

Gendered violence and overdose prevention sites: a rapid ethnographic study during an overdose epidemic in Vancouver, Canada

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ABSTRACT

Background and Aims North America's overdose epidemic is increasingly driven by fentanyl and fentanyl-adulterated drugs. Supervised consumption sites, including low-threshold models (termed overdose prevention sites; OPS), are now being debated in the United States and implemented in Canada. Despite evidence that gendered and racialized violence shape access to harm reduction among women who use drugs (WWUD), this has not been examined in relation to OPS and amid the overdose epidemic. This study explores how overlapping epidemics of overdose and gendered and racialized violence in Vancouver's Downtown Eastside, one of North America's overdose epicenters, impacts how marginalized WWUD experience OPS. **Design** Qualitative analysis using rapid ethnographic fieldwork. Data collection included 185 hours of naturalistic observation and in-depth interviews; data were analyzed thematically using NVivo. **Setting** Vancouver, Canada. **Participants** Thirty-five WWUD recruited from three OPS. **Measurements** Participants' experiences of OPS and the public health emergency. **Findings** The rapid onset and severity of intoxication associated with the use of fentanyl-adulterated drugs in less regulated drug use settings not only amplified WWUD's vulnerability to overdose death but also violence. Participants characterized OPS as safer spaces to consume drugs in contrast to less regulated settings, and accommodation of assisted injections and injecting partnerships was critical to increasing OPS access among WWUD. Peer-administered injections disrupted gendered power relations to allow women increased control over their drug use; however, participants indicated that OPS were also gendered and racialized spaces that jeopardized some women's access. **Conclusion** Although women who use drugs in Vancouver, Canada appear to feel that overdose prevention sites address forms of everyday violence made worse by the overdose epidemic, these sites remain 'masculine spaces' that can jeopardize women's access.

Keywords Harm reduction, intersectionality risk environment, overdose, safe consumption sites, violence, women.

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INTRODUCTION

North America's overdose epidemic is driven increasingly by illicitly manufactured fentanyl and fentanyl-adulterated drugs, and has become a leading cause of preventable death [1,2]. Often characterized as a 'men's health crisis' [3,4] and 'white suburban epidemic' [5] in Canadian and US media, respectively, these frames obscure how gender, race and class are implicated in this epidemic despite ample evidence that women—particularly marginalized women—experience vulnerability to drug-related risks and harms markedly different than men [5–9].

Interpersonal (e.g. gendered violence), social-cultural (e.g. gendered norms, racializing discourses and practices) and structural (e.g. poverty, criminalization) contexts of women's drug use increase vulnerability to intersecting risks, limiting access to health and harm reduction services [10,11]. These dynamics have resulted in gendered disparities in relation to the transmission of HIV and hepatitis C and experiences of violence [12–16]. That these gendered dynamics have been largely overlooked in relation to public health responses to illicit fentanyl-related overdose epidemics represents an urgent research gap.

Social–structural forces operating within the ‘risk environments’ of women who use drugs (WWUD) shape health and drug-related outcomes [12,16–18]. Understanding how the spaces and situations—termed ‘risk environments’—in which micro- and macro-level physical (e.g. intervention environments), economic (e.g. poverty), social (e.g. stigma) and political (e.g. drug policies) factors intersect to shape risk and harm [19–22] among WWUD will be imperative to addressing the overdose epidemic. Additionally, existing evidence suggests that risk environments are also spaces and situations in which social violence can operate at the ‘symbolic’ [23,24] and ‘everyday’ levels [25], particularly among WWUD. Symbolic violence is the internalization of social suffering by vulnerable populations who view their suffering as natural and blame themselves for their subordination [23]. Everyday violence is violence that is normalized and rendered invisible due to its pervasiveness [25], such as gendered drug scene violence [26]. Social violence manifests in gendered ways [12,13], and yet how it is implicated in North America’s overdose epidemic and embedded within interventional settings remains overlooked.

Understanding the complex ways that WWUD experience overdose interventions necessitates extending the risk environment framework to examine how environmental factors interact with each other to produce differential risk given women’s social identities (e.g. gender, race, class). Here, we introduce the ‘intersectional risk environment’ framework to focus attention on how drug-related risk and harm—in this case, overdose—are contingent upon the multiple, intersecting social identities in any given context and how these social locations shape, and are shaped by, the risk environment. Intersectionality extends the risk environment to reveal the influence of overlapping systems of oppression and discrimination [27–29], and is thus useful to understand more fully WWUD’s diverse experiences in relation to a toxic drug supply and the implementation of overdose-focused interventions.

