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"You need money to get high, and that's the easiest and fastest way:" A typology of sex work and health behaviours among people who inject drugs

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Authors' contribution

Shannon Ogden and Angela Bazzi contributed to the study conception and design. Material preparation and data collection were performed by Ellen Childs, Pablo K Valente, and Alberto Edeza. Shannon Ogden conducted the data analysis. The first draft of the manuscript was written by Shannon Ogden, with additional conceptualization and writing by Miriam T Harris, Ellen Childs, Katie B Biello, and Angela R Bazzi. All authors critically revised the manuscript for important intellectual content and reviewed and approved the final manuscript.

Declarations of Interest

No conflicts 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.

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Abstract

Background: In the United States, the criminalization and stigmatization of drug use and sex work contribute to infectious disease transmission and healthcare disengagement. People who inject drugs (PWID) and engage in sex work experience exacerbated HIV risk. In the context of the ongoing HIV and overdose epidemics little research describes why PWID engage in sex work and its relative HIV risk. To inform intervention needs, we aimed to create a typology of sex work among PWID with a focus on HIV risk and healthcare utilization behaviours.

Methods: We drew from in-depth interviews conducted across Massachusetts and Rhode Island from 2016–2019. Participants were ≥ 18 years old and self-reported past-month injection drug use and HIV-negative status. Using data from individuals reporting sex work experience (n = 33/78), we utilized the framework method to develop a typology of perspectives on sex work engagement and attributes pertaining to HIV risk and healthcare utilization behaviours.

Results: We uncovered varying perspectives on sex work and associated HIV risks and prevention needs. A typology included three groups who viewed their sex work engagement as a (1) consistent job, (2) income supplement, or (3) survival method to abate withdrawal symptoms. The first group described more consistent sexual and injection behaviours to mitigate HIV risk than the second group. The third group appeared particularly vulnerable to HIV, describing inconsistent condom use and frequent sharing of injection equipment, low healthcare utilization, and limited disclosure of sex work and injection drug use to healthcare providers.

Conclusion: Findings highlight distinct perspectives on sex work among PWID involved in it and corresponding perceptions of HIV risk and healthcare utilization behaviours. Understanding the nuances in sex work engagement among PWID can inform interventions to prevent infectious disease transmission, including efforts to further connect this marginalized population to harm reduction, health, and low barrier opioid treatment services.

Keywords

Sex work; Opioids; Substance withdrawal syndrome; HIV infection; Patient acceptance of health care

Introduction

People exchange sex for money or other goods for a multitude of reasons ranging from chosen occupation to economic survival (Chatterji, Murray, London, & Anglewicz, 2005; McMillan, Worth, & Rawstorne, 2018). Though many terms have been used to describe

this practice, ‘sex work’ has been deemed useful in the research context for its implicit recognition that paid sex is “a matter of labor, not culture or morality” (McMillan et al., 2018). In the health sciences literature, sex workers experience a variety of adverse health outcomes, including sexual and physical violence, trauma, substance use, and infectious disease transmission, with street-based sex workers being more vulnerable to violence and coercion from clients and repressive police practices than venue-based sex workers or private escorts (Harcourt & Donovan, 2005; UNAIDS, 2014; Weitzer, 2009; Wirtz, Peryshkina, Mogilniy, Beyrer, & Decker, 2015). Compared to the general population, people who engage in sex work experience higher incidence of HIV and other sexually transmitted infections, as well as higher prevalence of mental health comorbidities and substance use (Baral et al., 2012; Burnette et al., 2008; Puri, Shannon, Nguyen, & Goldenberg, 2017; UNAIDS, 2014). Recent research in high-income countries has estimated the overall prevalence of HIV among female sex workers to be 1.8% compared to 0.23% in the general population (Argento, Goldenberg, & Shannon, 2019). Additionally, various “syndemics” (co-occurring, mutually-reinforcing epidemics; Singer, 1996) of substance use, trauma, and infectious diseases have been observed in diverse populations of people engaged in sex work globally and are often supported and sustained by broad structural and social factors (Bazzi et al., 2019; Draughon Moret et al., 2016; Ulibarri et al., 2011; Wirtz et al., 2015).

