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Serostatus Disclosure to Sexual Partners among People Living with HIV: Examining the Roles of Partner Characteristics and Stigma

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Abstract

HIV serostatus disclosure among people living with HIV/AIDS (PLWHA) is an important component of preventing HIV transmission to sexual partners. Due to barriers like stigma, however, many PLWHA do not disclose their serostatus to all sexual partners. This study explored differences in HIV serostatus disclosure based on sexual behavior subgroup [men who have sex with men (MSM), heterosexual men, and women], characteristics of the sexual relationship (relationship type and HIV serostatus of partner), and perceived stigma. We examined disclosure in a sample of 341 PLWHA: 138 MSM, 87 heterosexual men, and 116 heterosexual women who were enrolled in SafeTalk, a randomized, controlled trial of a safer sex intervention. We found that, overall, 79% of participants disclosed their HIV status to all sexual partners in the past 3 months. However, we found important differences in disclosure by subgroup and relationship characteristics. Heterosexual men and women were more likely to disclose their HIV status than MSM (86%, 85%, and 69%, respectively). Additionally, disclosure was more likely among participants with only primary partners than those with only casual or both casual and primary partners (92%, 54%, and 62%, respectively). Participants with only HIV-positive partners were also more likely to disclose than those with only HIV-negative partners, unknown serostatus partners, or partners of mixed serostatus (96%, 85%, 40%, and 60%, respectively). Finally, people who perceived more HIV-related stigma were less likely to disclose their HIV serostatus to partners, regardless of subgroup or relationship characteristics. These findings suggest that interventions to help PLWHA disclose, particularly to serodiscordant casual partners, are needed and will likely benefit from inclusion of stigma reduction components.

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Keywords

HIV serostatus disclosure; stigma; gender differences; sexual partners

HIV serostatus disclosure is an important component of preventing HIV transmission from people living with HIV/AIDS (PLWHA) to their sexual partners, allowing partners to make informed choices before sexual contact. Not only has disclosure been linked to increased condom use and decreased disease transmission (Crepaz & Marks, 2003; Parsons et al., 2005), disclosure also allows serodiscordant couples to take measures to prevent HIV transmission, including the use of pre-exposure prophylaxis and antiretroviral treatment adherence (Brooks et al., 2011; Cohen et al., 2011).

While a substantial body of research has informed our understanding of factors influencing disclosure, at least three gaps remain. First, most research has assessed disclosure *within* specific subgroups, such as men who have sex with men (MSM) (Klitzman et al., 2007; Marks & Crepaz, 2001; O'Brien et al., 2003), bisexual men (Mutchler et al., 2008), or women (Sowell et al., 2003; Sullivan, Voss, & Li, 2010), but has not directly *compared* disclosure patterns *among* subgroups of PLWHA. Second, the extent to which partner-specific variables, such as partner serostatus and relationship type, influence HIV disclosure among different subgroups is unknown. Finally, although previous studies have demonstrated an inverse relationship between HIV stigma and disclosure (Smith, Rossetto, & Peterson, 2008), little research exists regarding the stigma-disclosure association by subgroups. Understanding group differences in disclosure could allow for more targeted prevention programs.

The current study assessed disclosure to sexual partners in a clinically representative, sexually active population of PLWHA. In the full sample and across subgroups of MSM, heterosexual men, and women, our aims were to describe and compare: 1) sexual partner characteristics (relationship type and partner serostatus); 2) the prevalence of disclosure based on partner characteristics; 3) the prevalence of HIV stigma and its association with disclosure; and 4) whether subgroup and sexual partnership characteristics moderated the relationship between HIV stigma and disclosure.

Methods

Participants and Procedures

Data come from the baseline survey of SafeTalk, a randomized, controlled trial of a safer-sex intervention of 490 PLWHA (see Golin et al., 2012 and Widman, Golin, Grodensky, & Suchindran, 2012 for detailed study information). The University of North Carolina at Chapel Hill's Office for the Protection of Human Research approved all study procedures.

Measures

Subgroups—We determined sexual behavior subgroup (i.e., MSM, heterosexual men, or women) based on participant gender and the gender of their reported sexual partners.