Supervised consumption sites (SCS), an environmental intervention that reduces overdose deaths [30,31] and drug-related harms [32] by reshaping the environmental contexts of drug use [33], represent critical overdose-focused interventions [34] and have been demonstrated to address gendered risks and harms [35]. SCS provide harm reduction supplies and allow people to consume pre-obtained drugs under the supervision of (medical) staff or peer staff trained to provide safer drug use education and respond in the event of an overdose (e.g. administer oxygen, naloxone) [34]. The unique contexts of SCS also serve as safer environmental interventions that facilitate overdose prevention practices while mediating micro-environmental factors that drive overdose risk (i.e. injecting

alone, rushed injection due to fear of arrest) [31,36–38]. SCS have been found to disrupt drug scenes dynamics (e.g. gendered power relations), enabling women to assert agency over drug use practices and address gendered risks and harms [33,35,39]. However, SCS have largely been designed and implemented using ‘gender neutral’ approaches and no study has explicitly examined the gendered dimensions of their operational contexts. Accounting for a wider set of social and structural forces (e.g. gender inequality, colonialism, socio-economic disparity) will be crucial for implementing overdose prevention interventions that address women’s specific needs.

The need to understand such dynamics is particularly urgent in British Columbia (BC), Canada, which is in the midst of an overdose epidemic driven by illicit fentanyl and fentanyl-adulterated drugs. BC has experienced more than 3064 overdose deaths since 2016, with more than 83% of overdose deaths in 2018 linked to fentanyl [40]. Approximately 20% of fatal overdoses have occurred among WWUD [40]. Indigenous WWUD experience five times more fatal and eight times more non-fatal overdoses than non-Indigenous women, and account for approximately half of all overdose deaths among Indigenous peoples [41]. In December 2016, low-threshold SCS—termed overdose prevention sites (OPS)—were implemented rapidly throughout BC under an emergency provincial order in response to escalating overdose deaths. Operating outside the federal government’s SCS approval process, OPS were implemented by organizations with experience working with people who use drugs, and within existing or temporary facilities (see Table 1). OPS are not subject to federal requirements, do not require drug consumption to be medically supervised and operate under varying staffing (e.g. peer-based, mixed peer and non-peer) and operational models (e.g. injection only, inhalation and injection). Until the opening of a single women-only (transgender-inclusive) site, OPS in BC have operated as ‘gender-neutral’ interventions.

Five mixed-gender OPS were implemented in Vancouver, BC’s Downtown Eastside neighborhood, in December 2016 to complement a well-described federally sanctioned SCS (Insite) [42,43]. The Downtown Eastside, an epicenter of the overdose epidemic, has also been the site of an epidemic of gendered and racialized violence [44–46]. How such epidemics intersect has received little attention, despite recognition that violence influences access to harm reduction interventions among WWUD [35,46]. We draw upon a rapid ethnographic study of OPS implementation in the Downtown Eastside to examine how dynamics within the intersectional risk environment, including gendered and racialized violence, frame marginalized women’s experiences of OPS in the context of an illicit fentanyl-driven overdose epidemic.

Table 1 Some characteristics of overdose prevention sites observed.