Many individuals who engage in sex work also inject drugs (Degenhardt et al., 2017; Jain et al., 2020; Karamouzian, Nasirian, Ghaffari Hoseini, & Mirzazadeh, 2020; Sherman et al., 2018), with up to 81% of women who engage in sex work reporting injection drug use in some samples (Croxford et al., 2015; Sherman et al., 2019; Tran, Detels, Long, & Lan, 2005; Weber et al., 2002). Among people who inject drugs (PWID) in North America, over one in five reported past-year engagement in sex work (Degenhardt et al., 2017), with higher prevalence among women than men, 41% vs. 11% respectively (Burnette et al., 2008). PWID who engage in sex work have increased risk of acquiring infectious diseases (including HIV, viral hepatitis, and sexually transmitted infections) as well as experiencing trauma and drug-related overdose due to social and structural barriers, like repressive policing, that inhibit sex worker ability to engage in harm reduction strategies (Goldenberg et al., 2020; Sherman et al., 2018). In particular, studies have estimated a substantially higher five-year cumulative incidence of HIV among PWID who engage in sex work compared to PWID who do not (12% vs. 7%; Kerr et al., 2016). Similarly, evidence has shown women reporting sex work and current injection drug use have higher odds of HIV infection [adjusted odds ratio: 6.7 (2.4–18.9)] compared to those reporting sex work but never injecting drugs (Wirtz et al., 2015).

Compounding the syndemics of substance use, trauma, and infectious diseases among people who engage in sex work, the criminalization of sex work relegates it to unregulated, concealed environments, exacerbating social marginalization, unequal power dynamics between the parties involved, and reduced healthcare utilization (Platt et al., 2018). Biomedical and behavioural interventions alone appear to only modestly reduce HIV acquisition risk among sex workers, highlighting the social, legal, and policy factors driving these disparities (Argento et al., 2019). Currently in the United States, the criminalization of both sex work and substance use perpetuates stigma within healthcare systems, further limiting healthcare engagement among people who engage in sex work and substance use

(Brookfield, Dean, Forrest, Jones, & Fitzgerald, 2019; Ma, Chan, & Loke, 2017; Paquette, Syvertsen, & Pollini, 2018). Limited healthcare engagement in this population produces missed opportunities for the prevention and early detection and treatment of HIV and other infectious diseases.

Past research has identified various comparative risk categories of sex work, highlighting a range of sex worker autonomy and ability to take health and safety-related precautions, with those engaged in street-based sex work or survival sex being at high risk for health harms compared to those with individual arrangements (medium risk) or employment at a legal brothel (low risk; Harcourt & Donovan, 2005). Others have also formed sex work typologies that are useful for understanding the variation of sex work to improve sex worker health and well-being (Davey et al., 2019; Hao et al., 2014; Jain & Saggurti, 2012; Puradiredja & Coast, 2012). However, the focus of these studies has largely been on the place of solicitation or sex and associated condom use and health risks, with few studies exploring motivations behind or perceptions on their sex work engagement. Furthermore, the vast majority of these studies have involved samples outside of the United States, where there remains a dearth of literature exploring how PWID approach sex work and perceive their HIV-related risks or healthcare needs.

In the context of heightened drug-related overdose and HIV transmission among PWID across the United States (Cranston et al., 2019; Mathers et al., 2013), an improved understanding of sex work engagement, substance use, and healthcare utilization among PWID could help inform interventions to reduce the health harms experienced within this population. By exploring perspectives on and experiences with sex work among PWID in the U.S. Northeast, a region with high rates of fatal overdose (Massachusetts Department of Public Health, 2020; Rudd, Seth, David, & Scholl, 2016), we aimed to develop a typology of sex work among PWID that could carry important implications for interventions to improve the health and wellbeing of this structurally vulnerable population.

Methods

Study sample

We drew data from a qualitative study aiming to understand the acceptability of pre-exposure prophylaxis for HIV prevention among PWID across Massachusetts (MA) and Rhode Island (RI) that occurred in two phases spanning 2016–2019 (Motavalli et al., 2020). The first phase (2016–2017) occurred in Boston, MA and Providence, RI. Based on elevated rates of drug-related overdose mortality (Rudd et al., 2016) and infectious disease transmission among PWID across both states, including a large HIV outbreak in MA (Cranston et al., 2019), the second phase (2018–2019) expanded data collection into smaller cities, towns, and non-urban localities. In both phases, we partnered with community-based organizations (CBOs) focused on harm reduction strategies for people who use drugs, including syringe-service programs and HIV/hepatitis C testing centres, to recruit adults (aged ≥18 years) self-reporting past-month injection drug use and HIV-negative status. To support relationships between our research team and CBO staff, we visited CBOs several times prior to data collection to meet with agency staff, discuss overarching study questions and specific protocols and data collection tools, and agree on appropriate recruitment

strategies. Collectively, we determined it to be most appropriate for research staff to collect data over a period of several days or weeks, during which time we would spend time informally talking with staff and clients to become familiar to the local community. CBO staff informed potentially eligible individuals about the study without researchers present; if interested, CBO staff then directly connected individuals to a researcher for additional detail and, if still interested, eligibility screening. In concert with CBO staff, we used purposive sampling to ensure that we interviewed individuals with recent sexual and drug-related behaviours known to increase the risk of HIV (e.g., receptive syringe sharing, condomless sex; Johnson, 1990; Patton, 2002). Eligible individuals provided verbal informed consent to preserve confidentiality and received $25 for participating. Institutional Review Boards of Brown University and the Boston University Medical Campus reviewed and approved all study protocols.

