



Co-occurring Substance use and Intimate Partner Violence in Pregnant and Postpartum Women: A Systematic Literature Review

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Abstract

Purpose This systematic literature review sought to understand what research exists on co-occurring substance use and intimate partner violence (IPV) in pregnant and postpartum women.

Methods Using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) process, we searched PubMed, Scopus, PsycINFO, Web of Science Core Collection and the Cochrane Library and Database to identify research on women who were pregnant and up to one-year postpartum, diagnosed with and/or in treatment for a substance use disorder, and evaluated for experiences of intimate partner violence (IPV) in adulthood as a part of the study. We also sought to identify what studies, if any, had specifically evaluated IPV experiences among pregnant and postpartum women diagnosed with and/or in treatment for opioid use disorder. Search terms included, but were not limited to, “pregnant and postpartum women,” “intimate partner violence,” and “substance” and/or “alcohol use” and/or “treatment.” Studies were included if they were published in peer-reviewed journals, utilized primary data collection or secondary data analysis, and were not systematic literature reviews.

Results One-hundred and three articles were selected for full text review, of which 10 studies (total N = 1222) were selected for synthesis. Most (N = 9) were descriptive, cross-sectional studies. Few clearly documented participants’ pregnancy status, substance use and/or IPV history as a part of the study design.

Conclusion We conclude that there is a continued need for studies which seek specifically to include an analysis of substance use disorders among pregnant and postpartum women experiencing IPV, with a particular need for studies which place opioid use disorder as a central focus. Studies which measure long-term outcomes related to substance use, maternal and child health, and IPV post treatment/intervention among this population are also needed.

Keywords Intimate partner violence · Pregnancy · Postpartum · Substance use

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Introduction

Reproductively aged adult women (i.e., ages 18 to 45) are at the highest risk for intimate partner violence (IPV) (Catalano, 2012), and some clinical studies have identified pregnancy as an especially vulnerable period in women's lives (Jasinski, 2004; Martin et al., 2007). Evidence has suggested that IPV may increase in frequency and severity during pregnancy (Baird, 2021; Bianchi et al., 2014; Martin et al., 2004) among women who have a history of partner abuse prior to their pregnancy. Thus, women who have a history of domestic abuse that preceded their pregnancy are at a heightened risk for IPV and IPV-related adverse maternal and infant outcomes during this time. IPV during pregnancy can lead to a host of poor health outcomes for both mother and child (e.g., low birth weight, miscarriage, postpartum depression, death, etc.) (Pastor-Moreno et al., 2020; World Health Organization, 2011). More alarmingly, an estimated two-thirds of pregnancy-related deaths are perpetrated by intimate partners (Martin et al., 2007), making IPV a leading cause of maternal mortality (Campbell et al., 2017). Despite the risk that IPV presents to mothers and their infants, only 25 to 50% of pregnant women report ever being screened for, or counseled on, IPV (Kramer et al., 2004; Krans et al., 2013; Rivara et al., 2007).

Women with substance use dependence are also at a particularly high risk for IPV. Rates of IPV in populations of women with substance use conditions have been reported as much as three times higher than the general population (Velez et al., 2006). Furthermore, almost 50% of women entering a substance use treatment program report current IPV; studies show participation in substance abuse treatment programs is higher among survivors of IPV (Bonomi et al., 2006; Lipsky & Caetano, 2008; Messing et al., 2017; Velez et al., 2006). IPV survivors also report using substances to cope with abuse-related trauma (Warshaw et al., 2014). Thus, while alcohol and other substance use can occur prior to domestic violence, IPV is associated with subsequent uptake of or increases in substance use in individuals experiencing partner violence (El-Bassel et al., 2005; Vos et al., 2006; White & Chen, 2002). While the rate of substance use among survivors ranges from 18 to 72% and the rate of IPV among substance users ranges from 31 to 90%, the *co-occurrence* of these experiences makes IPV among substance users a critical public health issue that warrants more attention (Rivera et al., 2015).

Research also shows that there is a strong relationship between pregnancy, substance use, and IPV. Some studies show that pregnant IPV survivors are more likely to use drugs, with an estimated 47 to 90% of pregnant women with substance use conditions having experienced IPV – this number is well above the rates of substance use among

pregnant women without a history of IPV (1 to 20%) (Campbell et al., 2017; Engstrom et al., 2012; Schneider et al., 2009). Studies of pregnant women with substance use conditions have shown that nearly 70% report lifetime physical and emotional abuse, while 45% specifically report pregnancy related IPV (Velez et al., 2006). Pregnant women experiencing IPV are also more likely to use tranquilizers, and mis-use prescription and non-prescription drugs during pregnancy than pregnant women who without a history of abuse (Stewart & Cecutti, 1993; Taillieu & Brownridge, 2010; Yang et al., 2006).

Despite evidence of the relationship between pregnancy, substance abuse, and IPV some notable gaps in the literature exist. First, some substance use conditions, such as opioid dependency, are understudied among pregnant and postpartum IPV survivors, and it remains unclear what studies have evaluated IPV experiences among pregnant and postpartum women diagnosed with and/or in treatment for opioid use disorder (OUD¹) (Jackson & Shannon, 2015; Velez et al., 2006). This is particularly salient given that in the United States opioid-related diagnoses among pregnant and immediately post-partum women have increased 131% since 2010 (Hirai et al., 2021). Furthermore, among women who report using prescription opioids as a means of alleviating pain during pregnancy, ~21% report misuse (Ko et al., 2020). In fact, the Centers for Disease Control and Prevention and the National Institutes of Health have both identified OUD during pregnancy as a priority condition for women who are pregnant or immediately postpartum (Centers for Disease Control and Prevention, 2022; Prince et al., 2023). Additionally, opioid use during pregnancy is a leading cause of maternal mortality and has been associated with a number of adverse maternal and infant outcomes including preterm birth, stillbirth, some birth defects, and neonatal abstinence syndrome (Lind et al., 2017; Metz et al., 2016; Reddy et al., 2017; Smid et al., 2019; Tobon et al., 2019; Yazdy et al., 2015). However, lifetime and current rates of any type of IPV among opioid-dependent pregnant women specifically are not well understood.

