



Opioid Use and Intimate Partner Violence: a Systematic Review

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Abstract

Purpose of Review The goal of this review was to answer two questions: A) What is the prevalence of opioid use in samples of people who are victims and/or perpetrators of intimate partner violence (IPV), and B) what is the prevalence of IPV among those who have used opioids?

Recent Findings There were five times as many research studies of IPV in people who use opioids (B) than of opioids in IPV-experienced people (A). Across the five studies that reported estimates of opioid use among IPV-experienced people, for victimization, estimates ranged from 2.4% having an opioid use disorder (OUD) to 46–50% having had a prescription for opioid as an analgesic in the past 5 years. For perpetration, there was a sole study which found that 1.5% of a sample of perpetrators of IPV reported having an OUD. The prevalence of IPV victimization among women who had used opioids was 36–94% in their lifetimes, and 32–75% in the past year. For men who had used opioids, the prevalence of IPV perpetration ranged from 15% perpetrating severe physical IPV or a gun/knife threat in the past year to 58% reporting any IPV perpetration in their lifetimes.

Summary IPV is frequent among people who use opioids. Opioid use appears to be elevated in IPV victims and/or perpetrators as compared with the general population. Research is needed on the prevalence of opioid use in samples of IPV-experienced people, including initiation of use and how opioid use influences risk for IPV.

Keywords Opioids · Intimate partner violence · Substance use disorder · Opiates · Systematic review

Introduction

The USA is currently facing an epidemic of opioid misuse and overdose fatalities [1]. In 2016, 42,249 people in the USA died from drug overdoses involving opioids, and opioid-related poisonings resulted in 140,077 emergency department visits and 78,840 hospitalizations [2]. In response, the National Institutes of Health (NIH) is greatly increasing funding for research to combat the opioid crisis, including research to identify social

factors that put patients at risk for opioid use disorder (OUD) [1]. Evidence suggests that there are gender differences in the nonmedical use of prescription opioids and heroin, as well as gender differences in the progression through drug use milestones [3], and these gender differences may reflect social, rather than biological, factors. Nonmedical use of prescription opioids has been decreasing in recent years while use of heroin has been increasing [4]. Between 2002 and 2013, there was a 100% increase in heroin use for women, compared with a 50% increase for men [5]. A recent study shows that women are increasing their use of heroin at a much faster rate than men (15 per 1000 persons vs. 8 per 1000 persons) and decreasing their use of nonmedical prescription opioids at a slower rate (6 vs. 7 per 1000 persons) [6]. Reasons why women's heroin use is increasing, and increasing more quickly than men's, have not yet been explicated.

While the increases in opioid use and opioid-related harms emerged as an acute epidemic in the past decade [7–10], the USA has also faced a chronic struggle with high rates of intimate partner violence (IPV) for at least a half-century [11, 12]. According to the most recent report from the National Intimate Partner and Sexual Violence Survey (NISVS),

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37.3% of women and 30.9% of men in the USA have experienced intimate partner sexual or physical violence, and/or intimate partner-perpetrated stalking, in their lifetimes [13]. Approximately 6.6% of women and 6.4% of men reported experiencing IPV within the past 12 months [13]. As a consequence of victimization, 27.4% of women and 11.0% of men reported an IPV-related impact including injury, fear, concern for safety, or needing assistive services. IPV is estimated to cost the USA in excess of \$8 billion each year (in 2003 dollars), which includes not only the cost of direct medical and mental health care services, but also the cost of lost productivity from paid work and loss of lifetime earnings [14] (see also [15]).

A hidden cost of the IPV epidemic is the bidirectional relationship between substance abuse disorders (SUDs) and IPV. For example, one meta-analytic review found that IPV perpetration occurs three times more often in couples where one or the other uses illegal drugs, where illegal drugs were categorized as marijuana, cocaine, opiates, sedatives/anxiolytics/hypnotics, hallucinogens, stimulants, other, and mixed drugs [16]. Among women experiencing IPV, another meta-analysis finds the prevalence of co-occurring drug abuse or dependence ranges from 7 to 25% [17], and past-year SUD is higher among women experiencing physical IPV victimization in their current relationship (3.6%) than women who were not in violent relationships (0.7%) [18]. At least two explanations for the co-occurrence of IPV victimization and SUDs are suggested by empirical research. First, IPV causes physical pain, and some individuals may use substances to cope with physical pain [19, 20]. Physical, sexual, and even psychological IPV victimization are associated with long-term somatic sequelae including headaches, back pain, gynecological problems, abdominal problems, and chronic disease [21–25]. Second, IPV victimization is associated with post-traumatic stress disorder (PTSD) [17, 26–28], anxiety, and depression [29–31], which each elevates risk for substance use disorder (SUD) [17, 32–34]. The association between SUDs and IPV perpetration has been explored extensively elsewhere [35–38]), but possible explanations include that the pharmacological effects of some substances may increase aggression and irritability [39, 40], intoxication may cause cognitive distortions and misperceptions about partners' behavior [39], SUDs may cause or worsen impulse control problems [41–43], and that couples in which one partner has an SUD may be prone to higher levels of conflict about the substance use, money, or other topics [44–46].

