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Stigma related to HIV and Drug Use: Layers, Types, and Relations to Mental Health

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Abstract

Stigma poses considerable challenges to the mental health of people living with HIV who use drugs (PLHWUD). In this study, we explored factors related to different types of stigma (perceived and internalized) attached to layered stigmatizing characters (HIV and drug use) and their mental health influences on PLHWUD. The study used baseline data of an ongoing randomized controlled trial among 241 PLHWUD recruited between March and December 2018 in Vietnam. A structural equation model was used to assess the relationships among different types and layers of stigma and mental health status. Both perceived and internalized drug-related stigma measures were significantly higher than their corresponding HIV-related stigma. HIV-related stigma was negatively associated with mental health status; however, we did not find a significant relationship between drug-related stigma and mental health. Tailored intervention strategies in consideration of types and layers of stigma are needed to address stigma-related challenges faced by PLHWUD.

Keywords

Layered stigma; HIV; drug use; mental health; Vietnam

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Conflict of interest

All authors included on this manuscript declare that he/she has no conflict of interest.

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 included in the study.

INTRODUCTION

Stigma is a complex phenomenon, particularly when considering the possibility of multiple stigmatized statuses [1–3]. For example, people living with HIV are not only stigmatized by their serostatus, but also by the behaviors that may have caused their HIV infection, e.g., injecting drug use [4, 5]. Personal characteristics, such as gender, ethnicity, and other disabilities, also play a role in the complexity of stigma [6, 7]. Previous studies have identified that individuals with multiple coexisting layered stigmatizing characteristics suffer more frequent and a higher level of negative attitudes from the surrounding environment, compared to those with a single stigmatized condition, and the added stigma is often associated with poorer health outcomes [8, 9]. For example, the burden of layered stigma may obstruct HIV disclosure among people living with HIV who use drugs (PLHWUD) and hindered their ability to seek care and support [10–12]. The layered nature of stigma warrants thorough research to provide a crucial understanding of the development of stigma reduction strategies [5].

Each of the stigma layers can further be differentiated by types, including perceived stigma and internalized shame [13]. Perceived stigma refers to a stigmatized person's perceptions of the severity of public endorsement of stereotypes, discrimination, and prejudices that exist among the general population in the community [14]. In contrast, internalized shame is the stigmatized persons' endorsement of negative societal perceptions and incorporation of external stereotypes and discrimination into their self-recognition [15]. Although the two types of stigma are correlated, each type could influence a patient's wellbeing and health outcomes through distinct mechanisms [16]. For example, perceived stigma could be a chronic stressor that may delay treatment-seeking and impact treatment adherence among people living with HIV [17]. Internalized stigma, which was found to be particularly profound among women [18], is correlated with self-deprecating emotions and mental illnesses such as self-blame, embarrassment, low self-worth, depression, and exacerbated substance dependence [19, 20]. Perceived community stigma also has adverse effects on the targeted group's mental health, partially through the mediating pathway of internalizing shame [21–23]. A deeper understanding of the interplay of different layers and types of stigma and the mechanisms to affect mental health outcomes is vital in designing future interventions to mitigate the adverse effects of stigma.

In Vietnam, the "twin epidemics" of HIV and drug use have synergistically posed severe public health challenges [24]. HIV prevalence among people who use drugs reached 14% in 2018 [25]. Just like in many other countries, PLHWUD is a highly stigmatized population in Vietnam [10]. A bulk of literature in Vietnam has documented both drug-related stigma [26–28] and HIV-related stigma [12, 29]. However, gaps remain in understanding the multiple types of drug- and HIV-related stigma and its interacting effects on PLHWUD's mental health. In this study, we aimed to examine factors related to different layers and types of stigma among PLHWUD and explore the pathway from stigma to PLHWUD's mental health. The study findings could guide the development of interventions and policies that effectively combat stigma and improve the wellbeing of affected groups.

