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Variations in the role of social support on disclosure among newly diagnosed HIV-infected people who inject drugs in Vietnam

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Abstract

Stigma and perceived social support can influence the decision to disclose HIV positive status, especially for people who inject drugs (PWID). In this analysis, the association between social support and HIV disclosure among 336 newly diagnosed HIV-infected PWID in Northern Vietnam was assessed. One month after diagnosis, 34.8% of participants had not disclosed to anyone. Disclosure to anyone and to a family member specifically, was associated with baseline social support in the form of positive interactions and a history of incarceration. Disclosing to a family member was less likely among those who had unprotected sex in the previous 3 months. Disclosure to an injecting partner was more likely among those with a history of being in a drug treatment program, knowing someone on ART and believing that ART is safe. These data suggest that social support may facilitate disclosure among family members, including spouses, while disclosure to injecting partners is greater when PWID know that ART is a safe and viable option.

Keywords

People living with HIV; injection drug use; HIV disclosure; stigma; social support

INTRODUCTION

Self-disclosure of HIV positive serostatus is associated with earlier initiation of antiretroviral treatment (ART) [1], greater adherence to ART [2,3], safer sex practices [4], decreased anxiety, and greater social support [5–8]. In low-resource settings, disclosure has been shown to increase access to HIV care [1] as family members and friends may provide information about available services, facilitate transportation, and help to navigate paperwork and HIV services [9–11]. At the same time, disclosure may expose people living with HIV/AIDS (PLWHA) to stigma, discrimination, abandonment, and violence [12–15]. Informed counseling to encourage and facilitate disclosure, when appropriate, has important implications for preventing new HIV infections and for the treatment, care and support of people living with HIV/AIDS [16].

The decision-making process around disclosure has been conceptualized in the context of consequence theory [17] where the decision to disclose is a process of weighing costs and benefits. According to consequence theory, before making a decision to disclose one's HIV status, a person must feel that the benefits will outweigh the risks and perceive that social support will be available as a result of disclosure [17]. In a meta-analysis of self-disclosure, concerns about stigma were negatively associated with disclosure while social support was positively associated with disclosure [18]. People who inject drugs (PWID), who are already marginalized in many societies, may be especially reluctant to disclose their HIV status given the potential for dual drug use and HIV-related stigma [14,15]. In cultures such as Vietnam's, worry about self-stigma can be compounded by a concern that family members will also be stigmatized [19]. At the same time, the consequence model suggests that fear of stigma may be overcome by the need for emotional and instrumental support to manage the disease [5,17].

Among PWID in Vietnam, a group that has experienced a long history of institutional and cultural stigmatization and marginalization, fear of the additional stigma that HIV-positive status may bring from both family and community serves as a barrier to disclosure while the desire for comfort and support from family and other network members can support a decision to disclose [19,20]. In Vietnam, as in many other countries, the requirement to have an identified support person in order to enroll in ART, can provide an additional incentive for disclosure. Disclosure may also vary within an individual's network. For example, PWID may disclose to a family member for social support, whereas they may disclose to an injecting partner to prevent further transmission to their partners, for social support or a combination of the two.

The objective of this investigation was to elucidate the association between perceived social support at the time of diagnosis and disclosure of HIV status (any disclosure, disclosure to a family member, and disclosure to an injecting partner) within 1 month of receiving a positive HIV test result among newly diagnosed PWID in Thai Nguyen province, Vietnam.

METHODS

Study design and population

We analyzed data from a baseline survey and a pre intervention survey conducted one month later in the Prevention with Positives Project, a four-arm randomized controlled trial evaluating the effectiveness of a multi-level intervention (community-structural and individual) to decrease stigma and HIV risk among HIV-infected PWID in Thai Nguyen Province, Vietnam [21]. Thai Nguyen is a semi-urban province with a population of approximately 50,000 that is located 100 miles northwest of Hanoi. The trial enrolled 455 HIV-infected PWID who were recruited by outreach workers and peer referral. To be eligible for analysis, participants had to be newly diagnosed HIV-positive through testing in our study, be 18 years of age or older, and have injected drugs in the previous 6 months (n = 336).

