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A Systematic Review of the Frequency and Correlates of Partner Abuse in HIV-Infected Women and Men who Partner with Men

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Abstract

Partner abuse (PA) is a highly prevalent and devastating social phenomenon, extracting an economic toll of more than \$8 billion in the United States due to lost productivity alone. Many of the risk factors for PA increase vulnerability to acquiring HIV as well, yet little research has explored these overlapping epidemics. In this systematic review, we examine the frequency of PA victimization from male partners among persons living with HIV (PLWH)—both men who have sex with men (MSM) and women. We located 31 manuscripts reporting data from 24 unique samples, indicating a high lifetime frequency (but large range) of estimates for women/MSM, respectively, for physical (26–62%/15–39%), sexual (22–44%/8–33%), and psychological abuse (55%/22–73%). Data indicate strong and consistent associations of PA with poor mental health, engagement in health risk behaviors, and non-adherence to HIV medication for both groups. We discuss implications for clinical practice as well as future research directions.

Keywords

interpersonal violence; men who have sex with men; partner abuse; systematic review; women

Interpersonal violence in the United States each year leads to more than \$8 billion in direct and indirect costs to society due to lost productivity alone (Centers for Disease Control and Prevention [CDC], 2003). It is an ongoing social epidemic with a devastating impact that, as a society, we have tended to deny (Nieves-Rosa, Carballo-Diéguez, & Dolezal, 2000). Partner abuse (PA), which can occur in any recurrent or steady romantic or sexual partnership (Campbell, 2002), is one common form of interpersonal violence. A large representative study (Tjaden & Thoennes, 2000) estimated that one fourth of all women in the United States will experience physical or sexual abuse at the hands of a romantic partner during their lifetimes. Historically, PA has been studied under the rubric of “violence against women” (Kilpatrick, 2004), employing terminology that assumed a heterosexual sexual orientation and male-female

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romantic and sexual partnerships. More recently, however, PA research has expanded in scope to include broader definitions of partnerships, such as same-sex relationships and unmarried and/or cohabitating couples (Brownridge, 2010; Burke & Follingstad, 1999; Logan, Shannon, & Cole, 2007; Murray & Mobley, 2009).

People living with HIV (PLWH), based on their membership in at least this one stigmatized group, may be at particularly high risk for experiencing PA. Empirically, there are many overlapping risk factors for HIV and PA. These include poverty, unemployment, inadequate social support, substance abuse, homophobia, and mental health problems such as depression and anxiety (Axelrod, Myers, Durvasula, Wyatt, & Cheng, 1999; Brady, Gallagher, Berger, & Vega, 2002; Greenwood et al., 2002; Sareen, Pagura, & Grant, 2009; Zierler et al., 2000). Shared risk factors may result in increased co-occurrence of these phenomena. A sizeable and growing body of research has examined the ways PA may facilitate HIV infection in women through coerced needle sharing, forced sexual intercourse, or by limiting their abilities to negotiate HIV preventive behaviors such as the use of barrier protection during sex (El-Bassel et al., 1998; Maman et al., 2002; Rosenthal & Levy, 2010). Also, in this group, it is possible that HIV disclosure may precipitate PA (e.g., Rothenberg & Paskey, 1995). Because of the chronic nature of HIV disease, PLWH may have a higher need for physical care-taking and emotional support from romantic partners, potentially leading to more conflicting relationships. Also, PLWH who have experienced PA may have fears of abandonment that are intensified through a negative self-image and hopelessness about the potential to obtain a non-abusive relationship later. Further, PA that occurs in the lives of HIV-infected individuals may potentially be more devastating in terms of physical health consequences (e.g., Campbell et al., 2008), based on an increased susceptibility to mental and physical health problems. Few studies have examined the physical and mental health correlates of PA in PLWH (El-Bassel, Gilbert, Wu, Go, & Hill, 2005; Gielen, McDonnell, O'Campo, & Burke, 2005; Li, Baker, Korostyshevskiy, Slack, & Plankey, 2012).

