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Review

Exploring the Linkages between Substance Use, Natural Disasters, Pandemics, and Intimate Partner Violence against Women: A Rapid Review in the Context of COVID-19

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Abstract: Rates of intimate partner violence (IPV) and substance use have risen during the COVID-19 pandemic, with potentially enduring effects on women's health. A rapid review was conducted on IPV and women's substance use in the context of the COVID-19 pandemic. The rapid review explored two separate research questions with a view to integrate the literature related to: (1) containment, social isolation, pandemics, disasters, lockdowns, and IPV; and (2) the relationships between substance use and IPV. Two different searches for each question were conducted between May and October 2020 and $n = 47$ articles were included. Women experience multiple physical and mental health consequences related to IPV that can be exacerbated by public health crises such as pandemics and disasters. Perpetrators may use these events as a tactic to threaten, isolate, or use coercive control. Similar tactics are reported in the complex relationship between IPV and substance use, where substance use can accompany IPV and/or be used as a coping mechanism for survivors. The findings highlight long standing women's health concerns made further visible during the COVID-19 pandemic. Additional research is needed to identify actions required to reduce gender inequities and harms associated with IPV and substance use, and to adequately tailor and prepare effective responses in the context of future public health crises.

Keywords: intimate partner violence; violence against women; natural disasters; pandemics; substance use; COVID-19; rapid review

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1. Introduction

Intimate partner violence (IPV) is a major women's health concern and a violation of human rights. IPV affects one in three women globally [1] and is one of the most common forms of violence against women. IPV includes physical, sexual, and emotional abuse and controlling or coercive behaviors by an intimate partner [2]. In the context of COVID-19, UN Women named violence against women a "shadow pandemic" and called for immediate action to mitigate increases in both domestic violence and sexual assault [3]. Aspects of social isolation, lockdowns, and other containment measures in response to COVID-19 have exacerbated IPV [3–5], similar to patterns seen in previous epidemics such as the Zika [6] and Ebola [7] viruses. Public health responses to epidemics and disasters reinforce gendered structural inequalities and gendered roles. In such emergency situations women often act as "shock absorbers" in the feminized economy, and the gendered nature of IPV and of care-giving roles is exacerbated [8].

In addition to increases in IPV, stress, anxiety, and financial worries related to COVID-19 and containment, the pandemic and related measures may also lead to

increases in substance use. A systematic review of the early impact of COVID-19 on substance use found increases in alcohol [9] and opioid use [10]. Women's mental and physical health have been particularly affected. For example, in Canada, 10% of women in 2020 reported that they were very or extremely concerned about violence in the home [4]. Women's mental health in Canada was also reported to decline more than men's [11]. Further, between March and May 2020, there was a 9% increase in calls to Canadian IPV services [12] and a 46% increase in prevalence and severity of IPV [13]. Some of the most prevalent mental health issues related to quarantine were post-traumatic stress disorder (PTSD), depression, anxiety, suicidality, sleep difficulties, and substance use [14].

In this context, we identified the need for more detailed information on the potential impacts of COVID-19 on IPV and the interconnections of IPV and substance use [8], and how health and social service providers might best respond. The syndemic of IPV, substance use, and COVID-19 has created dire threats to women's mental and physical health and calls on a need to integrate research, policy, and service provision. Hence, the aim of this rapid review was to explore and integrate the literature related to IPV and pandemics and other crises where restrictions and containment are imposed with the literature on substance use and IPV, in order to probe the mechanisms and needs of women who may experience concomitant IPV and substance use in the COVID-19 pandemic or similar situations. We discuss implications for frontline health and social service providers on how to provide responses that address women's complex needs during and following such events.

2. Materials and Methods

2.1. Search Strategy

In order to provide decision-makers with timely evidence, we conducted a rapid review in May 2020 on (1) containment, social isolation, epidemics, pandemics, disasters, lockdowns, and IPV; and (2) the relationships between substance use and IPV. Two searches were conducted in May 2020 and updated three times between June and October 2020 based on two research questions (RQ).

RQ1: What is the relationship between natural disasters or pandemics on women's experiences of IPV?
RQ2: What is the relationship between substance use and women's experiences of IPV?