Data collection

In the baseline visit, participants were tested for HIV antibody (two simultaneously run rapid EIA tests) and administered a one-hour face-to-face interview using a structured questionnaire. The questionnaire included questions on demographics, drug use, sharing and disinfecting equipment, history of incarceration and drug treatment, HIV knowledge, number of sex partners and condom use. All potential participants received HIV counseling and testing at a project facility; post-test counseling encouraged disclosure, when appropriate, in accordance with the WHO/CDC protocol for HTC. HIV test results were provided one week after the baseline visit with HIV posttest counseling. A staff physician was consulted for other health problems that were identified, and active referrals for medical care were provided as needed. The research protocol, questionnaire and consent forms were reviewed and approved by the Thai Nguyen Center for Preventive Medicine IRB and the Johns Hopkins Bloomberg School of Public Health IRB. Participants returned 1 month later, and were administered a short survey, prior to the intervention, including questions on HIV disclosure and social support.

Outcome and risk factors

Self-disclosure was defined as responding “yes” to the question “Have you disclosed your HIV status to anyone” at the pre-intervention visit, 1 month after baseline. Disclosure to an injecting partner was defined as having disclosed to at least one injecting partner; disclosure to a family member was defined as having disclosed to a spouse, a parent, or other family members. These categories were not mutually exclusive since a participant may have disclosed to both an injecting partner and a family member.

We used a modified version of the MOS social support scale developed by Sherbourne et al [22] to assess 5 dimensions of support: *emotional support* (empathetic understanding), *informational support* (offering advice or information), *tangible support* (material or behavioral assistance), *affectionate support* (expressions of love) and *positive social interaction* (the availability to you of a person to do fun things). The MOS social support scale has been found to be reliable (all alphas > 0.91) and stable over time [22]. These 5 dimensions of support were measured in 4 subscales: emotional/informational (EMI),

tangible (TAN), affectionate (AFF) and positive social interaction (POS). We used subscales as opposed to an overall support index given Sherbourne et al.'s demonstration of independence between these subscales and their supposition that the different types of support represented by each subscale may be "more beneficial for certain health outcomes" [23]. Furthermore, since the different subscales had different distributions and medians in our study, we looked at the 4 subscales separately in each analysis in order to understand how different types of social support may influence disclosure.

Other factors considered at the baseline visit included socio-demographics (e.g., age, marital status, education), injecting behaviors (e.g., needle/syringe sharing, sharing of other injecting equipment), sexual behaviors (e.g., unprotected sex), drug treatment and incarceration history, HIV knowledge which was assessed using a panel of seven true-false questions about HIV transmission, knowing someone that has taken ART, belief that ART is safe, health (e.g., self-reported health, CD4 count), and depression as measured using the Center for Epidemiologic Studies Depression Scale (CES-D) [24,25].

Statistical analysis

Frequency distributions and descriptive statistics were used to describe participants at baseline. Since the four social support subscales (EMI, TAN, AFF, POS) were not normally distributed, we categorized the variables into quartiles. Odds ratios for the association between disclosure and each social support subscale showed that the 1st and 2nd quartiles and the 3rd and 4th quartiles had similar proportions of disclosure. Therefore, we dichotomized each subscale at the median for the reported analyses. The number and proportion of people to whom each participant disclosed were calculated. A logit transformation was used to determine the probability and 95% confidence intervals of 1) disclosing to at least one person, 2) disclosure to a family member and 3) disclosure to an injecting partner. Bivariate analyses were conducted to assess associations between social support and disclosure and other participant characteristics and disclosure. Odds ratios and 95% confidence intervals were calculated to determine the magnitude and direction of each relationship.

