



Published in final edited form as:

Violence Against Women. 2022 August ; 28(10): 2448–2465. doi:10.1177/10778012211032715.

Interpersonal Trauma Among Women and Men Receiving Buprenorphine in Outpatient Treatment for Opioid Use Disorder

Caitlin E. Martin¹, Anna Beth Parlier-Ahmad², Lori Beck³, Nicholas D. Thomson⁴

¹Department of Obstetrics and Gynecology, School of Medicine & Institute for Drug and Alcohol Studies, Virginia Commonwealth University, Richmond, VA, USA

²Department of Psychology, Virginia Commonwealth University, Richmond, VA, USA

³Department of Family Medicine and Population Health, Virginia Commonwealth University, Richmond, VA, USA

⁴Department of Surgery and Psychology, Virginia Commonwealth University, Richmond, VA, USA

Abstract

People with opioid use disorder (OUD) are vulnerable to negative health outcomes related to substance use and psychosocial issues, such as interpersonal trauma (IPT). Participants receiving buprenorphine completed a cross-sectional survey (July–September 2019). OUD outcomes were prospectively abstracted over a 28-week timeframe. More than a third reported recent IPT (40% women, 36% men). Sexual violence was more common among women than men ($p = .02$). For women only, IPT was associated with substance use during follow-up ($\beta = 20.72$, 95% CI: 4.24, 37.21). It is important for public health strategies in the opioid crisis to address IPT using sex- and gender-informed approaches.

Keywords

substance use disorder; interpersonal trauma; violence; gender; opioid use disorder

Introduction

The opioid crisis has brought increased attention to the significant public health impacts of opioid use disorder (OUD). Namely, the life expectancy in the United States is decreasing, largely due to increasing drug and alcohol-related deaths among people of reproductive age, with more rapid increases among females and Black individuals (Woolf & Schoemaker, 2019). Evidence-based OUD treatment includes medication for opioid use disorder (MOUD), such as methadone or buprenorphine, with wrap-around services (SAMHSA, 2020). This comprehensive approach reduces overdose risk and improves health

Article reuse guidelines: sagepub.com/journals-permissions

Corresponding Author: Caitlin E. Martin, Department of Obstetrics and Gynecology, School of Medicine & Institute for Drug and Alcohol Studies, Virginia Commonwealth University, 1250 E. Marshall St., Richmond, VA 23298, Box #980034, USA. caitlin.martin@vcuhealth.org

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

outcomes (SAMHSA, 2020). However, only a minority of people in need of OUD treatment receive it (Jones et al., 2015), and even if they do, treatment outcomes vary widely across individuals (O'Connor et al., 2020), highlighting gaps in OUD treatment access and quality. Nationally there is a call for advancement of integrated public health strategies promoting personcentered approaches to OUD treatment, addressing social determinants of health and simultaneously generating high-quality evidence on OUD (Blanco et al., 2020).

Largely due to systemic issues and social inequities, people with OUD are not only vulnerable to negative health outcomes related to substance use (e.g., overdose) (Cleveland et al., 2020), but to other psychosocial issues as well, including interpersonal trauma (IPT). Interlocking systems of oppression such as racism, sexism, and classism lead IPT to disproportionately impact people of color, women, and people with substance use disorder (SUD), including OUD (Breiding et al., 2014; Schneider et al., 2009). Types of IPT experienced by people with OUD include violence perpetrated by an intimate partner (Stone & Rothman, 2019) or other individuals, including family members, friends, and community members (Garami et al., 2019). For example, prevalence of intimate partner violence among people with OUD has been reported to be ~50% (El-Bassel et al., 2005a). IPT and substance use commonly co-occur (Schneider et al., 2009; Williams et al., 2020) and may increase overdose risk (Ataiants et al., 2020; El-Bassel et al., 2019) as well as bring substantial physical and mental health risks (Bacchus et al., 2018; Phares et al., 2019), including homicide (VDH, 2018). Many people with OUD report lifetime IPT (Konkolj Thege et al., 2017), and importantly, IPT remains highly prevalent even after engaging with OUD treatment, in part due to inequities in social context (e.g., higher rates of poverty, unemployment, and homelessness) (de Dios et al., 2014; Velez et al., 2006). There is an urgent need for more research to better understand how psychosocial factors, such as gender and IPT, interact and impact the effectiveness of MOUD treatments (Blanco et al., 2020).

Recent qualitative work highlights how IPT, especially intimate partner violence, challenges the ability of women receiving MOUD to engage in treatment programs and recovery-oriented services (Pallatino et al., 2019) as well as increases their risk of overdose-related mortality (Cleveland et al., 2020). Further, IPT among women with OUD appears to be complex, encompassing multiple dimensions, such as physical, sexual, and emotional components, that can carry additional impacts unique to sustaining OUD recovery (Pallatino et al., 2019; Williams et al., 2020). Among women receiving methadone, intimate partner violence is associated with recurrence of substance use (de Dios et al., 2014; El-Bassel et al., 2005b). Self-medication, using substances to cope with the mental and physical effects of IPT, is one explanation for these findings (Gilbert et al., 2001). However, IPT among people with OUD appears to be complex not only in its definition but also in how it impacts health outcomes of individuals receiving OUD treatment going beyond self-medication (Pallatino et al., 2019; Williams et al., 2020); possible additional underlying mechanisms may include coercion from an abusive partner to use substances or not receive needed mental health treatment (Warshaw et al., 2014) and substance-induced intoxication leading to violence perpetration by substance-using partners (Gilchrist et al., 2019). Research exploring the roles of violence and trauma on OUD treatment outcomes for people receiving buprenorphine remains scarce, especially studies including both men and women and focusing on different forms of IPT.

