Published in final edited form as:
J Assoc Nurses AIDS Care. 2013 ; 24(4): 322–330. doi:10.1016/j.jana.2012.11.009.

HIV Risk Among Women from Domestic Violence Agencies: Prevalence and Correlates

Mona Mittal, PhD, **Jamila K. Stockman, PhD, MPH**, **Christopher L. Seplaki, PhD**, **Kelly Thevenet-Morrison, MS**, **Joseph Guido, MS**, and **Michael P. Carey, PhD**

Mona Mittal, PhD, is Assistant Professor, Department of Community and Preventive Medicine, University of Rochester, Rochester, NY, USA; Jamila K. Stockman, PhD, MPH, is Assistant Professor, Division of Global Public Health, Department of Medicine, University of California, San Diego, La Jolla, CA, USA; Christopher L. Seplaki, PhD, is Assistant Professor, Department of Community and Preventive Medicine, University of Rochester, Rochester, NY, USA; Kelly Thevenet-Morrison, MS, is a Lead Programmer Analyst, Department of Community and Preventive Medicine, University of Rochester, Rochester, NY, USA; Joseph Guido, MS, is a Biostatistician, Department of Biostatistics and Computational Biology, University of Rochester, Rochester, NY, USA; Michael P. Carey, PhD, is Director and Professor, The Centers for Behavioral and Preventive Medicine, The Miriam Hospital and Brown University, Providence, RI, USA.

Abstract

The co-occurrence of HIV and intimate partner violence is a significant public health problem. Although these intersecting epidemics have been examined in various populations, limited data exist among recently abused women seeking services from domestic violence agencies. Our study examined sexual risk behaviors among 103 predominantly low-income, urban women receiving services from domestic violence agencies. Results showed that 42% of women engaged in risky sexual behavior (e.g., inconsistent condom use, STD diagnosis, sex with more than 1 partner) in the previous 3 months. Multivariable analyses revealed that women who engaged in sexual risk behaviors were more likely to have never been married, experienced greater fear of abuse when negotiating condom use, used substances before sex, and had lower self-esteem compared to abused women who did not engage in sexual risk behaviors. Results underscore the need to integrate sexual risk screening and risk reduction programs into domestic violence agencies for women.

Conflict of Interest Statement:
The authors report no real or perceived vested interests that relate to this article (including relationships with pharmaceutical companies, biomedical device manufacturers, grantors, or other entities whose products or services are related to topics covered in this manuscript) that could be construed as a conflict of interest.

Keywords

domestic violence agency; HIV; intimate partner violence; sexual risk behaviors; women

Intimate partner violence (IPV) is a significant public health issue in the United States and worldwide (Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2006). Estimates have shown that approximately one in three women in the United States have experienced physical violence, rape, and/or stalking by an intimate partner in their lifetime (Black et al., 2011). In 2005, 1,181 women were murdered by an intimate partner (Catalano, 2006). An extensive body of literature has described the magnitude and consequences of IPV against women (Bonomi, Anderson, Rivara, & Thompson, 2009; Coker et al., 2002). Of particular importance is the association between IPV and HIV infection (Burke, Thieman, Gielen, O'Campo, & McDonnell, 2005; Campbell et al., 2008).

A recent national study of nearly 14,000 women documented that 12% of the HIV infections among women in intimate relationships were due to IPV (Sareen, Pagura, & Grant, 2009). IPV has been shown to be a risk factor for HIV infection in women through diverse pathways. Women who experience IPV are often unable to practice safer sex because they may be coerced to have unprotected vaginal or anal intercourse (Garcia-Moreno, 2000; Molitor, Ruiz, Klausner, & McFarland, 2000), use condoms inconsistently (Silverman, 2011), have limited ability to negotiate condom use (El-Bassel, Gilbert, Rajah, Foleno, & Frye, 2000), and/or have fear of violent consequences in response to condom use requests (Mittal, Senn, & Carey, 2011; Seth, Raiford, Robinson, Wingood, & DiClemente, 2010). Furthermore, men who perpetrate IPV are more likely to engage in sexual risk behaviors (El-Bassel et al., 2001) and report inconsistent condom use (Frye et al., 2011).

