A Secondary Data Analysis:

INTIMATE PARTNER VIOLENCE, SUBSTANCE ABUSE & HIV: Taking A Closer Look

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EXECUTIVE SUMMARY

One and a half million women in the U.S. are assaulted each year by an intimate partner (Tjaden & Thoennes, 2000a). Intimate partner violence (IPV) disproportionately affects minority populations and women (Tjaden & Thoennes, 2000). Many risk factors coalesce among women who experience IPV. This analysis focuses on the intersection of substance abuse, IPV and HIV status among a sample of women. Important differences emerged, especially when drugs were separated according to drug type, when physical and sexual IPV were examined separately, and when stratified by HIV status. Rates of IPV did not differ between HIV negative and HIV positive women, but differing rates of substance abuse were found to be highly significant. Further, the relationship between drug use and IPV appeared to be stronger for HIV negative women when compared to HIV positive women. This finding raises important questions and may indicate the need to creatively shape intervention strategies with HIV negative women to interrupt the trajectory of high-risk taking behaviors, which can also place these same women at heightened risk for both HIV and IPV. Though exploratory in nature, this study furthers our understanding of both the complexity of the relationship between IPV, drug use and HIV and also points to the need for further research steps.
INTRODUCTION

Intimate partner violence (IPV) still journeys for legitimacy as a public health problem (Fischbach & Herbert, 1997). Largely being seen as a ‘private matter behind closed doors’, IPV has received increasing recognition by the human rights community. The need for further empirical study of IPV was characterized as “urgent” in 1997 and Coker et al. (2002) framed IPV as “now” being viewed as a public health problem.

Based on studies in clinical settings and population surveys, the lifetime prevalence of IPV among women ranges from 21-39% (Jones et al., 1999; Collins et al., 1999). Two of three of these victimizations are perpetrated by current or ex-husbands, cohabitating partners, boyfriends or dates. Thirty percent (30%) of women murdered have been killed by an intimate partner, a figure which has remained steady since the middle of the 1970’s (Rennison & Welchans, 2000). One out of every three women who experiences physical or sexual assault by a partner is injured and over half a million come forward for treatment (Tjaden & Thoennes, 2000a). However, the National Crime Victimization Survey indicated that of the women reporting a physical injury, less than half seek medical help (Rennison & Welchans, 2000).

Among countless other debilitating consequences for individuals, families, communities and societies, depression and suicide are considered common occurrences among IPV victims (Constantino et al., 2000). Depression is twice as likely to be found in women experiencing IPV compared with the general population (Dienemann et al., 2000). As many as 80% of the women who attempt suicide report IPV as influencing their decision (Kaslow et al., 2002).
Studies rarely focus on IPV in minority women (Kaslow et al., 1998). Almost one out of every three African American women will experience IPV during their life; this statistic is only one out of four among white women (Tjaden & Thoennes, 2000b). In half of all suicide attempts by African American women, abuse is a precursor to suicide as compared with one out of four attempts for Caucasian women (Fischbach & Herbert, 1997). Further, studies show a higher prevalence of IPV among African American than Caucasian women. Abused African American women are over twice as likely to be at risk for attempting suicide (Thompson et al., 2002).

**Drugs, alcohol and IPV**

There are myriad complex risk factors bearing upon IPV, two of which are alcohol abuse and illegal drug use. Though the association between IPV and alcohol and drugs is supported throughout the literature (Burnam et al., 1988; Briere, 1989; Cottler et al., 1992; Kilpatrick et al., 1997; Curry, 1998; Hirsch, 2001; El-Bassel et al., 2001; Cunradi, 2002; Campbell, unpublished manuscript), the complexity of the relationship and corresponding implications for practice are not yet well understood. The cross-sectional designs of most IPV studies and the limitations of self-report are two of the main barriers towards an understanding of the temporal relationship between drug use and IPV (Cunradi et al., 2002; Kilpatrick et al., 1997).