In the United States, HIV has historically been a disease concentrated mostly among men who have sex with men (MSM), many of whom additionally identify their sexual orientation as gay, bisexual, or queer (Young & Meyer, 2005). The CDC recently estimated that 61% of incident HIV infections are due to male-to-male sex, 27% to heterosexual sex, and the remaining 12% to injection drug use (CDC, 2009). Cumulatively, however, 25% of HIV-infected individuals are women and 49% are MSM (CDC, 2012). Therefore, heterosexual women and gay/bisexual men (i.e., anyone who partners with a man) represent the populations with the highest burden of HIV, and also are the demographic groups at highest risk for experiencing PA (Galvan et al., 2004). Thus, a syndemics approach to these intersecting public health problems is essential, through which the additive effect of multiple health problems is explored (Stall et al., 2003). Syndemics is a term, borrowed from medical anthropology (Singer, 1994), which is used to highlight the phenomenon that multiple, co-occurring psychosocial epidemics cluster together. Evidence has shown that, in combination, the presence of more syndemic indicators dramatically increases the likelihood of physical illness. In a seminal paper, Stall and colleagues (2003) identified substance use, depression, childhood sexual abuse, and PA as HIV-related syndemic indicators in MSM. Taking a syndemics approach to these and other psychosocial problems facing MSM, as well as other PLWH, may be necessary to ascertain potential intervention targets. In this paper, we review the literature on PA, one of the syndemic indicators related to HIV. Here we aim to identify the published frequency of different types of PA among samples of HIV-infected women and MSM, as well as the physical and mental health associations. We conclude with implications and recommendations for research and clinical practice.

Review Methodology

Overall, most published PA research focuses on putatively HIV-uninfected women in the United States or in Africa, although there is a small body of work on PA and women with or at risk of acquiring HIV (Campbell et al., 2008). Little empirical work exists on MSM in general, let alone on HIV-infected MSM, with respect to PA. Because of contextual differences related to PA across countries and continents, both societal and research-related—including shifting research definitions and varied cultural mores about what constitutes PA—we have chosen to restrict our analysis to U.S.-based studies only.

We searched the major online databases in the social and health sciences (PsycINFO, PubMed, CINAHL, ERIC, Sociological Abstracts, Social Sciences Abstracts, Social Sciences Citation Index) for English-language publications from 1981 (the first year AIDS cases were documented in the United States) through December 2012. We searched for various combinations of the terms [*HIV* or *AIDS*], [*partner* or *domestic* or *couple* or *marital* or *spousal* or *spouse*], and [*abuse* or *battering* or *violence* or *aggression*]. We consulted with experts in the field and inspected all relevant review articles, as well as the reference lists of any relevant articles found, to locate additional potential studies for inclusion. Literature reviews, book chapters, and unpublished dissertations were excluded because they were not peer-reviewed or did not contain empirical data. Initial literature searches yielded more than 11,000 articles on PA, and 2,000 that mentioned PA and HIV. Closer review of the abstracts and, in many cases the full text of the articles, revealed 31 research reports that met full criteria for inclusion (see Tables 1 & 2).

For inclusion, studies must have reported data on PA in women living with HIV or MSM living with HIV or both. Studies defining interpersonal violence more generally were excluded because we could not adequately assess the relationship between the perpetrator and the victim, a defining feature of PA. Additionally, we included studies that reported on samples comprising both HIV-infected and uninfected individuals; if we had not, we would report only on 15 manuscripts with solely HIV-infected samples (5 women only, 6 mixed men and women, 4 MSM only). When no explicit breakdown of results by serostatus was given, we reported on the results for the whole sample (in 11 manuscripts) and noted when the authors reported statistically significant serostatus differences across groups. Eleven of the 31 articles reported on different combinations of variables from the same three samples; five manuscripts reported on Project WAVE (the Women, AIDS, and the Violence project), three manuscripts reported on the HIV Cost and Services Utilization Study (HCSUS) data, and two manuscripts reported on the Women and Families Project (WFP; see *Note* below Table 1).

Results

We identified 31 manuscripts that met inclusion criteria, the majority of which were published in the past 7 years. The cumulative results of the review are summarized and presented by manuscript in Table 1, and by timeframe and demographic group in Table 2. In the text below, we highlight a few notable findings from each category.

Frequency of Partner Abuse Among HIV-Infected Women and MSM

Physical PA—Physical PA generally includes physical contact such as slapping, punching, or kicking. This definition excludes sexual violence such as rape that is typically considered a different construct. In the manuscripts we identified, lifetime physical PA rates were as high as 62% for HIV-infected women (Burke, Thieman, Gielen, O'Campo, & McDonnell, 2005) and 39% for HIV-infected MSM (Shelton et al., 2005). In a multiethnic sample of HIV-infected women, 32% reported having experienced physical PA in their most recent relationships (Axelrod et al., 1999). In another study, 34% of HIV-infected women reported having

experienced physical PA before the HIV diagnosis, 21% reported such abuse after the diagnosis, and 11% reported it both before and after (Gielen, McDonnell, Burke, & O'Campo, 2000). Additionally, Zierler and colleagues (2000) found that 12% of MSM reported physical PA post-diagnosis. In comparing HIV-infected to uninfected MSM, one study found that 29% of HIV-infected MSM versus 21% of uninfected MSM reported physical PA in the previous 5 years, which was a significant difference (Greenwood et al., 2002).

