TRAUMA, VIOLENCE, & ABUSE
1-14

DOI: 10.1177/1524838015589253
tva.sagepub.com
SAGE

Association Between Substance Use and the Perpetration of Family Violence in Industrialized Countries: A Systematic Review

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Abstract

This review examines the association between alcohol and illicit drug use and the perpetration of intimate partner violence (IPV) and child maltreatment (CM). In clinical populations, alcohol use is related to IPV, although other variables are also known to influence this relationship. Studies in specialized social/health care and in the community have also demonstrated the association between alcohol use and IPV. Although data on the association between illicit drug use and IPV are less clear, in most studies perpetration seems related to the use of cannabis and cocaine. The occurrence of CM is related to alcohol use in specialized social/health care and community populations but has not been extensively investigated in clinical samples. These findings also apply to studies on the association between illicit drug use and CM. Moreover, many studies on CM fail to distinguish between the effects of alcohol and those of illicit drugs. This review concludes with recommendations for future research about substance use and family violence and discusses implications for prevention and treatment.

Keywords

family violence, domestic violence, intimate partner violence, child maltreatment, substance use, alcohol, illicit substances, illicit drugs

Introduction

Prevalence studies show that family violence (FV) is a common problem experienced by many individuals (Hamby, Finkelhor, Turner, & Ormrod, 2011; Kury, Obergfell-Fuchs, & Woessner, 2004). FV refers to any kind of violence that takes place within the home or family *situation* and is, therefore, not necessarily defined by the geographical setting where it occurs. This broad definition of FV encompasses intimate partner violence (IPV) as well as child maltreatment (CM). The terms "domestic violence" and "intimate partner violence" are often used interchangeably. Although there is no consensus on one definition, according to the United Nations any definition of domestic violence (i.e., IPV) should be broad and include physical (hitting, kicking, shoving, etc.), sexual (coercing or attempting to coerce any sexual contact or behavior without consent), psychological (name calling, undermining someone's self-esteem, etc.), and economic violence (e.g., withholding one's access to money or forbidding one's attendance at school or employment; United Nations, 1996). CM is also broadly defined by the World Health Organization (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002) to include "all forms of physical and emotional ill-treatment, sexual abuse, neglect, and exploitation that results in actual or potential harm to the child's health, development or dignity" (p. 59). According to this latter definition, several subtypes of CM can be distinguished, that is, physical abuse, sexual abuse, neglect and negligent treatment (i.e., failing to provide for adequate food, shelter, medical care, or supervision), emotional abuse, and exploitation (e.g., prostitution or pornography; Krug et al., 2002).

Prevalence of FV

A national study on IPV in the United States reported that approximately 1.3 million women and 835,000 men are physically assaulted by an intimate partner annually (Tjaden & Thoennes, 2000). Another study focusing on FV against women showed that 44% experienced IPV as an adult (Thompson et al., 2006). Research in European countries has yielded varying results but clearly indicates that FV is a severe problem in several countries (Hagemann-White, 2001; Kury et al., 2004).

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Various studies have assessed the occurrence of CM. A prospective cohort study indicated that neglect is most prevalent, followed by physical assault, physical neglect, and sexual abuse (Hussey, Chang, & Kotch, 2006). The U.S. National Survey of Children's Exposure to Violence reported high percentages of past year (5.5–11.1%) and lifetime (14.7–25.6%) exposure to FV (i.e., assault of a sibling or involvement of another relative) as well as violence between parents (Hamby et al., 2011).

Research also shows that IPV and CM often co-occur within families (Osofsky, 2003). A review including 31 studies reported that the rate of co-occurrence in community populations is about 6%, whereas this percentage ranges from 20% to 100% in clinical samples consisting of abused women or physically abused children (Apple & Holden, 1998). Another review focusing on social and health care samples showed that in 30–60% of families where either CM or IPV is being perpetrated, the other form of FV also occurs (Edleson, 1999). These studies illustrate the widespread occurrence of FV.

Consequences of FV

Global research on the consequences of IPV revealed a range of problems that can occur as a result of IPV (Krug et al., 2002). These include psychological health problems (e.g., depression, anxiety, and post-traumatic stress disorder) and sexual or reproductive health problems (e.g., sexual dysfunction or infertility). The physical health consequences of IPV include injury, chronic pain, and gastrointestinal or gynecological signs (Campbell, 2002). Although relatively few studies have examined the consequences of partner violence in male victims, the U.S. National Violence Against Women Survey also collected data on male victims (Coker et al., 2002). Results indicate that the consequences of IPV for men are similar to those for women. For both sexes, physical IPV victimization is associated with an increased risk of current poor health, depressive symptoms, substance use, and an increased risk of developing a chronic disease, chronic mental illness, or an injury.

The consequences of CM can also be very serious. Maltreated children show behavioral, emotional, and health-related problems (Hussey et al., 2006). Children with a history of sexual abuse show more complaints related to general health, gastrointestinal health, gynecologic or reproductive health, pain, cardiopulmonary symptoms, and obesity compared to children without a history of sexual abuse (Irish, Kobayashi, & Delahanty, 2010). Furthermore, children who suffer from maltreatment have a higher risk of hospital treatment for injuries (Lanier, Jonson-Reid, Stahlschmidt, Drake, & Constantino, 2010). Also, childhood victims of CM may develop aggressive behavior problems or become perpetrators of violence and crime during adolescence and adulthood. All these examples illustrate that there are broad societal consequences of FV (Ehrensaft & Cohen, 2012; Gilbert et al., 2009).

FV also has consequences for the individuals directly involved. For example, there is an alarmingly high rate of revictimization (repeatedly being a victim of FV or falling victim to nonintimate violence) and intergenerational transmission of abuse (Laslett, Room, Dietze, & Ferris, 2012; Perepletchikova & Kaufman, 2010).