Three primary pathways have been explored as potential keys to understanding the nature of temporal relationships between IPV and substance abuse (Kilpatrick et al., 1997). In the “substance abuse leads to assault” framework, substance abuse and the impact of the accompanying lifestyle could increase a woman’s vulnerability and exposure to assailants (Kilpatrick et al., 1997). Further, her use of drugs could
compromise her internal radar for identifying perpetrators and victimization risk becomes heightened in the setting of risk-taking behaviors (Kilpatrick et al., 1997). In keeping with this hypothesis, hard drug users were found to be five times as likely to be assaulted; marijuana users were 1.5 times as likely to be assaulted as non-users (Cottler et al., 1992). In a study focusing on street-based sex workers (El-Bassel et al., 2001), the risk of partner violence was heightened among drug using women, thus seeming to implicate the lifestyle associated with drug use, such as buying, selling, and sex trading. Further, certain drugs act on the body in particular ways. For example, crack and cocaine are known to be associated with increased aggression that could, in turn, trigger a violent act. Drug use can lead to paranoia, disturbed judgment and misinterpretation of social cues (El-Bassel et al., 2001). The stigma associated with being a drug addict—and specifically, a female drug addict—could serve as justification for the behavior of perpetrators (El-Bassel et al., 2001).

The “assault leads to substance abuse” hypothesis posits that the abuse of substances develops into a coping strategy as a way of temporarily escaping from pain (Briere, 1989). In their cross-sectional analysis, Burnam et al., (1988) reported that the relative risk (RR) for alcohol abuse or dependence following sexual assault was almost seven fold compared to a threefold RR for alcohol abuse/dependence preceding sexual assault. This same study found that the RR of drug abuse/dependence being a precursor to sexual abuse was almost identical to drug use being a consequence (RR 2.6, 2.5). In an E.R. study, violence was a precursor to alcohol use about ¾ of the alcohol cases (Stark & Filcraft, 1988). Battered women were nine times more likely to be using drugs after the onset of their abuse (Stark & Filcraft, 1988). In a cross-sectional, qualitative study
highlighting the experience of women with drug felonies, drug use was found to be a response to both childhood abuse and adult victimization (Hirsch, 2001).

A cyclical pathway could exist, one where substance abuse heightens the risk for assault and assault heightens the risk of further substance abuse; however, the limitations present in the cross-sectional research designs, small sample sizes and unclear behavioral definitions of terms to describe victimization make testing the hypothesis of reciprocity particularly challenging (Kilpatrick, 1997).

Kilpatrick’s hypothesis that a reciprocal relationship could be present between assault and substance abuse is supported by his data on illicit drug use. This could point to the role of the drug culture, accompanying illicit activity and heightened risk-taking behaviors. In contrast, data on exclusive alcohol abuse supported his hypothesis that assault leads to substance abuse. This study suggests that the use of illicit drugs, rather than exclusive alcohol abuse, increases the chances for new assault. Victimization could therefore be implicated in both the initiation and the maintenance of substance abuse (Kilpatrick, 1997).

**HIV and IPV**

HIV is a looming public health problem disproportionately affecting minority populations. Twelve percent (12%) of the U.S. population is African-American, but shockingly, fifty percent (50%) of the new HIV cases in 2001 were among African-Americans (CDC, 2001). Further, among African-American women ages 25-34, AIDS is the number one cause of death and is in the top three causes of death for women ages 35-44 (National Center for Health Statistics, 2002).
While a clear understanding of the relationship between HIV status and violence is in its infancy, Maman et al.’s literature review (2000) presented support for a number of pathways as potential keys to understanding HIV and violence: 1) sexual violence as heightening HIV risk; 2) childhood physical and sexual abuse as being implicated in later sexual risk-taking behaviors; and 3) disclosure of an HIV positive diagnosis as heightening risk for partner violence. This study highlighted the need for prospective studies focusing on the relationship between sexual violence and being HIV positive. In addition, standardized definitions and measurements for violence, HIV disclosure and risk-behaviors will be needed ingredients to achieve consistency across studies (Maman et al., 2000).

Wingwood et al., (2000) studied health outcomes in women who were sexually and physically abused as compared with women who have been physically abused. Sexually and physically abused women were about 3 times more concerned about getting HIV, about three times more likely to smoke marijuana in response to their abuse, and have about twice the rate of suicide attempts as their physically abused counterparts.