	OPS 1	OPS 2	OPS 3
Location	Within a non-profit housing site in Downtown Eastside	Drug user union in Downtown Eastside	Adjacent an alley in Downtown Eastside
Staff on site	<ul style="list-style-type: none"> • Non-peer site operator • Trained peer staff 	<ul style="list-style-type: none"> • Trained peer staff from drug user union 	<ul style="list-style-type: none"> • Non-peer site operators • Volunteers • Trained peer staff
Capacity	Approximately 7	Approximately 10	Approximately 22 ^c (combined locations)
Design	<ul style="list-style-type: none"> • Separate tables <ul style="list-style-type: none"> ◦ 4 tables each accommodating 1 individual • Small 'chill out' seating area for approximately 3–4 people 	<ul style="list-style-type: none"> • Shared communal tables <ul style="list-style-type: none"> ◦ 3 tables each accommodating 2 individuals • Couch 'chill zone' in separate room 	<ul style="list-style-type: none"> • Trailer with communal tables <ul style="list-style-type: none"> ◦ Approx. 8–10 numbered seats^a • Outside tent <ul style="list-style-type: none"> ◦ Approx. 10 unnumbered seats plus standing room • Unofficial outside 'chill zone' • Operated without electricity for portion of study period
Consumption types	Injection only	Injection only	Injection and inhalation
Services offered ^b	<ul style="list-style-type: none"> • Monitoring and supervision • Narcan administration • Oxygen administration (oxygen tank) • Harm reduction supplies and education 	<ul style="list-style-type: none"> • Monitoring and supervision • Narcan administration • Harm reduction supplies and education • Take home naloxone training 	<ul style="list-style-type: none"> • Monitoring and supervision • Narcan administration • Oxygen administration (oxygen tank) • Harm reduction supplies and education
Rules ^d	<ul style="list-style-type: none"> • No selling or buying drugs • No assisted injection • 15-minute time limit • No using at the same table at the same time • Respectful conduct 	<ul style="list-style-type: none"> • No selling or buying drugs • No assisted injection • 15 minute time limit • Respectful conduct 	<ul style="list-style-type: none"> • No selling or buying drugs • No assisted injection • No time limit observed • Respectful conduct

^aNumber changed during the course of the study. ^bThese are a select number of services offered during the course of the study that have since increased. ^cElements included in this table are approximations based on observations undertaken during the course of the study. Given the context of the public health emergency, changes were often made on a day-to-day basis. ^dThis list is not comprehensive. Rules were variable; for instance, the restriction of assisted injection was not enforced.

METHODS

This study draws upon rapid ethnographic fieldwork conducted in Vancouver between December 2016 and April 2017 to examine OPS implementation in response to an overdose epidemic. Ethnographic research involves ongoing engagement with the social worlds of participants [15] and is a critical method for capturing lived experience, including the complexities of embodied vulnerability [18]. Drawing upon similar principles, rapid ethnography is a pragmatic strategy to address urgent situations and has been proven to be an important methodological tool in public health emergencies [47]. This approach has a long-standing history in drug

research [39,48,49] and harnesses researcher familiarity with specific contexts to gather data rapidly [50].

The first and senior authors (J.B., R.M.) conducted approximately 185 hours of ethnographic fieldwork at three most-frequented mixed-gender OPS involving naturalistic observation and unstructured conversations with people who use drugs in 4–6-hour sessions. Naturalistic observation allowed for detailed and nuanced documentation of OPS [51]. Written fieldnotes documented observations, interactions and conversations in OPS, situated within their implementation (e.g. operating policies) and social-structural (e.g. drug policies) contexts [52,53], with specific attention to intersectional experiences.

Participants were recruited by team members, including two Indigenous peer researchers, directly from OPS during ethnographic fieldwork and interviewed by a team member on-site or at a nearby research office. In-depth interviews were facilitated by an interview guide that sought to elicit experiences and perspectives on topics such as gendered dynamics of the overdose epidemic and OPS. Interviews lasted approximately 30–60 minutes, audio-recorded and transcribed verbatim, with identifying information removed to ensure confidentiality. Interview participants received a \$30 CAD honorarium. Participants were assigned pseudonyms using an online pseudonym generator. In total, interviews were conducted with 64 socio-economically marginalized people who inject drugs, predominantly opioids. Thirty-five were women (including two transgender or two-spirit participants) and are the focus of this analysis. More than half of women participants were Indigenous, homeless and had experienced at least one overdose in the past year (see Table 2).

Data were imported into NVivo, a qualitative data analysis software program, and analyzed thematically by the authors. Analysis focused on transcripts from interviews ($n = 35$) and ethnographic fieldnotes to examine women's experiences of OPS and the public health emergency. The research team met regularly during the data collection process and initial coding, which informed the development of initial and subsequent coding frameworks (e.g. OPS barriers, overdose experiences, violence). Data were analyzed further by authors (J.B., R.M.) using deductive and inductive methods to refine themes (e.g. assisted injection) [54]. Further, an intersectional

risk environment approach was used throughout the analytical process, operationalized through constant comparison of women's experiences based on their identities and social locations and informed by the theoretical constructs of everyday and symbolic violence [12,23,25]. The study received ethical approval from the Providence Healthcare/University of British Columbia Research Ethics Board.