Second, little is known about the type, frequency, timing, and severity of IPV among women with substance use conditions during pregnancy and/or immediately postpartum (i.e., up to 1-year). In fact, the literature suggests that while a substantial body of research has focused on the connections between substance use and IPV among various diverse populations, there have been relatively few studies examining the effects of these intersecting psychosocial health issues for pregnant and postpartum women (Stuart et al., 2009). To that end, we conducted a systematic literature review of the research on pregnant and postpartum women, with

¹ To include both prescription opiates and heroin.

co-occurring substance use conditions and intimate partner violence. We sought to identify what literature exists, if any, that specifically seeks as its focus women who are: (a) pregnant or up to one year postpartum; (b) diagnosed with and/or in treatment for alcohol or other substance use; and (c) evaluated for intimate partner violence. Additionally, we sought to understand among those studies what information exists on OUD among this population, as well as to what extent the type, frequency, timing, and severity of IPV is measured. Such information is vital to developing best practices for the treatment of pregnant and postpartum women with co-occurring substance use conditions and IPV, as well as ways to improve service provision and outcomes for this population.

Method

Sources

The protocol for this review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) (Moher et al., 2015). Two university librarians on our team (removed for review) searched the following databases with no limits on publication date, publication type, or language: PubMed (National Library of Medicine), Scopus (Elsevier Science), PsycINFO (Ovid), Web of Science Core Collection (Clarivate) and the Cochrane Library and Database, which includes records from ClinicalTrials.gov (Wiley). All database searches were completed on April 3, 2023. Figure 1 presents an example of search strings and presents the full list of concepts explored in the search.

Inclusion and exclusion criteria. Studies were only included if they were published in peer-reviewed journals, utilized primary data collection or secondary data analysis, and were not systematic literature reviews. Meta-analyses, conference proceedings and abstracts, dissertations, books, and book chapters were also not eligible for inclusion. Additionally, to be included in this review, studies had to include participants who met the following inclusion criteria: (a) be 18 years of age or older (as stated in the study inclusion criteria or sampling); (b) be pregnant or within one year of delivery of their most recent child; (c) be diagnosed with a substance use condition and/or in treatment for problematic alcohol or other substance use; and (d) had been evaluated for experiences with IPV during adulthood as a part of the study. Questions or uncertainty regarding inclusion related to substance use-specific criteria were reviewed by an author with expertise in substance use among pregnant women (LK) and questions related to intimate partner violence-specific criteria were reviewed by an author with expertise in intimate partner violence among women (JC).

Studies were excluded if there was a lack of clarity regarding participants' pregnancy or substance use/treatment status, and/or if the study failed to assess participants' experiences with IPV (e.g., Coyer, 2003). For example, many studies assessed interpersonal violence (e.g., exposure to violent experiences in the community and/or between non-intimate partners) or child abuse, but not necessarily violence between a woman and her intimate partner (e.g., Wright et al., 2012). Additionally, while many studies measured substance use among participants, participants were often not diagnosed with a substance use condition and/or in treatment for problematic substance use (e.g., Savona-Ventura et al., 2001). Lastly, while our database search did not exclude references in languages other than English, an English version of the reference was required to be included in review.

Reference review process. Figure 2 represents a flow diagram of the review process. An initial 6,874 records were retrieved. Upon title review, 2,649 were found to be duplicates and removed. Each article's referencing sections were then reviewed to identify any additional articles ($n=26$) to be included in the review process, yielding a total of 4,251 articles for abstract review. All references and their available abstracts were then compiled into Endnote (Clarivate, 2018) files and uploaded to DistillerSR Systematic Review and Literature Review Software by Evidence Partners (Partners, 2016). Screening tools were created by the second author (CPT) and reviewed by all authors before being uploaded into DistillerSR to guide each level of the review process.

The review process took a systematic approach in which authors were divided into three teams of two (for a total of six reviewers), and each began by reviewing the abstracts of the same 50 references. All authors then met to discuss discrepancies in reference assessment and clarify inclusion and exclusion criteria for studies. Following this level of review, each set of reviewers reviewed 100 references and met to review any additional questions or concerns regarding the process. Subsequently, each pair reviewed references in groups of 500 references each until all abstracts were assessed for eligibility. This process resulted in 109 articles for full text review, after which 99 articles were excluded. The final list included 10 studies for synthesis that assessed IPV among pregnant or postpartum women diagnosed with and/or in treatment for a substance use disorder.

Results

Overview

For clarity and ease of presentation, we have divided the results into four sections. First, we present a summary of

PubMed Search Run		
Search	Query	Items found
#6	Search (#4 NOT #5)	1, 559
#5	Search (("Animals"[Mesh] NOT ("Animals"[Mesh] AND "Humans"[Mesh])))	4, 392, 580
#4	Search (#1 AND #2 AND #3)	1, 793
#3	Search ((Battered Women[Mesh] OR Crime Victims[Mesh] OR Domestic Violence[mesh] OR Intimate Partner Violence[mesh] OR Spouse Abuse[Mesh] OR "Stress Disorders, Post-Traumatic"[Mesh] OR Violence[Mesh:noexp] OR abused spouse[tiab] OR abused spouses[tiab] OR abused wife[tiab] OR abused wives[tiab] OR abused woman[tiab] OR abused women[tiab] OR abusive relationship[tiab] OR abusive relationships[tiab] OR battered woman[tiab] OR battered women[tiab] OR Beating[tiab] OR domestic abuse[tiab] OR marital abuse[tiab] OR Post Traumatic Stress Disorder[tiab] OR Post Traumatic Stress Disorders[tiab] OR Posttraumatic Neuroses[tiab] OR Posttraumatic Stress Disorder[tiab] OR Posttraumatic Stress Disorders[tiab] OR PTSD[tiab] OR spousal abuse[tiab] OR spouse abuse[tiab] OR violence[tiab] OR violent[tiab] OR victim[tiab] OR victimization[tiab] OR victimized[tiab] OR victims[tiab] OR wife abuse[tiab] OR women abused[tiab] OR women battered[tiab] OR Post Traumatic Stress Disorder[ot] OR Post Traumatic Stress Disorders[ot] OR Posttraumatic Neuroses[ot] OR Posttraumatic Stress Disorder[ot] OR Posttraumatic Stress Disorders[ot] OR Posttraumatic Neuroses[ot] OR PTSD[ot]))	162, 464
#2	Search (((Alcohol Drinking[mesh] OR Alcohol-related disorders[mesh] OR Alcoholism[mesh] OR Cocaine[mesh] OR Cocaine-Related Disorders[mesh] OR Crack cocaine[mesh] OR Ethanol[mesh] OR Opioid-related disorders[mesh] OR Street drugs[mesh] OR Substance abuse, Intravenous[mesh] OR Substance-related disorders[mesh] OR Addict*[tiab] OR Alcohol[tiab] OR Cocaine[tiab] OR Drinking[tiab] OR (Drugs[tiab] AND (illicit[tiab] OR injecting[tiab] OR injection[tiab] OR street[tiab] OR abusing[tiab] OR abuse[tiab] OR alcohol[tiab] OR addict*[tiab] OR illegal[tiab])) OR Substance abuse[tiab] OR Substance misuse[tiab] OR Substance use[tiab] OR addict*[ot] OR Alcohol[ot] OR Cocaine[ot] OR Drinking[ot] OR (Drugs[ot] AND (illicit[ot] OR injecting[ot] OR injection[ot] OR street[ot] OR abusing[ot] OR abuse[ot] OR alcohol[ot] OR addict*[ot] OR illegal[ot])) OR Substance abuse[ot] OR Substance misuse[ot] OR Substance use[ot]))))	614, 991
#1	Search ((Postpartum <u>Period</u> [Mesh] OR Pregnant women[mesh] OR Pregnancy[mesh] OR Postpartum[tiab] OR pregnant[tiab] OR pregnancy[tiab] OR pregnancies[tiab] OR prenatal[tiab] OR Postpartum[tiab] OR pregnant[ot] OR pregnancy[ot] OR pregnancies[ot] OR prenatal[ot]))	960, 936