Variables marginally associated ($p < .20$ in bivariate analysis) with the disclosure types were modeled with multiple logistic regression to identify characteristics independently associated with disclosure. To avoid overfitting, we selected a model using forward stepwise regression, where, at each step, the order of a variable being included in the model is determined by the relative improvement in the model fit if that specific variable is included versus whether other variables are included. Interactions were examined on the basis of previous literature and a priori hypotheses by including product terms in regression models. All analyses were conducted using SAS software Version 9.4 (SAS Institute Inc., Cary, NC) and STATA software version 11.2 [26].

RESULTS

Three-hundred and thirty-eight individuals were newly identified as HIV-infected at baseline and among those, 336 participants completed the one-month follow-up interview

and were eligible for this analysis. One month after receiving HTC, 34.8% of participants (n = 117) reported that they had not disclosed to anyone (Table I).

The median number of people that participants disclosed to was 3 (interquartile range 0–11). Among those who did not disclose, 24% had shared needles/syringes and 33% were sexually active and not using condoms consistently in the previous 3 months suggesting that many of those who did not disclose were also engaging in injecting and sexual risk behaviors.

In bivariate analysis, a subscale of social support, positive interactions (POS), higher level of HIV knowledge and history of incarceration were significantly associated with disclosure 1 month after receiving results. In multivariate analysis, a higher score on the POS scale (Adjusted OR [AOR]: 1.7; 95% CI: 1.1,2.8), a higher score on the panel of questions to assess HIV knowledge (AOR: 1.8; 95% CI: 1.0,3.0) and a history of having been incarcerated (AOR: 2.0; 95% CI: 1.2, 3.2) remained significantly associated with disclosure (Table IIA).

On qualitative examination of the disclosure rates, a three-way interaction was found. Among those who had ever been incarcerated (35%), higher HIV knowledge was associated with disclosure (Table IIB(i)), whereas among those who had never been incarcerated, social support in the form of positive interactions, was associated with disclosure (Table IIB(ii)).

To understand how social support may play a role in disclosure to family members and injecting partners, we assessed the association between social support and disclosure to at least one family member and the association between social support and disclosure to at least one injecting partner. In bivariate analysis as shown in Table III, higher levels of three types of social support (tangible (TAN), emotional/informational (EMI) and positive interactions (POS)), and also a history of incarceration were associated with disclosure to a family member. Those who reported unprotected sex in the previous 3 months were less likely to disclose to a family member.

In multivariate analysis a higher score on the positive interactions subscale of social support and a history of incarceration remained statistically significant while unprotected sex remained significant with lack of disclosure to a family member. The other two social support subscales, EMI and TAN, were no longer significant. For disclosure to an injecting partner (Table IV), sharing of injecting solutions in the previous 3 months, a history of being in a drug treatment program, knowing someone who is taking ART, believing that ART is effective, believing ART is safe, and HIV knowledge were statistically significant in bivariate analyses.

In multivariate analysis, a history of being in a drug treatment program, knowing someone who is taking ART, and believing that ART is safe were statistically significantly associated with disclosure with an injecting partner. Those who had been previously tested for HIV were less likely to disclose to an injecting partner.

CONCLUSIONS

In our study, a substantial proportion of HIV-infected PWID (34.8%) did not disclose their HIV status to anyone one month after HTC, potentially leaving these individuals without emotional, informational and tangible HIV-related support at a time that may be critical both for accessing HIV care as well as for reducing HIV risk behaviors to prevent transmission. Among participants who disclosed, the vast majority (95%) disclosed to family members, including spouses. This finding is consistent with previous research among PWID that found that PWID are more likely to disclose to family members [27] and that disclosure is tied to social relationships [28]. In Vietnam, a country profoundly influenced by Confucianism, family is central to society and a core source of support; therefore family is the first choice of disclosure for many. In China, a culture also influenced by Confucianism [1], researchers have found that most PLWHAs disclose their HIV status first to a close family member, often a spouse or sibling [1], and that family members go on to aid the disclosure process [29,30]. In our previous qualitative work, we also found that after disclosure, family members tended to provide emotional and tangible support to HIV-infected PWID [19].