Zierler et al., (2000) studied whether disclosure of HIV status acted to precipitate victimization. Forty-five percent (45%) of HIV positive adults in the treatment sample referred to their seropositive status as having prompted IPV or aggression by another person close to them. This study suggests that perhaps there is not a high-risk window of time following disclosure—but rather a clustering of psychosocial stressors such as poverty and social isolation—which contribute to a heightened risk for victimization. The authors found that the “factors most strongly associated with partner/relationship violence in our study were drug dependence, homelessness, and unemployment” (Zierler
et al., 2000, p. 212). An important study limitation is that baseline measures of IPV prior to HIV diagnosis and disclosure were not gathered, thus the study is limited by not having a comparison group (Zierler et al., 2000).

**Study aims**

The secondary data analysis presented in this paper contributes to a heightened understanding of the complex set of inter-relationships among IPV, drug use and HIV status. Towards this end, the aims of this study are two-fold: 1) to examine the extent of association between IPV and the abuse of substances such as alcohol, pills and street drugs; 2) to analyze the differences in the relationship of IPV and substance abuse between HIV negative and HIV positive women.

**METHODS**

This secondary data analysis utilizes data from Project WAVE, which stands for Women, Aids and the Violence Epidemic (for further details, refer to Gielen et al., 2000; O’Campo et al., 2001; Burke et al., 2001; Gielen et al., 2002; McDonnell et al., in press). This was an NIMH funded grant to study women’s health, HIV and domestic violence. Women were interviewed from 1997 through 1999. The Project WAVE study utilized a cross-sectional design.

A total sample of 611 women, 310 HIV-positive women and 301 demographically similar HIV-negative women who lived in low income, urban neighborhoods in Baltimore participated in this study. Within the group of HIV positive women, 13% were between the ages of 18 and 30, 47% between the ages of 30 and 40 and 39% over age 40. Within the group of HIV negative women, 38% were between 18-30, 39% between 30-40 and 23% over the age of 40. These age differences between HIV positive
and negative women were found to be statistically significant (p<.05). The ethnic and educational profiles of both groups of women were very similar. Approximately the same proportion of HIV positive women and HIV negative women were African-American (95% and 98%, respectively). Forty percent (40%) of the HIV positive women did not complete high school, 45% did complete high school and 15% pursued further education. For HIV negative women, these numbers were 37%, 46% and 17% respectively (McDonnell et al., in press).

The five recruitment sites consisted of outpatient clinics, a homeless shelter and a community center. Trained interviewers stationed at area recruitment sites worked with intake and admission staff to enroll women who were over 18, not pregnant and English speaking. Interviewers adhered to the approved study protocol by the Johns Hopkins Joint Committee on Clinical Investigation in obtaining informed consent for study participants.

The extensive interview tool for Project WAVE gathered information on a broad range of categories including sociodemographic characteristics, family environment, interpersonal violence, partner characteristics, HIV disclosure, Substance Abuse History, Criminal Activity, Mental Health, Quality of Life and Social Supports.

Measures

In keeping with the aims of this analysis, measures of physical IPV, sexual IPV, HIV status and measures of drug and alcohol abuse were included.

Intimate Partner Violence

Dichotomous variables measured the presence or absence of physical IPV and sexual IPV among Project WAVE women. Women who answered affirmatively to the following
question were included in the variable capturing physical IPV: “Have you ever been hit, slapped, kicked, pushed or shoved or otherwise physically hurt by a husband, boyfriend or female partner?” Women who answered affirmatively to the following question were included in the variable capturing sexual IPV: “Have you ever been forced into sexual activities by a husband, boyfriend or female partner?”

**HIV Status**

The dichotomous variable recording HIV status was created based on the recruitment pattern of the women. All of the HIV positive women were recruited from a clinic serving HIV positive clients. The HIV negative women either provided recent proof of their status or were tested as part of the study.