As part of the rapid review process, we conducted a comprehensive and systematic literature; pre-defined inclusion and exclusion criteria; used a pre-defined data extraction form, and each of these steps were conducted by one reviewer [15]. We searched five electronic databases, including Medline, CINAHL, PsycInfo, Cochrane, and Web of Science to identify relevant studies using Medical Subject Headings (MeSH) or keywords related to women who experienced IPV (domestic violence, battered women, gendered based violence, etc.) during a natural disaster (e.g., earthquakes, hurricanes, epidemics) or pandemics (e.g., SARS, COVID-19) for RQ1 and MeSH terms or keywords related to substance use, e.g., substance use, alcohol, marijuana, etc.) and women's experiences of IPV for RQ2.

In addition, the following journals were manually searched: Violence Against Women, Violence & Victims, Journal of Interpersonal Violence, Trauma, Violence and Abuse, Aggression & Violence Behaviour, Journal of Aggression, Maltreatment and Trauma. A full search strategy can be made available upon request.

2.2. Eligibility Criteria

English and Spanish language articles from Canada, the United States, the United Kingdom, Australia, New Zealand, and the European Union were included. Studies on women who experience(d) IPV during a natural disaster and described a relationship between the IPV and the natural disaster were included. Studies on domestic violence more broadly, dating violence, or those that did not define the intimate relationship as

a relationship between spouses or partners were excluded from both RQ1 and RQ2. In addition, studies on the impacts of armed conflicts were excluded.

The first RQ was not restricted by year of publication. Given the high volume of literature for RQ2, only studies published between 2015 and 2020 were included due to the high volume of published literature and our interest of capturing the latest patterns of substance use and its relationship with the IPV. Studies on women who experience (d) intimate partner violence and reported any findings related to substance use and IPV were included. Systematic reviews were excluded from the rapid review, but were reference checked for articles for inclusion. For RQ2, studies were excluded that focused on (a) men's substance use and IPV perpetration; (b) IPV in homosexual (gay or lesbian) relationships, (c) effects of IPV on children's health; (d) findings on IPV or substance use assessed separately that did not report any relationship between the two; (e) IPV experienced by sex workers, unless they indicated the IPV was perpetrated by a spouse/partner.

2.3. Study Selection

The records were title and abstract screened separately by three independent reviewers (A.C.B./J.S./S.A.). Full text articles were screened, and data were extracted into Excel independently by four reviewers (A.C.B./J.S./S.A./L.W.). For RQ1 the following variables were extracted: authors, aim, country, study design, population, type of natural disaster, main findings relating to the relationship between the natural disaster/pandemic and IPV, implications for healthcare and service providers, and suggestions for future research. Similar categories were extracted for those papers on RQ2: authors, aim, country, study design, population, substance use, findings related to the relationship between substance use and IPV, implications for healthcare and service providers, and suggestions for future research.

2.4. Quality Appraisal

To assess the quality of the included studies, we used the Mixed Methods Appraisal Tool 2018 Version (MMAT) [16], which is designed to facilitate the appraisal of qualitative, quantitative, and mixed methods studies in the same review. Using the MMAT, the included studies were appraised, using five questions designed to assess the quality of qualitative, quantitative descriptive, randomized control trials, quantitative non-randomized control trials, and mixed methods designs.

3. Results

Four searches conducted between May and October 2020 yielded a total of n = 2500 unique returns for RQ1 and n = 3940 unique returns for RQ2. After screening and quality appraisal, a total of n = 12 papers were synthesized for RQ1 and n = 35 for RQ2. Figures 1 and 2 provide an overview of the literature search returns, the number of articles included and excluded at each level of screening, and the final number of included articles. A description of the population of interest and objectives of the included papers can be found in Tables S1 and S2 in the Supplementary Tables.