Individuals with OUD face numerous psychosocial vulnerabilities and barriers to receiving evidence-based treatments, including poverty, homelessness, lack of MOUD access, transportation, and stigma; violence and trauma likely interact and further amplify the negative impacts these barriers have on individuals' abilities to initiate, continue, and receive optimal health benefits from OUD treatment (Stone et al., 2021; Warshaw et al., 2014). Survivors and providers alike report desire for more robust integration of IPT prevention and intervention services into OUD treatment centers (Klaman et al., 2019, 2020; Stone et al., 2021) as well as integration of OUD training into that for violence and trauma staff (Rothman et al., 2018). In order to move towards these goals, further investigations at the intersection of OUD and IPT are needed to highlight potential strategies to enhance engagement and retainment in MOUD treatment and ultimately optimize long-term health outcomes. Given the complexities that exist across biological and psychosocial domains in shaping addiction etiology, risk, and trajectories (Evans-Polce et al., 2014), research aimed to elucidate avenues to achieve these public health goals should prioritize an intersectionality approach (Vu et al., 2019) where multiple factors, including sex and gender (Mauvais-Jarvis et al., 2020), are evaluated for how they differentially impact health outcomes for different people within social contexts and societal structures (Crenshaw, 1991).

Therefore, we present data from a sample of men and women receiving buprenorphine at an outpatient opioid treatment program in Richmond, VA; in doing so, we use gender-stratified analyses and report on multidimensional factors across individual to societal levels in our interpretation of study findings using an intersectionality approach. The primary objective of this study is to report the prevalence of recent (past 12-month) IPT among this vulnerable patient population. The secondary objective is to prospectively assess by gender the association between recent IPT and OUD treatment outcomes through a 28-week study period of (a) OUD treatment retention, (b) substance use, and (c) buprenorphine continuation. Of note, we purposely use a broad definition of IPT to capture its multiple dimensions, including physical, sexual, or emotional violence; reproductive coercion; and sexual harassment.

Methods

Participants and Design

A convenience sample of patients ($n = 162$; 97% response rate) from an outpatient SUD treatment clinic completed a voluntary, electronic survey between July and September 2019 assessing reproductive and sexual health needs. Participants were English speaking and at least 18 years old. Participants who could not read had the option to have the survey read aloud by a research assistant in a private space ($n = 6$). Survey completion took an average of 40 min, and participants were compensated \$20. OUD treatment outcomes were prospectively captured via medical record chart abstraction. The Virginia Commonwealth University Institutional Review Board approved the study, and participants provided verbal consent.

Inclusion criteria for the current secondary data analytic study were the following: (a) completion of the IPT survey measures, (b) receiving buprenorphine at the time of the

survey, and (c) provision of at least one urine drug test sample during the 28-week follow-up study period. The current study included 135 participants (62 men and 73 women).

Office-Based Opioid Treatment Center

The office-based opioid treatment center provides outpatient addiction services for over 500 adults with ~90% receiving buprenorphine. It is affiliated with a large academic medical center and located in an urban–suburban environment (Richmond, Virginia). On-site addiction medicine providers are waived to prescribe buprenorphine (sublingual or extended release injection) and come from multiple specialties, including psychiatry, internal medicine, family medicine, obstetrics and gynecology, and emergency medicine. Most patients are referred from within the academic medical center (e.g., inpatient consults, primary care physicians). At the initial clinic visit, providers complete a comprehensive intake assessment. All patients diagnosed with OUD are offered buprenorphine. Patients typically have follow-up visits at least once every 4 weeks. At follow-up visits, patients undergo urine drug testing; before the 2019 coronavirus pandemic (when this study was conducted), having at least one in-person visit with a drug test every 4 weeks was required to receive continued buprenorphine prescriptions. A comprehensive, recovery-oriented care model is utilized in which patients have access to integrated on-site psychiatric, mental health, case management, and social work services. The clinic prioritizes a low threshold, harm reduction approach whenever possible, meaning that established patients with recurrence of substance use are not initially exited from treatment but instead are first provided with increased wrap-around support.

Interpersonal Trauma (IPT) Measures

Participants reported past 12-month physical, sexual, and emotional violence as well as reproductive coercion and sexual harassment using survey items adapted from the Pregnancy Risk Assessment Monitoring System (PRAMS) Phase 8, the National Intimate Partner and Sexual Violence Survey (NISVS), and existing IPT literature. We purposely used a broad definition of IPT to capture its multiple dimensions. The primary exposure variable of this study was recent IPT, defined as any past 12-month physical, sexual, or emotional violence; reproductive coercion; or sexual harassment.

For physical violence, participants were asked, “In the past 12 months, did any of the following people [partner, ex-partner, family member, someone else] push, hit, slap, kick, choke, or physically hurt you in any other way?” (adapted from PRAMS). Answering yes to any of the above was considered having experienced recent physical violence.

For sexual violence, we combined item responses from two sources. Answering yes to any of these items was considered having experienced recent sexual violence. First, adapted from the NISVS, participants responded yes or no to four different survey items assessing forced vaginal, anal, and oral sex using the following question stem, “In the past 12 months, when you were drunk, high, drugged, or passed out and unable to consent, did anyone ever do any of these things to you?” Second, participants were asked two items from Thurston et al. (Thurston et al., 2019): “In the past 12 months, [has] your partner made or pressured you into having some type of unwanted sexual contact?” and “In the past 12 months, were you

made or pressured into having some type of unwanted sexual contact by someone other than your partner?”

For emotional violence, participants completed the PRAMS survey item: “In the past 12 months, have any of the following things happened to you? (1) My partner threatened me or made me feel unsafe in some way, (2) I was frightened for my safety or my family’s safety because of the anger or threats of my partner, (3) My partner tried to control my daily activities, for example, controlling who I could talk to or where I could go”, and (4) “During the past 12 months, did you miss any doctor appointments because you were worried about what your partner would do if you went?” Participants responding yes to any option were considered to have experienced recent emotional violence.

For reproductive coercion, participants were asked, “In the past 12 months, have any of your romantic or sexual partners ever refused to use a condom when you wanted them to use one?” from the NISVS. For sexual harassment, we used the survey item, “In the past 12 months, have you experienced sexual harassment at work that was either physical or verbal?” from Thurston et al. (2019).

Lastly, we assessed recent violence service utilization using items adapted from PRAMS. First, participants responded yes or no to, “During the past 12 months, did you feel like you needed help to reduce the violence in your home?” followed by, “During the past 12 months, was there any time when you needed help to reduce the violence in your home but couldn’t get it for any reason?”

