HIV Partner Notification Across Different Sexual Partner Types Among Men Who Have Sex with Men in Guangzhou, China

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To the Editor:

HIV PARTNER NOTIFICATION (PN), defined as a voluntary process wherein trained providers ask people diagnosed with HIV about their sexual partners or drug-injecting partners, and with consent of the HIV-positive client, offers these partners HIV testing service.¹ Strategies of HIV PN, including provider-initiated, patient-initiated, and contracted-referral HIV PN, have been recommended for use in diverse settings.¹ The benefits of HIV PN have been well documented. Studies have demonstrated that HIV PN can increase case identification, improve linkage to care, and prevent onward HIV transmission.^{2,3}

However, HIV PN for people diagnosed with HIV has not been routinely implemented in low- and middle-income countries (LMICs).⁴ Data on HIV PN from LMICs are limited, especially for HIV-infected men who have sex with men (MSM). MSM can have both regular and casual male partners, as well as female partners.⁵ A few studies on the uptake of HIV PN among MSM suggest that HIV PN for regular partners may be significantly higher than that for casual partners.^{6,7} Yet, studies on HIV PN seldom compare PN across sexual partner types, and factors influencing HIV PN in different partner types remain unknown.

The main HIV PN strategy used in China is patient initiated, in which responsibility of PN falls mainly on the index cases. We conducted a cross-sectional survey among HIV-infected MSM attending HIV care clinics in Guangzhou, China who had sex partner(s) in the past 6 months. The aims were to assess the uptake of HIV PN and to examine factors associated with HIV PN in different sexual partner types among HIV-infected MSM in Guangzhou, China. Ethics approval was obtained from the ethics review board of the Guangzhou Center for Disease Control and Prevention.

In this study, HIV PN was defined as report by index patient of notifying his male partner(s) (either regular or casual partner) about risk of exposure to HIV infection and offering

HIV testing, regardless of the partner's testing decision. The overall HIV PN rate was defined as the index patient notified at least one of his partner(s) (either regular or casual partner). We differentiated the HIV PN rate with respect to regular partner and casual partner. HIV PN to a regular partner was defined as the index patient notified his regular partner(s). HIV PN to a casual partner was defined as the index patient notified at least one of his casual partner(s).

Descriptive statistics were used to describe demographic and behavioral characteristics with respect to different types of sexual partners. Univariate and multivariable logistic regression were used to examine the correlation between the successful notification rates (among regular partner and casual partner) and the following factors: demographics, sexual behaviors, the perception of social discrimination against HIV/AIDS, and the awareness of the HIV PN strategy. Statistical analysis was performed by using SAS 9.3. All hypothesis tests were two-tailed with $\alpha=0.05$. In this study, 340 men were recruited. We excluded 87 men who had no sex partners and 69 men who had known their HIV infection status for less than 6 months, leaving 184 participants for analysis. The median age of the participants was 29 (interquartile range: 25–32). Among them, 82.1% (151/184) of the participants had a regular partner, 60.3% (111/184) had a casual partner, and 42.4% (78/184) had both regular and casual male sexual partners in the recent 6 months. The overall HIV PN rate was 63.6% (117/184). HIV PN rate to a regular partner was 66.2% (100/151), of which, 20.0% (20/100) of the index patients reported their relationship with a regular partner became worse after the notification, and 14.0% (14/100) reported that the relationship ended after the notification. HIV PN rate to a casual partner was 41.4% (46/111), of which, 39.1% (18/46) had notified all of their casual partners.

The top three reasons for failing HIV PN to a regular partner were “felt pressure and not knowing how to tell”

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TABLE 1. FACTORS CORRELATED WITH HIV PARTNER NOTIFICATION TO DIFFERENT SEXUAL PARTNER TYPES AMONG HIV-INFECTED MEN WHO HAVE SEX WITH MEN IN GUANGZHOU, CHINA