FINDINGS

Heightened risk environments during an overdose epidemic

The intersection of gendered and racialized dynamics within the drug scene heightened women's vulnerability to everyday violence within the context of the overdose epidemic. During our observations, we witnessed interpersonal violence disproportionately affecting the most marginalized WWUD. We further documented that overdoses associated with the proliferation of fentanyl-adulterated opioids were positioned as increasing the risk of predatory physical and sexual violence, which impacted women differentially. Participants reported that, because severe intoxication and overdose occurred quickly and from the consumption of small amounts of opioids, fentanyl-adulterated drugs compromised their ability to limit their exposure to predatory violence in risk environments within the drug scene. Among these environments, participants perceived the risk of violence as most pronounced when injecting in public (e.g. alleyways, washrooms) and around acquaintances and strangers who were men, with Indigenous and transgender women most affected due to greater socio-economic marginalization and social isolation. 'Alison', a 20-year-old Indigenous woman, explained the risk of predatory violence when injecting fentanyl-adulterated drugs in public and around unfamiliar men:

I wouldn't do it [consume drugs] at someone's house I just met or alone in a public washroom. Because my sister did that [recently in a public washroom] and when she came out from nodding off [following an overdose], a guy was standing over her with his dick out.

Alongside opportunistic predatory physical and sexual violence, participants commonly described ways in which some men preyed upon women who were experiencing an overdose or had lost consciousness. Here, women described their struggles to manage opioid dependence within the context of extreme poverty, criminalization and a toxic drug supply, with Indigenous and transgender women reporting an even greater degree of marginalization (e.g. homelessness). For example, 'Gina', a homeless Indigenous woman encountered during our ethnographic fieldwork, reported that some men were offering fentanyl-

Table 2 Participant demographics.

Participant characteristic	<i>n</i> (%) <i>N</i> = 35
Age	
Mean	40.9
Range	20–60 years
Ethnicity	
Indigenous	20 (57.1%)
White	14 (40.0%)
Other (Hispanic, black)	1 (2.9%)
Gender	
Cisgender	33 (94.3%)
Transgender and two-spirit	2 (5.7%)
Housing in past year	
Housed	12 (34.3%)
Homeless	23 (65.7%)
Overdose in past year	
None	12 (34.3%)
One	8 (25.7%)
Two	5 (14.3%)
Three or more	10 (28.6%)

adulterated opioids to women in extreme poverty for the purposes of 'knocking them out' to sexually assault them. Gina had recently accepted a stranger's offer of 'a hit of down' (i.e. opioid) and subsequently lost consciousness due to its potency, later awakening to discover that she had been sexually assaulted and robbed. She explained that she now visited OPS to avoid both assault and 'dropping dead' from overdose. Although not always involving physical or sexual violence, these participant accounts served to highlight the ways in which fentanyl-adulterated drugs simultaneously exacerbated women's vulnerabilities to both violence and overdose.

OPS as safe havens

Women commonly positioned OPS as 'safe havens': regulated settings where they could consume drugs safely without fear of death and minimize exposure to extreme forms of gendered and racialized violence characterizing some drug scene settings and situations. Even as the number of overdose-related deaths mounted, women's discussions of 'safety' centered most often around the need to protect themselves from violence. Women's prioritization of physical safety over reducing overdose risk in discussing a fentanyl-related overdose epidemic demonstrates that violence shapes their experiences, even in situations where they are managing overdose risks amid a public health emergency. Notably, women's discussions of OPS centered on how access to physical spaces in which they could inject drugs securely was necessary to achieve safety. 'Kimberly', a 39-year-old Indigenous woman, contrasted this sense of safety provided by OPS with the ever-present risk of violence that marginalized women encounter elsewhere:

I feel safer [at OPS], that's why I go there. I won't go to anybody's house and inject ever. Because a long time ago when I first came out here, I smoked rock with somebody [a man] and they turned on me horribly. After that, I never wanted to do any drugs with anybody that I didn't know because I don't know how they're going to react. If they're going to get strange, if they're going to get mean. It was horrible. I got tied up and everything.