In this study, among those without a history of incarceration, social support in the form of positive interactions was associated with disclosure. These findings reiterate the importance of social support networks in facilitating disclosure and mirror previous research which has shown that disclosure is higher when individuals perceive they are likely to receive help [31,32] from an existing social support network.

In this study, we found that among PWID with a history of incarceration, those with more knowledge about HIV and treatment may be more likely to disclose than those with a lower level of knowledge. Incarceration of drug users in Vietnam is relatively common and while community members may suspect certain individuals of being a drug user, incarceration is a public confirmation of those suspicions. It may be that HIV status is less stigmatizing than illegal injection drug use [19] among this sub-group of drug users who have been incarcerated, and since they may perceive that their drug use is public and that they have “nothing more to lose”, they may be more willing to disclose, particularly if their knowledge increases their awareness of treatment options. This may also explain why individuals with a history of incarceration were more likely to disclose to family members. Another study on HIV disclosure among HIV-infected men who have sex with men found that men who were more “out” were more likely to disclose to a sexual partner. Both this study and ours suggest that once a stigmatized behavior is public, HIV disclosure may be more likely [33]. This finding also confirms other studies showing that lack of correct knowledge about HIV is associated with non-disclosure [34].

Disclosure to an injecting partner was associated with beliefs about and exposure to ART as well as a history of drug treatment. A history of having been in drug treatment programs may operate in the same way as incarceration; those who have been in drug treatment may feel their drug use is more public and that with nothing “to lose”, they can only “gain” social support through disclosure. In addition to participation in drug treatment programs, knowing someone who has taken ART and believing HIV treatments are safe were both associated with disclosure to an injecting partner. In order to know that someone is on ART, that

person likely disclosed to the participant, perhaps making disclosure more normative. Furthermore, knowing ART is a safe and viable option may provide a more positive outlook to the future and increase one's willingness to share information about his status, which in turn, could lead to more social support and/or to HIV prevention measures between injecting partners.

While disclosure to injecting partners was associated with a greater awareness of ART, disclosure to family members was tied to sexual risk. Participants who reported unprotected sex in the previous 3 months were less likely to disclose to a family member. Our previous study found that inconsistent condom use between PWID and their sexual partners is linked to less communication about HIV more generally [35]; this in turn, may lead to a lack of immediate communication about HIV positive status to spouses.

Overall, our study found that social support was associated with general disclosure, and disclosure to a family member, but was not associated with disclosure to an injecting partner. This may be in part because individuals with an existing positive support network may have disclosed to family members to enhance their HIV-related social support, such as transport to HIV facilities and assistance with the paperwork to initiate ART. On the other hand, disclosure to an injecting partner may be related to prevention of HIV transmission, and willingness to disclose may be more dependent on the ability to share information without risk of additional stigma. The belief that ART was safe and knowing others that had disclosed and were on ART may have made both disclosure and HIV itself less stigmatizing.

There were several limitations to this study. First, disclosure was self-reported and participants were encouraged at post-test counseling to disclose if appropriate. Therefore, there may be social desirability bias that would overestimate disclosure. In addition, we did not measure the order or reason for disclosure; it would have been informative to know who had been informed first and why in order to further promote disclosure in the future. Finally, since our enrollment criteria required participants to be able and willing to bring in an HIV-negative injecting partner, our study excluded individuals who typically inject alone.