Relationship Type and Partner Serostatus—Based on questions about sexual partners in the last three months, we created a three-category variable for relationship type: 1) only primary partner(s); 2) only casual partner(s); or 3) a combination of primary and casual partner(s). We determined the proportion of partners by serostatus to create a four-category variable: 1) only HIV-positive partner(s); 2) only HIV-negative partner(s); 3) only unknown serostatus partner(s); or 4) a combination of HIV-positive, HIV-negative, and/or unknown serostatus partners.

HIV Stigma—We measured HIV stigma with an abbreviated seven-item disclosure concerns subscale of the HIV Stigma Scale (Berger, Ferrans, & Lashley, 2001; Cronbach's $\alpha = .87$).

HIV Serostatus Disclosure—Participants indicated their number of sexual partners and the number of their partners who "knew that you were HIV-positive because you told them that you were positive". From this, we derived a dichotomous HIV serostatus disclosure variable: 1) "disclosure" (i.e., disclosure to *all* partners) and 2) "non-disclosure" (i.e., disclosure to less than 100% of partners).

Statistical Analyses

First, we conducted Chi Square analyses with Bonferroni-adjusted post-hoc tests to determine if partnership characteristics differed by subgroup. Next, we examined the percentage of participants who disclosed and used individual logistic regression models to determine if the odds of disclosure varied by subgroup. We used logistic regression to determine if the odds of disclosure varied by relationship type or partner serostatus. Follow-up Chi Square analyses with Bonferroni-adjusted post-hoc tests were used to determine if disclosure differed between subgroups by partnership characteristics. Further, we examined mean differences in HIV stigma within subgroups using a one-way ANOVA, and examined the main effect of stigma on disclosure using logistic regression. Finally, we examined interactions between stigma, subgroups, and sexual partnership characteristics to determine if subgroups moderated the relationship between stigma and disclosure.

Results

Participant and Partnership Characteristics (Tables 1 and 2)

We excluded 149 participants from the original 490 in SafeTalk for this analysis: 105 who were sexually abstinent; 32 who had missing data on disclosure; 8 women who reported sexual activity exclusively with women; and 4 transgendered individuals. The final sample included 341 individuals: 138 MSM (40%), 87 heterosexual men (26%), and 116 heterosexual women (34%). See Table 1 for descriptive data and Table 2 for sexual partnership characteristics. Notably, 42% of participants had HIV-negative sexual partners and 17% had partners of unknown serostatus.

Prevalence of HIV Serostatus Disclosure (Figure 1)

Across the full sample, 79% of individuals disclosed their HIV status to all sexual partners in the previous three months. Disclosure was more likely among women (85%) and heterosexual men (86%) than MSM (69%) (OR = 2.63, 95% CI [1.40, 4.94], $p < .01$ and OR = 2.82, 95% CI [1.39, 5.74], $p < .01$, respectively).

Differences in Disclosure Based on Partnership Characteristics

Relationship Type (Figure 2)—Disclosure was less likely among participants with only casual partners (54%) and mixed relationship types (62%) relative to those with only primary partners (92%) (OR = 0.10, 95% CI [0.05, 0.19], $p < .001$ and OR = 0.14, 95% CI [0.06, 0.31], $p < .001$, respectively). The proportion of participants who disclosed did not differ significantly among subgroups (Table 3).

Partner Serostatus (Figure 3)—Relative to disclosure to HIV-positive partners (96.3%), disclosure was less likely to HIV-negative partners (84.6%), unknown serostatus partners (40.3%), and mixed serostatus partners (60.0%) (OR = 0.23, 95% CI [0.08, 0.70], $p = .01$; OR = 0.03, 95% CI [0.01, 0.09], $p < .001$; and OR = 0.07, 95% CI [0.02, 0.25], $p <$.

001, respectively). The association between disclosure and partner serostatus varied by subgroup when partner serostatus was unknown [χ^2 (2) = 9.29, $p < .01$] (Table 3). Specifically, MSM had less disclosure to unknown serostatus partners (22.6%) than did women (69%), χ^2 (1) = 9.04, $p < .01$.