A lack of access to private space amplified safety concerns among homeless and vulnerably housed women, who were disproportionately Indigenous. Among these women, OPS provided temporary respite from violence and exposure to police within the drug scene. For example, 'Amanda', a 37-year-old white woman who was homeless, emphasized how OPS prevent overdose death and allow women to avoid police:

I've been homeless for well over a year, so my situation hasn't changed in a long time... I'll use whether I'm homeless or whether I have a home [...] I do feel safer using at a site... I won't use by myself or in the alleys... They

[OPS] just want to make sure you're not dying when you do your shot... And the cops don't come anywhere near.

'Stephanie', a 30-year-old Indigenous woman, explained that she preferred OPS because the peer-based model was more culturally responsive than the comparatively institutional federally sanctioned sites:

I don't think there's much judgment made [at OPS]. Like at [sanctioned SCS] I felt a little bit of judgment, because those white two nurses, right? And I was the only Native in there.

She also noted that 'there's still some things missing [in the overdose response], like an Aboriginal-based program'.

During our fieldwork, we observed how the operational contexts of OPS fostered safety; for example, by preventing overdose death and not tolerating violence. We witnessed daily overdoses at, and outside, OPS and staff were quick to take effective overdose response measures (e.g. rub sternum, administer naloxone, call an ambulance) to prevent death. Whereas codes of conduct were critical to ensuring women's safety from overdose death and violence within OPS, so too was women's involvement in the operation of these sites as peer workers and, in some cases, site operators. We observed that women's involvement in the operation of OPS helped to promote peer accountability, with diverse women often leading or co-leading peer worker orientation and training sessions, and stressing the importance of ensuring women's safety. Peer workers often operationalized these concerns regarding women's safety by intervening to diffuse tensions and addressing the actions of men behaving inappropriately towards women (e.g. interrupting discussions and racist comments, directing men to leave women alone). Thus, women commonly emphasized that OPS were 'safer' because, through fostering a sense of community and peer accountability, they enabled women to access spaces in which they could avoid overdose death. In the words of 'Brianna', a 21-year-old Indigenous woman, 'It is where I know everybody, where I feel safe'.

Partnerships and assisted injection

The operational models of low-threshold OPS enhanced access among women by accommodating drug use practices not permitted at federally sanctioned SCS, including assisted injections and injecting partnerships. Although not permitted explicitly by the local health authority, these were standard practices among the sites included in our fieldwork for the purposes of maximizing access to OPS, with peer or assisted injections performed both within established injecting partnerships and by some designated peer workers. Although these practices can be shaped by gendered power relations [7,14,55,56] that sometimes perpetuate everyday violence in the lives of WWUD (e.g. lack of control of injecting processes,

expectations of reciprocity), the accommodation of injecting partnerships at OPS was necessary for engaging women who injected exclusively with injecting partners—typically male intimate partners. For example, ‘Ashley’, a 35-year-old white woman, reported that she only injected drugs with her partner’s assistance:

I like it [OPS] better than [Insite], because you can pass things [drugs] in there. Like at Insite you can't. And I have a boyfriend, right, and we always share, so it's better in there because I can hand his part off to him. And he's allowed to help me [inject] in there, so that's way better.

Further, many women explained that the provision of assisted injections by peer workers was responsive to the needs of: (i) women who wished to exercise greater autonomy over injecting than is possible within injecting partnerships; and (ii) women who could not self-inject due to disability or decreased vein access and relied primarily on sometimes exploitive acquaintances or strangers within the drug scene. This was the case for ‘Brianna’, whose severe burn-related scarring necessitated assistance. Assisted injections were administered primarily on-site by men serving as peer workers, and thus did not disrupt dominant gendered norms predicated on paternalism and women’s dependence. However, these interactions also did not reproduce the same gendered power relations or expectations often occurring within heterosexual drug-using partnerships (e.g. men injecting before injecting women) or with acquaintances or strangers exploiting women’s heightened vulnerability to overdose in the context of fentanyl adulteration. Participants routinely described the provision of assisted injections by peer workers as critical to SCS access and safety. ‘Jennifer’, a 47-year-old white transgender woman, described using one OPS daily because of the safety that it provided in relation to assisted injections:

I like it [assisted injecting at OPS]. I have difficulty shooting sometimes too. I have to go out to the alley to have someone shoot me up out there. I would like to be able to do it inside where it's safe right. So, I always felt that it was really stupid with the rule [prohibiting assisted injection]. Someone like me [transgender], I fall between those cracks. People don't generally just jump in and help if I'm getting battered by some guys, right? [...] Transgender people are even worse off [than cisgender women].