METHODS

Study participants

The study used baseline data of an ongoing randomized controlled trial conducted in Vietnam. Data were collected between March and December of 2018 among PLHWUD from 60 communes in four provinces (Bac Giang, Hai Duong, Nam Dinh, and Nghe An). Recruitment flyers with the contact information were mounted in local commune health centers where local PLHWUD usually receive care. Those who were interested in learning more about the study could either call the research staff or meet them in the commune health centers. The PLHWUD eligibility criteria included: 1) being age 18 and above; 2) being HIV seropositive; 3) currently using opiates or having had a history of opiate use, and 4) currently not receiving either antiretroviral therapy (ART) or methadone maintenance therapy (MMT). When recruiting PLWHUD, the research staff fully disclosed the study purpose, procedures, nature of confidentiality, voluntary participation, and potential risk and benefits to the potential participants following a standardized script. The prospective participants were also informed that their decision to participate in the study and their response to the assessment questions would not affect their health care services. Written informed consent was obtained from all participants before data collection. A total of 241 PLHWUD were recruited and participated in the study.

Data collection

After enrollment, participants completed the questionnaire in a private office at the commune health center. The assessment was administered by trained interviewers in a one-on-one, face-to-face format using the Computer-Assisted Personal Interview (CAPI) method. The interviewers read the questions to the PLHWUD participants and keyed in their answers directly to a pre-programmed computer database. All questions were in Vietnamese, and it took the participants approximately 45–60 minutes on average to complete the assessment. Participants received 200,000 dông (equivalent to 8.6 USD) after completing the assessment.

Measures

Two types (perceived vs. internalized) stigma indicators were utilized in the study. Each type was measured using two sets of identically-worded questions to associate with the two layers of stigmatizing characteristics (e.g., HIV and drug use). *Perceived drug-related stigma* was measured by the 8-item Perceived Stigma of Addiction Scale (PSAS) developed in a previous study [30]. The scale has been used and validated previously in Vietnam [27]. The participants were asked to indicate their degree of agreement (ranging from 1 “strongly agree” to 5 “strongly disagree”) with statements regarding people’s feeling of substance users. Sample items include “Most people believe that a person who uses drugs is just as trustworthy as the average citizens,” “Most employers will hire a person who uses drugs if he or she is qualified for the job,” and “Most people would be willing to date a person who uses drugs.” A score of perceived drug-related stigma was generated by summing up the response of all the questions after reverse-coding the negative wording ones (ranging from 8–40). A higher score indicated a higher level of perceived drug-related stigma (Cronbach’s alpha = 0.78). Correspondingly, *perceived HIV-related stigma* was measured with the same

eight questions using the term “people living with HIV” to replace “people who use drugs.” For example, the first sample item read as “Most people believe that a person living with HIV is just as trustworthy as the average citizen.” Similarly, a higher score indicated a higher level of perceived HIV-related stigma (Cronbach’s alpha=0.80).

Internalized HIV-related shame was assessed by a 9-item scale adapted from the work of Herek and Capitanio [31]. It has been validated in our previous study among people living with HIV in Thailand [32]. Participants were asked to tell their degree of agreement regarding feelings of being a person living with HIV. For example, “You are punished by evil because of your HIV status,” “Your life is tainted because of your HIV status,” and “You feel guilty for being the source of disruption in the family because of your HIV status.” The response categories ranged from 1 “strongly agree” to 5 “strongly disagree.” After the items being reverse-coded, the score of internalized HIV shame was developed by summing up all of the responses (ranging from 9–45; Cronbach’s alpha = 0.92). A higher score indicated a higher level of internalized HIV-related shame. In correspondent, the same nine items were used to measure *internalized drug-related shame* by replacing “HIV” with “drug-using.” Sample items are “You are punished by evil because of your drug-using status” and “Your life is tainted because of your drug-using status.” A higher summary score indicated a higher level of internalized drug-related shame (Cronbach’s alpha=0.90).

Mental health status was measured by the mental component summary (MCS-12) scale of a short-form health status measure (SF-12), which is one of the most commonly used health-related quality of life questionnaires [33]. The standard (4-week) recall version was used in this study. An MCS-12 score was generated using the scoring algorithm provided by the instrument’s developers [34]. The MCS-12 score in this study ranged from 19.1 to 61.4, with a higher score indicating better mental health status.