Data collection and analysis

All data collection occurred in person, within private spaces. Trained interviewers administered brief quantitative surveys assessing socio-demographics and sexual and drug-related risk behaviours, avoiding the collection of direct identifiers. Interviewers then conducted in-depth semi-structured interviews using a guide designed to explore HIV-related risk behaviours (injection and sexual) and prevention needs (see supplemental file). Interviews ranged from approximately 45–60 min and were audio-recorded and professionally transcribed by a company under privacy and security agreements with our institutions. Research staff destroyed the audio files upon verifying accuracy and full deidentification of transcripts.

During both phases of the study, research team members convened weekly to review transcript quality and content, discuss emergent themes, and develop preliminary codes and codebooks. One topic identified as warranting in-depth analysis was sex work engagement, which interviewers noted as commonly discussed. We then used a team-based approach to codebook development (Decuir-Gunby, Marshall, & Mcculloch, 2011; MacQueen, McLellan, Kay, & Milstein, 1998) detailed previously (Bazzi et al., 2018). Briefly, we developed deductive codes based on pre-established research questions and interview guide domains, and inductive codes for topics that emerged from the data. Through an iterative process, we tested preliminary codes on selections of transcripts independently and then met as a team to discuss discrepancies in code application and needed revisions to codes. After several rounds of this process, we reached consensus on final codes, which were then applied to transcripts using NVivo (v12).

For this analysis, we first identified participants who reported ever engaging in sex work by reviewing data coded for “sex work.” This code included all narratives pertaining to sex work, whether raised by participants on their own or in response to questions from the interview guide such as, “In the past, have you ever exchanged sex for money or drugs?” As not all participants used the term “sex work,” we hereafter refer to this subsample as “PWID engaged in sex work.” For all individuals in this subsample (n = 33/78), we then deductively reviewed data coded for “perceived risk,” “health services,” and “community-based services.” Next, we analysed full transcripts for this subsample inductively, searching

for additional relevant topics (e.g., disclosure of injection drug use or sex work to healthcare providers; Corbin & Strauss, 2008).

Based on these initial analyses, we identified three groups of participants through inductively comparing and categorizing participants according to their views on sex work engagement. Next, we developed a preliminary typology of sex work engagement among PWID utilizing the framework method (Gale, Heath, Cameron, Rashid, & Redwood, 2013; Ritchie & Lewis, 2003). This consisted of line-by-line coding to create a data matrix depicting profiles of PWID engaged in sex work and their attributes relating to HIV-related risk behaviours (i.e., sexual and injection-related practices), HIV risk perceptions, and access to and utilization of healthcare and community-based services. We arranged this data matrix by participant identification number and included summaries and illustrative quotes for each attribute. One researcher created the initial typology, and a second researcher reviewed, interrogated, and confirmed the participant groups. The broader research team then reviewed the typology and discussed the defining characteristics of the groups through an iterative process before finalizing the typology. We selected representative, anonymized quotes to exemplify key findings within the sections below.

Results

Study sample and overview

Among 33 participants reporting ever participating in sex work, age ranged from 24 to 59 years (median: 38 years) and the majority identified their race as white (75.8%; Table 1). The sample was evenly split between urban (48.5%) and non-urban (51.5%) localities. Just over half identified as female (54.6%) and heterosexual (51.5%); over one third identified as bisexual (36.4%). Most participants completed high school or more (84.8%) and were currently unemployed (69.7%). All but one participant had health insurance.

According to how participants described their engagement in sex work, our typology included three groups of participants. However, these groups should not be viewed as static because individuals' perspectives and behaviours change over time. The groups included PWID who described their engagement in sex work as (1) a primary job (i.e., engaged in sex work as a(n) consistent source of income; n = 10), (2) income supplement or as opportunities arose (i.e., engaging in sex work occasionally or on an as needed basis; n = 7), or (3) survival method, to obtain money or drugs to ease withdrawal symptoms (i.e., reluctantly engaging in sex work out of necessity; n = 6). Notably, all of those who viewed sex work as their primary job (n = 10) identified as female whereas most who viewed it as an income supplement and half who viewed it as a survival method identified as male (n = 5 out of 7 and n = 3 out of 6, respectively). Within each group, we identified distinct characteristics with respect to HIV risk behaviours, HIV risk perceptions, and access to and utilization of healthcare and community-based services (Table 2). Of note, 10 of the 33 participants did not clearly fit into one of the three groups because they rarely participated in sex work (i.e., only once or twice; n = 3) or interviews contained insufficient detail on their sex work engagement (i.e., they did not provide elaboration when asked, or interviewers did not probe for additional details; n = 7); we therefore excluded them from the typology.