Fig. 1 PubMed Search Strings example

the study designs and samples used in the studies included in this review. Second, we present a review of the substance use assessments used in the studies, including the screening procedures, diagnostic and treatment considerations, and type and timing of substance use. Third, we present a review of the IPV assessments used in the studies, including IPV screening or measures, IPV frequency/severity, and IPV types and timing. Lastly, we present a review of the key findings from the studies in relationship to the associations that were highlighted between substance use and IPV, as well as factors associated with treatment seeking for substance abuse, associations between IPV and mental health symptoms/disorders, outcomes related to child custody and substance use or IPV, and other key findings that help to shed light on our understanding of the scope of potential outcomes for women experiencing co-occurring IPV and

alcohol or other substance use disorders during pregnancy and the immediate post-partum period.

Study Methods

Table 1 presents a summary of study methods and key findings.

Design. One study used a case study comparison of a group of 15 women who completed a substance use treatment and nine who did not (Kelly et al., 2001). The remainder were descriptive, cross-sectional studies (Jackson & Shannon, 2015; Kissin et al., 2001; Rose-Jacobs et al., 2019; Shannon et al., 2016), or cohort comparison studies (Martin et al., 1998; Messer et al., 1996; Moylan et al., 2001; Regan et al., 1987; Tsantefski et al., 2014). All but two (Rose-Jacobs et al., 2019; Tsantefski et al., 2014) of

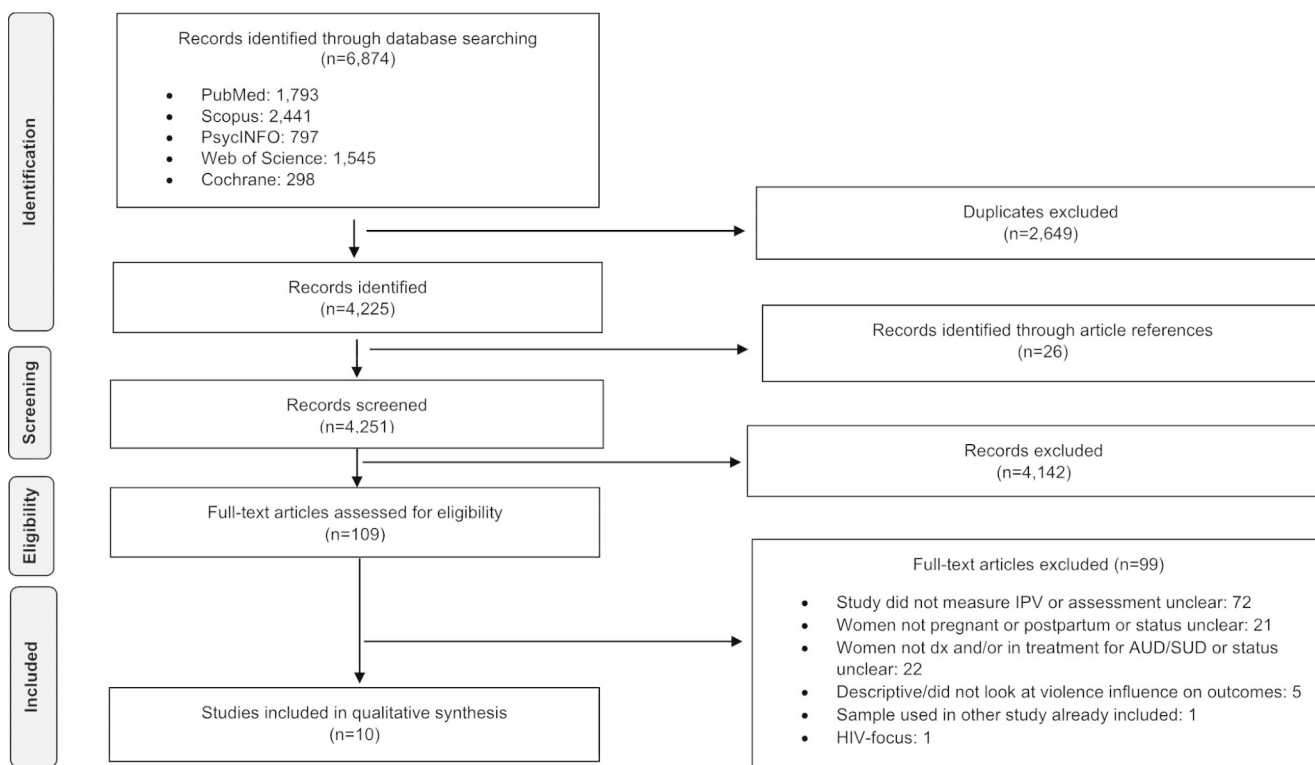


Fig. 2 Review flow diagram

the studies evaluated the associations between violence and additional health or substance use-related outcomes. Both Rose-Jacobs et al. (2019) and Tsantefski et al. (2014) reported on the prevalence of violence or its co-occurrence with other psychosocial factors.