HIV Stigma and Disclosure

HIV stigma (full sample $M = 21.57$, $SD = 5.67$) did not differ between subgroups: MSM ($M = 22.14$, $SD = 5.47$), heterosexual men ($M = 20.65$, $SD = 5.76$) and women ($M = 21.58$, $SD = 5.79$), $F(2, 330) = 1.82$, $p = .16$. Importantly, HIV stigma was inversely associated with disclosure, where greater stigma was associated with lower odds of being in the disclosure group (OR = 0.89, 95% CI [0.81, 0.93], $p < .001$). The relationship between stigma and disclosure was not moderated by subgroup or sexual partner characteristics.

Discussion

This study analyzed HIV disclosure among sexually active PLWHA that included three subgroups – MSM, heterosexual men, and women – and explored whether disclosure differed among these groups by sexual partner serostatus or relationship status. Overall, 21% of participants failed to disclose to all sexual partners, with MSM being least likely to disclose (Weinhardt et al., 2004). Participants with casual or mixed relationships disclosed less than those in exclusively primary relationships (Duru et al., 2006, Vu et al., 2012) and less to HIV-negative, unknown, and mixed serostatus partners than to HIV-positive partners (Klitzman et al., 2007; McKay & Mutchler, 2010; Niccolai, Dorst, Myers, & Kissinger, 2006). MSM were particularly unlikely to disclose to unknown status partners. This study is unique in directly comparing disclosure among the three subgroups across sexual partnership types. Our findings suggest future disclosure research should focus as much on relationship characteristics as on gender and sexual orientation of PLWHA.

Most PLWHA reported experiencing HIV-related stigma, and individuals who experienced more stigma were less likely to disclose their HIV status (Simbayi et al., 2007; Smith et al., 2008). This study went beyond previous work in showing that the association between stigma and disclosure did not differ between subgroups or across relationship types, suggesting this association is extremely robust. Effective methods of reducing HIV-related stigma and enhancing PLWHA's efficacy to disclose in the face of stigma are urgently needed (Chaudoir, Fisher, & Simoni, 2011).

Limitations

While we stressed participant confidentiality and used an ACASI to help minimize the recall and social desirability biases to which self-reported data may be subject (Des Jarlais et al., 1999), participants may have still over-reported disclosure. Second, because we did not collect data from participants' sexual partners, we were unable to conduct analyses at the dyad level. Finally, our findings may not generalize to PLWHA who are not in care.

Conclusion

This study highlights both differences and similarities among MSM, heterosexual men, and women living with HIV. As the HIV prevention toolkit expands with the success of recent PrEP and "treatment as prevention" studies (Brooks et al., 2011; Cohen et al., 2011), HIV serostatus disclosure is increasingly important and beneficial for serodiscordant partners. While future studies could explore further the meaning and process of disclosure, our findings suggests that interventions to improve effective disclosure may need to be tailored on sexual partnership characteristics, particularly for MSM.

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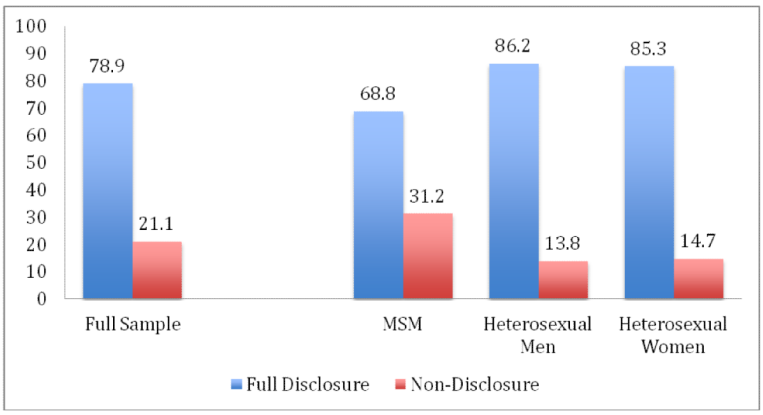

Figure 1.
Percentage of HIV Serostatus Disclosure among PLWHA in the Full Sample and by Subgroup.
Note: MSM = men who have sex with men. Full Disclosure = disclosed HIV serostatus to all sexual partners. Non-Disclosure = did not fully disclose HIV serostatus to all partners.