Substance Use is a Risk Factor for FV

Given the serious consequences of FV, it is important to identify risk factors to be targeted in prevention. Several factors are consistently related to FV perpetration, irrespective of the study population or methods used. Common risk factors for perpetration are unemployment and/or low education of the perpetrator's partner, young age of the perpetrator, attitudes supportive of IPV, childhood experiences of IPV or CM, and perpetrating other forms of violence (Abramsky et al., 2011; Kyriacou et al., 1999). Alcohol and illicit drug use are risk factors for nonfatal injury from FV (Kyriacou et al., 1999) and are specifically relevant when targeting prevention. Substance use is a risk factor that can be detected by screening and, consequently, can be treated clinically or in a community care setting.

It is unclear which mechanisms are involved in the link between illicit drug use and FV perpetration, whereas there are many hypotheses on the link between alcohol use and FV perpetration (Collins, Kroutil, Roland, & Moore-Gurrera, 1997). According to the cognitive distortion hypothesis, alcohol use increases the risk of violence because it impedes communication between family members which can lead to misinterpretation and conflict. A second hypothesis suggests that deviance disavowal is the causal mechanism. Here, the perpetrator ascribes violent behavior to alcohol consumption and minimizes personal responsibility. In this case, alcohol is viewed as an excuse for behavior or a justification for its consequences (Jewkes, 2002). Another hypothesis postulates that disinhibition, caused by the pharmacological effects of alcohol, explains the link between alcohol use and CM (Miller, Maguin, & Downs, 1997). Finally, Chermack and Giancola (1998) propose a biopsychosocial theoretical model linking alcohol use and aggression, and this model includes developmental, alcohol-related, individual, and contextual influences. Many studies have shown an association between substance use and the perpetration of FV (Abramsky et al., 2011; Brown, Cohen, Johnson, & Salzinger, 1998; Gil-Gonzalez, Vives-Cases, Alvarez-Dardet, & Latour-Perez, 2006; Graham, Bernards, Munné, & Wilsnack, 2008; Moore et al., 2008). However, it is difficult to extract clear implications from these results due to the use of different samples, definitions of IPV and CM, methodology, instruments or measures, and differing end points. For example, to measure substance use some studies use informants (e.g., Ernst, Weiss, Enright-Smith, Hilton, & Byrd, 2008), whereas others use self-reports (e.g., Field & Caetano, 2003); also, some collect data on IPV via a national survey (e.g., Cunradi, 2007), whereas others use a case-controlled design (Lipsky, Caetano, Field, & Larkin, 2005a). All these factors have a significant effect on the results and how they might be interpreted. An overview of results is needed to determine what is now known about the association between

substance use and the perpetration of FV and, subsequently, to formulate relevant implications for prevention and treatment.

This systematic review examines original studies that explored the link between substance use and the perpetration of FV in industrialized countries. The focus is on industrialized countries to avoid possible socioeconomic and/or cultural differences between certain countries that may influence the level of violence and/or the mechanisms underlying the occurrence of violence. An important strength of the current review is that it includes studies on both IPV and CM. Because there are considerable differences between studies in the definitions used for IPV and CM, and in the way that these concepts are explored, in this review they are discussed separately. Also, a distinction is made between the influence of alcohol and that of illicit drugs on the perpetration of FV. Where possible, the effects of specific illicit drugs on the occurrence of FV are described. Illicit drugs are often categorized as cannabinoids, stimulants (i.e., "uppers"), depressants (i.e., "downers") or hallucinogens (i.e., "trippers"). Cannabinoids have various effects such as heart rate acceleration and decreased alertness (e.g., hashish and marihuana). Stimulants stimulate the brain and the central nervous system (e.g., speed, cocaine, and ecstasy) and also increase energy and alertness. Depressants (e.g., heroin) slow down brain activity and the central nervous system and also have a calming and relaxing effect. Hallucinogens (e.g., Lysergic acid diethylamide [LSD], Phencyclidine [PCP] and "psychedelic" mushrooms) alter and distort the perception of reality, and with these substances, sensations and experiences are strengthened or "invented." Given the different psychoactive effects of these substances, they might also have differing effects on behavior, such as the perpetration of FV. Therefore, it is important to distinguish the influence of various substances on the perpetration of FV. In this review, although the term "substance use" refers to both alcohol and illicit drugs, in the results section the two substances are presented separately. The association between substance use and FV victimization (i.e., use due to victimization or use by victims) is not addressed in this review.

Method

Search Strategy

PsycINFO and PubMed were searched to obtain English-language studies on the association between substance use and FV published between January 2000 and October 2013. Various search strings were used to cover the broad definitions of substance use and FV.

Inclusion and Exclusion Criteria

Multiple types of substances were included in the search by using specific search terms: alcohol, cocaine, crack cocaine, cannabis, hashish, marijuana, cannabinoids, tetrahydrocannabinol, heroin, ecstasy/XTC, amphetamines, speed, GHB, and MDMA. Research on tobacco use was not included in this review. Although some studies did not differentiate between various substances when reporting their findings, they are included in this review. For the purpose of this review, all degrees of substance use (ranging from use and abuse to dependency and disorder) were included in the search to yield a complete as possible overview.

Studies including individuals not sharing a home or not involved in a family relationship were excluded (e.g., dating couples and college students). These types of samples are not encompassed in the definition of FV.

Several studies were excluded based on the country in which the data were collected, that is, only studies conducted in an industrialized country were included.

Studies considering samples with specific characteristics (e.g., lesbian and gay couples, pregnant women, individuals with health conditions like HIV/AIDS or a disability, individuals in particular occupations such as army employees, and industry or farm workers) were excluded. The results from such studies cannot easily be generalized to the general population.

