Published in final edited form as:
Womens Health Issues. 2012 November ; 22(6): e563–e569. doi:10.1016/j.whi.2012.07.007.

Clinical and mental health correlates and risk factors for intimate partner violence among HIV-positive women in an inner city HIV clinic

Samantha Illangasekare, Ph.D., M.P.H.,
The Johns Hopkins Urban Health Institute, Johns Hopkins Bloomberg School of Public Health 2013 E. Monument Street, Baltimore, MD 21205; tel: 410-502-3284; fax: 410-502-7262

Monique Tello, M.D., M.P.H.,
Department of Medicine, Massachusetts General Hospital, 55 Fruit St, Yawkey 4, Suite 4700, Boston, MA 02114; tel: 617-724-6700

Heidi Hutton, Ph.D.,
Department of Psychiatry, Johns Hopkins Medical Institutions, 550 North Broadway, Room 203 Baltimore, MD 21287; tel: 443-287-2874

Richard Moore, M.D., M.H.S.,
Department of Medicine, Division of General Internal Medicine, Johns Hopkins Medical Institutions, 1830 E. Monument Street, Suite 8059, Baltimore, MD 21287; tel: 410-955-2144

Jean Anderson, M.D.,
Department of Gynecology and Obstetrics, Johns Hopkins Medical Institutions, 600 N. Wolfe Street, Phipps 247, Baltimore, MD 21287; tel: 410-614-4496

Jillian Baron, B.A., and
Department of Medicine, Division of General Internal Medicine, Johns Hopkins Medical Institutions, 600 N. Wolfe Street, Baltimore, MD, 21287;tel: 215-850-1483

Geetanjali Chander, M.D., M.P.H.
Department of Medicine, Division of General Internal Medicine, Johns Hopkins Medical Institutions, 1830 E. Monument St, Rm 8060, Baltimore, MD 21287; tel: 443-287-2030

Samantha Illangasekare: sillanga@jhsph.edu; Monique Tello: mtello@partners.org; Heidi Hutton: hhutton@jhmi.edu; Richard Moore: rdmoore@jhmi.edu; Jean Anderson: janders@jhmi.edu; Jillian Baron: jbaron1@jhmi.edu; Geetanjali Chander: gchande1@jhmi.edu

Abstract

Background—Intimate partner violence (IPV) is a serious health concern for women in the U.S, and HIV-positive women experience more frequent and severe abuse compared to HIV-negative women. The goals of this study were to determine the prevalence of IPV among HIV-infected women receiving care in an urban clinic and to determine the HIV clinical and mental health correlates of IPV among HIV-positive women.

There are no financial conflicts of interest involving any of the co-authors to disclose.

Methods—We conducted a cross-sectional survey among 196 women visiting an inner city HIV clinic. Women were eligible if they were 18 years of age or older, English speaking and received both HIV primary and gynecological care at the clinic. The survey queried demographics, drug and alcohol history, depressive symptoms, and IPV, using the Partner Violence Scale (PVS). Antiretroviral therapy (ART), CD4 cell count, HIV-1 RNA level, and appointment adherence were abstracted from clinical records.

Findings—Overall, 26.5% of women reported experiencing IPV in the past year. There were no significant differences in sociodemographics, substance use, ART prescription, CD4 count or HIV-1 RNA level between women who experienced IPV and those who had not. Women with mild and severe depressive symptoms were significantly more likely to report IPV compared to those without, with adjusted odds ratios of 3.4 and 5.5, respectively. Women who missed gynecological appointments were 1.9 times more likely to report experiencing IPV.

Conclusions—IPV is prevalent among women presenting for HIV care, and depressive symptoms or missed gynecological appointments should prompt further screening for IPV.

Keywords

HIV/AIDS; intimate partner violence; appointment adherence; depressive symptoms

Introduction and Background

Intimate partner violence (IPV), which can include physical, sexual and psychological violence, is a serious health and safety concern for many women in the United States and globally. The most recent estimates of lifetime and annual prevalence of physical and/or sexual IPV among women in the U.S. are 26.4% and 1.4% respectively (Breiding, Black, & Ryan, 2008). The prevalence of IPV can vary significantly, however, depending on the population examined. Among a sample of low-income women living in an urban area, 43% reported experiencing physical and/or sexual IPV in the past year (Gielen, McDonnell, & O'Campo, 2002). While numerous factors might contribute to the differing rates of IPV for women, of particular interest in recent years is the intersection between IPV and HIV/AIDS because of the significant impact of each of these issues on women's health and the extensive research illuminating the overlap in prevalence and numerous mechanisms by which two health problems are connected.