Sample. Nine of the studies focused exclusively on pregnant women; the exception, Tsantefski et al. (2014), examined both pregnant and postpartum women. Five studies did not explicitly report the exact gestational age of pregnant participants (Kelly et al., 2001; Martin et al., 1998; Messer et al., 1996; Moylan et al., 2001; Regan et al., 1987). Among those that did gestational age was more evenly distributed (Jackson & Shannon, 2015; Kissin et al., 2001; Shannon et al., 2016; Tsantefski et al., 2014), with the exception of the study by Rose-Jacobs et al. (2019) which only included women in their third trimester. The one study that included postpartum women included participants up to one year postpartum (Tsantefski et al., 2014).

Substance use Assessments

Table 2 summarizes the measures used in each study to assess substance abuse.

Screening. Three studies did not specify the substance use screening instrument (Martin et al., 1998; Messer et al., 1996; Rose-Jacobs et al., 2019). Three studies screened for substance use using a urine drug screen (Kelly et al., 2001;

Regan et al., 1987; Tsantefski et al., 2014), five used the Addiction Severity Index (ASI) (Jackson & Shannon, 2015; Kelly et al., 2001; Kissin et al., 2001; Moylan et al., 2001; Shannon et al., 2016), two used the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) (Kissin et al., 2001; Moylan et al., 2001), and one study used the Psychosocial History Form (Kissin et al., 2001).

Diagnosis/Treatment. To be included in the review, studies had to include participants with a diagnosed alcohol or other substance use disorder and/or who were currently in treatment for alcohol or substance abuse. Five studies did not report if participants had a diagnosed substance use condition (Jackson & Shannon, 2015; Kelly et al., 2001; Martin et al., 1998; Messer et al., 1996; Tsantefski et al., 2014). Among the five that did enroll participants with a diagnosis, diagnoses included opiate/opioid and/or cocaine dependence (Kissin et al., 2001; Moylan et al., 2001; Rose-Jacobs et al., 2019), polysubstance use (Regan et al., 1987; Shannon et al., 2016), and benzodiazepine dependence (Shannon et al., 2016).

In all studies, participants were in some type of substance use treatment; however, not all studies reported details regarding the type of treatment offered to participants in their studies and accompanying programs (Jackson & Shannon, 2015; Martin et al., 1998; Messer et al., 1996; Shannon et al., 2016) or they reported limited detail (Rose-Jacobs et al., 2019; Tsantefski et al., 2014). Among studies that reported

Table 1 Summary of study methods and key findings among pregnant and postpartum women with co-occurring substance use disorder and intimate partner violence

Study	Study Design	Study sample, n	Comparison group, n	Summary of findings
Regan et al. (1987; USA)	Observational cohort	Pregnant women in perinatal SUD treatment (n = 178); drug-free pregnant women attending the same hospital (n = 70)	Violence prevalence rates compared between pregnant women with SUD (n = 178) and without SUD (n = 70) Within group comparisons between pregnant women with SUD (n = 178) who did (n = 71) and did not (n = 107) have foster care placement	Foster care placement vs. maternal child custody Physical: 72% vs. 68%; Rape: 23% vs. 20% Rape (> 1 time): 15% vs. 3% **; Hx child physical: 17% vs. 20%; Hx child rape: 23% vs. 10%**; Hx child molestation: 20% vs. 11%**; Physical + hx child physical: 14% vs. 15%
Messer et al. (1996; USA)	Observational cohort	Pregnant women in need of SUD treatment (n = 182)	None, within group comparisons between pregnant women who accepted (n = 93) and declined (n = 89) SUD treatment	Accepted SUD Treatment Pre-pregnancy: OR 1.18; CI 0.65–2.16; Pregnancy: OR 3.45; CI 1.25–9.52
Martin et al. (1998; USA)	Observational cohort	Pregnant women in perinatal SUD treatment program (n = 84)	None, within group comparisons among pregnant women who were victims of sexual and physical abuse (n = 35), physical abuse alone (n = 25) and no abuse (n = 24)	Mental health symptomology Physical: OR 0.187; CI (-0.478-0.104); Physical + sexual: OR 0.362; CI (0.085–0.640) *
Kelly et al. (2001; USA)	Observational cohort	Pregnant women in perinatal SUD treatment program (n = 34)	None, within group comparison between pregnant women who did (n = 15) and did not (n = 19) complete SUD treatment	Completers vs. non-completers IPV: 53% vs. 78%; Hx child sexual: 53% vs. 40%; IPV + hx child sexual: 33% vs. 26%
Kissin et al. (2001; USA)	Observational cohort	Pregnant women in perinatal SUD treatment program (n = 240)	None	% children in maternal custody ASI Family/social composite: PC -0.13 ^b % children living with mother ASI Family/social composite: PC -0.19** Number of live births ASI Family/social composite: PC 0.07
Moylan et al. (2001; USA)	Observational cohort	Pregnant women in perinatal SUD treatment program (n = 123)	None, within group comparison between pregnant women with (n = 24) and without PTSD (n = 99)	PTSD Sexual: OR 1.5; CI NR; ASI Family/social composite: OR 4.0; CI NR
Tsantefski et al. (2014; Australia)	Observational cohort	Pregnant/postpartum women in perinatal SUD treatment program (n = 20)	None	Maternal child custody at 12 months ^c Hx of IPV: 10%; IPV during pregnancy/postpartum: 5%
Jackson et al. (2015; USA)	Observational cohort	Pregnant women in SUD treatment program (n = 114)	None	Chronic IPV ^c Hx child emotional: BC -4.044; 95% CI (-11.18, 3.09); Hx child sexual: BC 11.680; 95% CI (4.23–19.13)**
Shannon et al. (2016; USA)	Observational cohort	Pregnant women in SUD treatment program (n = 77)	None	Marijuana use (past year) IPV: PC 5.3* ^d
Rose-Jacobs et al. (2019; USA)	Observational cohort	Pregnant women in OUD treatment (n = 100)	None, within group comparison between women with both food and housing insecurities (n = 42), women with either food or housing insecurities (n = 33), and women with neither food nor housing insecurities (n = 25).	Both insecure vs. Either insecure vs. Both secure IPV: 21.3% vs. 14.7% vs. 13.9%.