Review Procedure

Using the search strategy described earlier, 2,545 unique studies were initially identified. Subsequently, the titles and abstracts were screened by the first and second author to determine eligibility, that is, to select only those studies examining the association between substance use and the perpetration of FV. For example, studies that discussed the prevalence and incidence of FV, presented a theory or model explaining FV without empirical testing, or studied substance use in victims of FV instead of perpetrators of FV were excluded. Articles presenting nonsystematic reviews, overviews, or meta-analyses were also excluded but were screened for other relevant studies published between 2000 and 2013.

A total of 440 articles was retrieved for further evaluation. After studying the full-text articles and taking into account the previously established inclusion and exclusion criteria, a total of 69 studies on IPV and 27 studies on CM were available for analysis, that is, a total of 96 articles. Our search identified one study on child-to-parent violence, which was excluded from further analysis.

Results

The following sections present the results (separately) for alcohol and illicit drugs and their relation with IPV and CM. The results of studies on alcohol are divided into the results for specific sample types (e.g., clinical, health care, and community samples) because results can vary depending on sample type. The results for illicit drugs are discussed in general or, where possible, for a specific substance.

Alcohol Use and IPV

Alcohol use and IPV in clinical samples. Studies on clinical populations tended to include patients who either were undergoing substance abuse treatment or participated in violence/anger management programs. Most studies showed an association

between alcohol use and IPV. In patients with a Diagnostic and Statistical Manual of Mental Disorders (DSM) diagnosis, alcohol dependence was related to the occurrence of physical assault and psychological aggression (Parrott, Drobes, Saladin, Coffey, & Dansky, 2003). A study on alcohol-dependent patients showed that they used significantly more alcohol in the 12 hr prior to a violent conflict with their partner than they did prior to a nonviolent conflict with their partner (Murphy, Winters, O'Farrell, Fals-Stewart, & Murphy, 2005). Furthermore, in a study among male IPV perpetrators, alcohol use was associated with sexual coercion (Moore & Stuart, 2004). Another study showed that self-reported alcohol use by men predicted psychological abuse but not physical abuse (Stuart et al., 2008). Similar results were found for female IPV perpetrators in treatment studies (Drapkin, McCrady, Swingle, & Epstein, 2005; Stuart, Moore, Ramsey, & Kahler, 2003, 2004). Finally, one longitudinal study with a clinical sample emerged from our search, and this study revealed an association between alcohol use (or dependence) and IPV incidents in patients with no prior IPV history (Taft et al., 2010). In two studies (both using the same sample), no association was found between alcohol use and IPV (Chermack, Fuller, & Blow, 2000; Chermack, Walton, Fuller, & Blow, 2001). In summary, most studies using clinical samples support the association between alcohol use and IPV perpetration.

In the relationship between alcohol use and IPV perpetration, other variables are suggested to play a role. One study on couples-based alcoholism treatment showed no higher level of alcohol use by women who perpetrated IPV but did show an association between alcohol problem severity and perpetration by men (Chase, O'Farrell, Murphy, Fals-Stewart, & Murphy, 2003). This suggested a differential influence of alcohol on IPV between men and women. In another study on alcohol-dependent patients, IPV perpetration varied depending on the presence of other factors. No association was found between alcohol use and IPV after controlling for antisocial personality traits. When relationship distress and alcohol use were studied in relation to IPV perpetration, both had a significant unique association with perpetration (Murphy, O'Farrell, Fals-Stewart, & Feehan, 2001). Another study showed an interaction between alcohol use and comorbid clinical post-traumatic stress and alcohol-dependent patients with post-traumatic stress showed more assault and aggression than nondependent participants with post-traumatic stress (Parrott et al., 2003). In a study utilizing a structural equation model, the effect of heavy drinking on the perpetration of physical or psychological IPV for both men and women was influenced, for example, by relationship functioning or antisociality (i.e., general violence; Schumm, O'Farrell, Murphy, Murphy, & Muchowski, 2011). These studies showed that additional factors, such as gender or comorbid psychiatric disorders, influence the association between alcohol use and IPV perpetration.

Alcohol use and IPV in social and health care samples. In addition to studies on clinical populations, research on specialized social and health care populations (i.e., those who receive care from social services or who seek help in a hospital or shelter) also showed a link between alcohol use and IPV. For example, a study comparing at risk women (i.e., having IPV concerns or victims) and control women without IPV experiences showed that at risk women report heavier drinking and more drinks per week consumed by their partner than women who were not at risk (Lipsky, Caetano, Field, & Larkin, et al., 2005a). Another study examined both the acute and background effect of alcohol use: Women who confirmed alcohol use during an IPV incident (acute) also showed more alcohol use per week and per occasion, and more alcohol abuse or dependence symptoms (background), than women who did not confirm drinking during an IPV incident (Lipsky, Caetano, Field, & Larkin, 2005b). Finally, a large-scale study conducted in an emergency department (patients reporting an injury or complaints) showed greater alcohol use by physically violent IPV perpetrators than by non-IPV perpetrators (Walton et al., 2009). All these studies demonstrate an association between alcohol use and IPV perpetration in other than clinical populations, however, it remains unclear whether other variables also influence this association in these diverse populations.

Alcohol use and IPV in general population samples. The association between alcohol use and IPV has been extensively studied in the general population among randomly selected respondents (e.g. Afifi, Henriksen, Asmundson, & Sareen, 2012; Lipsky & Caetano, 2008; Stalans & Ritchie, 2008; Theobald & Farrington, 2012). The majority of these studies reveal a significant association between alcohol use and IPV. One of the few longitudinal population studies showed a within-time correlation (variables measured and related at one point in time) at the age of 23 years between heavy drinking and perpetration, but no across-time correlation (variables measured and related at two points in time) between the age of 23 and 29 years (Martino, Collins, & Ellickson, 2005). Another longitudinal study followed a birth cohort until the age of 30 years and showed that increased alcohol abuse and dependence over time was associated with increased IPV perpetration (Boden, Fergusson, & Horwood, 2012). A third study followed newlywed couples in the first 4 years of marriage and showed that excessive alcohol consumption was correlated with alcohol-related aggression in both men and women (Kachadourian, Homish, Quigley, & Leonard, 2012). Also, alcohol use among men was longitudinally predictive of alcohol-related aggression, but for women there was only a trend toward statistical significance.