In a review by Gielen et al. (2007), several ways in which experiencing IPV might be associated with a woman's risk for HIV or her HIV status were outlined. First, sexual abuse or forced sex by an HIV-positive partner could expose a woman to HIV infection. Additionally, women in violent relationships who fear abuse might have limited ability to successfully negotiate safe sex behaviors, such as condom use. HIV risk could also be increased for women in coercive or controlling relationships if they are forced to engage in other risky behaviors such as sex work or drug use. Finally, women who are HIV-positive might experience IPV resulting from the disclosure of her HIV status to an abusive partner.

While empirical evidence indicates that the prevalence of IPV are similar among HIV-positive and sociodemographically matched HIV-negative women, some research has indicated that the abuse HIV-positive women experience is more frequent and more severe than that of their HIV-negative counterparts (Gielen et al., 2002; McDonnell, Gielen, & O'Campo, 2003; Wyatt et al., 2002). In a study of 611 women living in a poor urban community, McDonnell et al (2003) reported that HIV-positive women were more likely to report being abused on three or more occasions than HIV-negative women. Another study examined the contribution of trauma to HIV-related risks among women and found that

HIV-positive women were more likely to have a more severe trauma history compared to HIV-negative women (Wyatt et al., 2002).

Furthermore, HIV-infected women who experience IPV are also at risk for poor health outcomes because of poor medication adherence. In a study of both HIV-positive men and women, women who experienced extreme forms of violence by their partners were less likely to maintain optimal adherence to their antiretroviral medication than women who were not experiencing violence (Lopez, Jones, Villar-Loubet, Arheart, & Weiss, 2010). Analysis of data from the Women's Interagency HIV Study (WIHS) similarly indicated that women who fall into a risk profile characterized by increased probability of heavy drinking and recent physical IPV are at a higher risk of HAART non-use compared to women with no risk factors (Jones et al., 2010). These findings suggest that IPV can result in significant additional negative health outcomes for HIV infected women and impact their treatment.

Several studies in the US have examined IPV among HIV-positive women specifically, given the significant overlap between HIV and IPV among women, indications that HIV-positive women experience more frequent and severe IPV, and evidence that the experience of IPV is associated with poorer health outcomes for HIV positive women (Bogart et al., 2005; Cohen et al., 2000; Gielen, McDonnell, Burke, & O'Campo, 2000; Gruskin et al., 2002; Henny, Kidder, Stall, & Wolitski, 2007; Hogben, 2001). One study found that HIV-positive women with lower CD4 cell counts experienced lower rates of abuse than HIV-positive women with higher CD4 cell counts (Gruskin et al., 2002). However, none of these studies examined the association of other clinical markers, including HIV-RNA and appointment adherence, with the experience of IPV.

Uncovering additional potential clinical associations with IPV could help alert providers to the presence of IPV in women's lives, which is often a hidden and unaddressed problem. Therefore, we sought to estimate the prevalence of IPV among HIV-infected women receiving care in an urban clinic and to determine the HIV clinical and mental health correlates of IPV among HIV-positive women

Methods

Study Design

This was a cross-sectional survey of women receiving HIV care in the Johns Hopkins HIV Clinic, in Baltimore, MD.

Setting, Sample and Recruitment

Women were recruited through fliers posted in the waiting room and through provider referral between February 2008 and June 2008. Women were eligible for the study if they were 18 years or older, spoke English, and received both HIV primary and gynecologic care at the clinic. A total of 200 women gave written informed consent to participate and completed the survey, which was a paper and pencil questionnaire. Of those 200 women, 4 women did not answer all items related to IPV. Therefore, data for 196 women with complete survey data about physical violence were included in this analysis. All procedures were approved by the Johns Hopkins Medicine Institutional Review Boards.

Study Variables

Intimate Partner Violence—IPV was measured using the three items from the Partner Violence Screen (Feldhaus et al., 1997; Rabin, Jennings, Campbell, & Bair-Merritt, 2009). Women were classified as having experienced IPV if they gave a positive response to either of the questions "Have you been hit, kicked, punched or otherwise hurt by someone you

were in a relationship with within the past year?" or "Is there a person from a previous relationship who is making you feel unsafe now?" or if they gave a negative response to the question "Do you feel safe from harm in your current relationship?"