**Substance Abuse**

In the interview, women were asked questions relating to their drug use. Drug use measures for this analysis captured women who had ever used each drug in question. This analysis focused on the following seven drug groupings: 1) smoked marijuana; 2) sniffed, snorted, or smoked cocaine, crack, ready-rock or freebase cocaine; 3) shot up cocaine by itself; 4) sniffed, snorted or smoked heroin; 5) shot up heroin by itself; 6) shot up heroin with something else such as cocaine or amphetamines (speedball); 7) used pills like tranquilizers or sedatives. This section of the interview is adapted from the work of Latkin and colleagues (Latkin et al., 1996; Smith et al., 1997). A dichotomous variable for each drug category was utilized for this analysis. In addition, a new variable was created to capture the number of women who had ever used any illicit drugs, called “any drug”.
Alcohol Abuse & the CAGE instrument

The CAGE instrument, developed in 1970, is a screening tool for alcoholism (Ewing, 1984). As a widely used measure with established reliability and validity, it is included within the Project WAVE interview tool as an indicator of alcohol abuse/dependence. It consists of four questions, each question standing for one of the letters in the word C-A-G-E. The CAGE is scored as positive if at least two of the four questions are answered affirmatively. This led to the creation of a dichotomous variable, consisting of all the women with two or more affirmative, or “yes” responses to the CAGE questions.

C: “Have you ever felt that you should cut down on your drinking?”

A: “Have people annoyed you by criticizing your drinking?”

G: “Have you ever felt bad or guilty about your drinking?”

E: “Have you ever taken a drink first thing in the morning (eye-opener) to steady your nerves or get rid of a hangover?”

Analysis

In keeping with study aim number one, HIV negative women (301) and HIV positive women (310) were described based on their experiences of physical and sexual IPV and drug and alcohol use. The Chi-square statistic and corresponding p-values were used to compare the two groups of women on these measures. To address the second study aim, bivariate analyses were conducted by performing independent cross-tabs between each drug and physical IPV as well as each drug and sexual IPV. Odds ratios and corresponding p-values were presented for the entire group of women and also stratified by HIV status. Due to the exploratory nature of this study, p-values less than or equal to (.10) were given notice.
RESULTS

Intimate Partner Violence and HIV

Table I presents sample characteristics relating to the rates of physical and sexual IPV as well as drug using rates according to HIV status for the 611 Project WAVE women. Approximately the same proportion of HIV negative and HIV positive women (63.5% and 61.6%) experienced physical IPV. In a similar vein, exactly the same percentage (21.6%) of HIV negative and HIV positive women experienced sexual IPV. Neither physical nor sexual IPV is associated with HIV status (p > .05).

Drug and alcohol use and HIV

Although experiences of IPV did not differ in regard to HIV status, drug use patterns revealed dramatic differences. Significant differences (Chi-sq=16.4; p=.000) were found in use of ‘any drugs’ between HIV positive and HIV negative women. When analyzed according to drug type and HIV status, significant differences were noted between rates of marijuana, snorting, sniffing, smoking and injecting cocaine, injecting heroin and speedballing. For example, 62.1% of HIV negative women reported snorting, smoking or sniffing cocaine as compared with 75.5% of HIV positive women (refer to Table I).

The rates of alcohol abuse between the two groups of women differed significantly, with 24% of HIV negative women scoring positive on the CAGE instrument compared with 48% of HIV positive women (Chi-sq=39.5; p=.000)

Drugs and Alcohol and Intimate Partner Violence

Table II explores bivariate relationships between women who used drugs and the presence or absence of physical IPV and sexual IPV. Women who have used any drugs
are almost three times as likely to experience physical IPV compared to their non-drug using counterparts \((p=.002)\). Women who used marijuana, sniffed, snorted or smoked cocaine, used heroin, injected speedball, or used pills were between 1.5 – 3.7 times more likely to report physical IPV compared with women who did not use those drugs \((p<.03)\).

Women who used ‘any drugs’ were only about twice as likely to experience sexual IPV at only a marginal level of significance \((p=.107)\). This could be misleading, because when the drugs were separated according to type, both marijuana and pills revealed associations with sexual IPV. Women who used marijuana were almost twice as likely to experience sexual IPV compared with women who did not use marijuana \((p=.062)\). Women who used pills were just over twice as likely to experience sexual IPV \((p=.001)\).