Several studies in the general population focused on additional factors that influence the association between alcohol use and IPV perpetration. Variables, such as neighborhood unemployment (Cunradi, Caetano, & Schafer, 2002), combined use with cannabis or cocaine (Feingold, Kerr, & Capaldi, 2008; Smith, Homish, Leonard, & Cornelius, 2011), cultural or ethnical background (Stalans & Ritchie, 2008; Ramisetty-Mikler, Caetano, & McGrath, 2007), low mindfulness (Gallagher, Hudepohl, & Parrott, 2010), behavioral undercontrol (personality dimension composed of traits such as psychopathic deviation and agreeableness; Grekin, Sher, & Larkins, 2004), and

avoidant coping (Schumacher, Homish, Leonard, Quigley, & Kearns-Bodkin, 2008), influence the association between alcohol and IPV. However, either the influence of alcohol remains significant after controlling for the effect of such a variable or alcohol is a stronger predictor of perpetration. In the study by White and Chen (2002), the influence of negative affect, gender role expectations, education, relationship dissatisfaction, and partner drinking was examined concurrently. After statistical control for all other risk variables (negative affect, gender role expectations, and education), perpetration by both men and women was significantly predicted by use of alcohol. Additionally, a mediation analysis showed that dissatisfaction with the relationship and alcohol use by the partner fully mediated the effects of problem drinking on IPV perpetration, and this demonstrates that these mediators have a very marked effect on the association between alcohol use and IPV perpetration. The dynamics between intimate partners were also investigated, showing that discrepant drinking patterns (Leadley, Clark, & Caetano, 2000), or drinking by victims as well (Quigley & Leonard, 2000), were associated with IPV perpetration. In summary, in studies among the general population several variables seem to play a role, but alcohol use remains the most significant and strong variable in relation to IPV perpetration.

Illicit Drug Use, Alcohol Use, and IPV

All the included studies conducted in the general population using surveys, interviews, or self-report questionnaires show a significant relation between any type of illicit drug use and the perpetration of IPV (e.g., Coker, Smith, McKeown, & King, 2000; Gonzalez-Guarda, Ortega, Vasquez, & De Santis, 2010; McCloskey, Treviso, Scionti, & Pozzo, 2002; Taft et al., 2010; Walton-Moss, Manganello, Frye, & Campbell, 2005). Unfortunately, because many studies did not identify the type of illicit substance involved, they do not allow to specify which (illicit) substances make a significant contribution to the perpetration of IPV. These studies are discussed subsequently.

A brief survey on IPV was conducted in family practice clinics with a total of about 1,400 women. The "presence of alcohol and drug use problems" was included as a correlate of IPV. About 23% of the women reported that their partner currently had an alcohol or drug problem. Having a partner with an alcohol or illicit drug problem increased the risk of becoming a victim of physical and sexual abuse, as opposed to becoming a victim of only physical abuse or only battering and emotional abuse (Coker et al., 2000). A longitudinal study among men in an alcoholism treatment program showed that the frequency of substance use and stimulant use was associated with IPV before treatment and at 6 months posttreatment (Taft et al., 2010). Unfortunately, in these studies, the substances were not clearly specified. A large community study, comparing abused and nonabused women, showed an increased risk of victimization in the case of problem drinking and substance use by the partner (Walton-Moss et al., 2005); however, in that study, neither the types of substances nor the definition of "problem drinking" were specified. In the study by Gonzalez-Guarda, Ortega, Vasquez, and De Santis (2010) and the study by McCloskey, Treviso, Scionti, and Dal Pozzo (2002), no differentiation was made between alcohol and illicit drug use. However, both studies showed an association between alcohol and illicit substance and IPV perpetration.

In other studies, a list of illicit substances containing, for example, cannabis, opiates (e.g., methadone and heroin), cocaine, and hallucinogens was specified, but no specific results were available per substance type (Cunradi et al., 2002; Kraanen, Scholing, & Emmelkamp, 2010; Lipsky & Caetano, 2008; Lipsky, Caetano, Field, & Bazargan, 2005; Lipsky, Caetano, Field, & Larkin, et al., 2005a; Melander, Noel, & Tyler, 2010; Moore, Easton, & McMahon, 2011; Moore & Stuart, 2004). These studies showed a cross-sectional association or longitudinal relation between illicit drug use and IPV perpetration, however, the various types of illicit substances were grouped together. Therefore, these studies do not provide further insight into the unique effect of different types of psychoactive substances. For example, two large community studies showed that IPV perpetration was associated with illicit drug use/abuse and dependence (e.g., heroin, prescription drugs, PCP, and mushrooms; Lipsky & Caetano, 2008; Melander et al., 2010). A study conducted among women referred from an emergency department after victimization showed that IPV perpetration occurred more often when they used illicit drugs combined with alcohol as opposed to when they only used illicit substances (Lipsky, Caetano, Field, & Larkin, et al., 2005b). Among men in batterer interventions, illicit drug use (e.g., cocaine and nitrous oxide) predicted psychological abuse, physical assault, and injury to the partner (Moore & Stuart, 2004). Although studies with and without a clear specification of the illicit substances indicated an association between illicit drug use and IPV perpetration, studies that provided separate results per illicit substance type were the most informative, and these latter studies are discussed subsequently.