Participants’ demographics (gender, age, marital status, years of education completed, and employment status) were collected in the questionnaire. Since heroin was the primary drug used by all of the participants in the study, their history of heroin use (in years) was captured as well. The PLHWUD’s HIV confirmation date was obtained from their medical records in local HIV testing sites, ART, or MMT clinics.

Statistical analysis

Firstly, descriptive statistics of demographics, years of heroin use, years since HIV diagnosis, perceived drug-related and HIV-related stigma, internalized drug-related and HIV-related shame, and mental health status were summarized. Paired t-test was used to compare the mean scores of the participants’ perceived drug-related stigma with perceived HIV-related stigma and internalized drug-related shame with internalized HIV-related shame. Secondly, multiple linear regressions were conducted to identify factors associated with perceived drug-related stigma and internalized drug-related shame, as well as perceived HIV-related stigma and internalized HIV-related shame, respectively. Participants’ demographics (age, marital status, education (years), and currently working status), years of heroin use, and years since HIV diagnosis were included in the models, because literature has indicated an individual’s social-demographic characteristics, including gender, education, and employment status, may create social conditions that facilitate stigma related

to drug use or HIV [18,20]. Standardized regression coefficients and their significance levels were reported. Thirdly, a structural equation model (SEM) was built to assess the relationships among different types and layers of stigma and mental health status. Based on the factor analysis in a previous study [32], we constructed drug-related stigma and HIV-related stigma as latent variables of their corresponding subscales (perceived stigma and internalized shame) in the SEM. Demographics (age, marital status, education, and working status), years of heroin use, and years since HIV diagnosis were controlled as covariates in the SEM. We assessed model fit with the following indicators: Chi-square statistic, which tends to always reject the model when large samples were used since it is sensitive to sample size; Comparative Fit Index (CFI), where a score higher than 0.90 is an acceptable fit; Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR), where a score of less than 0.08 indicates a good fit for both of them [35]. All statistical analyses were conducted using the SAS for Windows version 9.4 (SAS Institute, Cart, NC).

RESULTS

As shown in Table 1, except for one participant, all other PLHWUD in our sample were male (N=240, 99.6 %). The average age was 39.2 (SD=6.3) years at the time of the study. More than half (N=139, 57.7%) of the participants were married or living with partners. The average year of education was 7.8 years (SD=3.6). More than three quarters (N=187, 77.6%) of the sample had a full time or part time job at the time of the interview. The average duration of heroin use was 8.2 years (SD=6.1) and the average years since HIV diagnosis was 6.0 years (SD=4.2). Perceived drug-related stigma was found to be significantly higher than perceived HIV-related stigma (Mean difference=2.1, SE=0.3; paired t-test P< .0001). A higher level of internalized drug-related shame was also observed than internalized HIV-related shame (Mean difference=3.6, SE=0.5; P<.0001). The mean score of mental health was 48.2 (SD=9.2).

Table 2 shows that in multiple linear regressions, a year increase in education is associated with 0.24 unit of increase in perceived drug-related stigma score (standardized estimate: β=0.24, *P*=0.005). Years of heroin use were found to be positively associated with internalized drug-related shame (standardized estimate: β=0.23, *P*<.001). A higher level of perceived HIV-related stigma was associated with being older (standardized estimate: β=0.11, *P*=0.029) and more years since HIV diagnosis (standardized estimate: β=0.16, *P*=0.038). A higher level of internalized HIV-related shame was associated with more years of education (standardized estimate: β=0.36, *P*=0.006).

In the SEM, we estimated coefficients for two latent variables, drug-related stigma and HIV-related stigma, and their pathway effects to mental health status. The coefficient estimates are shown in Figure 1 and Table 3. Results indicated that the overall model has a satisfactory model fit (Chi-square value = 36.6, degrees of freedom (DF) =15, *P*= 0.0014, CFI= 0.9363, RMSEA= 0.0775, SRMR= 0.0569). Drug-related stigma and HIV-related stigma were correlated in the model (standardized estimate: β=0.33, *P*=0.0158). After controlling for age, marital status, education, working status, years of heroin use, and years since HIV diagnosis, HIV-related stigma had a negative association with mental health status (standardized

estimate: β= −0.23, *P*=0.0164). The relationship between drug-related stigma and mental health status was not statistically significant (standardized estimate: β= −0.11, *P*=0.1977).