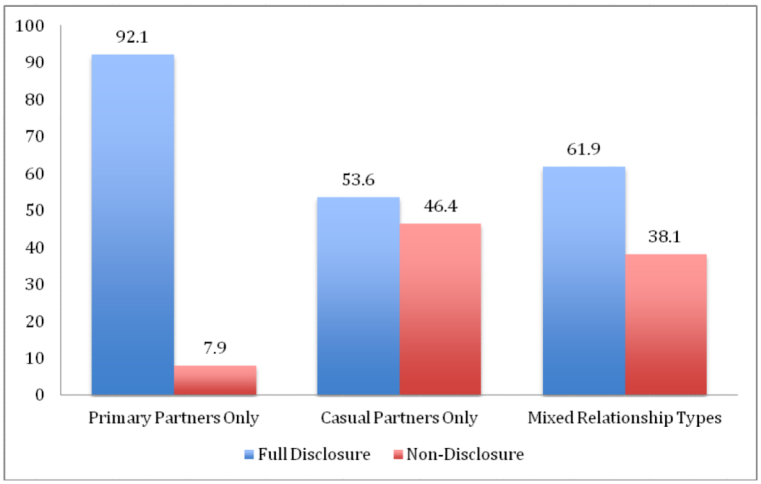

Figure 2.

Percentage of HIV Serostatus Disclosure among PLWHA based on Sexual Partner Relationship Types.

Note: Mixed Partner Types: combination of primary and casual partners. Full Disclosure = disclosed HIV serostatus to all sexual partners. Non-Disclosure = did not fully disclose HIV serostatus to all partners.

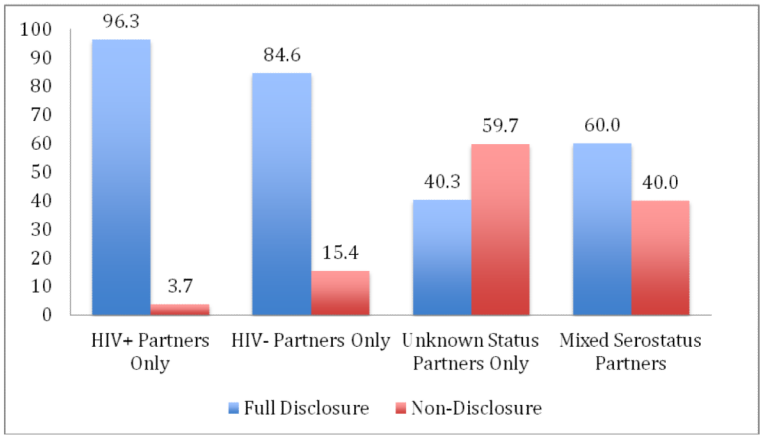

Figure 3.

Percentage of HIV Serostatus Disclosure among PLWHA based on Serostatus of their Sexual Partners.

Note: Mixed serostatus = any combination of HIV+, HIV−, and unknown serostatus partners. Full Disclosure = disclosed HIV serostatus to all sexual partners. Non-Disclosure = did not fully disclose HIV serostatus to all partners.

Table 1

Participant Descriptive Characteristics

	Full Sample N = 341 *N* (%)	MSM N = 138 *N* (%)	Heterosexual Men N = 87 *N* (%)	Heterosexual Women N = 116 *N* (%)
Demographics				
Age [*M (SD)*]	42.2 (9.0)	40.0 (9.5)	44.9 (7.9)	42.8 (8.5)
Race				
African-American	238 (70.0)	78 (56.9)	70 (80.5)	90 (77.6)
White	72 (21.2)	47 (34.3)	9 (10.3)	16 (13.8)
Other	30 (8.8)	12 (8.8)	8 (9.2)	10 (8.6)
Education				
High School or Less	187 (55.0)	41 (29.7)	69 (79.3)	77 (67.0)
Some College or More	153 (45.0)	97 (70.3)	18 (20.7)	38 (33.0)
Employment				
Not Employed	212 (62.2)	75 (54.4)	60 (69.0)	77 (66.4)
Full or Part-Time	129 (37.8)	63 (45.6)	27 (31.0)	39 (33.6)
Annual income				
$10,000 or less	169 (51.7)	58 (42.7)	51 (63.8)	60 (54.1)
$10,001 to $20,000	83 (25.4)	39 (28.7)	19 (23.8)	25 (22.5)
>$20,001	75 (22.9)	39 (28.7)	10 (12.5)	26 (23.4)
Clinical Characteristics				
Detectable Viral Load	128 (37.7)	57 (41.3)	28 (32.6)	43 (37.1)
Yrs since Diagnosis [*M (SD)*]	9.7 (6.0)	9.3 (6.5)	10.8 (5.8)	9.1 (5.5)