The percentage of IPV survivors or perpetrators who use opioids has been studied relatively rarely, considering the more extensive literature on IPV and SUDs of any type. However, now that the USA and other nations are facing an opioid use disorder (OUD) crisis in addition to unacceptably high rates of IPV, it is logical to assess whether IPV may contribute to OUDs, or OUDs contribute to IPV, and how

commonly any association between the two may actually be attributable to underlying other factors (i.e., confounders). These three possibilities are not mutually exclusive and may each be true. Large-scale epidemiological studies would help determine the percentage of OUDs that may be, even in part, attributable to IPV—and vice versa—but before such studies can be undertaken, a thorough review of the existing literature that has documented any association between OUDs and IPV is needed. Therefore, the purpose of this systematic review was to identify and summarize the body of quantitative research studies on this topic.

Methods

Search Strategy

We reviewed the peer-reviewed, published literature for all studies that quantitatively examined intimate partner violence (IPV) in relation to opioid use where opioid use was assessed and reported separately from other forms of substance use (i.e., results did not combine opioid use with other substance use). Opioids include heroin, synthetic opioids such as fentanyl, and prescription opioid analgesics such as oxycodone, codeine, and morphine [47]. To be included, articles had to include either (a) the prevalence of IPV among some population of people who use opioids or (b) the prevalence of opioid use among some population of IPV-experienced people (victims or perpetrators). Further, articles had to be written in English, French, or Spanish. Initially, we limited inclusion to articles that were published in 2013 or later, but because that yielded only 11 articles, we expanded our criteria to include publication dates from 1998 to present.

We searched the peer-reviewed literature using the ISI Web of Knowledge database, which includes citations from Medline, BIOSIS, and other databases, and the PsycINFO database for the period between January 1, 1998, and July 2018. Our IPV-related keywords were “intimate partner violence,” “domestic violence,” “partner abuse,” “dating violence,” “battering,” and “battered.” Our opioid keywords were “opioids,” “opiates,” “heroin,” “oxycontin,” “prescription drug misuse,” “methadone,” and “buprenorphine.” We searched for all possible combinations of each IPV keyword with each opioid keyword.

We next screened the titles of articles for probable relevance to our review topic, and screened all abstracts of potentially relevant articles. There were 408 unique articles identified from our search terms, and of these, 128 were screened by abstract to determine their suitability for inclusion. The full text of 80 articles was reviewed. Articles were excluded from further consideration if they did not separately and specifically measure IPV (e.g., if IPV was grouped with other types of violence; $n = 13$) or of opioids (e.g., if opioids were included

in a category with other drugs; $n = 24$). Five articles were excluded because IPV and opioid use were included in the underlying studies, but only as independent variables predicting something not relevant to this review, and no bivariate information was provided. An additional five articles were excluded because the sample had been selected on both variables of interest, so 100% of the samples had both IPV and opioid use by design. Finally, two articles were excluded because they duplicated estimates from another article included in the review or in one case, because a question of scientific fraud has been raised about the author's research in this area (Fig. 1). This resulted in a final sample of 31 articles (Table 1).

To assess patterns in study results, the following information was abstracted (Table 1): author name and year of publication, sample size and sample population, years of data collection, age of study participants, and key findings. Studies were grouped into two categories by their key findings: studies that answered the question (Question A) “What is the prevalence of opioid use, given IPV?” and (Question B) “What is the prevalence of IPV, given opioid use?” Within these categories, studies are arranged alphabetically by the first author in Table 1. While we considered attempting to organize studies by whether their focus was on IPV victimization or perpetration, many articles reported findings on both. In addition, while we considered attempting to organize articles based on whether the type of IPV studied was physical, sexual, or psychological, multiple articles reported on more than one form of IPV.

Results

We identified five studies with information about the prevalence of opioid use in samples of people who were either IPV victimization- or perpetration-experienced [48–52], and 26 studies that provided information about the prevalence of IPV victimization or perpetration in samples of people with opioid use [53–56, 57•, 58–69, 70•, 71•, 72–74, 75, 76, 77]. Of these, 19 were studies of people in methadone treatment (MT) [53–55, 58–67, 71•, 73, 74, 75•, 78], and the remaining seven were of people who used emergency medical services ($n = 2$) [68, 77], were court-involved for drug use ($n = 2$) [56, 57•], partners of men who used opioids ($n = 2$) [72, 76], or were on probation or parole ($n = 1$) [70•].

Of the studies reviewed, 11 were published in the past 5 years, an additional eight studies were published within the past decade, and 12 were published between 1998 and 2008. Of those published between 1998 and 2008, all were on the prevalence of IPV among opioid users, and all but one was from a prolific research team lead by Dr. Nabila El-Bassel. Papers published from El-Bassel's various datasets utilized the identical sample of 416 women in three of the studies included in this review [60, 63, 66], and the identical

sample of 356 men in two of the studies [62, 69]; the findings reported in the included studies are not duplicative of one another.

Prevalence of Opioid Use Among IPV-Experienced People

Across the five studies that reported estimates of opioid use among IPV-experienced people, for victimization, estimates ranged from 2.4% having an opioid use disorder (OUD) to 46–50% having had a prescription for opioid as an analgesic in the past 5 years. For perpetration, there was a sole study which found that 1.5% of a sample of perpetrators of IPV reported having an OUD. Of the five studies, no two studies defined opioid use in the same way. One studied being in substance abuse treatment for heroin use [48], another having a diagnosed OUD [49], another self-reported heroin use in the past year [51], a fourth past-month self-reported opioid use [52], and a final study of medical records examined prescriptions of opioids as analgesic [50]. Because of the paucity of research studies on this topic and the dissimilarity in the assessment of opioid use, meta-analysis on this topic is not now possible. The relative risk (RR) of opioid use among IPV victims as compared with non-victims was estimated to be 2.37–3.11 in one study [50].