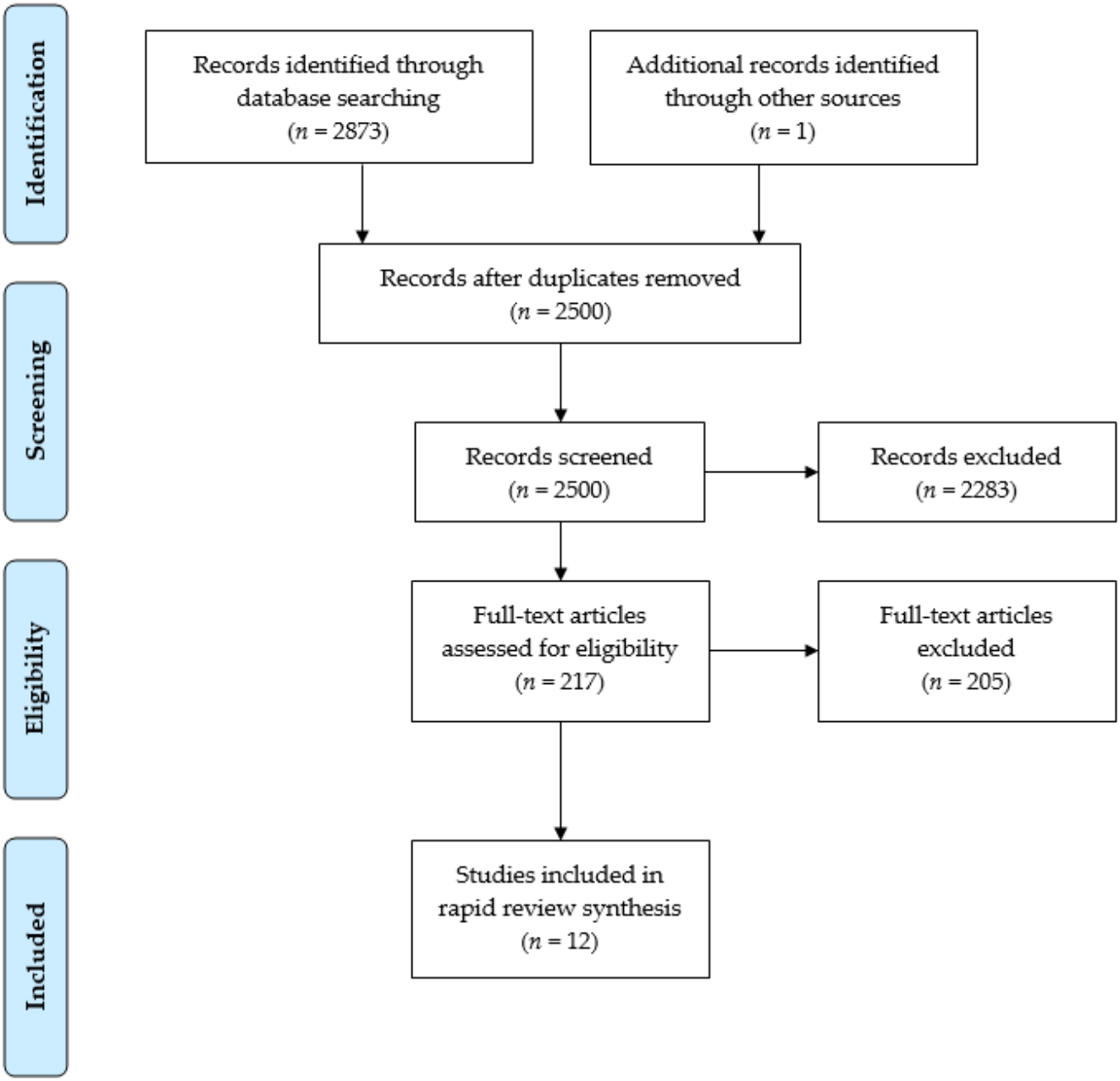

Figure 1. The preferred reporting items for systematic reviews and meta-analysis for RQ1. Adapted from [17].