Sniffing, snorting and smoking cocaine \((OR=1.5; p=.021)\) was found to be significant on the physical IPV front; whereas, injecting cocaine was not. Women who injected heroin were 1.5 times more likely to experience physical IPV. In contrast, injecting heroin was not found to be associated with sexual IPV at all. Having a positive CAGE was not found to be independently associated with either physical IPV or sexual IPV.

**Drugs and Alcohol, HIV and Intimate Partner Violence**

Table III examines bivariate relationships between drug use and IPV by HIV status. Among HIV negative women, the use of ‘any drugs’ appears to have a stronger association with physical IPV than among HIV positive women. HIV negative women who have reported ‘any drug’ use were about three times as likely to report physical IPV as compared to their non-drug using counterparts \((OR = 2.81; p=.005)\); in contrast, the
relationship between the use of ‘any drugs’ and physical IPV was only marginally significant for HIV positive women (OR=3.33; p=.094).

Except for injecting cocaine, six out of the seven drug categories among HIV negative women were significantly associated with physical IPV (OR 1.7-3.1). Among HIV positive women four out of the seven were associated with physical IPV: marijuana use, injecting heroin and speedball and using pills. Of note, HIV positive women who used pills were 4.5 times more likely to experience physical IPV (p=.000) whereas HIV negative women who used pills were 3.1 times more likely to experience physical IPV (p=.002).

When examining ‘any drug’ use among HIV negative women and among HIV positive women, there appears to be no association with sexual IPV (p=.15 and p=.45). Of note, a similar dynamic to the one that exists between HIV negative women and HIV positive women in relationship to physical IPV emerges for sexual IPV. Five drug types among HIV negative women were found to be associated with sexual IPV: marijuana, snorting, sniffing, and smoking cocaine, heroin and pills. Only the use of pills among HIV positive women was found to be associated with sexual IPV.

No association was noted among HIV negative or positive women who scored positive on the CAGE and physical IPV. Among all the relationships explored according to HIV status and IPV, the positive CAGE was only found to be significantly associated with sexual IPV, and this was among HIV negative women. HIV negative women who scored positively on the CAGE were approximately twice as likely to report sexual IPV as compared with HIV negative women who did not score positive on the CAGE (p=.036).
DISCUSSION

This exploratory secondary data analysis furthers our understanding of both the complexity of the relationship between IPV, drug use and HIV and also points to the need for further research steps. There is a high prevalence of substance abuse and IPV in this sample of 611 women. Sixty-three percent (63%) of the women reported experiencing physical IPV and 22% reported experiencing sexual IPV. Ninety-three percent (93%) of the women reported drug use. The prevalence of IPV in this sample of demographically similar, urban women is much higher than the 21-39% statistic reported in clinical settings and population surveys (Jones et al., 1999; Collins et al., 1999).

In addressing study aim number one, we concluded that the strength of association between drug use and intimate partner violence varies between type of violence and type of drug. More associations were found between drug use women and physical IPV than between drug use and sexual IPV. The use of an ‘any drug’ measure meant that we could not distinguish key differences relating to particular drugs. Because we included sub-groupings of drugs in addition to the ‘any drug’ measure throughout our analysis, we were able to further understand how particular drug types, when independently studied, could shed light upon the relationship between IPV and drug use.

Our findings lend support to other studies showing a heightened association between hard drug users and IPV. Cottler et al., (1992) found that hard drug users were five times as likely to be assaulted; our findings still revealed a positive association, though not as strongly. For example, we found that women who injected heroin were about 1.5 times more likely to be a victim of physical IPV as compared to non-heroin users (unadjusted for HIV status).
The apparent difference in associations between physical and sexual IPV point towards the need to continue to examine types of violence separately. However, women often experience more than one type of violence and often use a cluster of drugs. This analysis did not distinguish between the women who experienced both physical and sexual abuse. An important next step would be to group women according to the cluster of drugs they used and then perform an analysis involving women who experienced no IPV, only physical IPV, only sexual IPV and both types of IPV, which could provide valuable information relating to contextual factors for drug use and IPV.