Prevalence of IPV Victimization and Perpetration Among People Who Use Opioids

There were 26 studies that provided ≥ 1 estimate of the prevalence or relative risk of a form of IPV in a sample of people who had used opioids. Of these, 20 provided ≥ 1 estimate on IPV victimization and 9 provided ≥ 1 estimate on perpetration—several provided estimates of both, and one studied “dating violence involvement,” operationalized as either victimization or perpetration (see Table 1). There were 18 studies on IPV victimization of women and two studies on IPV perpetration by women. One study provided an estimate of IPV victimization in males [59], and six provided IPV perpetration estimates for males [57•, 59, 62, 69, 76, 78]. Two studies examined IPV perpetration in a non-stratified sample of males and females [56, 77].

In addition, the retrospective recall time period assessed varied by study. Nine studies examined lifetime history of IPV victimization or perpetration [55, 60–62, 65, 66, 70•, 71•, 76], 10 studies examined any reports in the past year [56, 57•, 59, 61, 64, 67, 72, 75•, 76, 77], 12 studies reported on the past 6 months [54, 58, 60, 62–64, 66, 68, 69, 73, 74, 78], and three studies assessed some other recall period such as “at any time in your present relationship” [53, 55, 67].

Finally, while some studies operationalized IPV as any form of abuse that might have included physical, sexual, psychological abuse, or stalking ($n = 14$) [55, 59–64, 66, 68, 71•,

PRISMA Flow Diagram

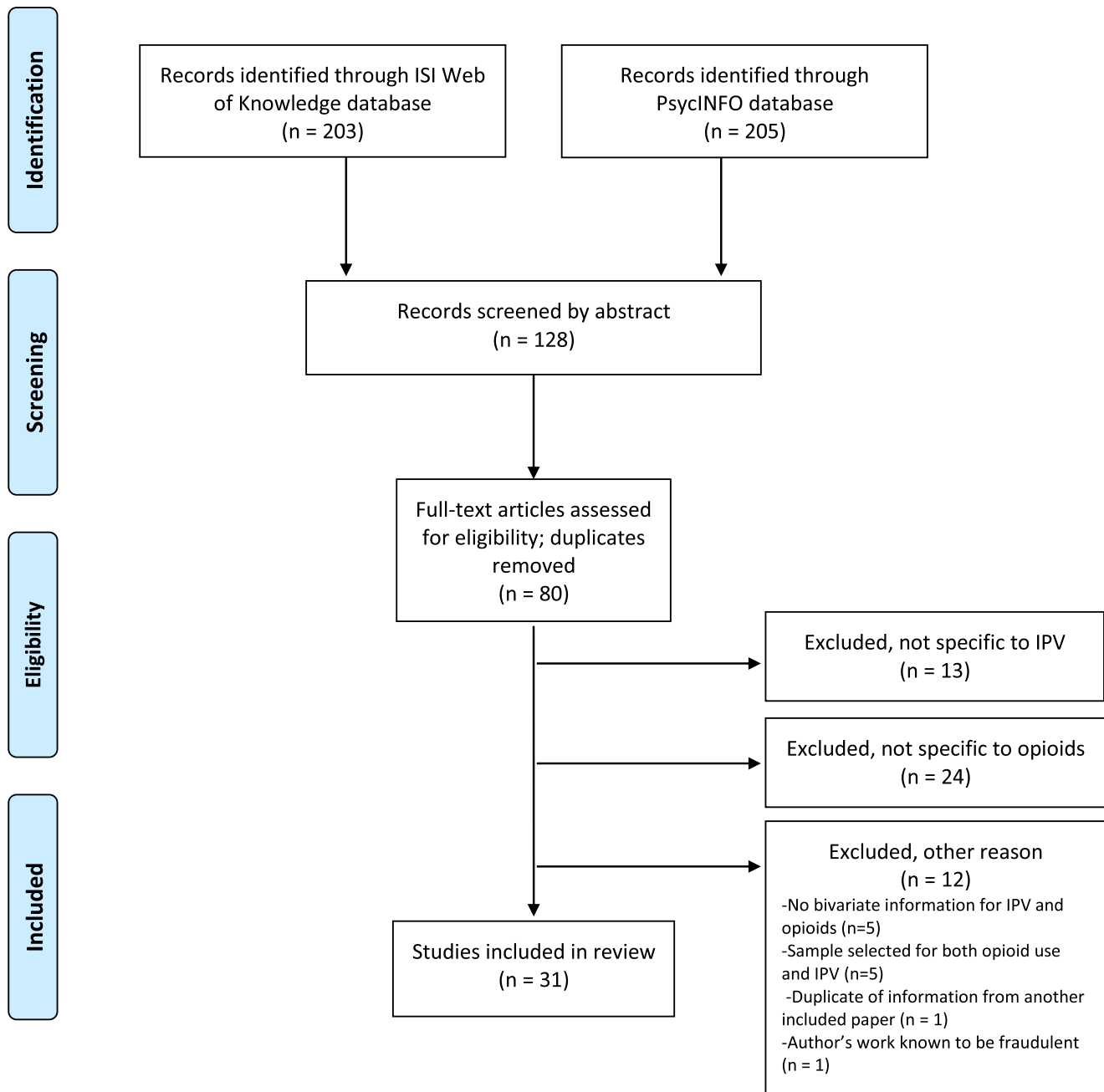


Fig. 1 Other reason includes the following: no bivariate information for IPV and opioids ($n = 5$), sample selected for both opioid use and IPV ($n = 5$), duplicate of information from another included paper ($n = 1$), or author's work known to be fraudulent ($n = 1$)