Sex work as a primary job

Ten participants described engaging in sex work as their primary source of income. All identified as female, median age was 35 years, nine identified as white, seven lived in non-urban areas, and five identified as heterosexual. Though participants in this category were not necessarily comfortable with how they made their living and may express internalized occupational stigma, they described it as their primary source of income. For example, one 32-year-old female participant described how she viewed her sex work engagement as temporary, rather than as a career:

> I try and do 40 dollars a blowjob, but even people don't like to pay that, they wanna pay like 20 dollars a blowjob, which is like so cheap and disgusting…I try and be safe about it [referring to consistent condom use]. You know, it's only one portion of my life right now, like I don't wanna be stuck with something [i.e., reason for consistent condom use] for the rest of my life all because I'm making horrible decisions right now.

When speaking about clients, these participants referred to sex work encounters as "*pulling dates*." Participants described having consistent long-term clients to earn their living. Some participants only had regular or repeat clients, while others found one-time clients on the street in areas where sex work was known to occur in addition to their regular clients.

Regarding condom use, participants who described sex work as their job tried to consistently use condoms with clients they did not know, but did not always use condoms with romantic partners (i.e., spouse, boyfriend/girlfriend) or regular clients with whom they had an established, trusting relationship. One 24-year-old woman described her condom use:

> [I use condoms] most of the time. Like there have been times that I haven't. But it's usually only with the regular clients, which I've built enough of a trusting relationship that I am confident when I ask them if they have anything [i.e., an STI]. When they say no, I believe 'em. And I always ask.

Another 45-year-old female participant described how she negotiated condom use prior to "*dates*" and the importance of protecting not only herself but also her boyfriend, "*Well, I use a condom on my dates. I have to do it that way because I have to protect myself, and also my boyfriend, from anything…If they don't agree to wear it, I can't do it.*"

Moreover, participants who engaged in sex work as a job generally perceived their elevated HIV risk as a result of having multiple sex partners and inconsistent condom use rather than from injecting drugs. In these instances, participants described rarely sharing their syringes or injection equipment, and if they did share, it was with a trusted friend or partner. Nevertheless, they expressed concern that sharing equipment increased their risk for acquiring hepatitis C more so than HIV. Participants also described strategies they employed to mitigate HIV risk during sex work, such as agreeing to specific acts (e.g., oral sex), refusing other acts (e.g., anal sex) and getting tested regularly. One 47-year-old woman summarized her views on her HIV risk succinctly:

> I don't do any anal sex because I know I'm high risk…I mean, yes, I'm a IV drug user, yes, I'm a prostitute. But I can do things to prevent that – my risk of exposure

> for HIV. Like use protection, not do anal sex…I have one partner that I don't use protection with. He doesn't have sex with anybody else. Things like that…I don't share any of my equipment.

As for healthcare and community services use, participants in this group reported that they utilized healthcare services, methadone clinics, and community-based harm reduction services like syringe service programs. While participants spoke positively about the community-based services, they generally spoke negatively about formal healthcare settings, especially emergency departments (ED), due to discrimination concerning their drug use. For example, one 34-year-old woman stated, "*Here [at CBO] I feel accepted, not judged,"* and another 25-year-old female participant explained, *"[They] treat all addicts like we're legit literally nothing [at the ED]."* However, several participants spoke about having a regular source of care and disclosing exchanging sex for money to their providers. One 37-year-old woman talked about her provider's assessment of her HIV risk after she disclosed engaging in sex work and consistent condom use, "*He was very professional [and] said [something] that kind of implied that he understood that I wasn't in a high-risk category even though I was a sex worker."*

Sex work as an income supplement

Seven participants described engaging in sex work on a more casual basis, to supplement their income or to take advantage of the opportunity to exchange sexual services for money. Of these participants, two identified as female, median age was 40 years, four identified as white, six lived in urban areas, and three identified as heterosexual. They described the convenience of sex work, noting it as a convenient, fast way to get money when they needed it, often to obtain drugs. One 36-year-old female participant explained, *"You need money to get high, and that's the easiest and fastest way to make money. So, you pick up dates, and get money to have sex."* Another 35-year-old genderqueer participant described their options for maintaining their drug use and why they chose engaging in sex work as a way to get extra money:

> Drugs are really expensive. And they're not subsidized. When you have a habit, it's kind of hard to – even if you have a job – it's kind of hard to maintain it. So, you can either steal or do sex work or beg for money, and begging takes a lot of time. It takes hours. And sex work is just fast, you know. It [sex work] could be hard. But, I don't know. Easy money.