DISCUSSION

In this study, we examined the layered stigma that arises at the convergence of HIV and drug use, the two highly stigmatized health conditions in Vietnam [11, 12]. We observed that both perceived stigma and internalized shame towards drug use was significantly higher than that of HIV. The relatively lower level of HIV stigma could be explained by the evolvement of the legislative environment and scientific advancements in Vietnam. In recent years, the Vietnamese Government has committed to creating a favorable environment for HIV prevention and treatment, and the Constitution stipulates people living with HIV's equal rights without discrimination in health care, workplaces, and social life [36]. Several HIV stigma reduction intervention and education programs have been implemented in Vietnam [37, 38]. In addition, the stigma associated with the fear of HIV infection declines as the advancement of HIV treatment therapies [9].

The higher level of drug-related stigma found in this study is a reflection of the more significant social devaluation of drug use than HIV [39]. Drug use has long been identified by the government as "social evils" to be eradicated [40, 41]. Although the country is transforming from its punitive drug-control policies to more public health-oriented harm reduction approaches, legal and practical contradictions persist, and people who use drugs in Vietnam are still facing compulsory rehabilitation or even incarceration [42]. The finding urgently calls for intervention effort specially designed to combat drug-use related stigma. In order to facilitate the implementation of harm reduction programs, educational programs should emphasize the concept that addiction is a treatable disease in the effort to reduce both perceived stigma and internalized shame associated with drug use [43]. Media coverage should avoid the negative portrayal of people who use drugs as criminals, which can discourage them from accessing essential health and treatment services [44].

Despite the high level of stigma towards drug-using behavior, HIV-related stigma, compared to drug-related stigma, contributes a more devastating effect to PLHWUD's mental stress. This finding is consistent with previous reports from other countries [45]. This disparity could be interpreted by PLHWUD's different perceptions of their HIV and drug-using status. PLHWUD may have a sense of control with regards to their drug-using behaviors, which are often believed to be a personal choice that could have been avoided [46]. Drug-related stigma could be gradually alleviated as the reduction of drug-using behaviors. HIV infection, on the contrary, is regarded as a biological disease that is beyond one's personal control [47]. The stigma attached to HIV is life-long due to the incurable nature of seropositivity. Therefore, the worries of maintaining general health, as well as the challenges of seeking necessary healthcare, could be critical sources of mental distress for people living with HIV [29, 48]. The study finding suggests that reduce HIV-related stigma should be a priority for mental health improvement for PLHWUD.

Our study results also revealed that PLHWUD's various characteristics were associated with different types of stigma. The findings provided insights for identifying PLWHUD

subgroups who are more vulnerable to perceived and internalized stigma. For instance, a more extended period of heroin use was related to a higher level of internalized drug-related shame, but not perceived drug-related stigma. The reason for this finding could be that those who have used drugs longer in their lifetime might have blamed themselves more not only for the problem to themselves but also for the burden exerted on their families [10, 49, 50]. For HIV-related stigma, years since HIV diagnosis were found to be associated with perceived HIV stigma, not for internalized HIV shame. One interpretation could be that the more extended infection period increased the likelihood of encountering discrimination in healthcare settings and the community [12, 51]. Also, we reported that PLHWUD with more years of education reported higher levels of perceived drug-related stigma and internalized HIV-related shame. Literature search concerning the relationship between education level and stigma has yielded mixed results. Lim's study among PLHWUD in Vietnam revealed a negative association between education level and HIV and drug related-stigma [52]. It implied that PLHWUD with high education bear less judgmental attitudes from society, and PLHWUD with limited education has less social capital to confront the social stigma [52]. The finding of the current study was consistent with Subedi and colleagues' study, which reported higher levels of stigma among better-educated people living with HIV in Nepal [53]. We presume that the positive relationship between education and perceived drug-related stigma in the current study might be due to the higher sensitivity and susceptibility to discrimination towards people who use drugs in the social environment.