IPV has been shown to be associated with increased sexual risk-taking among women, such as having multiple sexual partners (Wu, El-Bassel, Witte, Gilbert, & Chang, 2003), engaging in substance use before sex (Silverman, Raj, Mucci, & Hathaway, 2001), having sexual relations with an injecting-drug-using partner, and trading sex for money or drugs (Molitor et al., 2000). Abused women are at substantial risk for sexually transmitted diseases (STDs) and other gynecological problems (Coker et al., 2002) that increase women’s risks for exposure to HIV infection. Moreover, women with IPV often experience unhealthy emotional states and behaviors that are also risk markers associated with sexual risk-taking and HIV infection (e.g., depression, anxiety, lower self-esteem, and substance use; Beadnell, Baker, Morrison, & Knox, 2000; El-Bassel, Gilbert, Schilling, & Wada, 2000).

Although domestic violence agencies have been identified as an important site for intervention with abused women at high risk for HIV, to our knowledge no studies have been conducted to understand the prevalence of HIV risk and its correlates among this population. After an extensive literature search, we located only one study conducted by Wingood, DiClemente, and Raj (2000) that examined the correlates of self-reported STDs among women who resided in domestic violence shelters. The limited knowledge on HIV risk in these settings is significant given the co-occurrence of IPV and HIV infection among women (Burke et al., 2005).

Our study provides evidence regarding the prevalence and correlates of sexual risk behavior in a convenience sample of predominantly low-income, urban women who received services from two domestic violence agencies in upstate New York. It also adds to the literature by investigating differences among women with recent experiences of abuse who are at-risk for HIV infection versus women who are not. More specifically, we examined the associations between sexual risk and self-esteem, relationship dynamics, and alcohol and drug use before sex. Identification of these associations will allow nurses and other health practitioners who work in domestic violence agencies to advocate for the development and implementation of formal HIV risk assessments and HIV risk reduction programs for abused women.

Methods

Sample Recruitment and Selection

This study was conducted between May 2010 and April 2011 to examine HIV risk among women in domestic violence agencies. Women were recruited from two domestic violence agencies in upstate New York. A trained research assistant (RA) recruited participants from support group meetings at the shelters and community meetings at the two domestic violence agencies. Therapists at the two agencies also referred women to the RA. The RA informed the women about the study and asked if they would answer a few screening questions to determine their eligibility for participation. Participants were eligible to participate if they were 18 years or older and reported experiencing physical, psychological, or sexual abuse in the previous 3 months. Examples of screening questions include:

1. Has a sexual partner hit you, hurt you, or threatened you in the last 3 months?
2. Has a sexual partner made you feel afraid in the last 3 months?
3. Has a sexual partner forced you to have sex when you did not want to in the last 3 months?

Eligible women who agreed to participate provided contact information and scheduled a time for completing the survey. On the day of their appointments, the women provided written informed consent and completed a calendar of important events for the previous 3 months (e.g., birthdays, celebrations, other significant events) to improve their recall when answering the computerized survey.

Participants then completed an audio computer-assisted self-interview (ACASI) in a private room. Use of ACASI has been shown to reduce literacy barriers for participation in research studies and enhance quality of data, especially for sensitive topics (Schroder, Carey, & Vanable, 2003). Participants took an average of 59 minutes to complete the survey and were each paid $20 for their participation. The women were also given a list of community resources for emergency aid; mental, dental, and physical health; and education and employment opportunities, as well as a newsletter of free community events focused on women and children. All procedures were approved by the institutional review boards of Syracuse University and the University of Rochester.