Opioid Use Disorder Treatment Outcomes

Treatment outcomes were assessed using medical record review over seven consecutive 4-week periods (total of 28 weeks) following the survey date. OUD outcomes included the following: (a) OUD treatment retention, (b) substance use, and (c) buprenorphine continuation.

Treatment retention was a dichotomous variable (yes/no) similar to prior OUD treatment studies (O’Connor et al., 2020) and in line with recommended outcomes specific to MOUD treatment research (Williams et al., 2018). The participant’s most recent clinic visit and buprenorphine prescription were used to identify the latest 4-week period each patient remained in treatment (range 1–7); if the participant remained in treatment at the seventh 4-week period (28-week study timeframe) after survey completion, then the participant was coded as being retained in treatment.

Substance use was operationalized as the percentage of 4-week treatment periods (out of seven) with a positive urine drug test for an illicit substance or prescription drug misuse. Buprenorphine continuation was operationalized as the percentage of 4-week treatment periods (out of seven) with a positive urine drug test for buprenorphine. For participants who did not present to treatment during a 4-week period, the urine drug test result for the 4-week period not in treatment was assumed to be positive for illicit substance/prescription drug misuse and negative for buprenorphine. Overall, $n = 76$ (56.3%) of participants had at least one urine drug test for every 4-week period, and $n = 59$ (43.7%) had at least one 4-week

period with a missing drug test. Of all recorded substance use recurrence and buprenorphine continuation, 67% was confirmed by a urine drug test.

Demographic, Clinical, and Psychosocial Characteristics

Descriptive Variables From Survey Items.—Both gender (cisgender man, cisgender woman, transgender man, transgender woman, other) and sex assigned at birth (male, female, other) were self-reported. Psychosocial items were asked with reference to the past 12 months. Unsafe housing was defined as not feeling safe to leave or return to your neighborhood and/or feeling afraid of being hurt in your residence (yes/no). Homelessness was defined as living on the street, in a shelter, in a single room occupancy hotel, or in a car (yes/no). Food insecurity was defined as limited access to adequate food (Health Leads Social Screening Toolkit, 2016). Healthcare access was defined as seeing a provider other than an addiction provider at least once (yes/no). For mental health comorbidity, one yes/no item asked: “Have you ever had or been treated for depression, anxiety, posttraumatic stress disorder, or any other psychiatric condition?” Discrimination was assessed by: “Have you ever felt you were treated unfairly getting health care services?” (yes/no). Lastly, participants reported number of lifetime SUD treatment episodes, excluding the current episode.

Descriptive Variables Medical Record Review

Length of current treatment episode was the number of days between the date of buprenorphine induction or initial clinic visit date through the survey date.

Data Analysis

Descriptive statistics and IPT prevalence were generated. Gender-stratified IPT comparisons were made using Pearson χ^2 and Fisher’s exact tests for categorical variables and *T*-tests for continuous variables. Multivariate logistic and linear regression were used to assess the association between IPT measures and OUD outcomes of treatment retention, substance use, and buprenorphine continuation. Variables included in the multivariate models were chosen based on clinical experience and existing literature (O’Connor et al., 2020) to encompass common potential confounders in prior research of OUD treatment outcomes. For all analyses, significance was set at .05. The Winsorizing method was used to minimize the effect of outliers in the number of treatment episodes variable (Tukey, 1961). Statistical analyses were performed using SPSS version 26 (IBM, 2019).

Results

A total of 73 cisgender women and 62 cisgender men were included in the study; no participants identified as a gender minority. Participants were middle aged, majority Black, heterosexual, and had a mental health comorbidity (Table 1). More than a third reported recent IPT (40% women, 36% men). Among men, recent IPT was more common among Black and Other Race participants than their White counterparts. Women reporting recent IPT were more likely than women not reporting IPT to also report past 12-month homelessness, unsafe housing, and discrimination in a healthcare setting (Table 1).

Recent physical violence was the most common type (Table 2). Physical violence perpetrators included intimate partners (women 22%, men 16%), followed by communities (women 13%, men 10%) and family members (women 3%, men 7%; data not shown). Recent sexual violence was more commonly reported by women than men ($p = .02$). Other IPT types were less common but similar across gender (Table 2). Across violence variables that assessed perpetrator type, women ($n = 21$; 29%) and men ($n = 17$; 27%) equally reported recent intimate partner violence ($p = .86$; data not shown). Approximately 15% of participants perceived a need for violence support services in the past 12 months, and most had not received them (Table 2).

ODU treatment retention did not differ by recent IPT among men. Fewer women reporting IPT were retained in treatment through the 28-week follow-up timeframe than women without IPT (59% vs. 77%; Table 3), but this association was not statistically significant ($p = .09$).

Buprenorphine continuation rates were similar across IPT groups for both men and women (Table 3). For women only, substance use was more common during the study timeframe among participants reporting IPT (65%) than participants without IPT (48%; Table 3). This association of IPT with substance use among women persisted in the multivariate analysis ($\beta = 20.72$, 95% CI: 4.24, 37.21; Table 4).

Discussion

In this sample of majority Black individuals receiving buprenorphine, past 12-month physical, sexual, and other types of violence and trauma were prevalent among both women and men. IPT was associated with substance use more often in women, but not in men. Our findings add to the growing literature regarding the intersection of social context, IPT, and recovery among individuals engaged in MOUD treatment (El-Bassel et al., 2005b; Pallatino et al., 2019; Stone & Rothman, 2019; Williams et al., 2020). Overall, our study highlights the importance of addressing IPT (Phares et al., 2019) and its gender differences in future research and public health strategies targeting OUD treatments in the opioid crisis.