Substance Use—Substance use was measured by asking women if they had used various substances in the past month. These included cocaine, heroin, amphetamines ("uppers"), marijuana, and alcohol. Women who answered yes to using any of the illegal drugs (cocaine, heroin, amphetamines or marijuana) were classified as having used drugs.

Depressive symptoms—Depressive symptoms were measured using the Centers for Epidemiological Studies Depression Short Scale (CESD-10). This scale is comprised of 10 items that are answered on a 4-point scale ranging from 0 to 3 indicating if women experienced various symptoms of depression all of the time, sometimes, most of the time, or not at all. The total score of the scale can range from 0 to 30, and a cutoff score of 10 or above is indicative of depressive symptoms (Andresen, Malmgren, Carter, & Patrick, 1994). Because of the high number of women with depressive symptoms based on this cutoff score, they were further categorized into three groups: No depressive symptoms (score of less than 10), mild depressive symptoms (score of 10–15) and severe depressive symptoms (score of greater than 15). These categories were based on the distribution of the CESD-10 scores in this sample.

Antiretroviral therapy (ART), CD4 and HIV-1 RNA—ART, CD4 count and HIV-1 RNA were abstracted from medical records. The value closest to the time of survey administration was used. Women whose charts indicated that their provider had prescribed ART were classified as being prescribed ART. Because adherence to ART could not be ascertained from the medical records, HIV-1 RNA was used as a proxy measure of ART adherence. HIV-1 RNA values were dichotomized into a variable of less than 400 and greater than or equal to 400.

Missed appointments—We linked survey responses to clinic registration records data for each enrollee. From automated registration data, attendance history at HIV primary care and gynecology appointments was abstracted. Specifically, both the number of scheduled gynecological or primary care appointments, and number of each type of missed appointment was recorded. If any appointments were missed in the past year, women were classified as having missed appointments.

Demographics—We assessed age, education, relationship status, employment status (working full time, part time or not at all), race/ethnicity, and number of children and if they were in a steady relationship using a self-administered paper and pencil questionnaire.

Data analysis

Frequencies of sociodemographic characteristics, the experience of IPV, and correlates of interest (substance use, depressive symptoms, ART, CD4 count, HIV-1 RNA and missed appointments) were computed to describe the characteristics of the sample. Bivariate analyses were then conducted using chi-squared tests and t-tests to determine the association between the correlate variables of interest (substance use, depressive symptoms, ART, CD4 count, HIV-1 RNA and missed appointments) and IPV. Finally multivariable analyses using multiple logistic regression were used to examine the multivariable correlates of experiencing IPV in the past year. Variables that were significantly associated with IPV in the bivariate analyses and any variables that were deemed important a priori (age, race, drug use, CD4 and HIV-1 RNA), based on the study aims or existing literature, were included simultaneously into the model. Variables with more than two categories were included as

multiple dummy variables. Interactions between variables that were significantly associated with IPV in the bivariate analyses (depressive symptoms and missed gynecologic appointments) were tested by creating interaction variables and entering these individually into the model. None of the tested interactions were statistically significant, and were therefore removed from the final model.

Results

Sociodemographic characteristics of women in the sample are included in Table 1. The mean age of the sample was 45.7 years old, 85.7% were African American, half of the women had at least a high school degree, nearly 70% were unemployed and less than half were in a steady relationship (46.1%). Most women had a HIV-1 RNA level less than 400 copies/ml (61.2%) and the median CD4 count was 452 cells/mm^3. The majority of women were prescribed ART at the time of the survey (78.7%).

Based on the three-item Partner Violence Screen, 26.5% of the women had experienced IPV within the past year. One quarter of the sample had used drugs or alcohol in the past month (25.1% and 25.6%, respectively), and most women had missed at least one gynecological appointment or a primary care appointment in the past year (63.8% and 73%, respectively). The average proportion of missed gynecological appointments and primary care appointments out of the total number scheduled was .28 and .23, respectively. About 76% of the women in the sample had depressive symptoms based on a cutoff score of 10 on the CESD; 56% had mild depressive symptoms and 19% had severe depressive symptoms.