73, 74, 75, 77], other studies presented estimates for specific forms of IPV including physical abuse ($n = 16$) [54, 56–60, 62, 65, 67, 69, 70, 71, 72, 73, 76, 78], sexual abuse ($n = 7$) [59, 60, 62, 65, 67, 71, 73], psychological abuse ($n = 1$) [71], or stalking ($n = 1$) [71]. Many of the studies did not provide information about how opioid use was assessed nor provide

the recall period that was used for opioid use assessment (e.g., lifetime vs. past year).

Considering all studies collectively, irrespective of the type of IPV assessed or length of the recall period, the prevalence of victimization ranged widely, from a low of 6% of women reporting sexual IPV victimization prior to the past year (but

Table 1 Summary of literature on IPV and opioids, 1998 to 2018

Author, year	Sample	Year(s) data collected	Age of participants (years)	Key findings	
Question A. What is the prevalence of opioid use, given IPV?					
A1	Caldentey et al. (2016)	52 Spanish women 18+ years old who ever had an IP, with a substance use disorder diagnosis, no severe cognitive disorders, and were hospital patients	2013–2015	Mean age = 46.6 (SD = 10.6)	Of 23 women with past year IPV victimization history and at least one substance use disorder, 17% used heroin as their primary substance (vs. alcohol, nicotine, cocaine, etc.).
A2	Smith, Homish, Leonard, and Cornelius (2012) [49]	25,778 men and women 18+ years old who reported being in a relationship during the past year and were NESARC respondents	2004–2005	Mean age = 38.7, (SD = 0.22) [perpetrators], 38.3 (SD = 0.22) [victims]	In this study of OUD involving opioids other than heroin... Among males and females who perpetrated IPV in past year, prevalence of OUD 1.5% vs. 0.1% in respondents who did not perpetrate IPV ($p < 0.001$). Among males and females who were victims of IPV in past year, prevalence of OUD 2.4% vs. 0.1% in those who were not IPV victims ($p < 0.001$). OUDs were associated with an increased risk of victimization for women but not men: OR = 1.75 (95% CI 1.30–2.34, $p < 0.001$)
A3	Stene et al. (2012) [50]	6081 adult women participants in the Oslo Health Study	2000/2001 and 2004–2009	Mean age = N/A, range = 30–60	The percentage of women who were prescribed opioid analgesics over a 5-year period: 46% of women with lifetime psychological IPV victimization Crude RR 2.37 (95% CI 1.83 to 3.07) 50% of women with lifetime physical/sexual IPV victimization Crude RR 3.11 (95% CI 2.46 to 3.93) 40% of women with no IPV victimization ($p < 0.001$) The percentage of women who were frequently prescribed opioid analgesics: 8% of women with lifetime psychological IPV victimization (no phys/sex victimization) 13% of women with lifetime physical/sexual IPV victimization 5% of women with no IPV victimization ($p < 0.001$) The percentage of women with opioid prescriptions from three or more prescribers: 22% of women with lifetime psychological IPV victimization (no phys/sex victimization) 29% of women with lifetime physical/sexual IPV victimization 15% of women with no IPV victimization ($p < 0.001$)
A4	Tran et al. (2014) [51]	457 adult Asian or Pacific Islander men who have sex with men (MSM)	2007–2009	Mean age = 30 (SD = 10.2)	Participants who experienced IPV victimization in the past 5 years had significantly higher prevalence of past-year heroin (2% vs 0%) or

Table 1 (continued)