Despite finding a similar prevalence of recent IPT across gender (women 40%; men 36%), we found that IPT negatively impacts OUD treatment for women only. Specifically, IPT was associated with substance use during follow-up among women. IPT and substance use commonly co-occur (Gilchrist et al., 2019; Konkoly Thege et al., 2017; Schneider et al., 2009). Within our majority Black sample, findings indicate that this association disproportionately persists more for women than men in buprenorphine-based OUD treatment. Black women's bodies have been objectified for centuries as a result of systems of oppression, namely racism and sexism (Collins, 2000; Crenshaw, 1991); additionally, marginalization due to OUD interlocks with these systems to create a complex overarching system of oppression that impacts OUD treatment and recovery. Recent qualitative work highlights the adverse impacts intimate partner violence has on OUD recovery among women in MOUD treatment including a compromised ability to engage in recovery services when in an abusive relationship (Pallatino et al., 2019). Additionally, violence increases the risk of overdose (Cleveland et al., 2020) and mortality, particularly among Black women

(Koch & Geller, 2017) as well as during pregnancy and postpartum. Further investigations are needed at the intersection of IPT and SUD to identify strategies to reduce two major causes of morbidity and mortality among women, opioid overdose (Woolf & Schoomaker, 2019) and violence (Breiding et al., 2014).

The study site clinic largely serves Black patients who are unemployed with low-income and public insurance; this social context influences disparities among those with SUD. For example, women with OUD are more likely than men to be unemployed and financially dependent (Campbell et al., 2018), which limits safety plan options when faced with IPT. Within our study sample, we identified differential associations by gender between IPT and psychosocial problems, further highlighting disadvantage for women. Compared to women without recent IPT, women with recent IPT were more vulnerable to experiencing homelessness and/or unsafe housing. Previous literature suggests a bidirectional relationship between IPT and unstable housing; homelessness itself heightens the risk of IPT, and people experiencing violence in their homes are commonly forced to leave for their safety, even without safe alternative housing options (Pavao et al., 2007; Sullivan et al., 2019). Further, unstable housing is associated with substance use recurrence (McQuaid et al., 2018) and poor SUD treatment retention among pregnant women (Haller et al., 1997). In order to optimize SUD recovery outcomes, comprehensive services are needed, including provision of housing support services (Marsh et al., 2004). Overall, our findings reiterate the importance of understanding social context and addressing social determinants of health among individuals receiving buprenorphine, especially for women experiencing or at risk of violence and trauma.

Within our majority Black sample, more women with recent IPT than without IPT reported experiencing discrimination by a healthcare provider. Stigma of SUD and SUD treatment, including MOUD, is pervasive across settings (Tsai et al., 2019), and women are particularly susceptible to this stigma (Greenfield et al., 2007). Additionally, Black individuals are disproportionately burdened with stigma in part due to historical and current discriminatory practices in substance use criminalization, law enforcement, and treatment access (Hart & Hart, 2019; Santoro & Santoro, 2018). Similarly, individuals experiencing intimate partner violence often report experiencing discrimination by healthcare providers (Scheer et al., 2020). Stigma and discrimination are associated with compromised OUD treatment (Tsai et al., 2019) and recovery outcomes (Ashford et al., 2019). As health systems take steps to address the opioid crisis, it is critical to incorporate strategies aimed at combatting stigma across intersecting systems of oppression (Tsai et al., 2019), such as the incorporation of education into early medical training on antiracist, trauma-informed care for Black women with SUD (Avery et al., 2019; Johnson-Agbakwu et al., 2020; SAMHSA, 2014).

Lastly, prior IPT studies have largely included women only (Ataiants et al., 2020; Bacchus et al., 2018), given their higher lifetime prevalence of IPT in the general population (Breiding et al., 2014) and SUD treatment (Schneider et al., 2009). Most prior IPT research of men with SUD has focused on their roles as perpetrators (Stephens-Lewis et al., 2021). Of the few studies about IPT victimization among men, many have been limited to men who have sex with men (Buller et al., 2014). To our knowledge, our study is the first to report on the prevalence and correlates of recent IPT among both men and women in buprenorphine-based

Author Biographies

Caitlin E. Martin is a director of OB/GYN Addiction Services in the Department of Obstetrics and Gynecology, and is leading research and education efforts as a physician-scientist to improve gender-informed treatment approaches for people with SUD. In doing so, her work spans across translational science, provider education, clinical care, and research. She is the lead investigator for the IVY (In Recovery) Lab, whose long-term goal is to improve the evidence base for gender-informed care and treatment for people with SUD across their lifespan.

Anna Beth Parlier-Ahmad is a clinical psychology doctoral student at Virginia Commonwealth University. Her research focuses on women's health, substance use, and gender differences. She is interested in translational research that is applicable for clinical practice.

Lori Beck is an MPH graduate with research interests in substance use, harm reduction, and health disparities. Her work with public health has included HIV clinic administration, naloxone distribution, programming for incarcerated women in recovery, and, most recently, project management of case investigation for COVID-19.

Nicholas D. Thomson is a forensic psychologist and Director of Research for the Injury and Violence Prevention Program at VCU Health Trauma Center. He is an accredited psychotherapist by the United Kingdom Council for Psychotherapy and has over a decade of clinical experience working in prisons and inpatient settings in both the United States and United Kingdom. Dr. Thomson's research expertise includes biopsychosocial risk factors for violence, violence intervention and prevention, developmental psychopathology, and forensic psychology.

References

- Aboutanos MB, Altonen M, Vincent A, Broering B, Maher K, & Thomson ND (2019). Critical call for hospital-based domestic violence intervention: The Davis challenge. *Journal of Trauma and Acute Care Surgery*, 87(5), 1197–1204. 10.1097/ta.0000000000002450 [PubMed: 31343600]
- Ashford RD, Brown AM, Canode B, McDaniel J, & Curtis B (2019). A mixed-methods exploration of the role and impact of stigma and advocacy on substance use disorder recovery. *Alcoholism Treatment Quarterly*, 37(4), 462–480. 10.1080/07347324.2019.1585216
- Ataia J, Mazzella S, Roth AM, Robinson LF, Sell RL, & Lankenau SE (2020). Multiple victimizations and overdose Among women With a history of illicit drug Use. *Journal of Interpersonal Violence*, 886260520927501. 10.1177/0886260520927501
- Avery J, Knoepflmacher D, Mauer E, Kast KA, Greiner M, Avery J, & Penzner JB (2019). Improvement in residents' attitudes toward individuals with substance use disorders following an online training module on stigma. *HSS Journal*, 15(1), 31–36. 10.1007/s11420-018-9643-3 [PubMed: 30863230]
- Bacchus LJ, Ranganathan M, Watts C, & Devries K (2018). Recent intimate partner violence against women and health: A systematic review and meta-analysis of cohort studies. *BMJ Open*, 8(7), e019995. 10.1136/bmjopen-2017-019995
- Blanco C, Wiley TRA, Lloyd JJ, Lopez MF, & Volkow ND (2020). America's opioid crisis: The need for an integrated public health approach. *Translational Psychiatry*, 10(1), 167. 10.1038/s41398-020-0847-1 [PubMed: 32522999]