While a few participants who casually engaged in sex work occasionally searched for clients (also referred to as "dates") on the street, most met people at parties or bars and would take the opportunity to accept money in exchange for sex when presented, as one 40-year-old woman described:

> Well for me, I don't work the streets or anything, like that is not my main hustle, but I have been asked if I would like bang somebody for money, meaning, you know, hook up, have sex with them and I did. Got paid $100 to do it.

In terms of condom use, participants who casually engaged in sex work reported more variation in their condom use than those who engaged in sex work as a job. Some participants were adamant about using condoms all the time, while others stated they

occasionally or never used them. One 59-year-old male participant stated that *"condoms don't happen all the time,"* while a 36-year-old female participant emphasized the importance of condoms: *"You're always at risk. You just got to protect yourself…using condoms."*

Although these participants acknowledged their risk for HIV acquisition, it was not something they described being overly concerned about. Similar to those who engaged in sex work as their job, these participants also viewed their sexual behaviours as more of a risk for HIV than their injection drug use, particularly when they cleaned their injection equipment as a way to minimize their risk. One 40-year-old man explained his HIV risk as:

> Most likely through sex. Because of the risk you play when you're playing with a lot of people, you know what I mean. As far as, you know…the needles, I know that…the virus can probably stay a long time but I really rinse out the works…so I think I'd be more at risk [for HIV] by sex than drugs.

Similar to those who viewed engaged in sex work as a job, the participants in this group stated that they did not typically share injection drug equipment with others, and if they ever did, then they took precautions (e.g., rinsing equipment) or only shared with people they were close to (i.e., roommate or significant other) to minimize their risk of infectious disease. One 43-year-old man explained his reasoning behind his occasional use of other people's equipment, *"Most people out here, if they got AIDS, they tell you…they keep their shit off to the side, and they tell you, 'Do not use my shit.'"*

When considering healthcare and community service utilization, participants who engaged in sex work as an income supplement described their interactions with healthcare and community service providers similarly to those who engaged in sex work as a job, with the same affinity towards CBOs. These participants talked about being engaged in various forms of services, including healthcare, mental health, syringe service programs, and community-based HIV testing services. Many participants had a regular source of care; however, there were variations in disclosure of engaging in sex work and drug use to healthcare providers. As one 59-year-old male participant explained: *"I don't let my doctor know that I do drugs because that would change my whole ball game with her…I don't want her to know that I shoot drugs…She would treat me bad."*

Sex work as a survival method

Six participants described engaging in sex work for money in order to buy drugs only when in a "*desperate*" state. Three identified as female, median age was 35 years, four identified as white, four lived in urban areas, and four identified as heterosexual. These individuals expressed feelings of shame and degradation, resorting to sex work because of experiencing withdrawal symptoms, and/or needing to be high to engage in sex work. One 35-year-old woman described, *"It's a very horrible feeling. It's very degrading…It took me 13 years of getting high to go through my first time exchanging sex for money…I cried. I cried."* Another participant, a 42-year-old man, stated that he preferred to be in drag during sex work encounters to help conceal his identity and distance himself from his actions.

Additionally, these participants described more inconsistent condom use, which they contextualized within the experiences of getting high prior to sex or experiencing withdrawal symptoms. Often, participants in this group searched for clients on the street and did not usually have repeat or regular clients. One 30-year-old female participant described her reasoning for inconsistent condoms use and the increased safety risk of searching for clients on the street: *"You get desperate and people take advantage of that desperation… Drugs, money, everything, the need for it."* Another participant, a 35-year-old female, described how she attempted to minimize her HIV risk by providing oral sex and/or insisting on condom use, but would also resort to not using a condom if she was experiencing withdrawal:

> I really didn't have sex, I had sex five times in two years for money. It was more oral sex, but yes, if they didn't want to use a condom, then I got out of the car…Not to say there wasn't a few times that I was dope-sick [i.e. experiencing withdrawal symptoms] and in a rush and, yeah, I did [have condomless sex]. If I said I never did, I'd be lying.

In terms of HIV risk perceptions, participants acknowledged an elevated risk through both sex work and drug use, especially from sharing injection equipment with others, as one 33-year-old man described his concern and actions he took to mitigate his risk for HIV acquisition, which were not commonly described among this group:

> I really tell myself I would never use somebody else's rig and…shit, I find myself straight bleaching the shit out of somebody's rig and using it…It's never 99.9 percent clean, you know what I mean?

One 34-year-old female participant acknowledged both injection drug use and sex work as risk factors for HIV, and while she considered sex work to be more of a risk, she also described a situation in which injection drug use put her at higher risk:

> It's both [sex work and drug use]. But mostly because of being a prostitute…I've heard that it can stay dormant and stuff like that. So that always scares me. Plus, [name] and I stayed with this gay couple that both had HIV and used needles and stuff too. So, I was always afraid that we'd get them mixed up or something would happen…So, while I was staying there, and right after we left, I got tested like ten times. I was just was really worried about it.