Author, year	Sample	Year(s) data collected	Age of participants (years)	Key findings	
A5	Wuest et al. (2008) [52]	292 adult community women separated from abusive partners on average 20 months and screened positive for IPV victimization; and chronic pain data was available	2004–2006	Mean age = 39.4 (SD = 9.9), range = 19–63	opium (4% vs 0.4%) use than participants with no IPV. 100% of sample experienced IPV in past 3 years or more recently. 7% used prescription opioid analgesics in past month; opioid use was related to chronic pain grade. 21% of those with highest level of chronic pain used prescription opioids in the past month, and 1% of those in lowest grade used opioids in the past month (grades 0 through 4) Severity of IPV were associated with higher chronic pain; severity of injuries associated with higher chronic pain.
Question B: What is the prevalence of IPV, given opioid use?					
B1	Balaji et al. (2016)	295 adult Tanzanian women who use drugs	2013	Mean age = N/A, 91% between 20 and 40 years old	7% of women in MT reported IPV victimization in past 3 months
B2	Brewer et al. (1998) [54]	82 mothers of children between the ages of 3–14 years old who were in MT, daily use of opiates at time of MT admission and at least 1 year of prior opiate use	N/A	Mean age = 34.0 (SD = 4.9)	35% of women reported physical IPV victimization in the past 6 months 29% of women reported physical IPV perpetration in the past 6 months
B3	Campbell et al. (2012) [55]	513 adult women, English-speaking, enrolled in drug treatment and had one or more occasion of unprotected intercourse with a male partner in 6 months prior to study entry, no major cognitive impairment, not pregnant or trying to become pregnant	2004–2005	Mean age = N/A, 46% were 40+ years old	29% reported a history of IPV sexual or physical abuse victimization with their current main male partner
B4	Crane et al. (2014) [56]	527 adults court-ordered to substance abuse interview and diagnosed with an OUD in Connecticut	1999–2008	Mean age = 31.4 (SD = 10.3), range = 18–71	Those with an OUD had 1.66 increased odds of physical IPV perpetration in the past year as compared with drug offenders with other substance use disorders (OR 1.66, 95% CI 0.87–3.15)
B5	Crane et al. (2016) [57]	55 men and 26 women who were current methadone or buprenorphine users, received an OUD diagnosis, and provided complete data	1999–2008	Mean age = 31.1 (SD = 9.5), range = 18–71	20% of males and 58% of females (32% of all respondents) reported perpetrating physical IPV in the past year
B6	de Dios et al. (2014) [58]	203 participants in a smoking cessation study receiving MT in Rhode Island or Massachusetts	N/A	Mean age = 39.4 (SD = 9.6)	11% of participants had experienced physical IPV victimization (or threat of physical IPV) in the past 6 months; 12% of females; 9% of males
B7	El-Bassel et al. (2005a) [63]	405 women enrolled in New York City MT; between the ages of 18 and 55, had intimate partnership in past year.	1997–2000	Mean age = 39.9 (SD = 6.7), range 18–55	The prevalence of physical and/or sexual IPV victimization in past 6 months was 46%, 41% and 31% at baseline, 6- and 12-month follow-up, respectively.
B8	El-Bassel et al. (2005b) [64]	416 women in MT for at least 3 months	1997–2000	Mean age = 39.9 (SD = 6.7), range 18–55	46% experienced physical and/or sexual IPV victimization in past 6 months;

Table 1 (continued)

Author, year	Sample	Year(s) data collected	Age of participants (years)	Key findings
B9 El-Bassel et al. (2004a) [60]	332 sexually active males age 18+, in MT for 3 months, had an IP in past year.	1999–2002	Mean age = 43.3 (SD = 8.2)	Women who reported physical or sexual IPV at wave 2 were more likely than women who did not report IPV to indicate frequent use of heroin at wave 3 (OR = 2.7; 95% CI = 1.1, 6.5; $p = 0.04$). 28% of men reported any physical IPV perpetration in past 6 months, 7% severe physical IPV perpetration, and 10% injurious IPV perpetration, 24% paid for partner's drugs
B10 El-Bassel et al. (2004b)	416 women in MT for at least 3 months with a past year IP	1997–2000	Mean age = 39.9 (SD = 6.7)	Women reported prevalence of IPV victimization by subtype in past 6 months and lifetime Past 6 months: 31% sexual IPV victimization 31% physical IPV victimization 18% injurious IPV victimization 47% any IPV victimization Lifetime: 46% sexual IPV victimization 53% physical IPV victimization 42% injurious IPV victimization 88% any IPV victimization
B11 El-Bassel et al. (2001) [59]	273 adult men in MT	1999	Mean age = 41.3 (SD = 7.62)	Men reported on prevalence of IPV perpetration in past year. 34% perpetrated any IPV, 20% perpetrated minor physical IPV, 15% perpetrated severe physical IPV or made a gun/knife threat 35% experienced female-perpetrated IPV victimization, 15% experienced female-perpetrated minor abuse IPV victimization, and 21% experienced severe IPV victimization. (Severe IPV = Kicked, slammed against a wall, beat up, burned or scalded on purpose, choked, punched, hit with something that could hurt, or used or threatened to use a knife or gun on intimate partner; Minor IPV=Pushed, grabbed, twisted an arm or hair, thrown something that could hurt, or slapped intimate partner) If men reported IPV perpetration, their risk of HIV risk-related behaviors such as having more than one partner, anal sex, exchanging sex for money or drugs in the past 6 months, was substantially elevated.
B12 El-Bassel et al. (2007) [62]	356 men age 18+ years old in MT for at least 3 months and had an IP in past year	N/A	Mean age = 43.6 (SD = 8.5)	Men reported on prevalence of IPV perpetration in past 6 months and lifetime. Past 6 months: 38% any IPV perpetration 8% any severe IPV perpetration 27% physical IPV perpetration

Table 1 (continued)