Sexual PA—Sexual PA is physical violence of a sexual nature, including forced or coercive sex, unprotected sex against one's will, or rape perpetrated by a dating partner. Twenty manuscripts reported data on sexual PA among PLWH. For MSM with HIV, lifetime rates ranged from 8% (Li et al., 2012) to 33% (Ramachandran, Yonas, Silvestre, & Burke, 2010). For women with HIV, 40% reported lifetime partner rape (Brady et al., 2002), and 22% reported lifetime sexual PA more generally (Burke et al., 2005). Several manuscripts reported on the combination of lifetime physical and sexual PA in women; 10% had experienced some combination of the two forms of abuse in the previous 3 months (Lang, Salazar, Wingood, DiClemente, & Mikhail, 2007), 21% had experienced one or both forms of abuse in the previous year (Cohen et al., 2000), and 66% experienced some combination of these two forms of abuse during their lifetimes. Thirteen percent of women with HIV reported that, before receiving the diagnosis, they had experienced sexual PA; 4% reported sexual PA post-diagnosis, and 4% reported sexual PA both before and after (Gielen et al., 2000). Among MSM, 17.3% (Pantalone, Schneider, Valentine, & Simoni, 2012) to 33% (Craft & Serovich, 2005) reported sexual PA in the previous year.

Psychological PA—Psychological or emotional PA includes demeaning or humiliating comments, threats, stalking, or the destruction of property as a form of symbolic violence (e.g., Burke & Follingstad, 1999; Rhatigan, Moore, & Street, 2005). Ten manuscripts reported data on psychological PA in samples of MSM and women with HIV. In MSM with HIV, lifetime rates of psychological PA ranged from 22% (Li et al., 2012) to 73% (Craft & Serovich, 2005; Pantalone et al., 2012). In a national sample of HIV-infected MSM, 39% reported psychological PA in the previous 5 years (Greenwood et al., 2002). Twenty-one percent of HIV-infected women from the WAVE study reported psychological PA in the previous year (Gielen, McDonnell, & O'Campo, 2002), and 55% reported lifetime psychological PA (McDonnell, Gielen, & O'Campo, 2003). In terms of psychological PA anchored to the timing of an individual's HIV diagnosis, 15% of HIV-infected women reported that the current male partner was "verbally or emotionally abusive" before the diagnosis (Koenig et al., 2002). In another study, 29% of HIV-infected women reported psychological PA before the diagnosis, 15% after, and 13% both before and after (Gielen et al., 2000).

Comparing frequency of PA across sex/sexual orientation groups—Using the available data, we can compare the published rates for HIV-infected women with those of MSM in the following abuse type and timeframe categories: (a) lifetime physical PA, 26%–62% for women and 15%–39% for MSM; (b) lifetime sexual PA, 22%–44% for women and 12%–33% for MSM; (c) psychological PA in the previous year, 21% for women, and 50.6%–73% for MSM; (d) combined physical and sexual in the previous 6 months, 7%–20% for women and 17% for MSM; and (e) lifetime PA of any type, 58%–67% for women and 28%–78% for MSM. Given these findings, with their often wide-ranging estimates across studies, the results appear equivocal—some manuscripts indicated that proportionately more women living with HIV reported PA, and others indicated that proportionately more HIV-infected MSM reported PA.

Mental Health and Health Behavior Correlates of PA in HIV-Infected Women and MSM—We located 26 manuscripts that explicitly addressed the topic of potential health and

mental health outcomes (or correlates in cross-sectional work) of PA. See Table 3 for a listing of which studies contributed findings to each of the possible outcome categories. The remaining manuscripts reported only on demographic predictors of PA in their samples. Here we summarize reports of significant associations between PA and other variables determined using inferential statistical techniques. Overall, the data showed a variety of significant associations between PA and (a) mental health factors, (b) health risk behaviors such as unprotected sex and substance use, and (c) HIV medication adherence.