Bivariate analyses indicated that the proportions of women who reported experiencing IPV did not vary between subgroups of any of the measured sociodemographic characteristics, drug use, or alcohol use (Table 2). Similarly, the proportions of women who reported experiencing IPV and were prescribed ART or had HIV-1 RNA greater than 400 copies/ml did not significantly differ from women who were not prescribed ART or had HIV-1 RNA less than 400 copies/ml. There was no significant difference between the CD4 count of women who reported experiencing IPV and those who did not. However, the proportions of women who experienced IPV were significantly higher among women with severe and mild depressive symptoms, as compared to women without depressive symptoms. Among women who had severe depressive symptoms, 42% experienced IPV, while 10% of women who did not have depressive symptoms experienced IPV (χ^2 p-value = .004). Women who missed gynecological appointments were also more likely to report experiencing IPV (32%) as compared to women who did not miss any gynecological appointments (16.9%; χ^2 p-value = .021). Additionally, the average proportion of missed gynecological appointments out of the total number of gynecological appointments scheduled was significantly higher among women who experienced IPV (proportion = 0.37) compared to women who did not experience IPV (proportion = 0.25). However, when comparing those who missed primary care appointments to those who did not miss any primary care appointments, no significant differences were found between the proportions of women experiencing IPV.

The multivariable regression analyses for experience of IPV are presented in Table 3. The final model included depressive symptoms, missed gynecological appointments, race, drug use, CD4 count, HIV-1 RNA and age. Women with mild depressive symptoms were 3.44 times more likely than women without these symptoms to report experiencing IPV, when controlling for missed gynecological appointments, race, drug use, CD4 count, HIV-1 RNA and age. The adjusted odds ratio for IPV for women with severe depressive symptoms was higher; women with severe depressive symptoms were 5.45 times more likely to report experiencing IPV compared to women without depressive symptoms. Women who missed at least one gynecological appointment in the past year were 1.95 times more likely to have

experienced IPV while controlling for all other variables as compared to women who did not miss any appointments. However, this odds ratio was only borderline significant (p=.09).

Conclusions and Discussion

Among this sample of HIV-positive women receiving care in an inner city clinic, nearly 27% percent reported experiencing IPV in the past year, while only 1.4% of women in the general population report experiencing physical or sexual IPV in the past year (Breiding et al., 2008). This high prevalence among HIV-positive women is consistent with existing literature on the intersection between HIV and IPV, which suggests that populations at risk for HIV are often the same that are at risk for experiencing violence in their intimate relationships (Gielen et al., 2007).

The relationship between IPV and depressive symptoms that was found among this sample is consistent with the literature on the association between IPV and psychiatric disorders. In this sample, women who reported mild depressive symptoms were over 3 times more likely to report experiencing IPV in their relationships, and women who reported severe depressive symptoms were over 5 times more likely to report experiencing IPV. Other literature indicates that psychiatric disorders are particularly prevalent among women with both HIV and IPV. One study indicated that women who were both HIV-positive and had ever experienced IPV as an adult were 7 times more likely to report having a problem with depression, 5 times more likely to report having a problem with anxiety and 12.5 times more likely to report having ever attempted suicide, as compared to their HIV-negative counterparts who never experienced IPV (Gielen, McDonnell, O'Campo, & Burke, 2005). Such adverse mental health sequelae has been shown to be associated with increased morbidity among HIV-positive women, and faster progression to AIDS, as well as with decreased CD4 counts and immune functioning (Boarts, Sledjeski, Bogart, & Delahanty, 2006; Ickovics et al., 2001; Sledjeski, Delahanty, & Bogart, 2005).

A novel finding from this analysis is the association between missed gynecological appointments and IPV. In the bivariate analysis, a higher proportion of women who missed gynecological appointments reported experiencing IPV compared to women who did not miss any appointments. The regression analysis indicated that women who missed any gynecological appointments were more likely to have experienced IPV, although when controlling for other factors, this increased odds was only borderline significant. However, this suggests that missed gynecological appointments could be an important indication that women are experiencing IPV, and could serve as a critical marker for providers who might not otherwise learn of the violence their patients are experiencing. Some existing research does suggest that partners can interfere with women's health care visits and medical treatment, particularly for those who are HIV-positive (Lichtenstein, 2006). One study examining women outpatients found that those who experienced physical abuse in the past year were 7.5 times more likely to report that their partners prevented them from seeing a healthcare provider or interfered with their health care, compared to women who did not experience abuse (McCloskey et al., 2007). However, our findings indicate that women who are experiencing IPV are specifically more likely to miss gynecological appointments, but not primary care appointments. One possible explanation for this finding is that gynecological exams are more invasive and women who are experiencing violence in their relationships might be particularly uncomfortable with an invasive exam. Qualitative findings indicate that fear of a pelvic exam or feeling violated by a pelvic exam are among several reasons why women might miss their gynecological exam (Tello et al., 2010). These reasons might be particularly relevant for women who have experienced trauma and violence, especially if they have experienced sexual violence by their intimate partner. While we did not explicitly assess for sexual violence, one of the screening questions used

to measure violence ("Have you been hit, kicked, punched, or otherwise hurt by someone you were in a relationship with in the past year?") could have captured women who have been sexually abused (i.e., "otherwise hurt"). Additionally, research on a similar population of HIV positive women indicates that 20% experience both physical and sexual IPV (Burke, Thieman, Gielen, O'Campo, & McDonnell, 2005), suggesting that a similar percentage of women in our sample that reported physical IPV have also experienced sexual violence.