***= significant at $p < 0.0001$; **=significant at $p < 0.01$; *=significant at $p < 0.05$; ~=significant at $p < 0.25$

a = summary assessment of psychological concerns; b = summary assessment of relationships, interactions, support, and conflict with family and friends; c = not explicitly defined; interpreted as experiences of IPV that are repeated and occurring multiple times across the lifespan; d = chi-square tests of independence regarding past year IPV and outcomes related to substance use, mental health, and physical health were evaluated but not reported due to non-significance; e = study reported good, mixed, poor, and unknown outcomes for study participants with good defined as participants who had sustained custody of the infant, managed or discontinued substance use, and elimination of any domestic violence; percentage of participants with good outcomes are listed in Table 1

Abbreviations: NR = not reported; SUD = substance use disorder; IPV = intimate partner violence; Hx = history; Treatment = treatment; PTSD = post-traumatic stress disorder; OR = odds ratio; CI = confidence interval; ASI = Addiction Severity Index; PC = Pearson correlations, BC = B coefficient

Table 2 Summary of substance use assessment and treatment among pregnant and postpartum women

Study	Assessment	Diagnosis	Substance use type		Current treatment	Treatment history
			Lifetime	Pregnancy/Post-partum		
Regan et al. (1987; USA)	Urine Drug Screen (UDS)	Polysubstance	NR	NR	Opiates; alcohol; polysubstance	NR
Messer et al. (1996, USA)	NR	NR	Accepted vs. declined SUD treatment Cocaine: 47% vs. 15%; Other: 1% vs. 2%; Marijuana: 66% vs. 73%; Alcohol: 88% vs. 87%; Any illicit drugs: 88% vs. 80%; Cigarettes: 85% vs. 71%	Accepted vs. declined SUD treatment Cocaine: 31% vs. 2%; Other: 1% vs. 0%; Marijuana: 24% vs. 8%; Alcohol: 47% vs. 33%; Any illicit drugs: 48% vs. 13%; Cigarettes: 75% vs. 47%	NR	Accepted vs. declined SUD treatment Previous substance abuse treatment unspecified: 37% vs. 12%
Martin et al. (1998; USA)	NR	NR	Alcohol: 82%; illicit drugs: 68%*	NR	NR	NR
Kelly et al. (2001, USA)	Addiction Severity Index (ASI); Urine Drug Screen (UDS)	NR	Completers vs. non-completers* Heroin: 13% vs. 11%; Crack/cocaine: 20% vs. 16%; Alcohol: 7% vs. 0% Polysubstance: 27% vs. 42%; 1 + methadone: 60% vs. 47%	NR	Cocaine; heroin; alcohol	Completers vs. non-completers* First attempt: 40% vs. 53%
Kissin et al. (2001, USA)	Addiction Severity Index (ASI); The Psychosocial History Form (PSH); Structured Clinical Interview for DSMIII-R (SCID)	Opiate/opioid; cocaine dependence	Opioid: 83%; cocaine: 79%; marijuana: 11%; alcohol: 8%; sedative: 4%	Opioid: 81%; cocaine: 75%; sedative: 6%; alcohol: 16%; marijuana: 17%	NR	Previous substance abuse treatment unspecified: 59.2%; detoxification (3–7 days): 29.6%; residential (28 days): 15.8%; self-help programs: 11.7%
Moylan et al. (2001, USA)	Addiction Severity Index (ASI); Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I)	Opiate/opioid; cocaine dependence	Unspecified	NR	Opiates, cocaine	NR
Tsantefski et al. (2014; Australia)	Urine Drug Screen (UDS)	NR	Heroin 5%; 95%*	NR	Heroin	NR
Jackson et al. (2015; USA)	Addiction Severity Index (ASI)	NR	Alcohol: 98%; marijuana: 97%; illicit opiates: 97%; illicit sedatives: 84%; cocaine/crack: 86%	Alcohol: 50%; marijuana: 52%; illicit opiates: 95%; illicit sedatives: 64%; cocaine/crack cocaine: 40%	NR	NR

Table 2 (continued)

Study	Assessment	Diagnosis	Substance use type		Current treatment	Treatment history
			Lifetime	Pregnancy/Post-partum		
Shannon et al. (2016; USA)	Addiction Severity Index (ASI)	Polysubstance; benzodiazepine	Cigarettes: 96%; alcohol: 97%; marijuana: 97%; illicit opioids: 99%; prescribed opiates: 92%; illicit benzodiazepines: 87%; prescribed benzodiazepines: 36%; cocaine/crack: 86%	Cigarettes: 92%; alcohol: 49%; marijuana: 55%; illicit opioids: 99%; prescribed opiates: 55%; illicit benzodiazepines: 68%; prescribed benzodiazepines: 68%. cocaine or crack cocaine: 37%	NR	NR
Rose-Jacobs et al. (2019; USA)	NR	Opiate/opioid; cocaine dependence	Opioid use disorder: 100%;	NR	Opiates	Current treatment: 100%; Past outpatient treatment: 59.6%; Past inpatient treatment: 76%; Use of opioids prior to age 18: 32.3%

Abbreviations: NR=Not reported; GA=Gestational age; d=days, wk=week; m=months, x=times; y=years; *=timing unspecified

type of substance use treatment, five included treatment for opiates/heroin (Kelly et al., 2001; Moylan et al., 2001; Regan et al., 1987; Rose-Jacobs et al., 2019; Tsantefski et al., 2014), two included treatment for cocaine (Kelly et al., 2001; Moylan et al., 2001), or treatment for alcohol (Kelly et al., 2001; Regan et al., 1987), and one offered treatment for polysubstance use (Regan et al., 1987). While several studies reported participants were engaged in detoxification or methadone maintenance treatment (Jackson & Shannon, 2015; Regan et al., 1987; Rose-Jacobs et al., 2019; Shannon et al., 2016), most studies did not report information regarding whether medication-assisted treatment was offered via treatment programs. Additionally, a handful of studies measured treatment engagement among participants across the lifespan (Kelly et al., 2001; Kissin et al., 2001; Messer et al., 1996; Rose-Jacobs et al., 2019).

Type and timing of substance use. The substances used by participants were not always reported among studies where participants were in treatment (Moylan et al., 2001; Regan et al., 1987). However, some studies reported problematic use for substances such as alcohol (Jackson & Shannon, 2015; Kelly et al., 2001; Kissin et al., 2001; Martin et al., 1998; Messer et al., 1996; Shannon et al., 2016), cocaine (Huntington et al., 2005; Kelly et al., 2001; Kissin et al., 2001; Messer et al., 1996; Shannon et al., 2016), cannabis/marijuana (Jackson & Shannon, 2015; Kissin et al., 2001; Messer et al., 1996; Shannon et al., 2016), cigarettes/tobacco/nicotine (Messer et al., 1996; Shannon et al., 2016), heroin (Kelly et al., 2001; Tsantefski et al., 2014), sedatives (Jackson & Shannon, 2015; Kissin et al., 2001), crack (Jackson & Shannon, 2015; Kelly et al., 2001; Shannon et al., 2016), benzodiazepines (Shannon et al., 2016), methadone

(Kelly et al., 2001), nonspecific illicit substance use (Martin et al., 1998; Messer et al., 1996), non-specific opiates/opioid use (Jackson & Shannon, 2015; Kissin et al., 2001; Rose-Jacobs et al., 2019; Shannon et al., 2016), and polysubstance use (Kelly et al., 2001; Tsantefski et al., 2014).