Measurement

The ACASI assessed socio-demographic characteristics. Other background variables that were assessed included self-esteem, fear of abuse when negotiating condoms, relationship power, alcohol and drug use before sex, and sexual risk behavior.

Socio-demographics—Participants reported age, education (recoded as high school or less vs. more than high school), and lifetime marital status (recoded as single never-married vs. married). They were also asked about lifetime trading sex for money (recoded as yes vs. no).

Self-esteem—The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a 10-item self-report measure. Items were answered on a 4-point scale ranging from 0 (*strongly disagree*) to 3 (*strongly agree*). The Cronbach's alpha coefficient for internal consistency was .88 for this sample, which is quite favorable for a 10-item measure. Positive and negative items included: *On the whole, I am satisfied with myself* and *At times, I think I am no good at all.* Negative scores were reversed scored, and scores were summed so that higher scores indicated higher self-esteem.

Fear of abuse—The Fear of Abuse Scale (FOA; Wingood & DiClemente, 1998) is an 8-item scale intended to measure fear of abuse in relation to negotiation of condom use. Items were answered on a 5-point scale ranging from 0 (*never*) to 4 (*always*). The Cronbach's alpha was .80 for this sample. Items included: *I have been worried that if I talked about using condoms with my boyfriend or sex partner, he would threaten to hit me* and *I have been worried that if I talked about using condoms with my boyfriend or sex partner, he would leave me*. Scores were summed, and higher scores indicated greater fear of abuse.

Relationship power—The Sexual Relationship Power Scale (SRPS; Pulerwitz, Gortmaker, & DeJong, 2000) is a 23-item scale intended to assess power in sexual relationships. The SRPS contains two subscales: relationship control and decision making dominance. Items on the relationship control subscale were answered on a 4-point scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*), and items on the decision making dominance subscale were answered on a 3-point scale from 1 (*you*) to 3 (*both of you equally*; Cronbach's $\alpha = .92$ for this sample). Sample items on the relationship control subscale were: *My partner has more say than I do about important decisions that affect us* and *My partner tells me who I can spend time with.* Sample items on the decision making dominance subscale were: *Who usually has more say about whose friends to go out with?* and *Who usually has more say about when you talk about serious things?* Higher scores indicated higher sexual relationship power.

Drug and alcohol use before sex—To assess the use of drugs and alcohol before sex, participants were asked how often they used drugs and alcohol before sex in the previous 3 months. Responses ranged from *never* to *almost always*. They answered these questions about their steady and other partners. The responses were averaged across partner types to obtain an overall score of alcohol and drug use before sex across partners.

Sexual risk behaviors—Sexual risk behaviors were assessed using items from previous research (Carey et al., 2000; Carey et al., 1997). Participants were asked to report the number of male and female partners as well as the number of unprotected vaginal and anal episodes of sex with steady and other partners that they had had in the previous 3 months. Items were summed to determine the total number of episodes of unprotected sex with all partners. Participants who reported episodes of unprotected sex were classified as inconsistent condom users. Participants were also asked about their sexual behaviors in the previous 3 months (e.g., diagnosed or treated with an STD, number of sexual partners) and that of their partners (e.g., if their sexual partners had other partners, if their sexual partners injected drugs). A dichotomous sexual risk variable was created using this information. Participants who used condoms inconsistently and answered affirmatively on any of the sexual behavior items were categorized as engaging in risky sexual behavior.

Data Analysis

Statistical analyses were performed using SAS®/STAT software, Version 9.2.3 of the SAS® System for Windows. Because data were collected using ACASI, range and cross-variable checks were performed on the data using the SAS system. Before the analyses were conducted, women were categorized as engaging in sexual risk behaviors ($n = 43$) or not engaging in sexual risk behaviors ($n = 60$). Initial descriptive analyses were completed to provide estimates of the prevalence of HIV-related risk behaviors. Next, Chi-square and student's *t*-tests were conducted to determine how socio-demographic variables, self-esteem, relationship dynamics, and alcohol and drug use were related to sexual risk behavior. To check for possible multicollinearity among the independent variables, we ran and inspected a bivariate correlation matrix.