The study findings should be interpreted in light of the following limitations. First, causal relationships cannot be inferred because of the cross-sectional design. Second, our study sample did not include PLHWUD who avoid going to community health centers or refuse to participate in local health service and treatment programs due to the fear of being stigmatized. Thus, the level of stigma reported in this study would likely to be underestimated for PLHWUD at large. Thirdly, the research was conducted in northern Vietnam, so the study results may not be generalizable to other geographic regions with different cultural and socioeconomic contexts.

In conclusion, the findings provided a better understanding of layers and types of stigma faced by PLHWUD. The higher level of drug-use related stigma warrants immediate attention and intervention effort. With the link between HIV stigma and mental health status, future research should investigate whether HIV stigmatization is a fundamental cause of mental illness and incorporate stigma reduction in mental health treatment. The associations between PLHWUD's individual characteristics and stigma shed light on future tailored intervention strategies to reduce stigma and its health influence.

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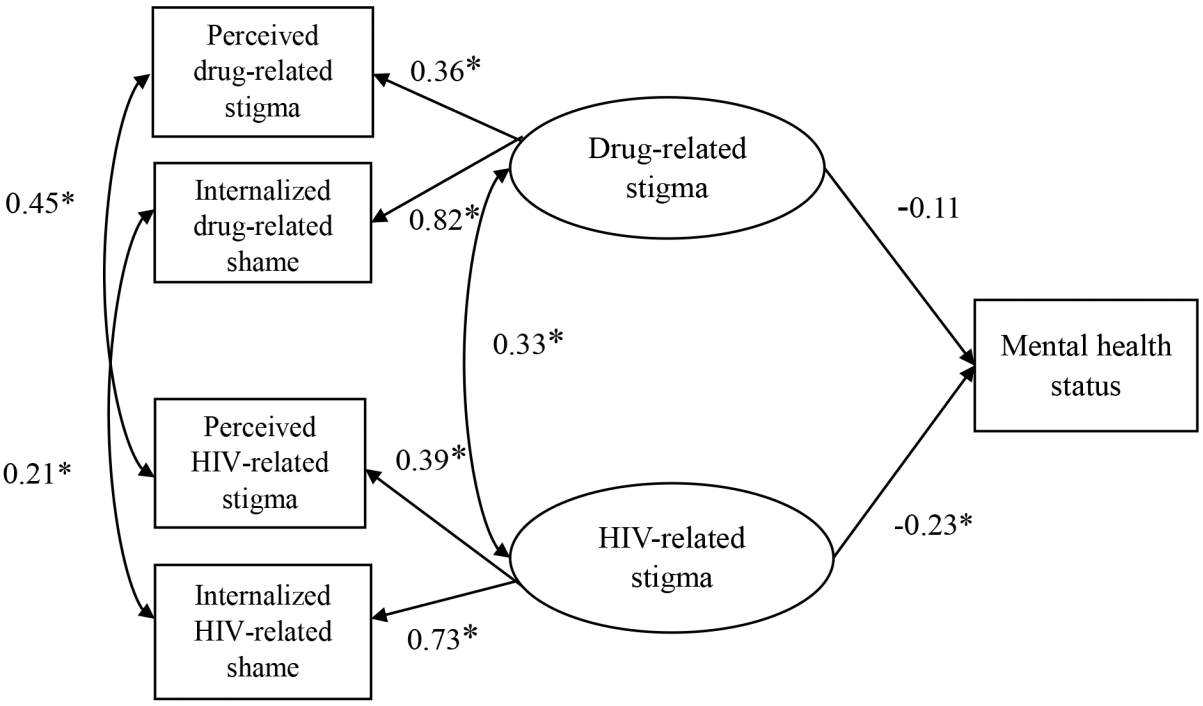

Figure 1. Path diagram of structural equation model on mental health among PLHWUD in four provinces of Vietnam, 2018

Figure 1 depicts the relationships between perceived drug-related stigma, perceived HIV-related stigma, internalized drug-related shame, internalized HIV-related shame, two latent factors (drug-related stigma and HIV-related stigma), and mental health in structural equation model (SEM). The latent variables are depicted as oval and the observed variables as rectangle. The standardized estimates are shown next to each arrow (*P<0.05). Age, marital status, education, working status, years of heroin use, and years since HIV diagnosis were controlled as covariates in the SEM.