Despite these limitations, our study has important implications for future practice and research. HIV disclosure has been associated with benefits in terms of physical and mental health [36,37] and engagement in the continuum of HIV care. Among PWID, a highly stigmatized population in Vietnam and many countries globally, access to HIV care is disproportionately low and interventions to increase access are urgently needed. However, the disclosure process is complex and has both benefits and risks to HIV –positive PWID. In order to facilitate access to care, future intervention programs should consider both the potential benefits and risks associated with HIV disclosure and assist HIV-positive PWID to prepare for HIV disclosure and reduce potential negative impacts that come with it. Formative research from this study found that HIV stigma may temper the drug-related stigma that PWID have already experienced within their families, as they may be perceived as “sick” and requiring care-taking by the family, thereby tipping the risk-benefit equation towards disclosure [19]. Understanding participants' background and context (e.g., history of incarceration, history of prior HIV testing, quality of social support) may be helpful for HTC counselors to tailor their counseling content. HTC counselors should also clearly

describe the availability and efficacy of early treatment for HIV. And finally, interventions to enhance social support and HIV communication between spouses and sexual partners, both prior and after an HIV-diagnosis through small group or couples counseling sessions may help provide newly infected PWID with a foundation for disclosure. Further research is needed to determine how disclosure changes over time, and if there is a causal association between disclosure and HIV risk reduction and access to HIV care in this highly marginalized population.

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Table 1

Baseline characteristics among HIV-infected participants who did not know their status at baseline

Baseline characteristics	Total N	Did Not Disclose HIV Status n (%)	Disclosed HIV Status n (%)	OR (95% CI)
Overall	336	117 (100.0)	219 (100.0)	
Age in years				
< 30 years	66	22 (18.8)	44 (20.1)	Ref.
30–34	100	36 (30.8)	64 (29.2)	0.9 (0.5–1.7)
35–39	92	34 (29.1)	58 (29.5)	0.9 (0.4–1.7)
40+	78	25 (21.4)	53 (24.2)	1.1 (0.5–2.1)
Marital status				
Single (never married)	125	45 (38.5)	80 (36.5)	Ref.
Married or Living with partner	163	59 (50.4)	104 (47.5)	1.0 (0.6–1.6)
Widowed or Divorced	32	8 (6.8)	24 (11.0)	1.7 (0.7–4.1)
Separated	16	5 (4.3)	11 (5.0)	1.2 (0.4–3.8)
Education level				
Primary or No Schooling	30	10 (8.5)	20 (9.1)	Ref.
Secondary Schooling	193	78 (66.7)	115 (52.5)	0.7 (0.3–1.7)
High Schooling	95	25 (21.4)	70 (32.0)	1.4 (0.6–3.4)
University or higher	18	4 (22.2)	14 (6.4)	1.7 (0.5–6.7)
Employment status				
Working full-time (≥ 30 hours/week)	236	79 (67.5)	157 (71.7)	Ref.
Working part-time (<30 hours/week)	64	24 (20.5)	40 (18.3)	0.8 (0.5–1.5)
Unemployed or unable to work	36	14 (12.0)	22 (10.0)	0.9 (0.4–1.8)
Any sharing of injecting solutions, past 3 months				
No	83	29 (24.8)	54 (24.7)	Ref.
Yes	253	88 (75.2)	165 (75.3)	1.0 (0.6–1.7)
Any sharing of needle/syringe, past 3 months				
No	249	89 (76.1)	160 (73.1)	Ref.
Yes	87	28 (23.9)	59 (26.9)	1.2 (0.7–2.0)
Ever been in a drug treatment program				
No	241	86 (73.5)	155 (70.8)	Ref.
Yes	95	31 (26.5)	64 (29.2)	1.1 (0.7–1.9)
Any unprotected sex in the past 3 months				
No	242	78 (66.7)	164 (74.9)	Ref.
Yes	94	39 (33.3)	55 (25.1)	0.7 (0.4–1.1)
Have you ever been tested for HIV (i.e., prior to this study)?				
No	268	95 (81.2)	173 (79.0)	Ref.