- Breiding MJ, Smith SG, Basile KC, Walters ML, Chen J, & Merrick MT (2014). Prevalence and characteristics of sexual violence, stalking, and intimate partner violence victimization--national intimate partner and sexual violence survey, United States, 2011. *MMWR Surveillance Summaries*, 63(8), 1–18.
- Buller AM, Devries KM, Howard LM, & Bacchus LJ (2014). Associations between intimate partner violence and health among men who have sex with men: A systematic review and meta-analysis. *PLoS Medicine*, 11(3), e1001609. 10.1371/journal.pmed.1001609 [PubMed: 24594975]
- Campbell ANC, Barbosa-Leiker C, Hatch-Maillette M, Mennenga SE, & Pavlicova M, ... Greenfield SF (2018). Gender differences in demographic and clinical characteristics of patients with opioid use disorder entering a comparative effectiveness medication trial. *American Journal on Addictions*, 27(6), 465–470. 10.1111/ajad.12784 [PubMed: 30106494]
- Cleveland LM, McGlothen-Bell K, Scott LA, & Recto P (2020). A life-course theory exploration of opioid-related maternal mortality in the United States. *Addiction*. 10.1111/add.15054
- Collins PH (2000). *Black feminist thought: Knowledge, consciousness, and the politics of empowerment* (Rev. 10th anniversary ed.). Routledge.
- Crenshaw K (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43(6), 1241–1299. 10.2307/1229039
- de Dios MA, Anderson BJ, Caviness CM, & Stein M (2014). Intimate partner violence among individuals in methadone maintenance treatment. *Substance Abuse*, 35(2), 190–193. 10.1080/08897077.2013.835764 [PubMed: 24821357]
- El-Bassel N, Gilbert L, Wu E, Go H, & Hill J (2005a). HIV And intimate partner violence among methadone-maintained women in New York city. *Social Science & Medicine*, 61(1), 171–183. 10.1016/j.socscimed.2004.11.035 [PubMed: 15847970]
- El-Bassel N, Gilbert L, Wu E, Go H, & Hill J (2005b). Relationship between drug abuse and intimate partner violence: A longitudinal study among women receiving methadone. *American Journal of Public Health*, 95(3), 465–470. 10.2105/ajph.2003.023200 [PubMed: 15727978]
- El-Bassel N, Marotta PL, Goddard-Eckrich D, Chang M, Hunt T, Wu E, & Gilbert L (2019). Drug overdose among women in intimate relationships: The role of partner violence, adversity and relationship dependencies. *PLoS One*, 14(12), e0225854. 10.1371/journal.pone.0225854 [PubMed: 31881035]
- Evans-Polce RJ, Doherty EE, & Ensminger ME (2014). Taking a life course approach to studying substance use treatment among a community cohort of african American substance users. *Drug and Alcohol Dependence*, 142, 216–223. 10.1016/j.drugalcdep.2014.06.025 [PubMed: 25042214]
- Garami J, Valikhani A, Parkes D, Haber P, Mahlberg J, ... Moustafa AA (2019). Examining perceived stress, childhood trauma and interpersonal trauma in individuals with drug addiction. *Psychological Reports*, 122(2), 433–450. 10.1177/0033294118764918 [PubMed: 29569991]
- Gilbert L, El-Bassel N, Rajah V, Foleno A, & Frye V (2001). Linking drug-related activities with experiences of partner violence: A focus group study of women in methadone treatment. *Violence and Victims*, 16(5), 517–536. [PubMed: 11688927]
- Gilchrist G, Dennis F, Radcliffe P, Henderson J, Howard LM, & Gadd D (2019). The interplay between substance use and intimate partner violence perpetration: A meta-ethnography. *International Journal on Drug Policy*, 65, 8–23. 10.1016/j.drugpo.2018.12.009 [PubMed: 30580114]
- Greenfield SF, Brooks AJ, Gordon SM, Green CA, & Kropp F, ... Miele GM (2007). Substance abuse treatment entry, retention, and outcome in women: A review of the literature. *Drug and Alcohol Dependence*, 86(1), 1–21. 10.1016/j.drugalcdep.2006.05.012 [PubMed: 16759822]
- Haller DL, Knisely JS, Elswick RK Jr., Dawson KS, & Schnoll SH (1997). Perinatal substance abusers: Factors influencing treatment retention. *Journal of Substance Abuse Treatment*, 14(6), 513–519. [PubMed: 9437622]
- Hart CL, & Hart MZ (2019). Opioid crisis: Another mechanism used to perpetuate American racism. *Cultural Diversity & Ethnic Minority Psychology*, 25(1), 6–11. 10.1037/cdp0000260 [PubMed: 30714762]
- Health Leads Social Screening Toolkit. (2016). Retrieved from
- IBM. (2019). *IBM SPSS statistics for Macintosh*, version 26.0. IBM Corporation.

