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The role of dyad-level factors in shaping sexual and drug-related HIV/STI risks among sex workers with intimate partners

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ABSTRACT

Background: Despite high HIV burden among sex workers (SWs) globally, and relatively high prevalence of client condom use, research on potential HIV/STI risk pathways of intimate partnerships is limited. This study investigated partner/dyad-level factors associated with inconsistent condom use among SWs with intimate partners in Vancouver, Canada.

Methods: Baseline data (2010–2013) were drawn from a community-based prospective cohort of women SWs. Multivariable generalized estimating equations logistic regression examined dyad-level factors associated with inconsistent condom use (<100% in last six months) with up to three male intimate partners per SW. Adjusted odds ratios and 95% confidence intervals were reported (AOR[95%CI]).

Results: Overall, 369 SWs reported having at least one intimate partner, with 70.1% reporting inconsistent condom use. Median length of partnerships was 1.8 years, with longer duration linked to inconsistent condom use. In multivariable analysis, dyad factors significantly associated with increased odds of inconsistent condom use included: having a cohabiting (5.43[2.53–11.66]) or non-cohabiting intimate partner (2.15[1.11–4.19]) (versus casual partner), providing drugs (3.04[1.47–6.30]) or financial support to an intimate partner (2.46[1.05–5.74]), physical intimate partner violence (2.20[1.17–4.12]), and an intimate partner providing physical safety (2.08[1.11–3.91]); non-injection drug use was associated with a 68% reduced odds (0.32[0.17–0.60]).

Conclusions: Our study highlights the complex role of dyad-level factors in shaping sexual and drug-related HIV/STI risk pathways for SWs from intimate partners. Couple and gender-focused interventions efforts are needed to reduce HIV/STI risks to SWs through intimate partnerships. This research supports further calls for integrated violence and HIV prevention within broader sexual/reproductive health efforts for SWs.

1. Introduction

Intimate partner relationships are an important determinant of sex workers' (SWs') health and well being, including shaping HIV-related vulnerability and risk of other sexually transmitted infections (STIs). Globally, SWs face disproportionately high levels of HIV and related harms, with significant heterogeneity across settings (Kerrigan et al., 2013; Shannon et al., 2015). Overall, the prevalence of HIV among SWs has been estimated to be 11.8% in lower and middle-income countries (LMICs) and 1.8% in higher income settings (Baral et al., 2012; Beyrer et al., 2015a, 2015b). As in the general population, condom use with intimate or non-paying partners is consistently low among SWs, including being significantly lower than with clients (Argento et al., 2014; Deering et al., 2011; Johnson et al., 2001; Murray et al., 2007); this is a nearly universal trend, yet research and HIV prevention efforts that explore dyad-level factors within SWs' intimate partnerships (with non-paying male partners) are limited. The complex roles of intimacy, gendered power, and pregnancy intentions are rarely considered at a partner/dyad-level. The majority of the literature focuses on SWs' paying partners and increasing condom use with clients (Ang and Morisky, 2012; Blankenship et al., 2008; Krüsi et al., 2012; Urada et al., 2013).

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Several studies have examined differences in prevalence of SWs' condom use by clients versus with intimate partners; results from Benin and Cambodia indicate that close to 80% of SWs report using condoms with clients in the past week, compared to 20% with their intimate partners (Alary et al., 2002; Wong et al., 2003). Similarly, a study in India found that between 7 and 12% of SWs reported inconsistent condom use with occasional clients, while 58–97% reported inconsistent condom use with intimate partners (Travasso et al., 2014). Among SWs in a US study, 56% reported always using condoms with their clients, compared to 32% and 14% with occasional partners and regular partners, respectively (Johnson et al., 2001). With the advent of the HIV/AIDS epidemic and ensuing prevention programs, there has been a significant shift in SWs' awareness of and insistence on using condoms with clients, however, this does not reflect in SWs' intimate partner relationships.

Several studies highlight the importance of socio-structural factors and community empowerment efforts in preventing the transmission of HIV among SWs by increasing prevalence of client condom use (Blankenship et al., 2008; Decker et al., 2014; Erausquin et al., 2012; Lippman et al., 2010; Pando et al., 2013; Shannon et al., 2009). While community/SW-led and structural interventions show promising results for reducing HIV/STI related risks, HIV prevention interventions that focus on behavior change may not be successful in increasing condom use by intimate partners (Foss et al., 2007). A recent brief behavioral intervention targeting SWs effectively increased client condom use, yet failed to increase condom use by intimate partners (Ulibarri et al., 2012).