Note: All participants came from SafeTalk, a safer sex intervention among adults in the southeastern U.S. (Golin et al., 2012). MSM= men who have sex with men. When men indicated they had had sexual contact with both men and women in the previous three months, they were categorized as MSM (n=5).

Table 2

Descriptive and Comparative Statistics between Subgroups by Sexual Partnership Characteristics

	Full Sample N = 341 N (%)	MSM N = 138 N (%)	Heterosexual Men N = 87 N (%)	Heterosexual Women N = 116 N (%)
Relationship Type				
Primary partners only	214 (62.9)	59 (42.8) [a]	58 (67.4) [b]	97 (83.6) [c]
Casual partners only	84 (24.7)	52 (37.7) [a]	21 (24.4) [a]	11 (9.5) [b]
Mixed relationship type partners	42 (12.3)	27 (19.5) [a]	7 (8.1)	8 (6.9) [b]
Partner Serostatus				
HIV+ partners only	108 (32.3)	43 (31.1)	30 (34.5)	35 (30.7)
HIV− partners only	141 (42.3)	37 (26.8) [a]	39 (44.8) [b]	65 (56.0) [b]
Unknown serostatus partners only	56 (16.7)	30 (21.7)	10 (11.5)	16 (13.8)
Mixed serostatus partners	36 (10.6)	28 (20.3) [a]	8 (9.2) [b]	0 (0) [c]

Note: All participants came from SafeTalk, a safer sex intervention among adults in thesoutheastern U.S. (Golin et al., 2012). Mixed relationship type partners = both primary and casual partners. Mixed status partners = any combination of HIV+, HIV−, and unknown status partners. Categories that have different superscript letters within the same row (a,b,c) are significantly different from each other at the $p < .05$ level with Bonferroni-adjusted post-hoc tests.

$^{+}p < 10$,

$^{*}p < 05$,

$^{**}p < 01$,

$^{***}p < 001$.

Table 3

Percentage of Participants with HIV Disclosure: Comparisons between Subgroups by Sexual Partnership Characteristics

	MSM (N = 138)		Heterosexual Men (N = 87)		Heterosexual Women (N = 116)		
	#Disclose/ #In Group	Disclosure (%)	#Disclose/ #In Group	Disclosure (%)	#Disclose/ #In Group	Disclosure (%)	Chi Square Test Between Groups
Relationship Type							
Primary partners only	50/59	84.8	55/58	94.8	92/97	94.8	$\chi(2) = 5.95^{+}$
Casual partners only	26/52	50.0	14/21	66.7	5/11	45.5	$\chi(2) = 2.01$
Mixed relationship type	19/27	70.4	5/7	71.4	2/8	25.0	$\chi(2) = 5.71^{+}$
Partner Serostatus							
HIV+ partners only	40/43	93.0	30/30	100	34/35	97.1	$\chi(2) = 2.52$
HIV− partners only	33/37	89.2	34/39	87.2	54/65	83.1	$\chi(2) = 0.81$
Unknown serostatus only	7/30	23.3 [a]	5/10	50.0	11/16	68.8 [b]	$\chi(2) = 9.29^{*}$
Mixed serostatus	15/28	53.6	6/8	75.0	0/0	0	$\chi(2) = 1.18$

Note: All participants came from SafeTalk, a safer sex intervention among adults in the southeastern U.S. (Golin et al., 2012) #Disclose = Number of people who disclosed to all partners. #In Group = number of people in part cular group. Disclosure = full HIV serostatus disclosure. Mixed relationship type = both primary and casual partners. Mixed serostatus = any combination of HIV+, HIV−, and unknown serostatus partners. Categories that have different superscript letters within the same row (a,b) are significantly different from each other at the $p < 05$ level with Bonferroni-adjusted post-hoc tests.

$^{+}p < 10$,

$^{*}p < 05$