A number of studies indicated that PA was significantly associated with mental health concerns, including depression, suicidal ideation, anxiety, and post-traumatic stress disorder (PTSD). The studies have shown that women with HIV who reported a history of PA endorsed significantly more depression (Illangasekare et al., 2012; Jones, Beach, & Forehand, 2003; McDonnell, Gielen, O'Campo, & Burke, 2005; Newcomb & Carmona, 2004), anxiety (Galvan et al., 2004; Gielen et al., 2005), and PTSD symptoms (Axelrod et al., 1999) compared to women with HIV who had not experienced PA. Gielen and colleagues (2005) reported that HIV-infected women who had been physically and sexually abused, compared to HIV-uninfected non-abused women, were 4.9 times as likely to report problems with anxiety, 7.0 times as likely to report problems with depression, and 12.5 times as likely to have ever attempted suicide. Only two studies, however, reported on significant associations between PA and mental health in HIV-infected MSM (physical & sexual PA, Galvan et al., 2004; physical PA or any PA, Pantalone et al., 2012). Both studies indicated that having experienced PA was significantly associated with symptoms of depression and anxiety as well as suicidal ideation, although the latter study did not find associations between sexual or psychological PA and those same mental health problems.

Several studies reported on the associations between PA and health-risk behaviors. Inconsistent condom use with sexual partners, for example, was shown to be significantly associated with PA, and has been replicated across a number of different studies of HIV-infected women (Bogart et al., 2005; El-Bassel et al., 2005; Gielen et al., 2002; Lang et al., 2007). Further, Cohen and colleagues (2000) found that women with HIV who had experienced PA, compared to those who had not, were more likely to have reported trading sex for money or drugs, and to have been forced to have sex with a person known to have HIV infection. Only two studies that included MSM with HIV reported significant associations between PA and sexual risk-taking behaviors (Bogart et al., 2005; Nieves-Rosa et al., 2000). Both studies reported that men reporting physical and sexual PA were more likely to have engaged in unprotected sex compared to no-PA peers.

Additionally, several studies reported associations between PA and substance abuse in both HIV-infected women and MSM. Significant associations were found between PA and drug dependency (Burke et al., 2005; Galvan et al., 2004; Zierler et al., 2000). Similarly, studies that focused exclusively on HIV-infected MSM further indicated significant associations between PA and substance use (e.g., methamphetamine, cocaine, and stimulants; Li et al., 2012; Nieves-Rosa et al., 2000; Pantalone et al., 2012).

Based on our review, only two manuscripts explicitly detailed a significant relationship between PA and medication adherence among women and MSM with HIV. Ramachandran and colleagues (2010) reported that non-PA participants were significantly more likely to report having taken their HIV medications compared to those who reported PA (93% vs. 66%, $p = 0.04$). Similarly, Rose, House, and Stepleman (2010) indicated that, not only was the frequency of PA significantly and negatively associated with medication adherence, adherence was found to mediate the relation between PA and HIV-related health outcomes, including viral load and CD4+ T cell count.

Discussion

Findings: Analysis of Extant Literature

The 31 published manuscripts that focused on PA in women and MSM who were living with HIV indicated that PA was present at the same or higher levels than comparison samples without HIV. Thus, depending on the temporal sequencing, HIV appears to be a risk factor for PA or PA is a risk factor for HIV. The proportion of women with HIV who reported physical or sexual PA was as high as 66%, and up to 55% for psychological PA. These rates are higher than those reported by women in the general population (irrespective of HIV status). In a nationally representative sample of putatively uninfected women, one study found lifetime prevalence rates of physical, sexual, and psychological PA at 17.6%, 4.3%, and 12.1% respectively (Coker et al., 2002). Regarding MSM, the limited literature available has suggested that PA is present in one quarter to one half of all same sex relationships (Alexander, 2002; Burke, Jordan & Owen, 2002; Pitts, 2000). This appears congruent with the existing literature on PA in MSM with HIV.

Comparing within seropositive samples, lifetime prevalence of PA in women with HIV appeared comparable—if not slightly higher—to rates found in MSM with HIV. For women with HIV, lifetime rates of physical, sexual, and psychological PA were as high as 62% (Burke et al., 2005), 44% (Ramachandran et al., 2010), and 55% (McDonnell et al., 2003) respectively. For HIV-infected MSM, those same abuse categories reached 39% (Shelton et al., 2005), 33% (Ramachandran et al., 2010), and 73% (Pantalone et al., 2012), respectively. These results suggest that women with HIV may be more likely to experience physical and sexual abuse compared to MSM with HIV; MSM with HIV may be more likely to experience psychological abuse compared to women with HIV. It has been suggested, however, that we should remain cautious when making comparisons between these demographic groups—given that victims of same-sex PA may be less likely to disclose or report abuse because of internalized or institutionalized homophobia, or a (potentially accurate) belief that few useful resources exist (Stephenson, Khosropour, & Sullivan, 2010). Further, it is difficult to draw firm conclusions because of the relatively small number of published manuscripts and, among those, the small number of participants surveyed. Only 13 manuscripts (11 unique samples) investigated PA in HIV-infected MSM. Even today, the majority of PA research appears to be conducted using the stereotypical view of men as perpetrators and women as recipients of abuse (Kilpatrick, 2004).