Variables	Total participants (N=184)			Participants who had a regular partner (N=151)			Participants who had a casual partner (N=111)		
	n (%)	cOR (95% CI)	aOR (95% CI) ^a	n (%)	cOR (95% CI)	aOR (95% CI) ^a	n (%)	cOR (95% CI)	aOR (95% CI) ^a
Number of male sexual partners in the recent 6 months									
1	49 (77.8)	2.73 (1.36–5.46)**	2.81 (1.36–5.80)**	71 (76.3)	3.23 (1.60–6.52)**	3.86 (1.80–8.27)**	20 (52.6)	2.01 (0.91–4.46)	2.19 (0.91–5.26)
≥2	68 (56.2)	1.00	1.00	29 (50.0)	1.00	1.00	26 (35.6)	1.00	1.00
Aware of the HIV partner notification strategy									
Yes	86 (78.9)	5.31 (2.77–10.17)**	5.85 (2.92–11.73)**	72 (82.8)	6.17 (2.93–12.99)**	6.77 (3.03–15.13)**	35 (57.4)	4.77 (2.06–11.05)**	5.26 (2.13–12.99)**
No	31 (41.3)	1.00	1.00	28 (43.8)	1.00	1.00	11 (22.0)	1.00	1.00
Perception of social discrimination against HIV/AIDS									
Low	23 (85.2)	4.01 (1.22–13.14)*	4.13 (1.93–14.31)*	21 (91.3)	6.88 (1.44–32.79)*	8.63 (1.70–43.86)**	10 (58.8)	2.38 (0.72–7.92)	2.09 (0.59–7.40)
Medium	61 (60.4)	1.06 (0.55–2.07)	0.93 (0.46–1.89)	50 (62.5)	1.09 (0.52–2.28)	0.94 (0.43–2.10)	24 (38.7)	1.05 (0.44–2.54)	0.87 (0.35–2.19)
High	33 (58.9)	1.00	1.00	29 (60.4)	1.00	1.00	12 (37.5)	1.00	1.00
Had ever encouraged by a trained provider to disclose their status to their partner?									
Yes	95 (70.4)	2.91 (1.49–5.71)**	3.55 (1.69–7.47)**	83 (72.8)	3.15 (1.46–6.78)**	3.20 (1.38–7.43)**	38 (49.4)	3.17 (1.28–7.87)*	4.06 (1.48–11.16)*
No	22 (44.9)	1.00	1.00	17 (45.9)	1.00	1.00	8 (23.5)	1.00	1.00
Type of sexual partner									
Had casual partner only	14 (42.4)	1.00	1.00	—	—	—	—	—	—
Had regular sexual partner only	53 (72.6)	3.60 (1.52–8.50)*	4.16 (1.68–10.34)*	—	—	—	—	—	—

* $p < 0.05$, ** $p < 0.01$.

^aMultivariate analysis adjusted for age, educational level, annual income, and marital status.
aOR, adjusted odd ratio; CI: confidence interval; cOR, crude odd ratio.

(60.8%, 31/51), “feared of their partner cannot accept the result” (49.0%, 25/51), and “feared of relationship cannot be maintained” (47.1%, 24/51). The top three reasons for failing HIV PN to a casual partner were “believed his partner wouldn’t get infected because they had sex only once and had used condom during sexual intercourse” (67.7%, 44/65), “feared of discriminations” (44.6%, 29/65), and “felt unnecessary to notify them because of not familiar with each other” (33.8%, 22/65).

Multivariable analysis showed that having a single sexual partner [compare with multiple sexual partners (≥ 2), adjusted odd ratio (aOR)=3.86, 95% confidence interval (CI): 1.80–8.27], being aware of HIV PN strategy (aOR=6.77, 95% CI: 3.03–15.13), having low perception of social discrimination (aOR=8.63, 95% CI: 1.70–43.86), and having ever been encouraged by a trained provider to disclose their status to their partners (aOR=3.20, 95% CI: 1.38–7.43) were associated with increased likelihood of HIV PN to the regular partner. Analysis also showed that being aware of the HIV PN strategy (aOR=5.26, 95% CI: 2.13–12.99) and having ever been encouraged by a trained provider to disclose their status to their partners (aOR=4.06, 95% CI: 1.48–11.16) were associated with increased likelihood of HIV PN to the casual partner (Table 1).

This study is one of the few studies on HIV PN among MSM in China. We found that HIV PN to a casual partner is suboptimal in comparison with HIV PN to a regular partner among HIV-infected MSM in Guangzhou, China. This finding is consistent with studies conducted in Shanghai and Chengdu, China, and in other countries.^{6–8} Regular partners may be more likely to be notified because of the availability of contact information and a sense of moral responsibility by the index patient.⁹ Conversely, there is a large number of casual partners among MSM¹⁰ that need to be informed. Therefore, innovative measures that supplement traditional HIV PN methods are needed to improve HIV PN to a casual partner.¹¹

MSM patients who were aware of the HIV PN strategy and who had ever been encouraged by a trained provider to disclose their status to their partners were more likely to notify both regular and casual partners. This result aligns with findings of a previous study, which reported that lack of awareness of HIV PN was one of the key barriers to HIV PN.¹¹ Availability of and support from the health provider are useful to promoting HIV PN.¹² Our findings suggest that the health provider who is responsible for result notification for newly diagnosed HIV infection plays an important role in promoting HIV PN.^{11,12} Procedures for health providers to offer HIV PN in HIV result in notification and follow-up care should be enhanced.

Study limitations include the relatively small number of participants who were exclusively recruited from HIV care clinic. Also, a cross-sectional study cannot draw causal inference. Finally, there is a lack of data on behavioral risk and knowledge of partner status, which may influence HIV PN.

Despite these limitations, this study extended the existing literature by assessing the uptake of HIV PN and exploring facilitators and barriers associated with PN with respect to different sexual partner types among MSM in China. Study findings can inform strategies for enhancing HIV PN to a casual partner, and future directions for improving HIV PN to

different types of sexual partners among HIV-infected MSM in Guangzhou, China.

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Author Disclosure Statement

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