Baseline characteristics	Total N	Did Not Disclose HIV Status n (%)	Disclosed HIV Status n (%)	OR (95% CI)
Yes	68	22 (18.8)	46 (21.0)	1.1 (0.7–2.0)
Do you know anyone who has taken or is taking ARVs?				
No	220	81 (69.8)	139 (63.5)	Ref.
Yes	115	35 (30.2)	80 (36.5)	1.3 (0.8–2.2)
Which of the following best describes how well you think HIV treatments work?				
-None of the treatments work/Don't know	20	9 (7.7)	11 (5.0)	Ref.
-Treatments can prevent some people from getting sick from HIV	316	108 (92.3)	208 (95.0)	1.6 (0.6–3.9)
Which of the following best describes how safe you think HIV treatments are?				
-Treatments are not safe/Don't know	37	15 (12.8)	22 (10.1)	Ref.
-Treatments are very safe/safe with side effects	299	102 (87.2)	197 (89.9)	1.3 (0.7–2.6)
Have you ever been incarcerated?				
No	217	86 (73.5)	131 (59.8)	Ref.
Yes	119	31 (26.5)	88 (40.2)	1.9 (1.1–3.0)*
Social support sub-scale (0–100): EMI median				
0–62	170	66 (56.4)	104 (47.5)	Ref.
63–100	166	51 (43.6)	115 (52.5)	1.4 (0.9–2.2)
Social support sub-scale (0–100): TAN median				
0–93	214	82 (70.1)	132 (60.3)	Ref.
94–100	122	35 (29.9)	87 (39.7)	1.5 (0.9–2.5)
Social support sub-scale (0–100): POS median				
0–56	173	71 (60.7)	102 (46.6)	Ref.
57–100	163	46 (39.3)	117 (53.4)	1.8 (1.1–2.8)*
Social support sub-scale (0–100): AFF median				
0–74	167	63 (53.9)	104 (47.5)	Ref.
75–100	169	54 (46.1)	115 (52.5)	1.3 (0.8–2.0)
HIV stigma score (quartiles)				
1 st	63	20 (17.1)	43 (19.6)	Ref.
2 nd	107	41 (35.0)	66 (30.1)	0.7 (0.4–1.4)
3 rd	77	25 (21.4)	52 (23.8)	1.0 (0.5–2.0)
4 th	89	31 (26.5)	58 (26.5)	0.9 (0.4–1.7)
IDU stigma score (quartiles)				
1 st	99	33 (28.2)	66 (30.1)	Ref.
2 nd	77	27 (23.1)	50 (22.8)	0.9 (0.5–1.7)
3 rd	47	12 (10.3)	35 (16.0)	1.5 (0.7–3.2)

Baseline characteristics	Total N	Did Not Disclose HIV Status n (%)	Disclosed HIV Status n (%)	OR (95% CI)
4 th	113	45 (38.5)	68 (31.1)	0.8 (0.4–1.3)
Total number in your social network				
0–2 persons	154	56 (47.9)	98 (44.7)	Ref.
3	76	27 (23.1)	49 (22.4)	1.0 (0.6–1.8)
4	47	15 (12.8)	32 (14.6)	1.2 (0.6–2.4)
5+	59	19 (16.2)	40 (18.3)	1.2 (0.6–2.3)
HIV knowledge score: Number of questions answered correctly, out of 7 questions total				
0–6	78	35 (29.9)	43 (19.6)	Ref.
7	258	82 (70.1)	176 (80.4)	1.7 (1.0–2.9) *
CD4 count at baseline: Quartiles				
0–126	82	32 (28.6)	50 (23.0)	Ref.
127–242	82	24 (21.4)	58 (26.7)	1.5 (0.8–3.0)
243–377	82	25 (22.3)	57 (26.3)	1.5 (0.8–2.8)
378+	83	31 (27.7)	52 (24.0)	1.1 (0.6–2.0)