Neither ART prescription, CD4 count, nor HIV-1 RNA were significantly associated to IPV, indicating that women in this clinical sample who experienced IPV are being prescribed ART treatment and responding to treatment at comparable rates with their counterparts who did not experience violence in the past year. Although previous literature suggests that the experience of IPV is associated with inconsistent medication use (Jones et al., 2010; Lopez et al., 2010), and that lower CD4 counts are associated with lower rates of abuse (Gruskin et al., 2002), we suspect that these comparable rates of ART prescription, CD4 counts, HIV-1 RNA levels (as a proxy for ART adherence and use) are due to the fact that this sample of women **is** more clinically engaged than the general population of HIV-positive women. In this sample, women completed an average of 4.9 primary care appointments a year, which did not differ by IPV status, and an average of 2.3 gynecological appointments, suggesting that they are receiving consistent clinical care. Therefore, even women who experienced IPV were not less likely to be prescribed ART and their consistent disease management resulted in viral loads comparable to their counterparts who did not experience IPV.

Drug use was not found to be significantly associated with the experience of IPV in the past year, which is inconsistent with current literature. Several studies have indicated that women who used any drugs were more likely to experience physical or sexual IPV as compared to women who used no drugs (Burke et al., 2005; El-Bassel, Witte, Wada, Gilbert, & Wallace, 2001; Kilpatrick, Acierno, Resnick, Saunders, & Best, 1997). We hypothesize that women with active drug use and IPV may not be accessing clinical services consistently. Because our sample was recruited in a clinic waiting room, we did not survey individuals not engaged in clinical care. Women with the most severe drug use may not have been captured in this study. Our setting differs from the previous studies conducted by Burke et al (2005) El-Bassel et al (2001), and Kilpatrick et al (1997), which recruited women from a variety of settings, including community centers, shelters, and a general population database. Alternatively, women who had used drugs anytime earlier than within the previous month would not have been included as having used drugs in the past month, but might still be drug abusing or drug addicted. If these women reported being abused, but were classified as having not used drugs, then any possible association between drug use and IPV in this sample might have been attenuated.

These findings have important implications for practitioners who care for HIV-positive women. First, the increased prevalence of experiencing IPV among this clinical sample highlights the importance of screening women for IPV. In order to even begin to refer women to resources and services that could increase her safety, women who are experiencing violence in their intimate relationships must be identified. While many women might be very aware of the IPV they are experiencing, they do not often disclose this to their health care providers voluntarily (Plichta, Duncan, & Plichta, 1996). Furthermore, only 5–15% of female patients on average disclose about their IPV to their healthcare providers or report being asked about IPV by their practitioners (Rodriguez, Sheldon, Bauer, & Perez-Stable, 2001). Numerous validated tools exist, including the Partner Violence Screen, that can be used to quickly and accurately in a clinical setting to identify women who are experiencing IPV (Rabin et al., 2009).

In addition to being screened for IPV, HIV positive women should also be screened and for depressive symptoms and other psychiatric disorders, which could subsequently serve as a indication of possible IPV. Psychiatric disorders, such as depression, anxiety and PTSD, are associated with increased morbidity and faster progression to AIDS among HIV-infected individuals (Boarts et al., 2006; Ickovics et al., 2001; Kimerling et al., 1999; Leserman et al., 2000). Therefore, it is of particular importance that HIV-positive women who are experiencing both depressive symptoms and IPV are identified and provided with care and necessary resources to address these issues.