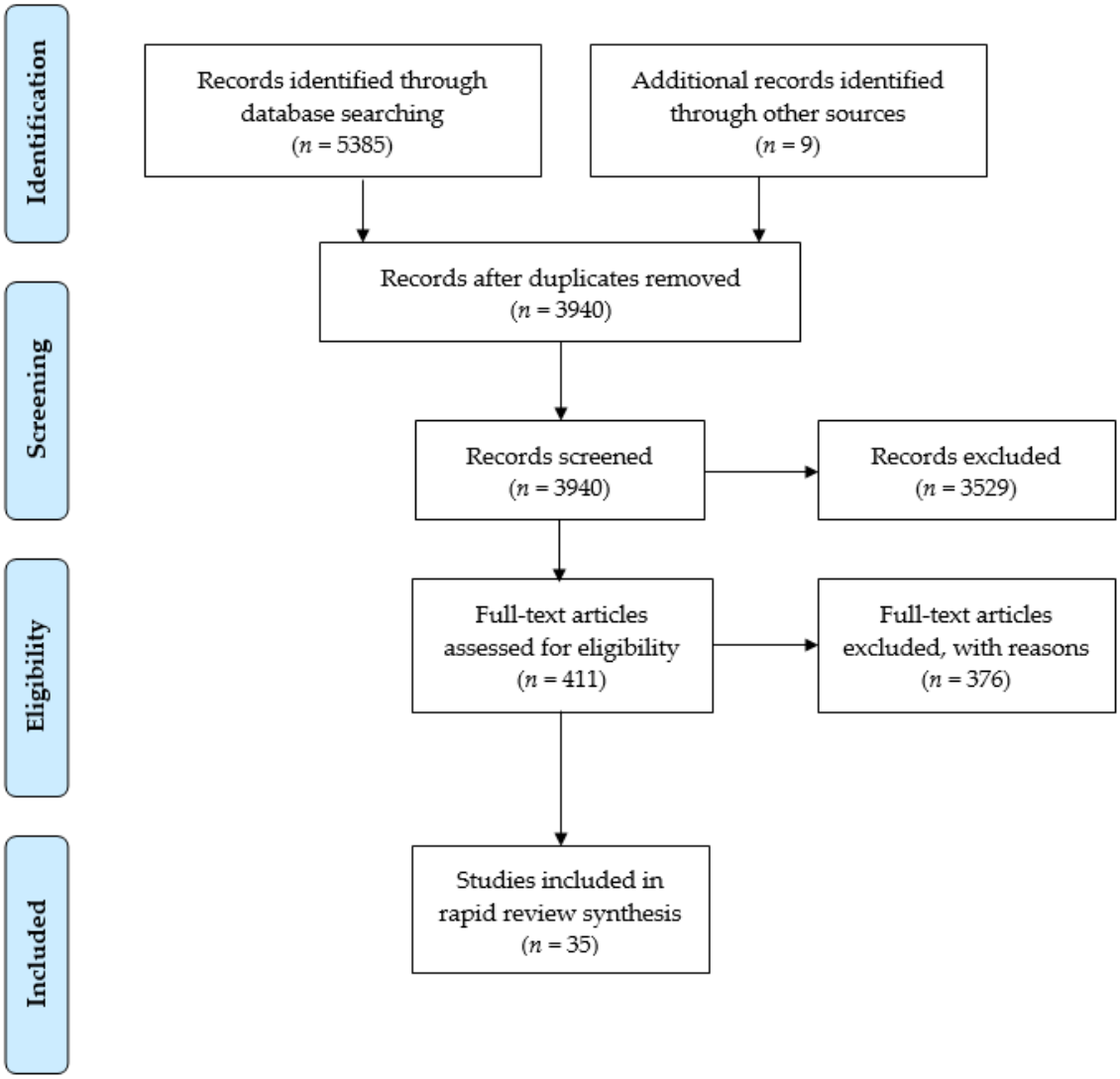

Figure 2. The preferred reporting items for systematic reviews and meta-analysis for RQ2. Adapted from [17].

3.1. The Relationships between Natural Disasters and/or Pandemics and IPV

In the searches conducted between May and October 2020, most of the literature focused on the prevalence of IPV following natural disasters, and little on pandemics and to public health crises such as COVID-19. Despite the paucity of literature directly addressing pandemics, we were interested in deriving information on parallel impacts. Parallel conditions such as stress, danger, restricted movement, lack of distance from perpetrators, lack of respite, and lack of operative support services exist in both circumstances. Papers considering pandemics include a US study conducted with immigrant women during the COVID-19 pandemic that found that women reported an increase in the severity and frequency of IPV [18].

Similarly, findings regarding natural disasters indicate that IPV rates increased [19–21]. However, two studies from the US [22] and Australia [23] did not necessarily find increases in new patterns of IPV following disasters. Rather, the authors noted that in some cases, women may recount previous incidents of IPV rather than a continuation of IPV [23].

Four of the twelve included studies examined the impacts of Hurricane Katrina on rates of IPV [19,21,24,25] and one study on the impacts of Hurricane Floyd [22]. One study exploring the prevalence and correlates of IPV victimization before and after Hurricane Katrina found that women who were exposed to multiple hurricane-related stressors had an increased risk of physical IPV. Further, women who had experienced IPV pre-hurricane,

were more likely to experience physical and psychological IPV following Hurricane Katrina [21]. Another study found that women who reported IPV were 25% more likely to report being affected by the hurricane and subsequent flooding than women who were not affected by Hurricane Floyd [22].