* p<0.05

** p<0.01

Table IIA

Analysis of HIV disclosure to at least one person

Baseline characteristics	Total N	Bivariate OR (95% CI)	Multivariate OR (95% CI)
Overall	336		
Have you ever been incarcerated?			
No	217	Ref.	Ref.
Yes	119	1.9 (1.1–3.0)*	2.0 (1.2–3.2)**
HIV knowledge score: Number of questions answered correctly, out of 7 questions total			
0–6	78	Ref.	Ref.
7	258	1.7 (1.0–2.9)*	1.8 (1.0–3.0)*
Social support sub-scale (0–100): POS median			
0–56	173	Ref.	Ref.
57–100	163	1.8 (1.1–2.8)*	1.7 (1.1–2.8)*

*
p<0.05**
p<0.01

Table IIB

% HIV Disclosure to at least one person:

- i. among participants who were EVER INCARCERATED at baseline

	Quartile of Social Support (POS) Score			
	1 st	2 nd	3 rd	4 th
Less HIV Knowledge	62%	67%	(75%)	50%
More HIV Knowledge	77%	80%	78%	78%

- ii. among participants who were NEVER INCARCERATED at baseline

	Quartile of Social Support (POS) Score			
	1 st	2 nd	3 rd	4 th
Less HIV Knowledge	38%	46%	50%	73%
More HIV Knowledge	56%	50%	(70%)	77%

The shaded vs. unshaded discrimination is the simplest one within levels of incarceration that describes approximately the distinction between high (>70) % disclosure rate versus moderate or lower rate (exceptions are in parentheses).

Table III

Disclosure of HIV status to at least one family member

Baseline characteristics	Total N	Bivariate OR (95% CI)	Multivariate OR (95% CI)
Overall	336		
Have you ever been incarcerated?			
No	217	Ref.	Ref.
Yes	119	1.8 (1.1–2.9)*	1.9 (1.2–3.2)**
Any unprotected sex in the past 3 months			
No	242	Ref.	Ref.
Yes	94	0.6 (0.4–0.98)*	0.5 (0.3–0.8)*
Social support sub-scale (0–100): POS dichotomized at median			
0–56	173	Ref.	Ref.
57–100	163	2.0 (1.2–3.1)**	2.2 (1.4–3.6)**
Social support sub-scale (0–100): EMI median			
0–62	170	Ref.	---
63–100	166	1.7 (1.1–2.6)*	
Social support sub-scale (0–100): TAN median			
0–93	214	Ref.	---
94–100	122	1.8 (1.1–2.9)*	

*
p<0.05**
p<0.01

Table IV

Disclosure of HIV status to at least one injecting partner

Baseline characteristics	Total N	Bivariate OR (95% CI)	Multivariate OR (95% CI)
Overall	336		
Any sharing of injecting solutions, past 3 months			
No	83	Ref.	---
Yes	253	1.9 (1.1–3.2)*	
Have you ever been in a drug treatment program?			
No	241	Ref.	Ref.
Yes	95	1.7 (1.0–2.7)*	2.0 (1.2–3.3)*
Have you ever been tested for HIV (i.e., prior to this study)?			
No	268	Ref.	Ref.
Yes	68	0.7 (0.4–1.2)	0.5 (0.3–0.9)*
Do you know anyone who has taken or is taking ARVs?			
No	220	Ref.	Ref.
Yes	115	2.1 (1.3–3.4)**	2.2 (1.4–3.6)**
Which of the following best describes how well you think HIV treatments work?			
-None of the treatments work/Don't know	20	Ref.	---
-Treatments can prevent some people from getting sick from HIV	316	3.3 (0.9–11.4)*	
Which of the following best describes how safe you think HIV treatments are?			
Treatments are not safe or Don't know	37	Ref.	Ref.
Treatments are safe	299	3.9 (1.5–10.4)**	3.8 (1.4–10.2)**
HIV knowledge score: Number of questions answered correctly, out of 7 questions total			
0–6	78	Ref.	---
7	258	1.8 (1.0–3.2)*	

* p<0.05

** p<0.01