Jennifer’s vulnerability as a transgender woman, even in comparison to many drug-using women, only underscores further the responsiveness of these expanded practices in addressing differential risks and access to overdose prevention interventions. Women were unequivocally supportive of having access to assisted injection because it provided increased agency over their drug use practices.

OPS as ‘masculine’ space

Even as OPS served as ‘safe havens’ from overdose death and physical and sexual violence, they were nonetheless ‘masculine spaces’. Therein lies a central tension of OPS in relation to WWUD. The physical and operational context of OPS prevented predatory violence. However, these sites were dominated by men, and women—particularly Indigenous women—were subjected routinely to harassment, leading some to express fear that these would escalate into physical violence and constrain access to these sites. That OPS were mixed-gender and could be accessed by men who had previously victimized them exacerbated these concerns. ‘Penny’, a 57-year-old Indigenous woman, explained that despite experiencing seven overdoses in the past year, she sometimes avoided OPS for fear she might encounter an abusive man who had been stalking her. She expressed similar concerns for other women: ‘There’s a lot of harassment at certain places, you know, and in general men, I’d say a lot of men [...] like to harass women’. ‘Emily’, a 25-year-old Indigenous woman, noted that routine harassment within OPS had to be tolerated because the alternative was consuming drugs in unsafe and unsupervised environments with a greater risk of violence or overdose-related death:

It can get very scary when there's a lot of men around in a small [OPS] area. Then, obviously, I get hit on and I get called creepy names. It can be very unsettling to be in that position but, when you're dopesick and you don't want to be out in the alley alone in the cold, then you've just got to sit through it. It's kind of scary using around men.

Through our fieldwork, we also documented how women were expected to enact specific gendered roles, even in regard to their involvement in OPS operations. Participants reported that there was a ‘double standard’ for women and that they were expected to enact numerous—and sometimes competing—stereotypical roles, both in relation to their conduct and interactions with men accessing the sites. Women commonly expressed that they were expected to be better behaved (e.g. tidying up, caring for others) and consume drugs more quickly when accessing OPS, and that these expectations were monitored by some male peers and peer workers through comments reinforcing those perceived roles. These expectations served to reinforce women’s marginal status within OPS, while also privileging men’s needs in relation to overdose-related interventions. Further, women were often expected to serve as ‘caretakers’ for men, particularly intimate and injecting partners, while also shouldering responsibility for generating income necessary to purchase drugs. ‘Amy’, a 47-year-old white woman, explained these dynamics:

We're just held to a higher standard. Yes, we are expected to behave better. We're expected to not stay as long [at OPS]. We're expected to not sleep on the floor...We're the money makers and we're the [care] takers. We take care of the boys and, you know, we are supposed to come in and clean and take one [a male client] with you, because that happens a lot right. You come get your boyfriend or whatever.

Some women seized upon 'caretaker' roles as a means to demonstrate care and access some authority or autonomy by serving in peer worker roles. However, female—particularly Indigenous female—peer workers were not exempt from harassment from both clients and colleagues. 'Maria', a 51-year-old Indigenous woman working at an OPS, characterized the sites as male-dominated and noted: 'There's a couple of them [peer workers], you know, they don't respect women. They just don't'. Maria explained that these experiences made her reluctant to inject drugs at this OPS or continue to 'even work there'. Many women contested these gendered and cultural constraints of OPS by emphasizing the need for women-only and culturally attentive alternative sites, while also noting that these sites, in the words of Emily, 'would be a luxury'. Such positioning of women-only and culturally attentive overdose prevention interventions as 'luxuries' in the midst of a public health emergency illustrates symbolic violence and the extent to which women's—and especially Indigenous women's—needs are marginalized within these spaces and the wider overdose-related response [7].

DISCUSSION

Although implemented primarily as emergency measures to reduce overdose deaths, marginalized women emphasized that OPS served to address forms of everyday violence made worse by the overdose epidemic. The low-threshold operational models of OPS served to accommodate a range of women's drug use practices, including injecting partnerships and assisted injections, that maximized access and autonomy. However, despite serving as 'safe havens' from myriad forms of violence, OPS remain 'masculine spaces' that can jeopardize women's access.