Evidence further suggests that Hurricane Katrina impacted IPV severity. Data from the New Orleans Police Department for the years 2002 to 2006 indicate an increase in domestic violence calls post-Hurricane Katrina, as well as an increase in arrests resulting from domestic violence calls [24]. Two years following Hurricane Katrina, the increased rates of IPV detected post disaster had not declined to baseline levels, demonstrating long-lasting effects of disasters on IPV [19]. A study from the US suggests that this may be a result of reduced service provision and women being forced to compete with others for limited-service provision in the wake of natural disasters, thus affecting women's overall coping strategies [22].

In the context of natural disasters, multiple forms of IPV were reported. For example, a study of victims from a flood in the US found that women reported on average 0.52 physically aggressive acts and 1.96 psychologically aggressive acts post-disaster [26] and experiencing hurricane related damage was associated with experiencing physical IPV [25]. In a study of postpartum women who experienced Hurricane Katrina, 15% of women reported sexual IPV, 12% reported that their partners destroyed their property, and 5% reported they experienced physical IPV in the last 6 months [25].

While IPV severity may increase in the post-disaster context, some authors suggest that IPV might become more visible during a natural disaster due to changes in circumstances or living environment, but the increased visibility is not necessarily reflective of an increased incidence of IPV [23].

3.1.1. Mechanisms of IPV in the Natural Disaster and/or Pandemic Context

Male perpetrators may use natural disasters or pandemics to exercise more or different forms of control. In the context of disasters, having no access to a vehicle or transport has been an impediment to women's preparation and evacuation strategies [20]. Grief, loss, and the financial and bureaucratic demands in the post-disaster context have been cited as key challenges during the recovery and reconstruction phases [20]. During the COVID-19 pandemic, perpetrators have used the virus as a tactic to threaten or isolate women [18,23]. As partners became more controlling, women's capacity to ask for social support or visit friends and family outside their home decreased. The pandemic also resulted in women and their partner's job loss, contributing to potential conflicts within the families due to economic uncertainty. The fear of contracting COVID-19 added to the mental health challenges experienced during the pandemic [18].

3.1.2. IPV and Women's Health in a Disaster/Pandemic Context

The effects of different types of violence might not be additive. For example, findings from a study on the effect of the 9/11 terrorist attack on pregnant women demonstrated that women with a history of either child abuse or domestic violence reported a greater subjective effect of the attack than women without a history of violence. However, women who reported both child abuse and domestic violence did not report a greater subjective effect compared to women reporting only one type of violence [27]. Several studies suggested that women present more health issues post-disaster [22] and are likely to seek help for psychosomatic complaints [19]. For example, women who reported IPV post-Hurricane Katrina were 10.4 times more likely to report a major depressive disorder and 5.7 times more likely to report suicidal ideation compared to women who did not experience post-disaster IPV [19].

While natural disasters may prompt women to report IPV due to the inability to cope with trauma related to both natural disaster and violence [20,23], women may also reduce reporting IPV due to barriers to disclosure such as fear of hurting loved ones, community response, safety of other family members or children, fear of not being believed, and

concerns of escalating violence and lack of economic, housing, and other options for support [23]. Further, women might be less likely to ask for help because of stigma surrounding mental health issues [18]. These barriers make it difficult to distinguish both the prevalence of IPV and exact cause of interconnected mental health challenges. Such patterns may be exacerbated during pandemics or natural disasters, particularly in contexts where care providers empathize with perpetrators who also act as frontline providers [20].

3.2. The Relationships between Substance Use and IPV

In order to examine the potential links between IPV and substance use and their impacts on women's health, we also examined the literature resulting from RQ2. Several studies show a co-occurrence of IPV and substance use among different groups of women [28–30]. Women who have experienced IPV are more likely to use or become dependent on substances when compared to women who have not experienced IPV [29,31]. In a longitudinal study conducted in Australia, women's experiences of all forms of abuse at 21 years old was a significant risk factor for Alcohol Use Disorder, Substance Use Disorder, and Nicotine Use Disorder at 30 years old [29]. Compared to women who did not have a history of IPV, women who experienced IPV were two times more likely to currently smoke cigarettes and binge drink in addition to being overweight and reporting poor mental health [30]. Similarly, results of a study conducted with women attending a residential drug and alcohol facility indicated higher rates of IPV and psychosocial risk factors [32].