Among studies that indicated the timing of substance use, the majority of studies measured lifetime substance use (Jackson & Shannon, 2015; Kelly et al., 2001; Kissin et al., 2001; Martin et al., 1998; Messer et al., 1996; Rose-Jacobs et al., 2019; Shannon et al., 2016; Tsantefski et al., 2014), although some also measured recent and/or current use during pregnancy (Jackson & Shannon, 2015; Kissin et al., 2001; Messer et al., 1996; Shannon et al., 2016).

IPV Assessments

Table 3 summarizes the assessments used in each study to measure IPV.

Measures. Four studies did not explicitly report the source of their IPV-related questions or use a standardized instrument to measure IPV (Kelly et al., 2001; Martin et al., 1998; Regan et al., 1987; Tsantefski et al., 2014). Among those that reported their IPV measures, two studies (Jackson & Shannon, 2015; Shannon et al., 2016) used a combination of items from the National Violence Against Women Survey (Tjaden & Thoennes, 1998), the Conflict Tactics Scale 2 (CTS2) (Straus et al., 1996), and the Psychological Maltreatment of Women Inventory (PMWI) (Tolman, 1989) and two (Kissin et al., 2001; Moylan et al., 2001) used questions from the Addiction Severity Index (ASI) (McLellan et al., 1992) that measure domestic abuse history in pregnant women. Messer et al. (1996) used items from the Abuse

Table 3 Summary of violence assessment among pregnant and postpartum women with substance use conditions

Study	Assessment	Severity*	Frequency by perpetrator relationship	Types and timing of IPV		Violence interventions
				Lifetime	Pregnancy/post-partum	
Regan et al. (1987; USA)	NR	NR	Mother: 52%; father: 39%; husband/partner: 60%; close family: 37%; family friends: 19%; strangers: 38% ^a	Women with SUD vs. non-SUD sample Physical: 70% vs. 17%**; Rape: 21% vs. 4% ** Hx of child physical: 19% vs. 16%; Hx of child rape: 15% vs. 0% **; Hx of child molestation: 28% vs. 7% **	NR	NR
Messer et al. (1996, USA)	AAS	NR	NR	Accepted vs. declined SUD treatment Unspecified abuse: 65% vs. 61%	Accepted vs. declined SUD treatment Unspecified abuse: 17% vs. 6%*	IPV counseling offered at treatment program
Martin et al. (1998; USA)	NR	NR	Husbands/boyfriends: 52%; multiple perpetrators: 24%; strangers: 14%; other relatives: 10%; current or previous male partner: 70% ^a	Any abuse: 71%; physical alone: 30%; physical and sexual: 42%	NR	IPV counseling, safety planning, and shelter offered at treatment program
Kelly et al. (2001, USA)	NR	NR	NR	IPV: 56%; hx of child sexual: 41%; IPV + hx of child sexual: 29%	NR	NR
Kissin et al. (2001, USA)	ASI	NR	NR	Physical: 28%; emotional: 43%; sexual: 22%	Physical: 8%; emotional: 22%; sexual: 1%	NR
Moylan et al. (2001, USA)	ASI	NR	NR	Women with PTSD vs. no PTSD Physical: 50% vs. 24%*; Emotional: 67% vs. 44%*; Sexual: 46% vs. 13%*	Women with PTSD vs. no PTSD PTSD Physical: 0% vs. 3%; Emotional: 46% vs. 24%*; Sexual: 4% vs. 1%	NR
Tsantefski et al. (2014; Australia)	NR	NR	NR	IPV: physical: ~50%; emotional: ~50%; sexual: ~50%; verbal: ~50%	Unspecified abuse: 33%	Program staff offered referral to IPV-related services
Jackson et al. (2015; USA)	NVAWS; CTS2; PMWI	NR	NR	IPV: 93%; psychological: 51%; physical: 69%; stalking: 52%; sexual: 36%; past injury: 54%; Hx child physical: 25%; hx child emotional: 43%; hx child sexual: 29%	Unspecified abuse: 75%	NR
Shannon et al. (2016; USA)	NVAWS; CTS2; PMWI	NR	NR	IPV: 91%; hx child physical: 23%; hx child sexual: 26%; hx child emotional: 36%; physical: 65%; sexual: 33%; emotional: 90%; injuries: 55%; stalking: 44%	IPV: 75%; physical: 33%; sexual: 14%; emotional: 71%; injuries: 23%; stalking: 14%	NR
Rose-Jacobs et al. (2019; USA)	WEB	NR	NR	NR	Unspecified abuse: 12.6%	NR

*= severity indicates level and/or impact of abuse, such as injuries sustained from abuse, immediate need for hospitalization, or risk for lethality; a= article only reported individuals who were most frequently reported as the perpetrators
Abbreviations: NR = Not reported; IPV = Intimate partner violence; AAS = Abuse Assessment Screen; ASI = Addiction Severity Index; NVAWS = National Violence Against Women Survey; CTS2 = Revised Conflict Tactics Scale; PMWI = Psychological Maltreatment of Women Inventory; WEB = Women's Experiences of Battering

Assessment Screen (AAS) (McFarlane et al., 1992); Rose-Jacobs et al., (2019) used the Women's Experiences with Battering Scale (Smith et al., 1995).

IPV severity/frequency. Measurements that assessed for the severity and/or frequency of IPV were rare, with four studies evaluating the frequency (Jackson & Shannon, 2015; Martin et al., 1998; Regan et al., 1987; Shannon et al., 2016) and one evaluating the severity of violence (Regan et al., 1987).