To identify correlates of sexual risk behavior, we conducted a multivariable logistic regression analysis with backward elimination, a binary indicator denoting women who engaged in one or more sexual risk behaviors versus those who did not engage in any sexual risk behaviors was used as the dependent variable. Predictor variables demonstrating a *p*-value of 0.05 in the binary analysis were considered for inclusion into the logistic regression model. Starting from this full model, we sequentially dropped each variable with the least significant *p*-value, among those with a $p \geq 0.1$. We report the adjusted odds ratios (AORs) from the final model to characterize the relative strength of the association between each predictor variable and the outcome. Model fit was assessed using the Hosmer-Lemeshow statistic.

Results

Socio-Demographic Characteristics

The participants were, on average, 37 years of age ($SD = 11.7$). More than one third of the participants were African American ($n = 36$, 35.0%), 53 (51.4%) were Caucasian, and the remainder ($n = 14$, 13.6%) were other. Almost half of the sample had a high-school education or less ($n = 47$, 45.6%); nearly two thirds were unemployed ($n = 75$, 72.8%); and 63 (61.2%) had an annual income less than $15,000. More than half of the participants had

been married at some point in their lives (n = 56; 54.4%); and nearly three fourths had been in an intimate relationship in the previous 3 months (n = 77, 74.8%).

Prevalence and Types of Sexual Risk Behavior

During the previous 3 months, 43 (41.7%) of the women reported engaging in sexual risk behavior. During this interval, participants reported an average of 15 episodes of unprotected sex (SD = 23.6) with an average of 68% of episodes of sex being unprotected. Table 1 presents the most common risk behaviors. Most prevalent sexual risk behaviors reported by women were: (a) partner concurrency, that is, having a steady partner who had other sexual partners; (b) individual concurrency, that is, having more than one sexual partner; and (c) having other partners who injected drugs. Of the 43 women who reported sexual risk behavior, only 1 (2%) reported one risk factor, 26 (60.5%) reported two, and 16 (37.2%) reported more than two risk factors.

Correlates of Sexual Risk Behavior

Bivariate analyses—In the bivariate analyses, abused women who reported sexual risk behaviors were more likely to have been younger (t = 3.96, p < .0001), less educated (χ^2 = 4.65, p = .03), never been married (χ^2 = 24.66, p < .0001), and traded sex for money (χ^2 = 4.851, p = .03) than abused women who reported no sexual risk behaviors (note: there were no differences between the two groups by race or income). Therefore, age, education, relationship status, and trading sex for money were included as covariates in the final analysis. Furthermore, women with sexual risk behaviors were more likely than women with no sexual risk behaviors to report greater fear of abuse when negotiating condom use (t = −3.232, p < .001), have lower self-esteem (t = 2.76, p = .024), use more alcohol (t = −2.509, p = .014), and use more drugs (t = −3.308, p < .001). However, the association between relationship power and sexual risk behavior was not statistically significant (t = 1.76, p = .082).

Multivariable logistic analysis—The logistic regression analysis (see Table 2) revealed that women who were single (i.e., never married) had nearly 5 times the odds of engaging in sexual risk behaviors than women who were currently married or had been married at some point in their lives (AOR = 4.77, 95% CI: 1.79, 12.70). Women who reported engaging in sexual risk behaviors experienced greater fear of abuse when negotiating condoms. Among this group, for every one unit increase in fear of abuse when negotiating condoms, there was a 6% greater odds of engaging in sexual risk behaviors (AOR = 1.06, 95% CI: 1.00, 1.12) compared to women who did not engage in sexual risk behaviors. Although not statistically significant, higher self-esteem appeared to be protective in this sample; among women who engaged in sexual risk behaviors, with every one unit decrease in self-esteem, there was an 8% increase in the practice of sexual risk behaviors (AOR = 0.92, 95% CI: 0.84, 1.01) compared to women who did not engage in sexual risk behaviors. Lastly, women who engaged in risky sex had almost twice the odds of using substances before sex relative to those who did not engage in sexual risk behaviors (AOR = 1.89, 95% CI: .99, 3.56).