3.2.1. Alcohol and IPV

Data from Europe, USA, and Australia highlighted similar findings on the relationship between alcohol and IPV [33–36]. For example, among women veterans, alcohol-related indicators such as unsafe drinking levels, presence or incipience of an Alcohol Use Disorder, and interpersonal alcohol-related concerns were reported more frequently by those who experienced past-year psychological IPV [35]. Further, having a history of physical IPV was related to greater alcohol consumption and problem drinking among a sample of sexual assault survivors [33].

In a case control study from Spain, women who experienced IPV had less severe Alcohol Use Disorder compared to a control group of women who had not experienced IPV [37]. While not statistically significant, hazardous drinking was lower in the group of women who experienced IPV. However, the authors highlighted that the group of women who experienced IPV used psychotropic medication (anxiolytic and antidepressants), which were associated with higher scores in PTSD symptoms, depression, and anxiety [37].

3.2.2. Tobacco and IPV

The findings from the studies included in this rapid review also indicate a relationship between tobacco use and IPV. In a study of 398 women in 3 Ohio Appalachian counties, the authors found that approximately 75% of women who currently smoked reported an IPV history, and when controlling for depression, age, and socioeconomic status, IPV remained significantly associated with tobacco use [38]. IPV was also associated with a higher likelihood of smoking before the pregnancy and during the last trimester of pregnancy [39]. Further, women with a history of IPV were more likely to be current or heavy smokers [40].

Women who smoked and experienced IPV also reported higher alcohol and drug use problem severity, post-traumatic stress symptom severity, and psychological and physical IPV victimization severity [41]. The co-occurrence of IPV, PTSD, and alcohol use may be additional barriers for quitting smoking for women [42].

3.2.3. Multiple Substance Use and IPV

Several studies noted an increased risk of IPV among women who use multiple substances [43,44]. In a study from Spain, authors found that the prevalence of IPV, measured by the Hurt-Insult-Threaten-Scream (HITS) scale and Composite Abuse Scale,

was very high among women who had multiple Substance Use Disorders [45]. Women's poly-substance use was also predictive of higher levels of IPV victimization [46].

One study highlighted that some women may not feel comfortable or safe to report experiences of IPV, making it challenging to decipher the prevalence or relationship between IPV and substance use. A study conducted in Estonia with 38 substance dependent women found that 25% of participants reported experiences of IPV but did not trust the police or social services to help them. Some women with children described being afraid of contacting the police out of fears of child removal or prosecution for substance use offenses. Further, none of the women in the study had heard about special services designed to help IPV survivors such as shelters, case management options, or individual or group therapy [47].

3.2.4. The Mechanisms of IPV and Substance Use

An emergent theme in the literature was the use of substances as a coping mechanism or response to IPV. A US study found that women experiencing IPV use substances to cope with violence and symptoms of PSTD, explaining the higher rates of alcohol or drug use among women who experienced IPV [48]. Women's use of substances to cope was mirrored in literature on substance use more broadly, where an Australian study found that substance use occurred within three hours of the IPV episode [49].

Several studies highlighted the higher risk of IPV among women who use different or multiple substances [43,44]. In a Spanish study, authors found that the prevalence of IPV was high among women who had more than one Substance Use Disorder [45]. Another study found that within three hours following an experience of violence, women used substances [49]. In a study on the effects of alcohol and cannabis on IPV, authors found no relationship between women's alcohol and cannabis use and men's IPV perpetration. The authors of that same study found that women's polysubstance use was predictive of higher levels of victimization [46]. In another study of couples from the US where both partners used cannabis, women were at a greater risk of experiencing IPV [50].

3.3. The Mechanisms of IPV and Alcohol

Alcohol use following experiences of violence, was specifically reported by women who experience IPV [33–36]. In a study of Black women at-risk of HIV, women's patterns of alcohol use were related to the fear they experienced in their relationships. Alcohol was also used as a coping mechanism to numb their feelings or avoid thinking about IPV [51].