Types and timing of IPV. The IPV focus of the included studies ranged from those focusing on any experience of IPV to studies that evaluated experiences of multiple dimensions of IPV. Types of IPV detailed in studies included physical violence or injury (Jackson & Shannon, 2015; Kissin et al., 2001; Martin et al., 1998; Moylan et al., 2001; Regan et al., 1987; Shannon et al., 2016; Tsantefski et al., 2014), sexual assault (Jackson & Shannon, 2015; Kelly et al., 2001; Kissin et al., 2001; Martin et al., 1998; Moylan et al., 2001; Regan et al., 1987; Shannon et al., 2016; Tsantefski et al., 2014), emotional/psychological (Jackson & Shannon, 2015; Kissin et al., 2001; Moylan et al., 2001; Rose-Jacobs et al., 2019; Shannon et al., 2016; Tsantefski et al., 2014), verbal abuse (Tsantefski et al., 2014), restrictions on personal freedom (Rose-Jacobs et al., 2019), stalking (Jackson & Shannon, 2015; Shannon et al., 2016), and molestation (Regan et al., 1987). Experiences of violence were measured across lifespan of participants including lifetime/any abuse (Jackson & Shannon, 2015; Kissin et al., 2001; Martin et al., 1998; Messer et al., 1996; Moylan et al., 2001; Shannon et al., 2016; Tsantefski et al., 2014), abuse occurring in adulthood (Jackson & Shannon, 2015; Kelly et al., 2001; Regan et al., 1987; Shannon et al., 2016), childhood (Jackson & Shannon, 2015; Kelly et al., 2001; Regan et al., 1987; Shannon et al., 2016), recent/current (Jackson & Shannon, 2015; Kissin et al., 2001; Messer et al., 1996; Moylan et al., 2001; Rose-Jacobs et al., 2019; Shannon et al., 2016), and explicitly during the pregnancy/postpartum period (Kissin et al., 2001; Messer et al., 1996; Moylan et al., 2001; Tsantefski et al., 2014).

Study Findings

Associations between substance use and IPV. Three studies measured associations between substance use and IPV. Two found associations between substance use and exposure to IPV, while one did not. Regan et al. (1987) found a significant relationship between participants' substance use and history of domestic abuse victimization, whereas Shannon et al. (2016) found a significant relationship between cannabis/marijuana use and past year experiences of IPV. Martin and colleagues (1998), found no significant differences in substance use between women who had ever

experienced violence and those who had not; however, the participants in their sample who had a history of both physical and sexual abuse did report more illicit drug use than both participants with only a history of sexual abuse and no history of violence, albeit the variation between the three groups was modest.

Factors associated with treatment seeking for substance abuse. Two studies examined factors associated with uptake of treatment for substance abuse, with mixed results. Messer et al. (1996) found four factors that significantly predicted acceptance of treatment for substance abuse – being African American, reported use of illegal drugs during pregnancy, having a history of past treatment for substance abuse, and the use of cigarettes before pregnancy. Kelly et al. (2001), on the other hand, found no differences between substance abuse treatment completers and non-completers in terms of their histories of IPV victimization; rather, treatment completion was associated with having a higher level of education, fewer children, and slightly higher levels of social support.

Associations between IPV and mental health symptoms/disorders. Two studies examined and found associations between IPV and other mental health symptoms/disorders. Moylan et al. (2001) found that participants who reported a lifetime history of sexual abuse and who had a higher rating on the addiction severity index family/social composite score were significantly more likely to have post-traumatic stress disorder than those who did not. Martin (1998) likewise found that women who had ever experienced both physical and sexual violence had a higher level of distress and psychiatric symptoms, than women who never experienced violence or had ever experienced physical violence.

Outcomes related to child custody and substance use or IPV. Three studies examined outcomes related to child custody and substance abuse or IPV. Both Kelly et al. (2001) and Kissin et al. (2001) examined substance abuse treatment and custody. Kelly et al. (2001) found that substance abuse treatment completers were significantly less likely to have child protective services involvement than non-completers. Kissin and colleagues (2001) found that mothers who had a greater number of prior drug treatment episodes more likely to live with and have custody of their children; custody was also associated with the less use of cocaine in last 30 days. Tsantefski et al. (2014) examined child custody and exposure to IPV; they found that only 10% of their sample with a lifetime history of IPV and 5% with a history of IPV during pregnancy were in “good standing” (defined by the study as having both custody of their children and having eliminated IPV from their lives).

Other findings. Finally, two studies also included other outcomes related to IPV, substance use, and other

psychosocial outcomes for women experiencing both. Jackson and Shannon explored factors (2015) associated with chronic IPV (e.g., age, relationship status, substance use, social support, etc.) and found that having a history of sexual abuse was associated with increased chronicity of abuse among pregnant substance abusers. The remaining study by Rose-Jacobs et al. (2019) examined associations between food and housing security, and current IPV and substance abuse treatment history. The authors found that, while not statistically significant, women who were both food and housing insecure had a 5.7 higher mean score on the Women's Experiences of Battering (WEB) scale than those who either were only experiencing food or housing insecurities or those who had no insecurities. Substance abuse treatment history, however, was not significant.

Discussion

We conducted a systematic review on the literature on pregnant and/or postpartum women experiencing co-occurring substance use conditions and IPV. We found very few studies which sought to understand co-occurring substance abuse issues and IPV in pregnant and postpartum patients. Even fewer studies included a focus on opioid use disorder as a part of the study design and reported specifically on type, timing, frequency, and severity of IPV. Additionally, there is a lack of studies which seek to measure substance use, maternal and child health, and IPV-related outcomes post treatment/intervention among this population. Our study points to the need for a greater degree of participant detail (e.g., types of violence victimization, history of mental health, etc.) in studies examining co-occurring substance use and IPV, and the explicit inclusion of pregnant and postpartum women in such research. Additionally, there is a continued need for studies which seek specifically to include an analysis of substance use conditions among pregnant and postpartum women experiencing IPV by type, with a particular need for studies which place OUD as a central focus.

Our review resulted in very few studies focused on *both* substance use and IPV among pregnant and postpartum women. As stated earlier, IPV disproportionately impacts women of reproductive age and can increase in its frequency and severity during the pregnancy period, leaving pregnant women experiencing IPV particularly vulnerable to poor health outcomes, including maternal mortality (Baird, 2021; Campbell et al., 2017). Furthermore, rates of substance use conditions are higher in women experiencing IPV than women in non-abusive relationships (Velez et al., 2006) and all but one of the studies included in this review supports this supposition (Martin et al., 1998). Additionally, research suggests that women experiencing IPV or substance use

disorders may be reluctant to report these issues to providers due to factors such as fear of stigma or socio-judicial consequences (e.g., child protective services involvement) (Oni et al., 2022; Robinson et al., 2021), and that reluctance may be heightened by the perceived "double jeopardy" that co-occurring IPV and substance use represents (Morrison et al., 2022; Pallatino et al., 2021). Thus, women who are pregnant and experiencing co-occurring IPV and substance use conditions may represent the most underserved in terms of help-seeking and therefore, the most vulnerable or at-risk for adverse health outcomes related these issues. Our findings suggest that particular attention needs to be paid in future studies to assessing the pregnancy status of women included in studies of substance use and IPV— or, more importantly, studies examining the intersection of substance use and IPV should specifically target pregnant and/or immediately postpartum participants for inclusion.