Cannabis use and IPV. Five clinical studies (people either in substance treatment or in batterer intervention treatment) showed an association between cannabis use and self-reported partner violence (Chermack, Fuller, et al., 2000; Chermack, Murray, et al., 2008; Chermack, Walton, et al., 2001; Murphy et al., 2001; Stuart et al., 2008). In other health care samples (e.g., emergency department patients and victims), a similar association was found (Ernst et al., 2008; Walton et al., 2009). A relation was also found between the use of cannabis and partner violence in several community studies. Moreover, Feingold, Kerr, and Capaldi (2008) found that individuals who used cannabis and suffered from an alcohol-dependence disorder exhibited increased IPV perpetration as compared with individuals who did not have such a disorder. Stalans and Ritchie (2008) found a correlation between self-reported cannabis abuse or dependence and the perpetration of verbal and physical abuse specifically in groups with low socioeconomic status and ethnic minority groups. Physical abuse was also significantly

predicted by the extent of cannabis use in the past month (Stalans & Ritchie, 2008). In another study, a correlation was found between cannabis use at age 23 years and IPV perpetration at age 29 years, however, this finding was not replicated in a more sophisticated cross-lagged model (Martino et al., 2005). A 14-year longitudinal study also demonstrated a relation between cannabis use and IPV perpetration (Reingle, Staras, Jennings, Branchini, & Maldonado-Molina, 2012). Although most studies showed an association between cannabis use and IPV perpetration, others reported no significant association (El-Bassel, Gilbert, Wu, Chang, & Fontdevila, 2007; Mattson, O'Farrell, Lofgreen, Cunningham, & Murphy, 2012; Melander et al., 2010).

Cocaine use and IPV. The link between cocaine use and the perpetration of IPV was mostly studied in clients undergoing substance abuse treatment (Chase et al., 2003; Chermack, Fuller, et al., 2000; Chermack, Walton, et al., 2001; Murphy et al., 2001). In some cases, these samples included patients who actually participated in alcohol abuse treatment, which suggested that polysubstance use was also problematic with regard to IPV. In a study by Parrott, Drobes, Saladin, Coffey, and Dansky (2003), a cocaine-dependence diagnosis was related to physical assault and psychological aggression toward an intimate partner. However, in a study among males in a methadone maintenance program, no association was found between crack or cocaine use and IPV perpetration (El-Bassel et al., 2007). Finally, an association between cocaine use and IPV perpetration was also found in some community studies (Feingold et al., 2008; Smith et al., 2011; Walton et al., 2009). The majority of the studies showed an association between cocaine use and IPV perpetration across different study samples.

Opiate use and IPV. Studies on the role of heroin and other opiates in the occurrence of IPV are relatively scarce. Of the few studies that were conducted, most showed a significant association between opiate use and IPV. In a study among men in a methadone maintenance program, heroin use was associated with severe IPV perpetration (El-Bassel et al., 2007). Heroin use was also correlated with IPV in patients undergoing substance use disorder treatment (Chermack, Murray, et al., 2008). However, in a study on patients undergoing substance abuse treatment, no association was found between heroin use and IPV perpetration (Chermack, Fuller, et al., 2000)

Other illicit drugs and IPV. Use of less common illicit drugs was sometimes reported in larger studies on the association between substance use and IPV. Examples were stimulants such as methamphetamines (often speed) and hallucinogens such as ecstasy, LSD, and PCP. In a community study by Feingold et al. (2008), the use of both hallucinogens and amphetamines had a significant association with IPV. Other studies using different populations also reveal an association between the use of methamphetamines or other stimulants and IPV (Ernst et al., 2008; Mattson et al., 2012; Stalans & Ritchie, 2008; Stuart et al., 2008). In the study by Stalans and Ritchie (2008), no association was found between the use of hallucinogens and inhalants and IPV perpetration, whereas an association was found between stimulant use and IPV perpetration. These results did not demonstrate a clear-cut effect of stimulants and hallucinogens on IPV but suggested a certain connection. Finally, a community study conducted by Crane, Easton, and Devine (2013) revealed that IPV perpetration was more prevalent in PCP users than in perpetrators who had a cannabis use disorder or a combined alcohol and cannabis use disorder.

Alcohol Use and CM

Alcohol use and CM in clinical samples. In clinical studies, the association between alcohol use and perpetration of CM was not consistently demonstrated. In one study, alcohol use was not associated with neglect by mothers in substance treatment (Cash & Wilke, 2003), although in that study alcohol was not often reported as the primary substance. Conversely, other studies showed an association between neglect and (physical) abuse by parents and a substance-related diagnosis, including alcohol (Lewin & Abdrbo, 2009; Sprang, Clark, & Bass, 2005). Another study compared maltreating and non-maltreating families, both with traumatized children, and results indicated a greater prevalence of alcohol and/or substance abuse or dependence disorder in maltreating mothers (De Bellis et al., 2001). However, these results are not conclusive and might be explained by methodological differences between the studies.

Alcohol use and CM in social and health care samples. Parental alcohol abuse emerged as a significant risk factor for youths involved in social work and health care (Lindell & Svedin, 2001). Additionally, parental alcohol problems were reported retrospectively by adults who experienced maltreatment in their childhood, and the risk increased when both parents abused alcohol (Dube et al., 2001). Alcohol abuse of a caregiver also increased the likelihood of recurrence of maltreatment among first-time substantiated cases as was found in a retrospective longitudinal study (Laslett et al., 2012). In conclusion, parental alcohol use seemed to be an important risk factor in these vulnerable populations.

Alcohol use and CM in the general population. Three community studies examined alcohol use among mothers (Berger, 2005; Kim, Pears, Fisher, Connelly, & Landsverk, 2010). One of these reported a longitudinal relation between maternal alcohol use and later harsh parenting (Kim et al., 2010). Berger (2005) also found a significant association between maternal alcohol use and CM. Another study showed that current alcohol consumption by the mother, especially by mothers who were frequent heavy drinkers, was related to increased exposure to FV and lower intellectual stimulation or emotional support for the child (Jester, Jacobson, Sokol, Tuttle, & Jacobson, 2000). This suggests that the extent of alcohol use by mothers influences the occurrence of CM.