Several limitations of this research must be acknowledged. First, the sample is a convenience sample, is relatively small, and is representative of only a single clinic in an inner-city area that serves predominately urban minority women. Therefore, these findings are not generalizable to all HIV-positive women. However, since some of our findings do concur with existing literature, we do believe that the unique findings could also apply to a larger population of low-income HIV-positive women who are clinically engaged. However, to ascertain generalizability, this finding will need to be confirmed in a larger, more representative sample. Furthermore, because this study is cross sectional, causality between IPV, depressive symptoms and missed appointments could not be determined. It is possible that the experience of IPV leads to increased depressive symptoms, but also possible that depressive symptoms make women increasingly vulnerable to experiencing IPV. The items used to assess drug and alcohol use did not measure prescription drug use or abuse, which could have resulted in the failure to capture some aspects of this sample's drug use. Lastly, while the Partner Violence Screen has been validated, it does not specifically inquire about sexual abuse or emotional abuse, which are equally important forms of IPV. Therefore, the prevalence of IPV in this sample could be underestimated. Underreporting could have also occurred if the women did not feel comfortable discussing their experiences of IPV in the open waiting room where the interview took place.

Despite these potential limitations, this study makes several important contributions to the literature. It is the first study to examine and identify missed gynecological appointments, as well as depression, as clinical correlates related to intimate partner violence among HIV-positive women. The results suggest that providers who care for HIV-positive women should be aware of the potential of intimate partner violence to exist in the lives of their patients and highlight the critical importance of screening for IPV.

Acknowledgments

This work was supported by a Lawrence S. Linn Award, the Society of General Internal Medicine, NIAAA K23AA015313, NIDA K24DA000432 and NIMH F31MH08471601. Geetanjali Chander had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

References

Andresen EM, Malmgren JA, Carter WB, Patrick DL. Screening for depression in well older adults: Evaluation of a short form of the CES-D. American Journal of Preventive Medicine. 1994; 10(2): 77–84. [PubMed: 8037935]

Boarts JM, Sledjeski EM, Bogart LM, Delahanty DL. The differential impact of PTSD and depression on HIV disease markers and adherence to HAART in people living with HIV. AIDS and Behavior. 2006; 10(3):253–261. [PubMed: 16482405]

Bogart LM, Collins RL, Cunningham W, Beckman R, Golinelli D, Eisenman D, et al. The association of partner abuse with risky sexual behaviors among women and men with HIV/AIDS. AIDS and Behavior. 2005; 9(3):325–333. [PubMed: 16091853]

Breiding MJ, Black MC, Ryan GW. Prevalence and Risk Factors of Intimate Partner Violence in Eighteen U.S. States/Territories, 2005. American Journal of Preventive Medicine. 2008; 34(2):112–118. [PubMed: 18201640]

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]

Cohen M, Deamant C, Barkan S, Richardson J, Young M, Holman S, et al. Domestic violence and childhood sexual abuse in HIV-infected women and women at risk for HIV. American Journal of Public Health. 2000; 90(4):560–565. [PubMed: 10754970]

El-Bassel N, Witte SS, Wada T, Gilbert L, Wallace J. Correlates of partner violence among female street-based sex workers: Substance abuse, history of childhood abuse, and HIV risks. AIDS Patient Care and STDs. 2001; 15(1):41–51. [PubMed: 11177587]

Feldhaus KM, Koziol-McLain J, Amsbury HL, Norton IM, Lowenstein SR, Abbott JT. Accuracy of 3 brief screening questions for detecting partner violence in the emergency department. Journal of the American Medical Association. 1997; 277(17):1357–1361. [PubMed: 9134940]

Gielen A, McDonnell KA, O'Campo PJ, Burke JG. Suicide risk and mental health indicators: Do they differ by abuse and HIV status? Women's Health Issues. 2005; 15(2):89–95.

Gielen AC, Ghandour RM, Burke JG, Mahoney P, McDonnell KA, O'Campo P. HIV/AIDS and intimate partner violence: Intersecting women's health issues in the United States. Trauma, Violence, and Abuse. 2007; 8(2):178–198.

Gielen AC, McDonnell KA, Burke JG, O'Campo P. Women's Lives After an HIV-Positive Diagnosis: Disclosure and Violence. Maternal and Child Health Journal. 2000; 4(2):111–120. [PubMed: 10994579]

Gielen AC, McDonnell KA, O'Campo PJ. Intimate partner violence, HIV status, and sexual risk reduction. AIDS and Behavior. 2002; 6(2):107–116.

Gruskin L, Gange SJ, Celentano D, Schuman P, Moore JS, Zierler S, et al. Incidence of violence against HIV-infected and uninfected women: Findings from the HIV epidemiology research (HER) study. Journal of Urban Health. 2002; 79(4):512–524. [PubMed: 12468671]

Henny KD, Kidder DP, Stall R, Wolitski RJ. Physical and sexual abuse among homeless and unstably housed adults living with HIV: Prevalence and associated risks. AIDS and Behavior. 2007; 11(6): 842–853. [PubMed: 17577656]

Hogben M. The effect of sexual and physical violence on risky sexual behavior and STDs among a cohort of HIV seropositive women. AIDS and Behavior. 2001; 5(4):353–361.