Economic and emotional elements are often fused in intimate relationships, making the decision to use condoms or not a complex social and cultural phenomenon. Intimacy and gender roles within SWs' non-paying partnerships may influence sexual decision-making power, including negotiating condom use (Bourgois et al., 2004; El-Bassel et al., 2005; Shannon et al., 2008). For example, in a study among Cambodian SWs, the main reason cited for why clients did not use condoms was because the SW could not persuade clients to; with intimate partners the main reason cited was love (Wong et al., 2003). Qualitative research conducted in India and Cambodia revealed that some SWs' intimate partners refused to use condoms, suggesting that the male partner perceived condoms as symbolically preventing intimacy and that a woman's request to use condoms with her intimate partner violates traditional gender roles, potentially leading to experiences of physical violence (Argento et al., 2011; Maher et al., 2013). Emerging evidence highlights sexual relationship power and intimate partner violence (IPV) as key dyad-level factors associated with unprotected sex among SWs with their intimate partners (Ulibarri et al., 2015), and dual drug and sexual risk behaviors may significantly enhance risks for HIV transmission among drug-using couples (El-Bassel et al., 2011). Therefore, an understanding of the socio-structural determinants of HIV risk pathways for SWs, with special consideration of the ways in which dyad-level dynamics shape risks with intimate partners, is essential to inform evidence-based interventions for HIV.

To facilitate a better understanding of the sexual and drug-related HIV/STI risk pathways of intimate partnerships, this study aimed to investigate partner/dyad-level factors associated with inconsistent condom use among street- and off-street SWs with intimate partners in Metro Vancouver, Canada.

2. Methods

2.1. Study design and sample

This study is nested within a large, community-based open prospective cohort of women SWs, known as AESHA (An Evaluation of Sex Workers Health Access). AESHA was initiated in 2010 and consists of over 800 street and off-street SWs across Metro Vancouver. AESHA is based on substantial collaborations with community members and service providers since 2004 and is continuously monitored by a Community Advisory Board of over 15 sex work, women's health and HIV service agencies, as well as representatives from the health authority and policy experts.

In the context of hard-to-reach populations, participants were recruited through day and late-night outreach to both outdoor sex work locations (i.e., streets, alleyways) and indoor sex work venues (i.e., massage parlors, micro-brothels, and in-call locations) across Vancouver, using time-location sampling and community mapping strategies. Online recruitment was also used to reach SWs working through online solicitation spaces. Outdoor, indoor, and online venues were identified through participatory mapping strategies conducted with current and former SWs, continuously updated by the outreach team to identify sex work locations. AESHA participants are initially invited to participate by weekly outreach by van to the sex work spaces: two late night street outreach shifts and three daytime outreach shifts per week by interview and nursing teams to over 100 off-street venues. Regular contact with outreach and nursing teams as well as encouraging participant drop-in to women-only spaces at the research office have helped support high rates of retention with AESHA (>90% annually). The research team works closely in partnership with the affected community and a diversity of stakeholders, including legal/human rights experts, community-based organizations, service providers, health authorities, government officials, and international policy bodies, and regularly engages in knowledge exchange efforts.

At enrollment and bi-annually, consenting SWs complete an interviewer-administered questionnaire by a trained interviewer and HIV/STI/HCV serology testing by a project nurse. Interview, outreach and nursing staff include both experiential (SWs) and non-experiential staff with substantial community experience. Participants have the option to complete the questionnaire and clinical component at one of two study offices or at a safe location identified by them, including work or home locations. The main interview questionnaire elicits responses related to socio-demographics (e.g., sexual identity, ethnicity, housing), the sex industry (e.g., work environment, solicitation, access to services, violence/safety, incarceration), clients (e.g., number/type of clients, types of services, condom use), intimate partners (e.g., sexual history, cohabitation, financial support), trauma and violence (e.g., lifetime and childhood trauma, exposure to intimate partner and workplace violence), and drug use patterns (injection and non-injection). In addition, a clinical questionnaire is administered relating to overall physical, mental and emotional health, sexual and reproductive health, and HIV testing and treatment experiences, to support education, referral and linkages with care.

Eligibility criteria for participants in this study is a cis-gender or trans*-gender woman, 14 years of age or older, who exchanged sex for money within the last 30 days. Baseline data were drawn from the AESHA cohort between January, 2010 and August, 2013. The AESHA study holds ethical approval through Providence Health Care/University of British Columbia Research Ethics Board. As in previous studies (Shannon et al., 2007; Wood et al., 2006), we have held ethical approval since 2004 to include self-supporting youth aged 14–18 years who are not living with a parent or guardian under the emancipated minor clause, given the critical importance of understanding the needs of vulnerable youth. All participants receive an honorarium of $40 CAD at each bi-annual visit for their time, expertise and travel.

2.2. Study variables

Our dependent variable of interest was inconsistent condom use at the partner/dyad-level elicited separately for each intimate non-paying partnership. Inconsistent condom use was categorized as