Table 1.

Sample characteristics of PLHWUD in four provinces of Vietnam, 2018

	N or Mean ±SD	%
Age (years)		
≤35	62	(25.7)
36–45	145	(60.2)
≥46	34	(14.1)
Mean ±SD	39.2±6.3	
Married/living with partners	139	(57.7)
Education (years)		
≤6	80	(33.2)
7–12	147	(61.0)
≥13	47	(19.5)
Mean ±SD	7.8±3.6	
Currently working	187	(77.6)
Years of heroin use		
≤5	100	(41.5)
6–10	81	(33.6)
>10	60	(24.9)
Mean ±SD	8.2 ±6.1	
Years since HIV diagnosis		
≤5	122	(50.6)
6–10	82	(34.0)
>10	37	(15.4)
Mean ±SD	6.0 ±4.2	
Perceived drug-related stigma, Mean ±SD	27.2 ±4.5	
Perceived HIV-related stigma, Mean ±SD	25.1 ±4.6	
Internalized drug-related shame, Mean ±SD	31.0 ±6.0	
Internalized HIV-related shame, Mean ±SD	27.5 ±7.0	
Mental health status, Mean ±SD	48.2 ±9.2	

Note. Total sample size=241, with one female participant

Table 2.

Multiple linear regressions on perceived drug-related stigma, internalized drug-related shame, perceived HIV-related stigma and internalized HIV-related shame among PLHWUD in four provinces of Vietnam, 2018

	Perceived drua-related stiama		Internalized drua-related shame		Perceived HIV-related stiama		Internalized HIV-related shame	
Characteristics	**Estimate (SE)**	***P***	**Estimate (SE)**	***P***	**Estimate (SE)**	***P***	**Estimate (SE)**	***P***
Age	0.004 (0.05)	0.94	−0.09 (0.07)	0.17	0.11 (0.05)	0.03	0.06 (0.08)	0.47
Married/living with partners	−0.86 (0.63)	0.18	−1.05 (0.83)	0.21	−1.18(0.63)	0.06	−1.69 (0.98)	0.08
Education (years)	0.24 (0.08)	<.01	−0.03 (0.11)	0.75	0.14(0.08)	0.09	0.36 (0.13)	<.01
Currently working	−0.29 (0.74)	0.70	1.25 (0.97)	0.20	−1.21 (0.73)	0.10	−0.97(1.13)	0.39
Years of heroin use	0.02 (0.05)	0.76	0.23 (0.07)	<.001	−0.04 (0.05)	0.42	−0.003 (0.08)	0.97
Years since HIV diagnosis	0.06 (0.08)	0.41	−0.09 (0.10)	0.34	0.16(0.07)	0.04	0.01 (0.12)	0.90

Table 3.

Structural equation model on mental health among PLHWUD in four provinces of Vietnam, 2018

Parameters	**Standardized estimate**	**Standard error**	***P***
Latent variables			
Drug-related stigma			
Perceived drug-related stigma	0.36	0.06	<0001
Internalized drug-related shame	0.82	0.12	<0001
HIV-related stigma			
Perceived HIV-related stigma	0.39	0.07	<0001
Internalized HIV-related shame	0.73	0.10	<0001
Pathway effect on Mental health			
Drug-related stigma	−0.11	0.09	0.20
HIV-related stigma	−0.23	0.10	0.02
Age	−0.0004	0.07	0.99
Married/living with partners	0.15	0.07	0.04
Education (years)	0.14	0.07	0.05
Currently working	0.17	0.07	<01
Years of heroin use	0.05	0.07	0.51
Years since HIV diagnosis	−0.004	0.07	0.95