Our findings expand upon previous research on sanctioned SCS by demonstrating how this low-threshold model enabled women to exercise agency (e.g. control injection practices) and consume drugs while avoiding both overdose death and street-based gendered violence [35]. An intersectional risk environment framework adds critical insight to research on overdose prevention interventions by demonstrating that these risks are gendered and racialized, and central to women's engagement with OPS. Although the overdose epidemic has been largely framed as a men's health issue [4,57], and 'white problem' [5], such narrow frameworks obscure the specific ways the overdose

epidemic overlaps with gendered violence within the intersectional risk environment, and fentanyl-adulterated opioids are intensifying gendered and racialized violence [13,26,45,46]. Further attention to emerging syndemics of overdose and violence [58] among WWUD is needed urgently and must be addressed by attending to the social-structural drivers of violence, including the intersections of socio-economic and gender inequalities, colonialism and systemic racism and drug prohibition [59,60]. Meanwhile, ongoing attention to the development of women-led and culturally unresponsive harm reduction interventions that are aligned with women's needs is paramount.

The low-barrier operational context of OPS, including the accommodation of drug-using partnerships and assisted injections, maximized access among WWUD by accounting for diverse drug use practices. While WWUD contend with unequal gender dynamics that render them particularly vulnerable to drug-related harms (e.g. being 'second on the needle') [7,14,55,56], our findings build upon research problematizing gendered injection practices by demonstrating that shared injection within OPS is nuanced [61] and provides more equitable access [62,63]. Although evidence indicates that assisted injection, required disproportionately by women [64–66], is an overdose risk factor [67], SCS can act as enabling environments that reshape the contexts of assisted injection practices to minimize drug-related harms (e.g. education, ensuring use of sterile syringes, control over quantity of drug taken) and provide effective support to marginalized subgroups requiring assistance [66,68,69]. However, women's drug use practices are often not accommodated by, and are commonly regulated within, harm reduction programs [26,70]. While the asymmetrical treatment of men and women accessing drug-related services has been well noted [70–72], it remains too often discounted in the planning and delivery of harm reduction and drug treatment services [7,11,14,72–75]. There remains a need for the low threshold approaches designed explicitly to respond to gendered and culturally specific needs in relation to these drug use practices, with our study suggesting that women peer workers are particularly well positioned to provide these services.

Our study is the first, to our knowledge, to document that 'gender-neutral' SCS—in this case, OPS—can operate as male-dominated environments that are fraught with social violence, reproducing power relations that continue to shape interventional settings [70,72,76], even as overdose risks intensify amid a fentanyl-related overdose epidemic. Among Indigenous women, these dynamics are compounded by the lack of Indigenous, women-led harm reduction interventions, despite evidence of their effectiveness [77–79]. Understanding how intersections of social location influence women's engagement with overdose-focused interventions will be critical to addressing

gendered and racialized barriers [59,75,76,78,80,81], as well as identifying dynamics within the intersectional risk environment that constrain access to services. Closer attention to such dynamics will be necessary to inform policies and interventions to mitigate the disproportionate burdens faced by WWUD [7,46,55,73,82], including explicit attention to social–structural drivers producing inequities in overdose-related outcomes among Indigenous women (e.g. colonial oppression, systemic marginalization) [78,83,84]. Furthermore, addressing such barriers through the implementation and evaluation of women-only (transgender inclusive) and Indigenous-led overdose interventions remains important, with Vancouver's recently opened women-only OPS presenting unique opportunities, given that few such sites exist globally [81].

This study has several limitations. Findings are specific to novel low-threshold OPS in Vancouver and not representative of the experiences of all women accessing SCS. Further, transgender and two-spirit participants were under-represented, which may obscure their specific experiences. While the findings may not be transferable to all settings, attention to the intersectional risk environment, including the gendering and racialization of spaces, remains critical to ensuring women's engagement with overdose prevention interventions.

In conclusion, to intervene to address overdose risks more effectively among women, it will be necessary to consider the social–structural drivers of violence (including drug prohibition) and the recognition of intersecting gendered and racialized power relations that extend into overdose-focused interventions. It is imperative that overdose-focused strategies are informed by the varied experiences and diverse perspectives of women who use drugs and that gender-specific and culturally responsive peer-led services become an essential component of public health responses to the overdose epidemic.

Declaration of interests

None.

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