Discussion

To our knowledge, this study is the first investigation of HIV-related risk behaviors among women receiving services from domestic violence agencies. Strengths of the study included a diverse sample of women receiving services from domestic violence agencies with women who had recent experiences of abuse (i.e., within the previous 3 months) and the use of ACASI for data collection. We found that three fourths of the women had been sexually active in the previous 3 months, but only one third used condoms consistently. Furthermore, 42% of the women reported risky sexual behaviors in the same time period. Partner-related risk factors (i.e., steady partner having multiple partners, having drug injecting non-steady partners) as well as individual concurrency were the top three HIV-related risk behaviors identified by the women in this sample. Most participants who were at risk reported multiple risk behaviors for HIV/STI infection: 60% reported two factors, and 38% highlighted more than two factors that placed them at risk for HIV/STI infections. These estimates demonstrated that not only were these recently abused women engaging in high-risk sexual activities but also they were selecting high-risk partners, which further increased their risks for HIV/STDs. Moreover, elevated rates of inconsistent condom use, sexual risk behaviors, and multiple risk factors highlighted the vulnerability of these women and the need for HIV/STD interventions that target abused women at domestic violence agencies.

Our results corroborated findings from previous studies on HIV risk behaviors among women with experiences of IPV. Fifty-eight percent of the women who engaged in sexual risk behaviors identified their abusive partners as having more than one sexual partner, and 16% did not know if their abusive partners had other sexual partners. Studies have shown that abusive men engage in greater sexual risk behavior compared to non-abusive men (Decker et al., 2009; Frye, et al., 2011); for example, El-Bassel and colleagues (2001) reported that abusive men were twice as likely to have more than one sexual partner than non-abusive men. One third of the women who engaged in sexual risk behaviors in our study reported having more than one sexual partner themselves, and nearly 26% had sexual partners who injected drugs. These findings align with results from other studies on sexual risk behavior among abused women (Molitor et al., 2000; Wu et al., 2003).

Consistent with our expectations, single, never married women were more likely than women married at some time in their lives to report risky sexual behavior. Using multivariable analyses, we found that women with recent experiences of IPV who engaged in sexual risk behaviors had nearly 5 times the odds of being single than women with recent experiences of IPV who did not engage in sexual risk behaviors. This finding may reflect a cultural burden on single women to be partnered and give in to pressures for unsafe sex from men (Connell, 1987).

Similar to other studies, fear of abuse when negotiating condom use was associated with sexual risk behavior (Mittal et al., 2011; Seth et al., 2010). Among women who engaged in sexual risk behaviors in this sample, for every one unit increase in fear of abuse when negotiating condom use, there was a 6% increase in sexual risk taking. This finding suggested that these women were so fearful of their partners that they preferred to lessen their immediate risk for physical, sexual, or emotional violence by their partners rather take

the longer term risk of being infected by sexually transmitted infections, including HIV. Although such decision-making is logical, it is nonetheless concerning that women have to make this difficult “choice.”

The association between sexual risk behavior and low self-esteem found in our study corroborated findings from previous research (Beadnell et al., 2000). In general, abused women often report lower self-esteem; however, findings from our study revealed that this attribute varied among abused women and that this variability had implications for sexual risk behavior. Among women who engaged in sexual risk behavior in our sample, for every one unit decrease in self-esteem, there was an 8% increase in the practice of unsafe sex.

Similar to other studies, drug use before sex was found to be associated with sexual risk behavior (Silverman et al., 2001). We found that women with recent experiences of IPV who engaged in sexual risk behaviors had nearly two times the odds of engaging in substance use before sex than women with recent experiences of IPV who did not engage in sexual risk behaviors. Additional research is necessary to determine why some abused women use more substances before sex than other abused women.