- Johnson-Agbakwu CE, Ali NS, Oxford CM, Wingo S, Manin E, & Coonrod DV (2020). Racism, COVID-19, and health inequity in the USA: A call to action. *Journal of Racial and Ethnic Health Disparities*. 10.1007/s40615-020-00928-y
- Jones CM, Campopiano M, Baldwin G, & McCance-Katz E (2015). National and state treatment need and capacity for opioid agonist medication-assisted treatment. *American Journal of Public Health*, 105(8), e55–e63. 10.2105/ajph.2015.302664
- Klaman LS, Lorvick EJ, & Jones EH (2019). Provision of and barriers to integrating reproductive and sexual health services for reproductive-age women in opioid treatment programs. *Journal of Addiction Medicine*, 13(6), 422–429. 10.1097/ADM.0000000000000519 [PubMed: 31689259]
- Klaman SL, Turner K, Lorvick J, & Jones HE (2020). Integrating reproductive and sexual health education and services into opioid Use disorder treatment programs: A qualitative study. *Journal of Addiction Medicine*. 10.1097/adm.0000000000000657
- Koch AR, & Geller SE (2017). Addressing maternal deaths due to violence: The illinois experience. *American Journal of Obstetrics and Gynecology*, 217(5), 556.e551–556.e556. 10.1016/j.ajog.2017.08.005 [PubMed: 28844823]
- Konkolj Thege B, Horwood L, Slater L, Tan MC, Hodgins DC, & Wild TC (2017). Relationship between interpersonal trauma exposure and addictive behaviors: A systematic review. *BMC Psychiatry*, 17(1), 164. 10.1186/s12888-017-1323-1 [PubMed: 28472931]
- Marsh JC, Cao D, & D’Aunno T (2004). Gender differences in the impact of comprehensive services in substance abuse treatment. *Journal of Substance Abuse Treatment*, 27(4), 289–300. 10.1016/j.jsat.2004.08.004 [PubMed: 15610830]
- Mauvais-Jarvis Franck, Bairey Merz N, Barnes PJ, Brinton RD, Jesus Carrero J, DeMeo DL, De Vries GJ, Neill Epperson C, Govindan R, Klein SL, Lonardo A, Maki PM, McCullough LD, Regitz-Zagrosek V, Regensteiner JG, Rubin JB, Sandberg K, & Suzuki A (2020). Sex and gender: Modifiers of health, disease, and medicine. *Lancet*, 396(10250), 565–582. 10.1016/s0140-6736(20)31561-0 [PubMed: 32828189]
- McQuaid RJ, Jesseman R, & Rush B (2018). Examining barriers as risk factors for relapse: A focus on the Canadian treatment and recovery system of care. *Canadian Journal of Addiction*, 9(3), 5–12. 10.1097/cxa.0000000000000022 [PubMed: 30197927]
- O’Connor AM, Cousins G, Durand L, Barry J, & Boland F (2020). Retention of patients in opioid substitution treatment: A systematic review. *PLoS One*, 15(5), e0232086. 10.1371/journal.pone.0232086 [PubMed: 32407321]
- Pallatino C, Chang JC, & Krans EE (2019). The intersection of intimate partner violence and substance use among women with opioid use disorder. *Substance Abuse*, 1–8. 10.1080/08897077.2019.1671296
- Pavao J, Alvarez J, Baumrind N, Induni M, & Kimerling R (2007). Intimate partner violence and housing instability. *American Journal of Preventive Medicine*, 32(2), 143–146. 10.1016/j.amepre.2006.10.008 [PubMed: 17234488]
- Phares TM, Sherin K, Harrison SL, Mitchell C, Freeman R, & Lichtenberg K (2019). Intimate partner violence screening and intervention: The American College of Preventive Medicine position statement. *American Journal of Preventive Medicine*, 57(6), 862–872. 10.1016/j.amepre.2019.07.003 [PubMed: 31753269]
- Rothman EF, Stone R, & Bagley SM (2018). Rhode island domestic violence shelter policies, practices, and experiences pertaining to survivors with opioid Use disorder: Results of a qualitative study. *Substance Abuse*, 12, 1178221818812895. 10.1177/1178221818812895
- SAMHSA. (2014). SAMHSA’s concept of trauma and guidance for a trauma-informed approach. HHS Publication No. (SMA) 14-4884. Retrieved from <https://store.samhsa.gov/sites/default/files/d7/priv/sma14-4884.pdf>
- SAMHSA. (2020). Medications for opioid Use disorder. Treatment Improvement Protocol (TIP) Series 63. Publication No. PEP20-02-01-006. Retrieved from https://store.samhsa.gov/sites/default/files/SAMHSA_Digital_Download/PEP21-02-01-002.pdf
- Santoro TN, & Santoro JD (2018). Racial bias in the US opioid epidemic: A review of the history of systemic bias and implications for care. *Cureus*, 10(12), e3733. 10.7759/cureus.3733 [PubMed: 30800543]