Alcohol use by fathers was also investigated. One study demonstrated that paternal alcohol use was related to more practice of corporal punishment (Lee, Perron, Taylor, & Guterman, 2010). Along this line, paternal alcoholism was longitudinally related to harsher parenting behavior (i.e., forceful and negative parental controlling behavior and dysfunctional discipline) and the occurrence of IPV (Finger et al., 2010). Another study examining paternal drinking showed that although parental drinking did predict violence toward the mother, it did not predict corporal punishment of a child (McCloskey, 2001). Apparently the relation between alcohol use and CM is less straightforward for fathers than for mothers. A longitudinal community study showed that parental alcohol use occurred more frequently in parents with children who were registered with child protective services (CPS) than with children without a CPS registration. However, it was also found that parental alcohol use did not predict the risk of a CPS registration (Sidebotham & Golding, 2001). Finally, a study among women showed that individuals who reported physical and sexual abuse also often reported parental alcoholism or problem drinking (Lown, Nayak, Korcha, & Greenfield, 2011). These studies demonstrated a link between alcohol use and the occurrence of various forms of CM.

Illicit Drug Use and CM

Alcohol and illicit drug use and CM. The link between illicit drug or alcohol use and maltreatment was consistently found in (at risk) community and clinical samples. Although both alcohol and illicit substances were often studied, separate results for alcohol and illicit substances were not presented (De Bellis et al., 2001; Hurme, Alanko, Anttila, Juven, & Svedstrom, 2008; Lindell & Svedin, 2001; Manly, Oshri, Lynch, Herzog, & Wortel, 2012; Melchert, 2000; Ondersma, 2002; Sidebotham & Golding, 2001; Sinanan, 2011; Sprang et al., 2005; Swanston et al., 2003). In a study utilizing police reports, alcohol and illicit drug use emerged as a risk factor for child physical abuse (Lindell & Svedin, 2001). In a large longitudinal community study, parental reports of alcohol and illicit drug abuse were investigated, and the association with CPS contact was examined. Alcohol and/or illicit drug use occurred more often in parents who were registered or investigated than in parents without CPS contact (Sidebotham & Golding, 2001). Sprang, Clark, and Bass (2005) investigated substance use in a sample of child maltreating families and found that the severity of CM varied as a function of parental substance use. More specifically, substance use was significantly related to more severe forms of CM. These studies did not provide clear conclusions regarding the (possible) differential effects of alcohol and illicit substances on CM because separate results were not presented. Similarly, when multiple types of illicit substances are concurrently investigated, results are presented either for illicit drug use in general or for specific illicit substance types. It is difficult to draw conclusions about the link between illicit drug use and the perpetration of CM, particularly when no distinction is made between illicit drugs with a differential physiological (i.e., behavioral) effect on the nervous system. Also, results cannot easily be compared across studies. Subsequently, results are reported for illicit drug use in general and (where possible) for specific types of illicit drugs.

General illicit drug use and CM. In a community study by Berger (2005), illicit drug use was operationalized as the frequency of "being high" in the past year without further inquiry as to which illicit substances were used. There was no association between "number of times being high in the past year" and CM. Contradictory results were found by Dubowitz et al. (2011) who observed increased contact with CPS in families in which illicit substances were used by mothers (lifetime use). Similarly, in other studies, substance use or a substance-related diagnosis was associated with abandonment, neglect, sexual, and physical child abuse, however, the primary substance was not specified (Lewin & Abdrbo, 2009; Onigu-Otite & Belcher, 2012). Two case–control studies investigated the influence of various illicit substances grouped together (e.g., marijuana, opiates, inhalants, cocaine, and illicit use of prescription drugs) and presented similar results (McGlade, Ware, & Crawford, 2009; Street, Harrington, Chiang, Cairns, & Ellis, 2004). Both studies showed an association between illicit drug use and contact with CPS. However, one study also included unsubstantiated cases of maltreatment (Street et al., 2004). Although most of these studies implied that a relation exists between illicit drug use and CM, the nature of this relation remains uncertain because the substances were not clearly specified.

Specific illicit substances and CM. Very few studies presented findings on the relation between the use of specific illicit drugs and CM. In some studies, heroin and cocaine use by mothers undergoing alcohol and substance treatment was associated with signs of neglect and physical abuse (Cash & Wilke, 2003; McGlade et al., 2009). A few studies investigated the effect of cannabis use on CM, but the results were equivocal. In a clinical sample of mothers undergoing alcohol and substance treatment, combined use of cannabis and alcohol was not related to signs of neglect. However, it should be noted that cannabis was not often reported as the primary substance (Cash & Wilke, 2003). In another community sample, cannabis use by mothers was related to exposure to physical and verbal violence between partners (Jester et al., 2000). Although some studies demonstrated the influence of specific illicit substances on the occurrence of CM, too few data are available to allow definite conclusions to be drawn.

Discussion

Summary of Results

This systematic review has given an overview on what is known about the relation between substance use and the perpetration of FV. More studies focused on IPV than on CM. Overall, alcohol use is reported to be associated with IPV. Some studies show that other factors at the individual and community

level (e.g., personality traits, psychopathology, and neighborhood unemployment) influence this association. However, in most cases, the association between alcohol use and IPV perpetration remains significant after controlling for the aforementioned variables.