The lack of strength in the association between women who scored positive on the CAGE instrument and physical IPV and sexual IPV was further understood and challenged when the bivariate analysis was stratified according to HIV status. From Table I, significant differences were found in positive CAGE rates between HIV negative and positive women. Although HIV negative women scored CAGE positive significantly less than HIV positive women, being HIV negative and scoring positive on the CAGE was associated with being twice as likely to experience sexual IPV. No association between the positive CAGE was found among HIV positive women and physical and sexual abuse or HIV negative women and physical abuse. Kilpatrick et al., (1997) found that assault (defined as physical and/or sexual) led to substance abuse for exclusive alcohol abuse. Our finding, though not temporal in nature, reveals the presence and strength of a relationship between alcohol abuse and sexual abuse that deserves further exploration.

Study aim number two was addressed by stratifying by HIV status and contributes to an understanding of the role of HIV and risk-taking behaviors as they relate to IPV.
Table I reveals that being HIV positive is more closely associated with drug use for most of the drug types as compared to being HIV negative. Surprisingly, it is the group of HIV negative women and their drug use that appears to be more closely associated with both physical and sexual IPV when examined independently (Table III). This finding raises important questions relating to risk-taking behaviors of HIV negative women. Further, this question also resonates with one of the pathways explored by Maman et al., (2000) that sexual violence heightens HIV risk. HIV negative women who experienced IPV and drug use could likely be more vulnerable to HIV infection in the future.

Of all the drugs, the use of pills among HIV positive and HIV negative women is most strongly associated with physical IPV and also with sexual IPV. We don’t know how women accessed these pills—what percentage of these pills were, at least initially, prescribed, and what percentage were gained illegally. Fischbach & Herbert (1997) address a related concern as they speak to the dangers associated with doctors prescribing pills for women. They advise caution in applying only a medical model to intimate partner violence—which holds the potential to undermine a woman’s experience and suffering. Dangerous consequences can result, since a tranquilizer, for example could interfere with the acuity of a woman’s coping mechanisms when under attack. This also merits further investigation and is an example of the importance of understanding how individual drugs, as well as the clustering of drug types, interact with IPV in a broader context of a women’s lifestyle.

Our study limitations included small cell sizes in some analyses, unadjusted data, and potential underreporting of both the women’s experience of IPV and also their drug using patterns due to the stigma attached to both experiences. In addition, there are
important temporal considerations relating to the time of HIV diagnosis, IPV and drug use. Women who were HIV positive and were recruited for the WAVE project were asked about their experiences of IPV. We examined the women who were HIV positive at the time of the interview and performed an analysis of their IPV and drug use. However, at what point in time did these HIV positive women become positive? Important analytic steps remain to be taken to find out the time points and temporal relationship among the following: a woman’s first drug use, her first IPV experience and her HIV positive diagnosis.

Results of the current analysis support the recommendations that women who have been victimized should receive treatment for symptoms of trauma and substance abuse in a concerted effort to interrupt the assault-substance use cycle (Kilpatrick et al., 1997). Studies need to be done to connect the rather disparate fields of substance abuse and partner violence (Campbell & Wolf, unpublished manuscript). It is vital to assess risk for IPV in drug treatment programs and other outreach venues where sex-workers frequent (El-Bassel et al., 2001). Screening protocols need to be shaped accordingly: “If we recognize that substance use may be a clue that a woman is being abused, our approach can focus on identifying and relieving the underlying stresses she may be experiencing which includes screening for abuse.” (Curry, 1998, p. 697).

Funding streams need to be reflective of a joint mission in serving women who are victims of domestic violence and also are entrenched in alcohol and substance abuse. In the treatment arena, often staff may have specialized training in either substance abuse or domestic violence, but not both. This leads to women often not being able to receive treatment in a way that is coordinated and synergistic. The shifting of educational tracts
and curricula at the university level, especially for clinicians seeking advanced degrees in counseling, could assist in bridging this gap. In addition, at the programmatic level, cross-training of staff is vital, since women’s experiences of violence and use of drugs and alcohol and high-risk behaviors do not exist in isolation of one another.

In summary, intimate partner violence has struggled on its journey to become a public health priority. The association between substance abuse and IPV has been well documented. This secondary data analysis examines the relationships between IPV, drug use and HIV from a closer vantage point. Though exploratory, this study moves the existing literature forward by distinguishing among drug types, types of IPV and HIV status in an effort to further clarify these relationships.
References