In terms of healthcare and service use, participants in this group also described their experiences of discrimination and stigma due to their drug use, and therefore noted a preference for CBOs. However, unlike participants in the other groups, these participants typically talked about accessing EDs, syringe service programs, and inpatient drug treatment services more frequently than primary care services. A few of the participants had regular sources of healthcare but were uncomfortable disclosing that they engaged in sex work or injected drugs and spoke about not wanting to be tested for HIV because they were afraid of the results. One 30-year-old woman described the process of finding a doctor that she could talk to about HIV risk factors and testing as an *"emotional rollercoaster of even wanting to know whether you have it [HIV]or not…and then having the [healthcare provider] to help you…and get through it."*

Discussion

Our findings highlight important nuances in sex work engagement among PWID in the U.S. Northeast that have implications for the delivery of HIV and other prevention services. From interviews with PWID engaged in sex work, we developed a preliminary typology based on individuals' perspectives on their sex work engagement (i.e., as a primary job, supplemental income, or a survival method). Across these groups, we identified some differences in HIV risk behaviours, HIV risk perceptions, and healthcare and community-based service utilization and preferences. As our findings and other studies indicate (Decker et al., 2012; Kerr et al., 2016), PWID who reported sex work engagement generally perceived their sexual behaviours to increase their HIV risk more than their injection-related behaviours. However, across our sample, condom use during sex work was inconsistent for various reasons, including lack of concern about HIV/STIs, trust in clients, intoxication, or acute withdrawal symptoms. While our interview data most directly identified individual perceptions and behaviours related to HIV risk, it is important to consider these findings within the context of significant structural and social forces (e.g., the criminalization and stigmatization of sex work and drug use) that constrain individual's access to and experiences with preventive services. The decriminalization of sex work and drug use in the United States would largely mitigate structural barriers, but would need to be accompanied with other programs and interventions to effectively reduce social stigma and increase access to services (Shannon et al., 2015). Below we discuss several implications of our findings for health services interventions that could be employed regardless of criminalized status to improve the health and wellbeing of PWID engaged in sex work.

First, individuals in our sample who viewed sex work as a survival method experienced heightened levels of HIV risk as well as healthcare disengagement, suggesting that this may be a particularly vulnerable subgroup of PWID. Unlike those who viewed sex work as a primary job or supplemental income those who viewed it as a survival method did not consistently use condoms, lacked a regular source of healthcare, and did not often disclose sexual or substance use behaviours to healthcare providers. Similarly, other studies among sex workers in the United States and the United Kingdom also found variable rates of regular healthcare utilization and low rates of disclosure of sex work to healthcare providers (Cohan et al., 2006; Jeal & Salisbury, 2004). While participants in this study discussed their use of harm reduction services (e.g., syringe exchange programs, which routinely offer free injection equipment, condoms, lubricant, and infectious disease testing and referrals), their limited healthcare engagement likely reflects reduced access to infectious disease treatments as well as biomedical HIV prevention strategies such as HIV pre-exposure prophylaxis (PrEP), which is recommended for at-risk PWID (CDC, 2020). Our prior research with PWID in this region identified low knowledge of PrEP and numerous challenges to accessing it (Bazzi et al., 2018; Biello et al., 2018). As our sample of PWID engaged in sex work largely acknowledged their HIV acquisition risks, particularly related to sexual behaviours, improved PrEP education (including marketing campaigns tailored to the needs of this population) is needed. Interventions to support PrEP access and uptake, such as programs that subsidize PrEP prescription costs for those who are uninsured or underinsured, could also be beneficial.

Second, in addition to directly preventing HIV via condom, syringe, and PrEP distribution, our findings indicate that reducing instances of severe withdrawal among PWID engaged in sex work could help reduce HIV risk behaviours that participants linked to withdrawal. In particular, increased access to medications for opioid use disorder for those who are interested could help reduce withdrawal and thus prevent sexual and injection behaviours known to increase HIV transmission. Additionally, low-barrier safe supply programs (i.e., pharmaceutical prescriptions of known quality, quantity, non-adulterated drugs) could be an additional mechanism through which structurally vulnerable PWID could become connected with health services (Ivsins et al., 2020; Tyndall, 2020). Safe supply programs currently under investigation are being delivered in both healthcare and harm reduction settings such as overdose prevention sites (Ivsins et al., 2020; Olding et al., 2020). While these programs have been developed in an effort to reduce drug-related overdose, they may also have additional benefits for infectious disease prevention through increased user agency in consumption methods and improved connections to prevention services. A recent pilot hydromorphone tablet distribution program demonstrated that participants described decreased need to access illicit drugs, felt better able to manage opioid withdrawal symptoms and associated risks (e.g., injecting in unsafe environments or in a rushed manner), and accessed health services connected to the program, including preventive care and linkage to chronic disease management (Csete & Elliott, 2020; Ivsins et al., 2020). Future research is needed to determine the optimal setting and components of such interventions for PWID engaged in sex work in U.S. contexts and their impact on HIV risk behaviours and prevention access.