Results of studies on the association between illicit drug use and IPV are less straightforward. Many studies do not separate the effects of alcohol and illicit substances and/or do not specify which illicit drugs have been investigated. These methodological shortcomings preclude drawing clear conclusions. Studies that do present results for specific illicit drugs show that IPV perpetration is often associated with cannabis and cocaine use. Thus, contrary to what might be expected, depressants as well as stimulant substances are associated with IPV perpetration. For other substances, research is scarce and mixed results are presented.

Existing literature supports an association between alcohol use and CM. However, this association is understudied in samples other than among the general population. Studies on the association between illicit drug use and CM are scarce. Moreover, many of these latter studies fail to distinguish between the effects of alcohol and illicit substances, making it difficult to draw conclusions. Studies on overall illicit drug use imply that there is an association with CM. Studies focusing on specific illicit substances are scarce and more research is needed in this area. There is some evidence that both stimulants and depressants are associated with CM perpetration.

General Limitations of Studies on Substance Use and Perpetration of FV

Some methodological limitations regarding the study design and measures of FV and substance use were encountered in the studies included in this review. These limitations should be taken into account when interpreting the results of these studies.

Study design and causality. Of the 96 studies reviewed here, many used a cross-sectional design. The longitudinal study of risk factors for maltreatment (including substance use) is important for prevention and treatment purposes. In a cross-sectional design, measurements are made only once and no definite conclusion about the causal effect of the variables over time can be drawn, for example, does substance use cause the perpetration of FV or is it the other way around?

Moreover, very few clinical treatment studies include a control group in which FV does not occur, whereas this is needed to establish an association or causal relation between substance use and FV perpetration. Finally, it should be noted that data collection methods can influence the study results. For example, some studies used an interview or survey method and, because of the sensitive nature of the questions concerning FV and substance use, both behaviors might be underreported.

Inaccurate measures of IPV or CM. Different measures are used to operationalize IPV or CM. In many studies, self-report questionnaires, often the revised Conflict Tactics Scales (Straus, Hamby, Boney-McCoy, & Sugarman, 1996), are used to measure the perpetration of IPV. An important disadvantage is that these self-report instruments are susceptible to over- or underreporting, which can lead to inaccurate results. Sometimes, instead of self-reports, official registrations or records are used. However, these often include unsubstantiated cases of IPV and CM or cases that differ in terms of severity. It is known that prevalence studies on CM can yield diverging results depending on the data source used. As such, informant data show that 4 in 1,000 children are sexually abused, while self-report data show that 76 in 1,000 boys and 184 in 1,000 girls are sexually abused (Stoltenborgh, 2012). Ideally, self-report data and more "objective" data should be combined into a single measure or analyses should be conducted using both types of data. In the case of CM, the measures used across the studies differ, in part, because there is a lack of consensus about the definition and scope of CM. An adapted version of the Conflict Tactics Scales (Straus et al., 1996) was developed to specifically assess CM and contains items on several types of maltreatment (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). Using the same measure in future studies could serve as an aid to arrive at a clear definition of CM for research purposes.

Inconsistent measures of alcohol and illicit drug use. Many different measures are used to indicate several degrees of substance use, ranging from substance use to harmful and problematic substance use, or to a substance abuse or dependence diagnosis. This makes it difficult to draw conclusions across studies. Some studies employ "strong" methods to measure the severity and consequences of substance use, such as validated instruments (e.g., the Timeline Followback Interview; Sobell, Brown, Leo, & Sobell, 1996) or the Addiction Severity Index (which has been translated into several languages; McLellan et al., 1992), or a DSM diagnosis. On the other hand, others use less strong measures such as incomplete survey questions (e.g., asking if someone has been "high" in the past year), instruments with psychometric shortcomings, or rating by an informant or victim.

Main Recommendations: Future Research and Prevention Policy and Treatment

Recommendations for future research. Based on the present review, some recommendations for future research can be made. First, it is important that studies have a longitudinal design to allow causal inferences to be made and to include a control group to establish whether an association between substance use and FV perpetration is specific for clinical groups. The issue of causality is especially challenging to investigate. This could be done by analyzing existing data from longitudinal studies or by conducting a new study with a longitudinal (cohort) design. Second, degrees of substance use should be differentiated, as not all substance use are harmful and/or lead to FV perpetration. Also, some studies suggest that the type of

FV can differ depending on the severity of substance use. Besides quantity and frequency, it is recommended to also assess the duration and pattern of use. With specific information on the severity of substance use and type of FV, more appropriate goals for treatment and prevention can be identified. Additionally, the accuracy of substance measures differs considerably between studies and should be improved, and this can be achieved by using reliable and valid instruments. Another suggestion is to use multiple informants (e.g., victims, perpetrators or health care professionals) or use information from several sources (e.g., self-reports and official registrations) to increase reliable assessment of substance use. Future studies should also examine the influence of associated risk factors that affect the association between substance use and FV perpetration, such as relationship quality or comorbid psychiatric disorders. Also, the influence of relevant variables should be studied in relation to each other to establish whether alcohol or illicit substances exert a significant influence on their own. Furthermore, more research is needed on alcohol and illicit drug use and CM because this area is relatively understudied compared to research on alcohol and illicit drug use and IPV. A final recommendation is to investigate which mechanisms are involved in the link between substance use and FV in order to develop preventative measures aimed at reducing FV and its related use of harmful substances.

Recommendations for prevention policy and treatment. Substance use is a significant risk factor associated with FV perpetration. Therefore, screening for substance use is a major aspect of policy with regard to prevention of FV occurrence. Screening in treatment or specialized social or health care settings (e.g., hospitals or substance treatment programs) should focus on the perpetration of FV, whereas screening in FV interventions or situations should focus on substance use. For the purpose of screening, in both cases it is important that reliable and valid instruments are implemented in existing guidelines and protocols. The literature shows that additional factors influence the association between substance use and FV perpetration. Therefore, it is important to conduct a comprehensive screening considering multiple risk factors for FV, such as comorbid psychiatric disorders and family or relationship dynamics. After careful screening, more adequate and effective referral can take place, for example, a referral to substance abuse treatment, psychiatric/psychological treatment, social work, or youth services. Finally, because prevalence studies show that IPV and CM also often co-occur, screening should consider both types of FV.