This study had several limitations. First, we recruited a convenience sample of abused women who utilized services in domestic violence agencies; this sampling approach limits the generalizability of these findings to other populations of abused women. Specifically, we were unable to determine the magnitude of identified associations in abused women who did not seek domestic violence-related services. Nonetheless, findings from our study demonstrate that even abused women who seek services and engage in sexual risk behaviors have a distinct risk profile compared to their counterparts who do not engage in sexual risk behaviors. Second, we relied on victims’ self-reports of partner-related risk behaviors (e.g., partnership concurrency, HIV-infected partner), which may not align with the actual prevalence of these behaviors. However, we did allow women to indicate if they were uncertain of these partner-related risk behaviors, which reduced guessing and improved data quality. Finally, we are unable to make causal inferences due to the cross-sectional nature of the data.

Notwithstanding study limitations, findings have implications for nurses and other health care practitioners. All nurses should be aware of the prevalence of IPV and associated implications for enhanced sexual risk. For nurses and other practitioners working in domestic violence agency settings, it is important to recognize that such settings provide unique opportunities to screen women for high-risk sexual behaviors in efforts to triage women who report such behaviors to receive a more in-depth assessment for HIV risk. Specialized attention for high-risk women include (a) HIV testing and counseling, (b) further examination for mental health and substance abuse issues (e.g., self-esteem, self-assertiveness) followed by counseling and a planned course of therapy, and (c) participation in HIV risk reduction intervention programs. Integration of HIV services into domestic violence agencies has lagged behind the establishment of the multiple pathways linking IPV to HIV. Budget constraints, staff training, and lack of collaborations with HIV service organizations have been identified as deterrents in the integration of HIV services within domestic violence shelters (Rountree, Goldbach, Bent-Goodley, & Bagwell, 2011).

However, these deterrents should be weighed against the long-term, detrimental effects of HIV acquisition and transmission within the community.

Acknowledgments

This study was funded by grants from the National Institute of Mental Health, K01MH080660 (Dr. Mittal); National Institutes of Drug Abuse K01DA031593, National Institute on Minority Health and Health Disparities L60MD003701, and National Institute of Mental Health R25MH080664 (Dr. Stockman).

References

Beadnell B, Baker SA, Morrison DM, Knox K. HIV/STD risk factors for women with violent male partners. Sex Roles. 2000; 42(7-8):661–689.

Black, MC.; Basile, KC.; Breiding, MJ.; Smith, SG.; Walters, ML.; Merrick, MT.; Stevens, MR. The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 summary report. 2011. Retrieved from http://www.cdc.gov/violenceprevention/nisvs/

Bonomi AE, Anderson ML, Rivara FP, Thompson RS. Health care utilization and costs associated with physical and nonphysical-only intimate partner violence. Health Services Research. 2009; 44(3):1052–1067. [PubMed: 19674432]

Burke JG, Thieman LK, Gielen AC, O'Campo P, McDonnell KA. Intimate partner violence, substance, use, and HIV among low-income women: Taking a closer look. Violence Against Women. 2005; 11(9):1140–1161. [PubMed: 16049104]

Campbell JC, Baty ML, Ghandour RM, Stockman JK, Francisco L, Wagman J. The intersection of intimate partner violence against women and HIV/AIDS: A review. International Journal of Injury Control and Safety Promotion. 2008; 15(4):221–231. [PubMed: 19051085]

Carey MP, Braaten LS, Maisto SA, Gleason JR, Forsyth AD, Durant LE, Jaworski BC. Using information, motivational enhancement, and skills training to reduce the risk of HIV infection for low-income urban women: A second randomized clinical trial. Health Psychology. 2000; 19(1):3–11. [PubMed: 10711582]

Carey MP, Maisto SA, Kalichman SC, Forsyth AD, Wright EM, Johnson BT. Enhancing motivation to reduce the risk of HIV infection for economically disadvantaged urban women. Journal of Consulting Clinical Psychology. 1997; 65(4):531–541. [PubMed: 9256553]

Catalano S. Intimate partner violence in the United States. 2006 Retrieved from http://library.softgenx.com/Children/DV/ipv%201993-2004.pdf.