We also found that while some studies examined substance use among pregnant or postpartum women, those studies often focused on lifetime substance use, and/or participants who were not diagnosed with specific substance use conditions. Assessments were also often cross-sectional and while participants were in treatment, specific substance use history was not always specified, assessments were sometimes restricted (e.g., cocaine only), opioid use-related data was not reported, and use of validated scales to measure IPV were not clearly stated. Moreover, studies that have examined substance use type and IPV have typically focused on cannabis/marijuana, cocaine, and alcohol (Kraanen et al., 2014). Few studies address OUD or report opioid use history, and among the studies included in this review that measured opioid use, opioids were listed in one general category as opiates or illicit opiates, with limited detail type of opioids used. Additionally, data from the Substance Abuse Mental Health Services Administration (SAMHSA) shows that the majority of pregnant women who seek treatment for use during the pregnancy period are seeking treatment for opioid use (Substance Abuse Mental Health Services Administration, 2020); however, most studies on substance use and IPV focus on cocaine and cannabis/marijuana, and few look at violence among pregnant women who have OUD compared to other types of substance use disorders (Kraanen et al., 2014). Thus, OUD in pregnant and postpartum women experiencing IPV remains understudied and future research should focus on identifying the unique needs of this population. Furthermore, studies that utilize longitudinal data and collect follow-up assessments of substance use, IPV, and maternal and child health outcomes at six months, a year, or beyond are therefore needed. Such studies would be helpful for identifying what intervention strategies are effective (even in the short-term) for addressing co-occurring substance use and IPV during pregnancy.

We also found very few studies that focused on pregnant and postpartum women in treatment for substance abuse which also included screening for IPV as a study measure, and even fewer that measured the type, timing, frequency, and severity of IPV. Thus, our study suggests that there is a need for studies which examine substance use and IPV among pregnant and postpartum women for greater specificity regarding type of substance use *and* timing (i.e., pre-, or postpartum and/or pre-, or post-abuse victimization). Additionally, given that IPV is a leading cause of maternal mortality for women, and substance abuse can increase women's vulnerability to IPV, our study supports the need for efforts to improve screening for IPV – both in general and in substance abuse settings, as well as in obstetrics services. In fact, research shows that often individuals experiencing IPV utilize health services, including mental health, alcohol or other substance abuse treatment, at relatively high rates (Campbell et al., 2002; Rivara et al., 2007). A study by Sharps et al. (2001) found that within a year prior to their death, 41% of victims of intimate partner homicide visited a provider seeking help for a mental or behavioral health issue, including substance use. Furthermore, research on alcohol use specifically has shown that IPV decreases as a result of substance use treatment, even if IPV is not the focus of the intervention (Stuart et al., 2009). However, many substance use treatment programs do not specifically address IPV (Mason & O'Rinn, 2014). Thus, interactions with mental and behavioral health service providers represent opportunities to intervene and prevent adverse outcomes related to both IPV and substance use; however, many providers remain unaware of their patients' IPV experiences and moreover, may not recognize pregnant and postpartum women experiencing substance use as a high-risk group for IPV (Martin et al., 2007). The use and incorporation of instruments such as the abbreviated version of the Danger Assessment-5 (Messing et al., 2017) tool have great potential to assess lethality among pregnant and postpartum women in substance use treatment and to reduce adverse outcomes associated with IPV in this population.

Finally, most studies on pregnant or postpartum women with a diagnosed substance use condition or in treatment for substance use are quantitative, as are existing studies on pregnant and opioid-dependent women (e.g., Burns et al., 2011; Kelly et al., 2001; Shannon et al., 2016; Velez et al., 2006; Wright et al., 2012). Furthermore, previous qualitative studies on substance use and IPV do not focus on pregnant women exclusively or women diagnosed with or in treatment for a substance use condition, but rather women evaluated for substance use (Chandler et al., 2014; Choi et al., 2014; Choo et al., 2016; Killeen et al., 1995; Torchalla et al., 2014). Additionally, these studies do not systematically assess for IPV experiences among participants to

complement discussions of IPV elicited in qualitative interviews (Killeen et al., 1995). Thus, much remains unknown about the experiences of pregnant and postpartum women with co-occurring IPV and substance use conditions. And specifically, much continues to remain unknown about women experiencing IPV and OUD, and their encounters with clinical settings, barriers to care, and potential facilitators or avenues for engagement in treatment. Studies which utilize qualitative methods or open-ended, semi-structured interviewing would assist in filling in gaps in our understanding of this highly vulnerable, unique population and their clinical and service needs.

Limitations

This review has several limitations that are worth noting. First, we limited our review to studies which included women who were either pregnant or immediately postpartum (up to one year). We also excluded studies of mothers that *only* examined non-IPV dimensions of violence (e.g., only child abuse). Thus, the studies and population included in our study may not be representative of the larger body of literature on maternal health and IPV/SUD (women with older children; women with non-biological children; women who had experienced violence as children but not as adults; transgender women; etc.) Second, the review is also limited by the databases used to complete the search (i.e., excludes databases in other countries, etc., which may have produced different results). Third, our review only included peer-reviewed literature (i.e., as opposed to technical government/donor reports), thus again resulting in different resources identified for potential inclusion.

Conclusion

This systematic literature review sought to summarize the current literature on the intersection of substance use and IPV in pregnant and postpartum women. We found significant gaps in the literature in relationship to substance use and IPV as co-occurring issues in pregnant and postpartum patients. Particularly there is a need for intersectional studies which clearly measure substance use conditions (and specifically, opioid use disorder), IPV, and pregnancy status and related outcomes. This review points to the need for more longitudinal studies to assess long-term outcomes related to substance abuse, IPV, and maternal and child health. Furthermore, descriptive studies from both providers and patients on experiences of caring for pregnant and postpartum patients with co-occurring substance use conditions and IPV are needed. Such studies will help to shed light on the unique needs of this population, as well as help

clinicians and other practitioners identify best practices for improving outcomes for women experiencing these issues.

Declarations

Conflict of Interest None of the authors have a conflict of interest. None of the authors have any financial or material support to disclose.

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