Although screening is very valuable, risk or problem assessment can only be effective if appropriate treatment and/or social support options are available. To this end, clinical treatment options, such as substance use treatment, often mandatory IPV offender programs, or family interventions, have been developed and implemented. However, there do not seem to be services or programs that are easily accessible for perpetrators who do not seek treatment voluntarily or under a court order. These perpetrators could be first-time offenders who are not yet mandated to enter treatment or whose substance use is not "clinical" and who could be reached through victims in specialized social or health care. This review shows that, outside clinical settings, substance use and FV perpetration often co-occur, and it is important that treatment options for this purpose are developed. Another important change that could simplify treatment is if integrated treatment or intervention for substance use and FV was available (Fals-Stewart & Kennedy, 2005). In practice these services are often separated. Trained personnel is an elementary component for screening in cases of (suspected) FV. Adequate training and supervision is needed to correctly conduct screening, interpret findings, collaborate with other treatment or criminal justice professionals in establishing safety, and above all to work together with perpetrators without bringing on risk for victims.

Conclusion

In this review, an overall association was found between substance use and the perpetration of FV. Recommendations for future research are to employ stronger study designs and more accurate measures to further underpin this finding. Another recommendation for future research is to test hypotheses on the working mechanisms that underlie the association between substance use and FV perpetration. Recommendations for policy and treatment include conjunctive and comprehensive screening for substance use and FV and creating an easily accessible treatment segment for FV perpetrators who do not enter a clinical treatment or program.

Summary of Critical Findings

1. Studies using clinical samples support the association between alcohol use and IPV perpetration but also demonstrate that other factors can influence this association.
2. Studies using social and health care samples support the association between alcohol use and IPV perpetration, however, alcohol measures vary widely between studies, and the influence of other factors on this association remains unclear.
3. Studies in the general population support the association between alcohol use and IPV perpetration, however, alcohol measures and violence measures vary widely between these studies. Results across studies cannot easily be compared. The influence of other factors on this association has been studied extensively.
4. Many studies included several types of illicit drugs and/or alcohol but do not present specific results per substance type. However, all these studies indicate a positive association between substance use and IPV perpetration.
5. Some studies provide specific results on the following illicit drugs: cannabis, cocaine, opiates, methamphetamines, and hallucinogens. Although most of these studies show an association between drug use and IPV perpetration, more replication is required.

6. Studies using clinical samples do not consistently show an association between alcohol use and CM perpetration. Nevertheless, alcohol does seem to be a risk factor in social and health care populations.
7. From studies in the general population, a clear relationship emerges between parental alcohol use and CM perpetration.
8. Alcohol and illicit drug use are often examined concurrently or the studies focus on general illicit drug use. Most of these studies support an association with CM perpetration.
9. Few studies focus on the association between specific illicit drugs and CM perpetration, which hinders drawing a clear conclusion.

Implications of Research, Practice, and Policy

Research

- Use instruments with good psychometric qualities to enable comparison and generalization of the results across studies. Instruments should also allow to differentiate between types of substance use and types of FV, in order to gain more insight into the nature of the association between substance use and FV perpetration.
- Conduct studies with a longitudinal design, including a control group and multiple measurements and informants. This will enable causality to be studied more precisely and to examine the working mechanisms and/or the influence of associated factors.
- More focus on the effect of substance use and CM, and on the effect of specific illicit drugs on FV perpetration, to supplement the existing literature on this topic.

Practice

- Screening for FV perpetration and substance use should take place in settings where they often co-occur, such as treatment facilities and specialized social or health care settings. Screening instruments should have good psychometric qualities and include additional risk factors that influence the association between FV perpetration and substance use.
- Further implementation of nonclinical care or support options that can be entered by individuals voluntarily and are easily accessible.
- Integrating treatment for substance use and FV is recommended

Policy

- Creating awareness (e.g. via media or education) about the co-occurrence of substance use and FV perpetration, and the available interventions, can relieve stigma and promote prevention.

Authors' Note

The main characteristics and findings of the studies selected for this review are summarized in two tables that are available upon request and for which you can contact the corresponding author. Table 1 summarizes findings for IPV and Table 2 summarizes findings for CM. These tables include a dichotomized results column (headed "Summary"). It should be noted that these are simplified findings. More information on the search terms and strings that were used are available upon request as well.

Acknowledgments

We would like to thank Dr. Carola Schrijvers for her assistance and advice during the reviewing of articles and for her valuable feedback during the writing of this review.

Declaration of Conflicting Interests

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

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Dutch national research grant organization, Zon MW, Grant Number 15700.4012; Zon MW had no further role in the writing of the manuscript, or in the decision to submit the paper for publication.

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Dike van de Mheen, PhD, finished high school in 1982 and studied Health Sciences until 1987. Her PhD thesis about ''Socio-economic health differences during the life-course'' was successfully defended in 1998. From 1987 to 1988, she worked as researcher with the Rotterdam Area Health Authority. This was followed by an appointment as researcher and assistant professor at the Erasmus University Rotterdam (Department of Public Health) from 1988 until 1999. During 1998 and 1999, she was a senior adviser at the Rotterdam Area Health Authority. From 1999 to date, she is the director of Research and Education at the IVO Addiction Research Institute Rotterdam. She has extended experience in research (both quantitative and qualitative) on drug- and alcohol-related issues. Since April 2007, she is a professor of ''addiction research'' at the Erasmus University in Rotterdam. Starting January 2012, she is also a professor of ''care and prevention of risky behaviour and addiction'' at Maastricht University.