Coker AL, Davis KE, Arias I, Desai S, Sanderson M, Brandt HM, Smith PH. Physical and mental health effects of intimate partner violence for men and women. American Journal of Preventive Medicine. 2002; 23(4):260–268. [PubMed: 12406480]

Connell, RW. Gender and power. Stanford, CA: Standford University; 1987.

Decker MR, Seage GR, Hemenway D, Gupta J, Raj A, Silverman JG. Intimate partner violence perpetration, standard and gendered STI/HIV risk behaviour, and STI/HIV diagnosis among a clinic-based sample of men. Sexually Transmitted Infections. 2009; 85:555–560. [PubMed: 19625287]

El-Bassel N, Fontdevila J, Gilbert L, Voisin D, Richman BL, Pitchell P. HIV risks of men in methadone maintenance treatment programs who abuse their intimate partners: A forgotten issue. Journal of Substance Abuse. 2001; 13(1-2):29–43. [PubMed: 11547622]

El-Bassel N, Gilbert L, Rajah V, Foleno A, Frye V. Fear and violence: Raising the HIV stakes. AIDS Education and Prevention. 2000; 12(2):154–170. [PubMed: 10833040]

El-Bassel N, Gilbert L, Schilling R, Wada T. Drug abuse and partner violence among women in methadone treatment. Journal of Family Violence. 2000; 15(3):209–228.

Frye V, Ompad D, Chan C, Koblin B, Galea S, Vlahov D. Intimate partner violence perpetration and condom use-related factors: Associations with heterosexual men's consistent condom use. AIDS and Behavior. 2011; 15(1):153–162. [PubMed: 20069447]

Garcia-Moreno C. Violence against women: International perspectives. [Review]. American Journal of Preventive Medicine. 2000; 19(4):330–333. [PubMed: 11203165]

Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L, Watts CH. Prevalence of intimate partner violence: Findings from the WHO multi-country study on women's health and domestic violence. Lancet. 2006; 368(9543):1260–1269. [PubMed: 17027732]

Mittal M, Senn TE, Carey MP. Mediators of the relation between partner violence and sexual risk behavior among women attending a sexually transmitted disease clinic. Sexually Transmitted Diseases. 2011; 38(6):510–515. [PubMed: 21258269]

Molitor F, Ruiz JD, Klausner JD, McFarland W. History of forced sex in association with drug use and sexual HIV risk behaviors, infection with STDs, and diagnostic medical care: Results from the young women survey. Journal of Interpersonal Violence. 2000; 15(3):262–278.

Pulerwitz J, Gortmaker SL, DeJong W. Measuring sexual relationship power in HIV/STD research. Sex Roles. 2000; 42(7-8):637–660.

Rosenberg, M. Society and the adolescent self image. Princeton, NJ: Princeton University; 1965.

Rountree M, Goldbach J, Bent-Goodley T, Bagwell M. HIV/AIDS knowledge and prevention programming in domestic violence shelters: How are we doing? Journal of HIV/AIDS and Social Services. 2011; 10(1):42–54.