Most alcohol-related IPV injuries experienced by women took place at home [52]. Women described using alcohol in order to gain their partners' acceptance, mitigate violence, or because they were coerced [53]. In some cases, perpetrators also used women's mental health issues or their alcohol use as a tactic of isolation and control [54].

A US study found temperament traits such as negative and positive emotionality incrementally predicted hazardous alcohol use. IPV was positively associated with hazardous alcohol use with high levels of positive and negative emotionality traits but not low levels [55]. Data from 28 European Union countries found that women who lived in countries with high prevalence of binge drinking and who dropped out of school early had a higher probability of experiencing IPV. This association was stronger for physical and sexual IPV than psychological IPV [56].

There is mixed evidence on the directionality between IPV aimed at women, and alcohol. One study indicated that when only women or both partners use alcohol, women were more likely to report experiencing IPV [50]. For example, in married couples from the US where only wives reported heavy drinking, women had a higher risk of IPV [50]. In another study, while men's binge drinking increased rates of IPV among women who did not drink alcohol, women who were high-risk drinkers were more likely to report experiencing IPV [57].

However, other studies found that when male perpetrators were the sole person in the relationship with alcohol problems, the likelihood of women experiencing IPV

was higher [58]. One study found that alcohol-related IPV was experienced as a cycle of escalating violence whereby once women's partners got drunk, they were seeking a fight and would 'switch' to escalated violence. During their hangover, partners became tempered and once sober, would return to 'normal' life and, if they were dependent on alcohol, start to crave alcohol again [59].

Another study found that when only women reported problematic alcohol use, the relationship between substance use and IPV remained for women who were currently or had previously experienced IPV. Further, when only men reported problematic alcohol use, 12.8% of women reported current IPV and 60.8% reported they had experienced IPV in the past [60].

4. Discussion

The findings from both parts of this rapid review demonstrate that the prevalence and severity of IPV experienced by women are exacerbated by situational factors in disasters and pandemics and that IPV is linked to substance use. These dual results highlight an under-researched and under-serviced linkage in women's health care, and a limited focus on gender and equity considerations such as attention to women's mental health and wellbeing during disasters, pandemics, and related crises [18,23,30]. This was further highlighted in the grey literature, in which we found calls for collaboration across the health, social services, and justice sectors in order to support women with substance use and IPV concerns in a trauma-informed way [61–63].

In the context of disasters, pandemics and future and ongoing COVID-19 recovery, it remains incredibly important to attend to these issues in tandem as women's wellbeing is challenged by worsening mental health [64], diminished labor force engagement, economic stress, and increased caregiving responsibilities across these situations. The findings further highlight a gap in research that directly focuses on the links between pandemics and related crises to increases in substance use and IPV. This gap also prevails in service provision, where work in the violence prevention and substance use fields remains largely uncoordinated with both systems operating without formal linkages. This is despite women often experiencing the effects of both substance use and IPV together [33,35,65–68], a situation potentially heightened in pandemic and disaster contexts as similar contributory conditions prevail.

4.1. Developing IPV Services That Are Responsive to Women's Needs

The results of our rapid review demonstrate that natural disasters create conditions that exacerbate the prevalence and severity of IPV, and similar conditions emerge during pandemics such as COVID-19. Indeed, during the COVID-19 pandemic, rates of IPV and substance use have increased concomitantly, creating corollary pandemics affecting women and their families [10,69]. However, services are often not prepared for increased rates of violence [70] and research and service provision have not yet formally linked responses for both IPV and substance use. The findings from RQ2 highlighted the complex multidirectional relationship between IPV and substance use and underscore the need for bi-directional or integrated service provision. As such, interventions targeted towards IPV survivors should also be able to support women with substance use reduction and vice versa [38,40,41,56].

The experiences and poor health among women in pandemics and natural disasters highlight pre-existing gender and economic inequities that become more visible in a post-disaster and post-pandemic contexts [71]. The relationship to several substance use risks such alcohol and tobacco use among women who experience IPV shows the importance of linking the two issues [30]. Our findings point to the need for more coordinated, multi-sectoral initiatives that respond to women's complex health and social needs [72]. Overall, service provision during and post-pandemic and disasters must be integrated, timely, trauma-informed, tailored to sub-groups of women, non-judgmental, de-stigmatizing, and offer ideas for increasing safety and developing healthy coping mechanisms [38,47,53,72]. It

is recommended that these considerations are introduced as early as possible by providers, as escalation of violence related to substance use is a risk [53,59].