Author, year	Sample	Year(s) data collected	Age of participants (years)	Key findings
				<p>7% any severe physical IPV 21% sexual IPV perpetration 2% severe sexual IPV perpetration 10% injurious 3% severe injurious Lifetime: 58% any IPV perpetration 17% any severe IPV perpetration 49% physical IPV perpetration 16% any severe physical IPV 32% sexual IPV perpetration 4% severe sexual IPV perpetration 19% injurious 5% severe injurious</p> <p>In addition, if both partners in a couple used heroin in the past 6 months, the adjusted odds of the man's severe IPV perpetration was 6.8 (95% CI 1.9, 24.6); if only the female partner used heroin, the risk of his severe IPV perpetration was AOR 6.7 (95% CI 0.8, 56.3), the male's use was not statistically significantly related to IPV perpetration; note that marijuana use was not associated with IPV perpetration</p>
B13 El-Bassel, et al. (2000) [61]	145 adult women in MT between the ages of 18–55, sexually active with a male partner, not consistently using condom in the past 3 months and one of seven HIV risk behaviors.	1995–1996	Mean age = 38.5, range = 18–55	<p>75% reported any IPV victimization in lifetime and 32% reported any IPV victimization in the past year. 4% reported life-threatening IPV victimization more than five times in the past year. 62% reported that their current intimate partner also had a drug or alcohol problem.</p>
B14 El-Bassel et al. (2001) [59]	280 women from three MT programs in New York city, 18–55 years old, sexually active, not always using condoms consistently past 3 months, one more of seven HIV risk behaviors	1995–1996	Mean age = 40.7 (SD = 6.7), range = 18–55	<p>32% of the sample reported having traded sex for money or drugs in the past year. Of those who had traded sex, 53% had ever experienced lifetime physical IPV victimization whereas 37% of those who had not traded sex had lifetime physical IPV victimization experience. Of those who had traded sex, 44% had lifetime sexual IPV victimization experience whereas 27% of those who had not traded sex had sexual IPV victimization IPV victimization was associated with psychological distress.</p>
B15 Engstrom et al. (2008) [66]	416 adult women in MT in New York City, 18–55 years old, MT for 3 or more months, had an IP in past year	1998	Mean age = 39.9 (SD = 6.7), range = 18–55	<p>90% reported lifetime history of psychological, physical or sexual IPV victimization, with up to three main partners 78% reported such IPV victimization in past 6 months 82% also reported positive social support from their partners.</p>

Table 1 (continued)

Author, year	Sample	Year(s) data collected	Age of participants (years)	Key findings
B16 Frye et al. (2001) [67]	206 adult women in MT at one of three NYC programs, had a partner in the past year	1997	Mean age = 37 (SD = 6.6)	<p>IPV victimization in past year: 9% of women reported sexual IPV, 38% reported sexual coercion, 38% reported sexual assault or coercion, 50% reported physical IPV. Prior to the past year but not within the past year, 6% reported sexual IPV, 10% sexual coercion, 13% sexual assault or coercion, 31% reported physical IPV victimization.</p> <p>In the lifetime of the relationship, 47% reported any sexual IPV, 65% reported physical IPV victimization.</p> <p>Childhood sexual abuse and living in extreme poverty elevated risk that women would report IPV victimization.</p>
B17 Gilbert et al. (2012) [68]	241 low-income urban women receiving emergency care from an emergency department in Bronx, New York.	2002	Mean age = 32.8 (SD = 10.08), range = 18 to 61	<p>Heroin use was a risk for subsequent IPV, but IPV victimization was not a risk for subsequent heroin use. Women who reported using heroin within the previous 6 months at Wave 1 were twice as likely as non-heroin-using women to report any IPV (RR: 2.1, 95% CI 1.2, 3.6) and were 2.7 times more likely to report that they had sustained an injury from IPV (95% CI 1.1, 6.5) at subsequent waves.</p> <p>No support was found for associations between experiencing any IPV at Wave 1 and subsequent use of any illicit drug, marijuana, heroin, crack, cocaine, and/or hard drug.</p> <p>**The finding that a woman's use of heroin increases the odds of her experiencing any IPV and injurious IPV is contrary to findings from a meta-analytic review (Moore et al., 2008) which suggests that women's heroin use is not associated with IPV.**</p>
B18 Gilbert et al. (2007) [69]	356 men enrolled in MT who had a past-year sexual relationship with a woman	1999–2003	Mean age = 43.6 (SD = 8.5)	<p>Prevalence of perpetrating physical and/or injurious IPV in past 6 months:</p> <p>28% at baseline 34% at 6-month follow-up 31% at 12-month follow-up</p>
B19 Hall, Golder, Higgins, and Logan (2016) [70]	406 women on probation and parole	N/A	Mean age = 37.2 (SD = 10.2)	<p>94% of women with lifetime NPOU had lifetime physical IPV victimization experience vs. 87% of women with no NPOU had lifetime physical IPV victimization experience; Women who reported lifetime NPOU were more likely to</p>

Table 1 (continued)

Author, year	Sample	Year(s) data collected	Age of participants (years)	Key findings
B20 Jackson and Shannon (2015) [71•]	114 pregnant women voluntarily enrolled in a MT program	2005–2007	Mean age = 25.2 (SD = 3.99)	have lifetime experience of physical IPV ($\chi^2 = 5.6, p < 0.05$). 93% lifetime prevalence of IPV victimization (psychological, physical, sexual, stalking) 51% psychological IPV victimization in lifetime 69% physical IPV victimization in lifetime 36% sexual IPV victimization in lifetime 52% stalking by an intimate partner in lifetime 54% lifetime prevalence of injury from IPV victimization
B21 Lund et al. (2012) [72]	40 non-drug-using female partners of opioid-injecting men from the Republic of Georgia	2006–2009	Mean age = 32.3 (SD = 6.7)	42% of women reported physical IPV victimization by their partner within the last year 48% of women said they felt unsafe in their current relationship
B22 Panchanadeswaran et al. (2008) [73]	416 women in MT	1999–2002	Mean age = 39.8 (SD = 6.7), range = 22–55	Prevalence of IPV victimization in past 6 months: 45% any IPV 39% physical IPV 31% sexual IPV 16% injurious IPV
B23 Shannon et al. (2016) [75•]	77 pregnant women who are 18+ years old, undergoing inpatient MT at an Appalachian medical center, rural residents	2005–2007	Mean age = 24.96 (SD = 3.83)	75% experienced past year IPV, including psychological abuse 39% experienced past year physical, sexual or stalking victimization from IP 23% sustained injuries from IPV
B24 Schiff et al. (2002) [74]	378 women in MT who had a male main partner	N/A	Mean age = 39.85 (SD = 6.76), range = 18–55	42% reported physical or sexual IPV in past 6 months.
B25 Subodh et al. (2014) [76]	267 wives of men seeking addiction treatment in India	2011–2012	Mean age = 35.13 (SD = 9.01), range = 19–63	14% of men in opioid treatment perpetrated physical IPV against wives in past year 42% of men in treatment perpetrated physical IPV in lifetime against wives
B26 Whiteside et al. (2013) [77]	222 (55% female) adolescent emergency department patients reporting past-year nonmedical prescription opioid (NPOU) or sedative use (NPSU).	2010–2011	Mean age = 17.5 (SD = 2.0), range = 14–20	34% of patients reporting past-year NPOU also reported past-year dating violence involvement (i.e., perpetration or victimization) 14% of those with no past-year NPOU reported dating violence involvement ($p < 0.001$).