Ickovics JR, Hamburger ME, Vlahov D, Schoenbaum EE, Schuman P, Boland RJ, et al. Mortality, CD4 cell count decline, and depressive symptoms among HIV-seropositive women: Longitudinal analysis from the HIV epidemiology research study. Journal of the American Medical Association. 2001; 285(11):1466–1474. [PubMed: 11255423]

Jones AS, Lillie-Blanton M, Stone VE, Ip EH, Zhang Q, Wilson TE, et al. Multi-dimensional risk factor patterns associated with non-use of highly active antiretroviral therapy among human immunodeficiency virus-infected women. Women's Health Issues. 2010; 20(5):335–342.

Kilpatrick DG, Acierno R, Resnick HS, Saunders BE, Best CL. A 2-year longitudinal analysis of the relationships between violent assault and substance use in women. Journal of Consulting and Clinical Psychology. 1997; 65(5):834–847. [PubMed: 9337502]

Kimerling R, Calhoun KS, Forehand R, Armistead L, Morse E, Morse P, et al. Traumatic stress in HIV-infected women. AIDS Education and Prevention. 1999; 11(4):321–330. [PubMed: 10494356]

Leserman J, Petitto JM, Golden RN, Gaynes BN, Gu H, Perkins DO, et al. Impact of stressful life events, depression, social support, coping, and cortisol on progression to aids. American Journal of Psychiatry. 2000; 157(8):1221–1228. [PubMed: 10910783]

Lichtenstein B. Domestic violence in barriers to health care for HIV-positive women. AIDS Patient Care and STDs. 2006; 20(2):122–132. [PubMed: 16475893]

Lopez EJ, Jones DL, Villar-Loubet OM, Arheart KL, Weiss SM. Violence, coping, and consistent medication adherence in HIV-positive couples. AIDS Education and Prevention. 2010; 22(1):61–68. [PubMed: 20166788]

McCloskey LA, Williams CM, Lichter E, Gerber M, Ganz ML, Sege R. Abused women disclose partner interference with health care: An unrecognized form of battering. Journal of General Internal Medicine. 2007; 22(8):1067–1072. [PubMed: 17530312]

McDonnell KA, Gielen AC, O'Campo P. Does HIV Status Make a Difference in the Experience of Lifetime Abuse? Descriptions of Lifetime Abuse and its Context among Low-Income Urban Women. Journal of Urban Health. 2003; 80(3):494–509. [PubMed: 12930886]

Plichta SB, Duncan MM, Plichta L. Spouse abuse, patient-physician communication, and patient satisfaction. American Journal of Preventive Medicine. 1996; 12(5):297–303. [PubMed: 8909636]

Rabin RF, Jennings JM, Campbell JC, Bair-Merritt MH. Intimate Partner Violence Screening Tools. A Systematic Review. American Journal of Preventive Medicine. 2009; 36(5)

Rodriguez MA, Sheldon WR, Bauer HM, Perez-Stable EJ. The factors associated with disclosure of intimate partner abuse to clinicians. Journal of Family Practice. 2001; 50(4):338–344. [PubMed: 11309220]

Sledjeski EM, Delahanty DL, Bogart LM. Incidence and impact of posttraumatic stress disorder and comorbid depression on adherence to HAART and $CD4^+$ counts in people living with HIV. AIDS Patient Care and STDs. 2005; 19(11):728–736. [PubMed: 16283833]

Tello MA, Jenckes M, Gaver J, Anderson JR, Moore RD, Chander G. Barriers to recommended gynecologic care in an urban United States HIV clinic. Journal of Women's Health. 2010; 19(8): 1511–1518.