It is evident that health and social service providers need to be prepared for increases in IPV in a disaster and pandemic contexts and be prepared to provide treatment and referrals [23,25]. This will involve addressing constraints, including the lack of integration across issues, funding, information on the related concern, or staff capacity [70]. There is an increase in need for IPV service provision not only in the immediacy of the respective disaster/pandemic, but at least 12 months into recovery as well [70]. However, by offering services pre-pandemic, linkages to other community services, such as housing services, and community networks can be better supported to mitigate post-disaster IPV [73].

It cannot be overlooked that health and social service providers may experience vicarious trauma and their own challenges in the disaster/pandemic context, and therefore require additional support. Some service providers identified that asking for counselling for themselves resulted in stigma and potential consequences, such as the removal of responsibilities and/or not being considered for a promotion [20]. The inherent particularities of COVID-19 pandemic stress and the importance of providing access to technological supports are important considerations in exploring ways to provide financial support and mental health services [18] to both women and providers.

Various system-level changes can be made to support women who experience IPV and substance use problems. Some research points to the need of more restrictive alcohol policies to decrease IPV-related femicide [74], while other research suggests that governments need to consider domestic violence a priority [20]. This may involve the creation or further enhancement of services, prioritizing cross-ministerial collaboration, and integrating women with lived and living experience in the development and implementation of collaborative initiatives to ensure that policies and services reflect their lived realities [62].

It is also critically important to collect accurate sex and gender-specific data on IPV and substance use, and to include service providers in disaster preparedness and management in order to support survivor-centered data collection [75]. Researchers, policy analysts, interventionists and survey designers also need to pay attention to missing data as those lost at follow-up might be at greater risk of experiencing IPV, such as younger women, Black and Indigenous women, or women with a lower socioeconomic status, who may also be at higher risk of experiencing IPV and substance use [25].

4.2. Limitations

The search was conducted between May and October 2020. Overall, findings regarding the impact of natural disasters on IPV and consequent mental and physical health challenges for women appear to be applicable to COVID-19, in light of public health restrictions and associated fears and stressors but may not coalesce precisely in real world experience. While the dynamics of isolation, economic loss, limited movement, loss of social networks, and generalized anxiety contribute to setting the stage for increases in IPV and poorer health for women. The length of recovery from pandemics such as COVID-19 is undetermined, with full analyses of the impact on women's health yet to be determined. Since October 2020, there may have been more research published on the COVID-19 pandemic, IPV, and substance use, which may indicate more precise relationships and trends between IPV, substance use, and women's health.

Another limitation of our rapid review is the restriction to papers from Canada, the United States, the United Kingdom, Australia, New Zealand, and the European Union in order to limit confounding factors and increase the applicability of implications to service providers in the Canadian context. Further, this search focused solely on women's substance use among couples in heterosexual relationships.

5. Conclusions

The purpose of this dual rapid review was to explore and integrate the literature related to natural disasters, pandemics and IPV, and IPV and substance use in order to

highlight women's mental and physical health needs during COVID-19 and similar pandemic situations. While most evidence is in the context of disasters, there are several conditions that are similar between disasters and pandemics that underscore the importance of this review and its applicability to pandemics such as COVID-19. Even though relationships between IPV and substance use may have been longstanding, services and systems in the countries studied rarely addressed both issues simultaneously, in relation to each other, or in the same service location. This weakness in responding to women experiencing IPV and substance use is exacerbated during pandemic situations such as COVID-19, where concomitant limitations and losses add to the problems of daily living for many women and strain existing support services. We distilled the evidence regarding both IPV and substance use from this study to create resources [75–77] to support health and social service workers in effectively responding to IPV and substance use during the COVID-19 pandemic and beyond. The most important changes to systems and services relate to more preparation for cross-referrals, cross-training staff, and encouraging women to safely contact any IPV or substance use or mental health service when possible, to access information and assistance. COVID-19 has highlighted this systemic weakness, but post COVID-19 recovery planning offers an opportunity to rectify this. Addressing underlying long standing gender inequities and structural weaknesses in service provision that affect women's health is a crucial first step.

Supplementary Materials: The following are available online at https://www.mdpi.com/article/10.3390/sexes2040040/s1, Table S1: Pandemics, Natural Disasters, and IPV, Table S2: Substance use and IPV.

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