- Scheer JR, Martin-Storey A, & Baams L (2020). Help-seeking barriers among sexual and gender minority individuals who experience intimate partner violence victimization. In Springer C, (Ed.), *Intimate partner violence and the LGBT + community* (pp. 139–158).
- Schneider R, Burnette ML, Ilgen MA, & Timko C (2009). Prevalence and correlates of intimate partner violence victimization among men and women entering substance use disorder treatment. *Violence and Victims*, 24(6), 744–756. 10.1891/0886-6708.24.6.744 [PubMed: 20055212]
- Sherin KM, Sinacore JM, Li XQ, Zitter RE, & Shakil A (1998). HITS: A short domestic violence screening tool for use in a family practice setting. *Family Medicine*, 30(7), 508–512. [PubMed: 9669164]
- Stephens-Lewis D, Johnson A, Huntley A, Gilchrist E, McMurrin M, Henderson J, Feder G, Howard LM, & Gilchrist G (2021). Interventions to reduce intimate partner violence perpetration by Men Who Use substances: A systematic review and meta-analysis of efficacy. *Trauma, Violence, & Abuse*, 22(5), 1262–1278. 10.1177/1524838019882357
- Stone R, Campbell JK, Kinney D, & Rothman EF (2021). “He would take my shoes and all the baby’s warm winter gear so we couldn’t leave”: Barriers to safety and recovery experienced by a sample of Vermont women with partner violence and opioid use disorder experiences. *Journal of Rural Health*, 37(1), 35–44. 10.1111/jrh.12518
- Stone R, & Rothman EF (2019). Opioid use and intimate partner violence: A systematic review. *Current Epidemiology Reports*, 6(2), 215–230. 10.1007/s40471-019-00197-2
- Sullivan CM, Bomsta HD, & Hacsckaylo MA (2019). Flexible funding as a promising strategy to prevent homelessness for survivors of intimate partner violence. *Journal of Interpersonal Violence*, 34(14), 3017–3033. 10.1177/0886260516664318 [PubMed: 27520017]
- Thurston RC, Chang Y, Matthews KA, von Kanel R, & Koenen K (2019). Association of sexual harassment and sexual assault With midlife women’s mental and physical health. *JAMA Internal Medicine*, 179(1), 48–53. 10.1001/jamainternmed.2018.4886 [PubMed: 30285071]
- Tsai AC, Kiang MV, Barnett ML, Beletsky L, Keyes KM, McGinty EE, ... Venkataramani AS (2019). Stigma as a fundamental hindrance to the United States opioid overdose crisis response. *PLoS Medicine*, 16(11), e1002969. 10.1371/journal.pmed.1002969 [PubMed: 31770387]
- Tukey JW (1961). Statistical and quantitative methodology. In Ray DR (Ed.), *In trends in social sciences* (pp. 84–136). Philosophical Library.
- VDH. (2018). Family and intimate partner homicide: A descriptive analysis of the characteristics and circumstances surrounding family and intimate partner homicide in Virginia, 2015. Retrieved from: www.vdh.virginia.gov/medExam/fipvhs-reports-publications.htm
- Velez ML, Montoya ID, Jansson LM, Walters V, Svikis D, Jones HE, ... Campbell J (2006). Exposure to violence among substance-dependent pregnant women and their children. *Journal of Substance Abuse Treatment*, 30(1), 31–38. 10.1016/j.jsat.2005.09.001 [PubMed: 16377450]
- Vu M, Li J, Haardörfer R, Windle M, & Berg CJ (2019). Mental health and substance use among women and men at the intersections of identities and experiences of discrimination: Insights from the intersectionality framework. *BMC Public Health*, 19(1), 108. 10.1186/s12889-019-6430-0 [PubMed: 30674293]
- Warshaw C, Lyon E, Bland MA, P. J., Phillips H, & Hooper M (2014). March 2014 mental health and substance use Coercion Surveys mental health and substance use Coercion Surveys. Retrieved from <http://www.nationalcenterdvtraumamh.org/publications-products/mental-health-and-substance-use-coercion-surveys-report/>.
- Williams AR, Nunes EV, Bisaga A, Pincus HA, & Johnson KA, ... Olfson M (2018). Developing an opioid use disorder treatment cascade: A review of quality measures. *Journal of Substance Abuse Treatment*, 91, 57–68. 10.1016/j.jsat.2018.06.001 [PubMed: 29910015]
- Williams JR, Girdler S, Williams W, & Cromeens MG (2020). The effects of co-occurring interpersonal trauma and gender on opioid use and misuse. *Journal of Interpersonal Violence*, 35(12), 886260519900309. 10.1177/0886260519900309
- Woolf SH, & Schoomaker H (2019). Life expectancy and mortality rates in the United States, 1959–2017. *Journal of the American Medical Association*, 322(20), 1996–2016. 10.1001/jama.2019.16932 [PubMed: 31769830]

Table 1.

Demographic, Clinical and Psychosocial Characteristics of Study Sample.

Characteristics	Women <i>N</i> (%)			Men <i>N</i> (%)		
	Total <i>n</i> = 73	Recent IPT <i>n</i> = 29	No recent IPT <i>n</i> = 44	Total <i>n</i> = 62	Recent IPT <i>n</i> = 22	No recent IPT <i>n</i> = 40
Age (years) [Mean (<i>SD</i>)]	40.6 (11.6)	37.7 (11.9)	42.5 (11.1)	46.5 (12.4)	47.6 (11.7)	45.9 (12.8)
Race						
White	20 (27.4)	8 (27.6)	12 (27.3)	12 (19.7)	1 (4.5) *	11 (28.2) *
Black	49 (67.1)	19 (65.5)	30 (68.2)	45 (73.8)	18 (81.8) *	27 (69.2) *
Other	4 (5.5)	2 (6.9)	2 (4.5)	4 (6.6)	3 (13.6) *	1 (2.6) *
Sexual orientation						
Heterosexual	53 (72.6)	19 (65.5)	34 (77.3)	56 (90.3)	18 (81.8)	38 (95.0)
Gay or lesbian	7 (9.6)	3 (10.3)	4 (9.1)	1 (1.6)	1 (4.5)	0 (0)
Bisexual/other	13 (17.8)	7 (24.1)	6 (13.6)	5 (8.1)	3 (13.6)	2 (5.0)
High school/GED education	38 (52.1)	15 (51.7)	23 (52.3)	33 (53.2)	8 (36.4)	25 (62.5)
Unemployed	61 (83.6)	23 (79.3)	38 (86.4)	39 (62.9)	13 (59.1)	26 (65.0)
Living situation						
Alone	5 (7.1)	4 (14.3)	1 (2.4)	17 (27.9)	7 (33.3)	10 (25.0)
Alone with children	11 (15.7)	2 (7.1)	9 (21.4)	2 (3.3)	1 (4.8)	1 (2.5)
With sexual partner	20 (28.6)	9 (32.1)	11 (26.2)	18 (29.5)	8 (38.1)	10 (25.0)
With family/friends	25 (35.7)	8 (28.6)	17 (40.5)	19 (31.1)	3 (14.3)	16 (40.0)
Other	9 (12.9)	5 (17.9)	4 (9.5)	5 (8.2)	2 (9.5)	3 (7.5)
Homeless	23 (32.4)	14 (48.3) *	9 (21.4) *	24 (38.7)	10 (45.5)	14 (35.0)
Food insecurity	40 (54.8)	19 (65.5)	21 (47.7)	31 (52.5)	11 (55.0)	20 (51.3)
Unsafe housing	24 (32.9)	14 (48.3) *	10 (22.7) *	31 (50.8)	13 (61.9)	18 (45.0)
Healthcare access	63 (86.3)	23 (79.3)	40 (90.9)	52 (85.2)	19 (90.5)	33 (82.5)
Reported discrimination	32 (44.4)	21 (72.4) *	11 (25.6) *	29 (46.8)	13 (59.1)	16 (40.0)
Mental health comorbidity	47 (64.4)	20 (69.0)	27 (61.4)	31 (50.0)	13 (59.1)	18 (45.0)
Number of prior substance use disorder treatment episodes	2.55 (2.01)	2.85 (2.6)	2.26 (1.7)	3.44 (2.8)	3.47 (2.3)	3.42 (3.0)
Duration of time of current buprenorphine treatment episode (days)	428.2 (255.1)	376.3 (285.9)	462.4 (229.7)	365.6 (248.6)	291.5 (243.8)	406.4 (244.6)

Note. IPT = interpersonal trauma.