Abbreviations: AOR adjusted odds ratio, CI confidence interval, IP intimate partner, IPV intimate partner violence, MT MT, N/A not available, NESARC National Epidemiological Survey on Alcohol and Related Conditions, NPOU nonmedical prescription opioid use, NPSU non-prescription sedative use, OR odds ratio, OUD opioid use disorder, RR relative risk, SD standard deviation

not within the past year) [67] to a high of 94% for lifetime physical IPV among women who had ever used non-prescription opioids in their lifetimes [70•] (Table 2). Similarly, estimates of IPV perpetration ranged from 3% of

men reporting severe, injurious IPV perpetration in the past 6 months [62] to 58% of women reporting any form of IPV perpetration in the past year [57•] (Table 2). One study conducted in Tanzania [53] appears to be an outlier; it found a 7%

Table 2 Summary of study findings on IPV perpetration and victimization in samples of people who used opioids[†] (*n* = 29 studies)

	Victimization (<i>n</i> = 20)	Range of victimization prevalence estimates	Perpetration (<i>n</i> = 9)	Range of perpetration prevalence estimates	All (<i>n</i> = 29)
Gender of study participants					
Female	18	7–93%	2	29%	20
Male	2	9–35%	6	2–58%	8
Females and males	0	34%	2	34% [†]	2
Time period of reported IPV					
Lifetime	8	36–94%	2	42–58%	9
Past year	7	23–75%	3	14–58%	10
6 months	9	9–78%	3	3–38%	12
Other time period	3	7–29%	0	–	3
Form of IPV					
Multiple forms [*]	11	7–93%	3	34–58%	14
Physical only	9	9–94%	8	3–49%	16 ^{**}
Sexual only	6	6–46%	1	2–32%	7
Psychological only	1	51%	0	–	1
Stalking only	1	52%	0	–	1

[†] Estimates derived from studies B1 to B29 (Table 1); excludes studies that presented odds ratios or relative risk estimates and no prevalence estimates

^{*} This category describes IPV that was operationalized as any combination of two or more of the following forms: physical, sexual, psychological abuse or stalking, or studies that did not describe how IPV was operationalized

^{**} Do not sum because some papers included both physical only victimization and physical only perpetration

prevalence rate of physical IPV victimization in the past 3 months among the subsample of women in their research study who were receiving methadone treatment. Setting aside the results of that one study, the prevalence of IPV victimization of any type among women was 36–94% in their lifetimes, and 32–75% in the past year (Table 1). For men, the prevalence of IPV perpetration ranged from 15% perpetrating severe physical IPV or a gun/knife threat in the past year to 58% reporting any IPV perpetration in their lifetimes (Table 2).

Of particular note were the findings from a longitudinal study by Gilbert et al. [68] which reported that women who reported using heroin in the previous 6 months at Wave 1 were twice as likely as non-heroin-using women to report any IPV at Wave 2, 6 months later, and were 2.7 times more likely to report that they had sustained an IPV-related injury. Also of interest were the findings from the Crane et al. [56] study that found those with an OUD had a 1.6 increased odds of past year physical IPV perpetration as compared with criminal drug offenders with other substance use disorders (Table 2).

Discussion

Characterizing the literature on opioids and IPV is challenging for several reasons. First, the number of studies on opioid use among IPV survivors or perpetrators is very small. Second, while there have been 26 studies of IPV among people who have used opioids, the vast majority of those studies were

surveys of people receiving methadone treatment and they may not be representative of all people with OUDs. Moreover, there are many dissimilarities in the way that the studies of IPV among people with OUDs have operationalized IPV and assessed when in subjects' lives IPV occurred. In other words, some studies define IPV as inclusive of psychological, physical, and sexual violence that has occurred at any time in a person's life, while others have defined it narrowly as physical violence in the preceding few months. Naturally, the estimates derived from such dissimilar methods diverge wildly and summarizing the existing literature using reported ranges of IPV results in very wide, virtually meaningless intervals. Nevertheless, synthesizing the results—that is, looking not only at the range but the preponderance of evidence—leaves little doubt that it is more likely than not that a woman in methadone treatment has experienced IPV victimization in her lifetime, and is very probable that she experienced it in the past year. What's more, a sizable percentage of men and women in methadone treatment have reported perpetration IPV during their lifetimes, and within the past year.

