vulnerable group that requires special attention in Vietnam and in other countries. Future interventions should focus on this complex interplay among HIV disclosure, drug use, and unprotected sexual practices among this vulnerable population. Service providers should consider both the potential benefits and risks associated with HIV disclosure and help PLH with a history of drug use to make informed decisions surrounding HIV disclosure, especially regarding HIV disclosure to sexual partners.

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Table 1

Demographic and background variables of the sample (N=133)

Variables	Participants N (%)
Age (Mean ± SD)	38.3 ± 6.7
≤ 35	48 (36.1%)
36-45	71 (53.4%)
>45	14 (10.5%)
Marital status	
Single/divorced/separated/widowed	46 (34.6%)
Married or living with partner	87 (65.4%)
Education (years) (Mean ± SD)	9.5 ± 3.0
≤ 6	20 (15.0%)
7-9	43 (32.3%)
10-12	60 (45.1%)
>12	10 (7.5%)
HIV infection route	
Drug injection/needle sharing	121 (96.0%)
Others	5 (4.0%)
HIV diagnosis (year)	
2004 or earlier	19 (17.2%)
2005-2009	35 (31.5%)
2010-2012	28 (25.2%)
2013 or later	29 (26.1%)
Result of urine test for heroin	
Positive	36 (27.1%)
Negative	97 (72.9%)

Table 2

HIV disclosure and frequency of condom use by relationship to participants (N=133)

Relationship to participants	Extent of HIV disclosure N (%)		
	None	Some	All
Relatives	17 (13.9%)	62 (50.8%)	43 (35.3%)
Sexual partners	33 (27.1%)	51 (41.8%)	38 (31.1%)
Friends	15 (12.2%)	75 (61.0%)	33 (26.8%)
Neighbors	26 (21.3%)	56 (45.9%)	40 (32.8%)
Service providers	13 (10.4%)	56 (44.8%)	56 (44.8%)
Community leaders	27 (22.1%)	66 (54.1%)	29 (23.8%)
Co-workers	34 (27.9%)	63 (51.6%)	25 (20.5%)
People in your community	27 (22.1%)	70 (57.4%)	25 (20.5%)
Others	64 (52.5%)	44 (36.1%)	14 (11.5%)

Types of sexual partners	Used condom N (%)		Total N
	No	Yes	
Regular partner	29 (32.2%)	61 (67.8%)	90
Casual partner	22 (48.9%)	23 (51.1%)	45
Commercial partner	29 (67.4%)	14 (32.6%)	43

Table 3

Results from linear regression model for HIV disclosure and from logistic regression model for unprotected sex (N=133)

Variable	Disclosure			Unprotected Sex		
	Coefficient	**95 % CI**	***P***	**Adjusted OR**	**95 % CI**	***P***
Age	0.05	(-0.09, 0.18)	0.506	1.04	(0.98, 1.10)	0.248
Currently married	-0.47	(-2.37, 1.44)	0.633	1.50	(0.61, 3.70)	0.381
Years of Education	0.17	(-0.12, 0.47)	0.255	1.15	(0.99, 1.33)	0.063
Years known HIV positive	0.36	(0.17, 0.55)	<0.001	1.02	(0.91, 1.15)	0.702
Urine test positive	-2.10	(-4.00, -0.21)	0.032	0.76	(0.30, 1.92)	0.564
Disclosure	-	-	-	0.86	(0.78, 0.95)	0.003