Wyatt GE, Myers HF, Williams JK, Kitchen CR, Loeb T, Carmona JV, et al. Does a history of trauma contribute to HIV risk for women of color? Implications for prevention and policy. American Journal of Public Health. 2002; 92(4):660–665. [PubMed: 11919068]

Table 1

Sociodemographic characteristics of 196 women receiving HIV primary and gynecological care

Sample Characteristics	N=196	% or SD
Mean Age	45.7	SD = 8.22
Education		
Less than high school degree	96	49.0%
High school degree or more	100	51.0%
Relationship Status		
In a steady relationship	90	46.1%
Not in a steady relationship	105	53.9%
Employment status		
Unemployed	137	69.9%
Working part time or full time	59	30.1%
Race/Ethnicity		
African American	168	85.7%
Other	28	14.3%
Number of Children		
No children	87	44.4%
1 child	46	23.5%
2–4 children	63	32.1%
Experienced IPV in past year		
No	144	73.5%
Yes	52	26.5%
Used cocaine, heroin, amphetamines, or marijuana in past month		
No	146	74.9%
Yes	49	25.1%
Used alcohol in the past month		
No	145	74.4%
Yes	50	25.6%
Prescribed ART at baseline		
No	43	21.1%
Yes	153	78.7%
HIV-1 RNA less than 400 copies/ml		
No	76	38.8%
Yes	120	61.2%
CD4 count (median cells/mm^3)	452	
Depressive symptoms		
No (CESD <10)	48	24.5%
Mild (CESD 10–15)	110	56.1%
Severe (CESD >15)	38	19.4%

Sample Characteristics	**N=196**	**% or SD**
Missed any gynecological appointment		
No	71	36.2%
Yes	125	63.8%
Missed any primary care appointment		
No	53	27.0%
Yes	143	73.0%

Table 2

Sociodemographic characteristics of 196 women receiving HIV primary and gynecological care, stratified by experience of IPV

Demographic Characteristics	Did not screen positive for IPV (n=144)	Screened positive for IPV (n=52)	χ^2 p- value
Mean Age	46.2 (SD=8.2)	44.4 (SD=8.1)	.182
Education			.253
Less than high school degree	67 (69.8)	29 (30.2)	
High school degree or more	77 (77.0)	23 (23.0)	
Relationship Status			.516
In a steady relationship	68 (75.6)	22 (24.4)	
Not in a steady relationship	75 (71.4)	30 (28.6)	
Employment status			.818
Unemployed	100 (73.0)	37 (27.0)	
Working part time or full time	44 (74.6)	15 (25.4)	
Race/Ethnicity			.099
African American	127 (75.6)	41 (24.4)	
Other	17 (60.7)	11 (39.3)	
Number of Children			.862
No children	64 (73.6)	23 (26.4)	
1 child	35 (76.1)	11 (23.9)	
2–4 children	45 (71.4)	18 (29.6)	
Used cocaine, heroin, amphetamines, or marijuana in past month			.945
No	108 (74.0)	38 (26.0)	
Yes	36 (73.5)	13 (26.5)	
Used alcohol in the past month			.902
No	106 (73.1)	39 (26.9)	
Yes	37 (74.0)	13 (26.0)	
Using ART at baseline			.346
No	34 (79.1)	9 (21.9)	
Yes	110 (71.9)	43 (28.1)	
HIV-1 RNA less than 400 copies/ml			.781
No	55 (72.4)	21 (27.6)	
Yes	89 (74.2)	31 (25.8)	
CD4 count (median cells/mm^3)	476	385	.072
Depressive symptoms			.004
No (CESD <10)	43 (89.6)	5 (10.4)	
Mild (CESD 10–15)	79 (71.8)	31 (28.2)	
Severe (CESD >15)	22 (57.8)	16 (42.1)	
Missed any gynecological appointment			.021

Demographic Characteristics	**Did not screen positive for IPV (n=144)**	**Screened positive for IPV (n=52)**	**χ^2 p- value**
No	59 (83.1)	12 (16.9)	
Yes	85 (66.0)	40 (32.0)	
Missed any primary care appointment			.453
No	41 (77.4)	12 (22.6)	
Yes	103 (72.0)	40 (27.0)	

Table 3

Multivariable analysis of clinical factors associated with IPV for 196 women receiving HIV primary and gynecological care

	OR	SE	p-value	95%Confidence Interval
Depressive symptoms				
None	1.00	--	--	--
Mild	3.44	1.87	0.023	(1.19, 9.95)
Severe	5.45	3.31	0.005	(1.66, 17.98)
Gynecological appointments				
Missed none	1.00	--	--	--
Missed any	1.95	.778	0.090	(0.90, 4.27)
Race/Ethnicity				
Other	1.00	--	--	--
African American	1.99	.947	0.145	(0.79, 5.06)
Drug use in the past month				
None	1.00	--	--	--
Any	.791	.325	0.570	(0.35, 1.77)
CD4 count	.999	.000	0.133	(0.99, 1.00)
HIV-1 RNA level	1.00	.000	0.329	(0.99, 1.00)
Age	.973	.021	0.201	(0.93, 1.01)