* *p* value <.05 indicating significant difference between participants with and without recent IPT.

Table 2.

Past 12-Month Interpersonal Trauma Among Study Sample.

	Total N(%) n = 135	Women N(%) n = 73	Men N(%) n = 62
Any recent interpersonal trauma	51 (37.8)	29 (39.7)	22 (35.5)
Physical violence	34 (25.2)	21 (28.8)	13 (21.0)
Sexual violence	24 (17.8)	18* (24.7)	6* (9.7)
Emotional violence	22 (16.3)	14 (19.2)	8 (12.9)
Reproductive coercion	13 (10.9)	7 (12.1)	6 (9.8)
Sexual harassment	7 (5.3)	5 (6.9)	2 (3.3)
Violence support service utilization			
Perceived need for violence services	20 (14.8)	13 (17.8)	7 (11.3)
Perceived need for but did NOT receive violence services	14 (10.4)	9 (12.3)	5 (8.1)

* p value $<.05$ indicating significant difference between women and men.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 3.

Opioid Use Disorder Treatment Outcomes of Study Sample.

	Women <i>n</i> = 73		Men <i>n</i> = 62	
	Recent IPT <i>N</i> = 29	No recent IPT <i>N</i> = 44	Recent IPT <i>N</i> = 22	No recent IPT <i>N</i> = 40
OUD treatment retention ^a [<i>N</i> (%)]	17 (58.6)	34 (77.3)	16 (72.7)	25 (62.5)
Buprenorphine continuation ^b [%(<i>SD</i>)]	56.2 (28.8)	66.2 (22.0)	64.9 (23.6)	53.9 (26.6)
Substance use ^c [%(<i>SD</i>)]	64.5* (29.7)	47.7* (35.3)	65.6 (30.1)	67.1 (33.3)

Note. IPT = interpersonal trauma; OUD = opioid use disorder.

* *p* value <.05 indicating significant difference between participants with and without recent IPT.

^aThe number (percentage) of participants who remained in OUD treatment at the seventh treatment period (28-week study timeframe).

^bThe percentage (*SD*) of OUD treatment periods (out of 7 over the 28-week study timeframe) with urine drug testing positive for buprenorphine.

^cThe percentage (*SD*) of OUD treatment periods (out of 7 over the 28-week study timeframe) with urine drug testing positive for an illicit substance or prescription drug misuse.

Table 4.

Multivariate Analysis of Associations Between Recent IPT and OUD Treatment Outcomes.

	Women Mean (<i>SD</i>) <i>n</i> = 73			Men Mean (<i>SD</i>) <i>n</i> = 62		
	AOR (95% CI)	<i>b</i>	<i>p</i> Value	AOR (95% CI)	<i>b</i>	<i>p</i> Value
OUD treatment retention (y/n)						
Recent IPT	2.53 (0.82, 7.85)	0.93	.101	0.55 (0.16, 1.94)	-0.60	.35
Age	1.04 (0.99, 1.10)	0.04	.13	1.00 (0.94, 1.07)	0.003	.92
Black	3.04 (0.79, 11.74)	1.11	.11	1.13 (0.20, 6.30)	0.12	.89
Mental health comorbidity	2.49 (0.74, 8.40)	0.91	.14	0.37 (0.11, 1.23)	-1.0	.11
Current OUD treatment duration	1.00 (1.00, 1.00)	-0.002	.12	1.00 (1.00, 1.01)	0.003	.04*
	β (95% CI)	<i>b</i>	<i>p</i> Value	β (95% CI)	<i>b</i>	<i>p</i> Value
Buprenorphine continuation (of 7 periods)						
Recent IPT	-8.29 (-20.31, 3.73)	-0.16	.17	12.39 (-0.90, 25.68)	0.24	.07
Age	0.62 (0.08, 1.17)	0.29	.03*	0.03 (-0.61, 0.68)	0.02	.92
Black	-15.65 (-29.22, -2.08)	-0.29	.03*	-13.40 (-31.37, 4.57)	-0.24	.14
Mental health comorbidity	-10.52 (-22.67, 1.63)	-0.20	.09	9.49 (-2.93, 21.90)	0.19	.13
Current OUD treatment duration	-0.01 (-0.03, 0.01)	-0.10	.43	0.02 (-0.01, 0.05)	0.20	.13
	β (95% CI)	<i>b</i>	<i>p</i> Value	β (95% CI)	<i>b</i>	<i>p</i> Value
Substance use (out of 7 periods)						
Recent IPT	20.72 (4.24, 37.21)	0.30	.02*	-7.89 (-24.38, 8.60)	-0.12	.34
Age	-0.06 (-0.82, 0.69)	-0.02	.87	-0.30 (-1.10, 0.50)	-0.12	.45
Black	4.37 (-14.25, 22.99)	0.06	.64	7.06 (-15.24, 29.36)	0.10	.53
Mental health comorbidity	5.11 (-11.56, 21.78)	0.07	.54	1.07 (-14.33, 16.48)	0.02	.89
Current OUD treatment duration	0.03 (-0.002, 0.06)	0.22	.07	-0.06 (-0.09, -0.02)	-0.44	<.01*

Note. IPT = interpersonal trauma; OUD = opioid use disorder.