It is not surprising that studies of IPV have found that both victimization and perpetration experiences are common among people in methadone treatment. Prior research suggests that methadone treatment patients tend to be poor, suffering from comorbid mental and physical health problems, and living with numerous adverse conditions [79–83]. The gendered pathways theory of crime, for example, posits that

experiences with childhood abuse, substance abuse, poverty, dysfunctional families, and abusive intimate relationships set women on pathways to criminal involvement [84–86]. Salisbury and Van Voorhis [87] have uncovered three path models linking childhood abuse, depression and anxiety, and substance abuse to women's imprisonment. Women's dysfunctional intimate relationships also promoted women's reoffending through increased risk of adult victimization, reduced self-efficacy, and addictive behavior. These findings, among others, indicate a tight entanglement of victimization, mental and physical health problems, and substance abuse, especially for women.

There is little question that those in methadone treatment are often in need of trauma-informed interventions to improve multiple conditions of their lives. El-Bassel and co-investigators have been prolific on this topic and made a number of rigorous contributions to the literature that remain a solid foundation upon which to build in new directions. Investing additional research dollars in answering questions such as the following: “Are people who are receiving substance abuse treatment for OUD more likely than people in the general population to be struggling with the after effects of IPV victimization?” or “Are people who are receiving substance abuse treatment for OUD in need of trauma-informed care?” would be unlikely to uncover new information and therefore would waste precious resources. Similarly, investing in research to ascertain whether people in substance abuse treatment programs, or living with an SUD, have elevated odds of having perpetrated IPV at some point in their lives, or within the past year, is not likely to result in novel results that move the field forward substantially. Our review of the existing literature suggests that it would be reasonable to assume that those with OUDs could benefit from interventions designed to improve the health of intimate relationships. Our synthesis suggests it would be safe to move forward with the development and testing of strategies to accomplish better relationship health for those with OUDs, rather than investing in more etiological research about why people with OUDs appear to be at increased risk of unhealthy relationship behavior, or granular-level research about precisely what types of IPV they may have perpetrated or experienced and when.

On the other hand, additional research about the prevalence of IPV victimization and/or perpetration, and studies about why and how IPV experiences exacerbate risk for OUDs or continued opioid dependence, are urgently needed. Francis S. Collins, Director of NIH, has called not only for more pain research, but research into behavioral risk factors for substance abuse and dependence, saying “The urgency and scale of this crisis calls for innovative scientific solutions, from prevention to intervention and treatment. ... We must, however, prevent addictions before they start” [88]. To our knowledge, there have only been five studies published in peer-reviewed journals in the past 20 years that provide estimates

of opioid use history among people who have either perpetrated or experienced IPV—and these five studies did not use uniform definitions of IPV, opioid use, or similar recall periods—so the results are not easy to compare or to use collectively for inferences. Given the extent of the opioid epidemic, and the paucity of research on OUD among people who have either perpetrated or experienced IPV, the NIH, US Centers for Disease Control and Prevention, and private sector should prioritize research that would answer groundbreaking questions such as “Why do IPV survivors appear to be at increased risk for OUD, and how might we reduce their vulnerability?” or “What are the barriers that survivors and perpetrators of IPV face when they attempt to reduce or quit opioid use, and why do they continue use or relapse? In what ways, precisely, do unhealthy intimate partnerships exacerbate risk for OUD?” These remain unanswered questions for the field and empirical answers would be valuable.

The literature on IPV and SUD in general has found mixed results regarding the timing of victimization and development of SUD. There is evidence that drug use may precede abuse by an intimate partner [63, 89], as well as evidence that experiencing IPV is related to later drug use [63]. The relationship between IPV and SUD is best described as bidirectional [90–92]. The relationship may also be mediated by the abusive partners' substance use [93–95]. There is some evidence that abusive partners may exercise control by introducing their partners to drugs, forcing or coercing their partners to use, using drug history as a threat (e.g., threatening with arrest, deportation, or loss of child custody), and sabotaging treatment and recovery efforts [96]. Qualitative inquiries highlight the physical and social isolation of women in abusive relationships, which results in low social support, and a desire to demonstrate “respectability” by keeping their partnership intact [97–99]. Women also explained how substance use increased violence, paranoia, and jealousy in the relationship, as well as heightened conflict during periods of withdrawal, if women were unable to procure more drugs, in arguments over sharing of drugs, and when women sought treatment [100]. These findings suggest that the period immediately before and at initiation of treatment may represent heightened risk of violence.

This systematic review faces several limitations. First, the underlying studies were disparate in a number of ways—so not only was it infeasible to conduct a meta-analysis, it was challenging to synthesize the literature. Nevertheless, it was possible to characterize the two subtopics of interest: opioid use among people who have experienced IPV, and IPV among people who have used opioids. Second, ranges of the prevalence of IPV among people in methadone treatment are very wide, because they reflect experiences of men and women, with different forms of IPV, over different periods of time. While it is tempting to recommend that additional research be conducted that uses uniform definitions, efforts to impose uniform definitions on IPV and sexual violence research

studies previously have not been particularly successful. Third, systematically reviewing research literature is a subjective process with certain inherent limitations, including biases that might influence the location and selection of studies, and heterogeneity across papers that can make it difficult to synthesize [101].

Conclusions

Given the warranted recent attention to risk factors for and solutions to OUD, additional research on the issue of how common OUD is among IPV survivors and perpetrators, and how IPV experiences may influence people to continue opioid use, create barriers for OUD treatment, or affect children of IPV survivors with OUDs, will be important to the field.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by any of the authors.

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