Third, our findings highlight the significance of social and structural factors that harm the wellbeing of PWID engaged in sex work. Participants who described sex work as a survival method also discussed substantial, multilevel forms of stigma towards their sex work and drug use. This included internalized stigma related to their sex work engagement (e.g., labeling it as "*disgusting*," describing needing to be "*high*" to distance themselves from sexual acts), as well as interpersonal and structural forms of addiction-related stigma as manifested in the discrimination they experienced in healthcare settings (Biancarelli et al., 2019; Rekart, 2015). The stigmatization of sex work, drug use, and associated infectious diseases comprises a critical barrier to service utilization (Fox, Smith, & Vogt, 2018; Ma et al., 2017). This indicates the need for provider training regarding sex work and addiction to reduce stigma in the healthcare setting along with peer support services to combat internalized stigma to ameliorate mental health and well-being (Biancarelli et al., 2019; Treloar, Stardust, Cama, & Kim, 2021). While stigma is a complex challenge to address, advocacy and community-building approaches have shown some promise in other countries and regions of the United States (Benoit et al., 2017; Blanchard et al., 2013; Lutnick, 2006; Shannon et al., 2015). In particular, community empowerment models, involving collective, peer-led processes for confronting structural barriers to health and human rights (Bekker et al., 2015; Simoni, Nelson, Franks, Yard, & Lehavot, 2011), can help increase health-related self-efficacy, and support social and political action (Bekker et al., 2015; Moore et al., 2014). Advocacy and sex worker-led efforts have had successes in affecting policies when working with policymakers, law enforcement, and service providers, such as the decriminalization of sex work in New Zealand and the prohibition of sex worker arrest

for involvement in an illicit activity (e.g., sex work or drug use) when reporting violent crimes in regions of the United States (Laverack & Whipple, 2010; Lutnick, 2019). Policy successes such as these highlight the importance of local efforts in a criminalized state to forge alliances between sex workers, policymakers, law enforcement, and service providers for the betterment of sex worker health, safety, and wellbeing. Academic institutions and healthcare organizations should support community efforts, as community empowerment models have helped improve access to HIV prevention and treatment services, increase uptake of drug treatment and harm reduction services, and decrease violence among people engaged in sex work (Blanchard et al., 2013; Deering et al., 2011; Janssen, Gibson, Bowen, Spittal, & Petersen, 2009; Shannon et al., 2015; Wirtz et al., 2014).

Finally, healthcare systems require collaboration with CBOs and peer-led organizations in order to gain the trust of marginalized populations of PWID engaged in sex work. While some participants described encounters with healthcare and mental health providers with whom they felt comfortable and could trust, all described CBOs as more welcoming and helpful and less stigmatizing. The inconsistency in healthcare utilization and general preferences for receiving care through CBOs has been previously described among PWID in this region (Biancarelli et al., 2019; Motavalli et al., 2020). As our sample was recruited from CBOs, this affinity is unsurprising. Nevertheless, improved collaboration between health and harm reduction services could be particularly helpful for PWID engaged in sex work as they may have complex physical and mental health and social needs. Collaboration or integration of services may range from co-location of services to establishing referral systems to facilitate connections to providers who understand the complexities of addiction, injection drug use, and sex work. Additionally, agency staff and service providers from sex work, drug treatment, and trauma services express interest and find value in cross-sector collaboration for service provision (Jeal et al., 2018; Patel et al., 2020). Evidence supporting integration of services has shown improved patient and service outcomes including linkage to antiretroviral treatment for HIV, detection of and treatment adherence for HIV and substance use, and other health outcomes among PWID (Bachireddy et al., 2014; Haldane et al., 2017; Mizuno, Higa, Leighton, Mullins, & Crepaz, 2019; Oldfield et al., 2019).