Sareen J, Pagura J, Grant B. Is intimate partner violence associated with HIV infection among women in the United States? General Hospital Psychiatry. 2009; 31(3):274–278. [PubMed: 19410107]

Schroder KE, Carey MP, Vanable PA. Methodological challenges in research on sexual risk behavior: I. Item content, scaling, and data analytical options. Annals of Behavioral Medicine. 2003; 26(2): 76–103. [PubMed: 14534027]

Seth P, Raiford JL, Robinson LS, Wingood GM, DiClemente RJ. Intimate partner violence and other partner-related factors: Correlates of sexually transmissible infections and risky sexual behaviours among young adult African American women. Sexual Health. 2010; 7(1):25–30. [PubMed: 20152092]

Silverman JG. Adolescent female sex workers: Invisibility, violence and HIV. [Review]. Archives of Disease in Childhood. 2011; 96(5):478–481. [PubMed: 21357241]

Silverman JG, Raj A, Mucci LA, Hathaway JE. Dating violence against adolescent girls and associated substance use, unhealthy weight control, sexual risk behavior, pregnancy, and suicidality. Journal of the American Medical Association. 2001; 286(5):572–579. [PubMed: 11476659]

Wingood GM, DiClemente RJ. Rape among African American women: Sexual, psychological, and social correlates predisposing survivors to risk of STD/HIV. Journal of Women's Health. 1998; 7(1):77–84.

Wingood GM, DiClemente RJ, Raj A. Identifying the prevalence and correlates of STDs among women residing in rural domestic violence shelters. Women Health. 2000; 30(4):15–26. [PubMed: 10983607]

Wu E, El-Bassel N, Witte SS, Gilbert L, Chang M. Intimate partner violence and HIV risk among urban minority women in primary health care settings. AIDS and Behavior. 2003; 7(3):291–301. [PubMed: 14586191]

Clinical Considerations

- Health care and preventive screening for all women should include routine assessment for IPV and sexual risk behavior.
- Abused women seeking services at domestic violence agencies are likely to be at elevated risk for HIV and should be screened using a structured sexual risk behavior assessment instrument adapted for use in nonclinical settings.
- Women with IPV histories can be affected by mental health and substance abuse issues and will benefit from a multipronged approach to domestic violence services. This method will ensure that the overlapping issues of HIV and other STD risks, mental health, and substance abuse are addressed in a coordinated fashion.
- HIV risk reduction interventions should account for IPV histories and contain components such as empowerment, safety planning, boundary setting, sexual assertiveness, negotiation, and communication skills.
- HIV risk reduction interventions for abused women should particularly address self-esteem and self-efficacy issues.

Table 1

Risk Characteristics of Women from Domestic Violence Agencies Reporting Sexual Risk Behavior in the Past 3 Months (n = 43)

Risk Characteristic	***n* (%)**
Diagnosed or treated for an STD	6 (14.0%)
Women with more than 1 sexual partner	14 (32.6%)
Not sure if steady partner has HIV	6 (14.0%)
Steady partner has more than 1 sexual partners	25 (58.1%)
Not sure if steady partner has more than 1 sexual partner	7 (16.3%)
Steady partner injects drugs	1 (2.3%)
Not sure if steady partner injects drugs	1 (2.3%)
Not sure if other sexual partners have HIV	4 (9.3%)
Not sure if other sexual partners have more than 1 sexual partner	1 (2.3%)
Other sexual partners inject drugs	10 (23.3%)
Not sure if other sexual partners inject drugs	6 (14.0%)

Note. STD = sexually transmitted disease

Table 2

Multivariable Logistic Regression Model Identifying Correlates of Sexual Risk Behavior Among Women From Domestic Violence Agencies (N = 103)

Backwards Elimination – Main Effects – Risky Behavior			
Variable	**Adjusted Odds Ratio**	**95% Confidence Limits**	
Single never married	4.77	(1.79, 12.70)	***
Fear of abuse	1.06	(1.00, 1.12)	**
Drugs before sex	1.89	(.99, 3.56)	*
Self-esteem	0.92	(0.84, 1.01)	*
Goodness-of-Fit Tests			
Hosmer-Lemeshow $\chi^2 = 7.3172$ ($df = 8$), $p = 0.5028$			

Note:

* $p < 0.1$,

** $p < 0.05$,

*** $p < 0.001$