Our study is not without limitations. As stated above, our recruitment strategy yielded a sample that was already engaged in harm reduction services in the U.S. Northeast; as such, our findings may not generalize to other, broader populations or different settings, and additional engagement of sex workers who use drugs in future research on these topics is needed. We gained insight into the structural challenges that PWID engaged in sex work face when accessing health services; however, the study was not designed to fully explore these factors, and future research should thoroughly analyze them to inform structural interventions to overcome barriers to healthcare engagement. Also, the qualitative study from which we developed this typology was not designed to thoroughly explore sex work behaviours or perspectives, so interviewers did not always probe thoroughly about sex work, limiting our ability to explore the relationship between social factors, sex work, and drug use in more depth. Moreover, despite our efforts to build relationships with the CBOs, the highly sensitive and criminalized nature of sex work and drug use in the United States may have led some individuals to feel reluctant to disclose specific information about these experiences. Relatedly, while many participants' experiences aligned well with our typology, we were

not able to categorize ten individuals who disclosed personal experience with sex work but did not provide additional detail. Finally, while it was not explicitly stated in participant interviews, it is important to note that the categorizations within our typology are unlikely to be static, and individuals may move across categories over time as their views on their engagement in sex work change. Nevertheless, this preliminary typology of PWID sex work engagement could help inform future research and clinical programming.

Conclusion

Among PWID engaged in sex work, we identified three distinct groups in our typology (as a primary job, supplemental income, or survival method) and related health behaviours and healthcare utilization patterns. We found those who engaged in sex work for survival to exhibit pronounced vulnerability to HIV acquisition as well as healthcare disengagement. Understanding the nuances in individuals' perceptions, behaviours, and contextual realities pertaining to their sex work and injection drug use can help inform HIV prevention interventions and efforts to increase healthcare utilization. Individuals in samples such as ours should be engaged in the design of research studies and interventions to prevent HIV and infectious disease acquisition. These interventions will likely need to be multifaceted and attentive to the criminalization and stigmatization of drug use and sex work in the United States.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Characteristics of people who inject drugs who reported engaging in sex work.

Variable	n=33
Age (years): median (IQR)	38 (33–43)
Locality	
Urban	16 (48.5)
Non-urban	17 (51.5)
Gender	
Female	18 (54.6)
Male	13 (39.4)
Other	2 (6.0)
Race/Ethnicity	
White	25 (75.8)
Black	4 (1.1)
Two or More	1 (3.0)
Hispanic/Latino	3 (9.1)
Other	0 (0.0)
Sexual Orientation	
Heterosexual	17 (51.5)
Bisexual	12 (36.4)
Other	3 (9.1)
Not Specified	1 (3.0)
Weekly Income	
$0	5 (15.2)
$1–199	7 (21.2)
$200–399	8 (24.2)
$400–999	8 (24.2)
≥$1000	5 (15.2)
Missing	0 (0.0)
Employment	
Unemployed	23 (69.7)
Employed Full-time	3 (9.1)
Employed Part-time	4 (1.1)
Disabled	3 (9.1)
Education	
Less than high school	5 (15.2)
High school or GED	14 (42.4)
Some college	12 (36.4)
College degree	2 (6.1)
Insured	
Yes	32 (97.0)
No	1 (3.0)

Variable	n=33
Sex Work Category	
Primary Job	10 (30.3)
Easy Money	7 (21.2)
Last Resort	6 (18.2)
Not Categorized	10 (30.3)

Note: Data presented as n (%) unless otherwise noted.

Table 2

Attributes of participants within sex work typology.

	Sex work as a primary job	Sex work as an income supplement	Sex work as a survival method
Clients	Most of them have regulars, some only see regular clients. May find additional clients in the streets. Do not typically use drugs with clients or before/after dates.	May have a few regulars or repeat clients. Varying ways to get clients, the street or get propositioned and take the opportunity. Drugs and/or alcohol may be involved.	Do not typically have regular clients Most find clients in the streets. Try to find clients when need money for drug, may be daily. Many need to be high when they do it.
HIV Risk Perceptions	Acknowledge the risk of HIV, and they are using condoms and get tested regularly.	Acknowledge the risk of HIV, but not always concerned about it. Several consider themselves to be high risk because of sexual behaviours and get tested regularly.	Acknowledge their risk but several may be resistant to testing due to fear of finding out status.
Condom Use	Use condoms with clients. Less likely to use condoms with regular clients, and do not use them in their committed partnerships.	Variation in consistent condom use with clients or other sexual partners.	Have inconsistent condom use due to desperation or being “dope sick.”
Drug Use Behaviours	Do not typically share equipment with others, but may do so with romantic partners.	May share equipment with others and take precautions such as cleaning or rinsing before use.	Share equipment and may take precautions such as cleaning or rinsing before use.
Relationships with Healthcare and Community Services	More of them have a primary source of care than not and many tell their provider about their drug use and sex work. Value the community services for HIV prevention and PWID. Engage in harm reduction services.	Mix of those with a primary source of care and those without. Also, a mix of whether or not they would tell their doctor about their drug use or sex work. Value the community services for HIV prevention and PWID. Engage in harm reduction services.	More rely on emergency services than have a primary care provider. Typically, do not disclose their drug use or sex work. Value the community services for HIV prevention and PWID. Some engage in harm reduction services.