Implications for Research

In recent years, more investigators have focused their attention on the potential problem of PA in PLWH. However, the results of each study—and, thus, the summary of the results we report here—should be interpreted with caution based on methodological challenges inherent in the study of PA. Secrecy, embarrassment, and the historical legacy of society's "blame the victim" attitude (Plichta, 2004) likely lead to underreporting of crimes, especially when committed by an intimate partner. This hinders our ability to accurately characterize the prevalence of PA. Also, true prevalence can only be measured using a population-based sampling strategy, which is expensive and difficult to implement, especially for hidden and stigmatized groups. Further, frequency data for subgroups (i.e., immigrants, people of color) are unreliable given the relatively homogenous samples. The field has been stunted somewhat by a lack of standardized definitions, and HIV and research on sexual minority individuals suffers from sampling issues related to a low base rate in the general population.

The majority of studies on same-sex and HIV-infected PA have not used standardized assessment instruments to measure PA and do not report results using similar timeframes. In this review, 12 manuscripts reported PA using the full version of established measures judged

in previous work to have adequate psychometric properties. All other manuscripts used modified, adapted, or investigator-created measures (i.e., those with unknown reliability and validity). It is possible, too, that the most commonly used measures (such as the CTS2) may not be culturally valid for MSM samples. Another important methodological issue is the variable timeframe in which PA has been investigated. As seen in Table 2, there was little uniformity in data collection timeframes across manuscripts, preventing *prima facie* prevalence comparisons. Overall, researchers should utilize the timeframe that is (or timeframes that are) relevant to their research questions, or retain the timeframe on which the psychometric properties of the measure were established. Lifetime prevalence is the most straightforward timeframe but, given that the abuse may have occurred long ago, the previous year may be a better choice when investigating associations with current mental or physical health symptoms.

The majority of manuscripts (22 in total) reported on interviewer-administered surveys of abuse conducted face-to-face or via telephone. Although there are benefits to these interviewer-administered surveys (e.g., high response rate, ability of the interviewer to clarify ambiguous questions; Rhodes, Lauderdale, He, Howes, & Levinson, 2002), drawbacks abound as well. Especially notable is an increased potential for interviewer bias, as well as a lack of perceived anonymity that may increase demand characteristics, especially for research projects conducted at the patients' usual care setting (Webster & Holt, 2004). For studies that use standard measures with behaviorally anchored items, computerized self-assessment (making use of screening questions and skip patterns to reduce participant burden) seems like it would be the best choice. For qualitative studies, or those that aim to capture more nuanced information about the chronology of abuse events and their consequences over time, interviewer-administration seems like the only reasonable option.

Finally, only four manuscripts employed a longitudinal design (El-Bassel et al., 2005; Jones et al., 2003; Newcomb & Carmona, 2004; Williams, Wyatt, Myers, Green, & Warda, 2008); the more common use of cross-sectional methods limits our ability to draw conclusions about direction or causality of correlates. Additionally, there were considerable variations in the sampling strategies and venues used for participant recruitment. Some studies focused efforts on community settings, whereas others recruited primarily from domestic violence shelters or primary care clinics (i.e., venues in which we might expect more participants to have experienced PA or in which individuals may be more or less willing to disclose PA experiences).

A consistent theme of the 31 papers was a call for more methodologically sound investigations of partner abuse among HIV-infected individuals and for concerted efforts to replicate and extend previous findings using the same time frame and the same measure across multiple studies. The field of PA in general, and specifically the HIV-PA subfield, suffers from a lack of direction. Investigators appear to agree that the most important advance is the statement and refinement of conceptual definitions of PA in order to best understand the phenomenon en route to its elimination (e.g., Rhatigan et al., 2005). Standardized definitions and timeframes must be used to facilitate comparisons across studies and fields, and measures must employ strict behavioral definitions to assess multiple domains of abuse reliably. In assessment, definitions should be presented repeatedly to respondents to ensure understanding, maximize recall, and minimize the chances of under-reporting. Also, work should be undertaken to determine whether established measures, such as the CTS2, work adequately in MSM samples. Sufficient detail should be gathered from respondents to tease apart acts of self-defense from the true occurrence of mutual battering (Burke & Follingstad, 1999). The presence, frequency, and severity of abuse should be ascertained and reported. Empirical data are lacking on the consequences of PA against women and MSM (HIV-infected and uninfected), including injury rates, the use of medical services, and the most typical physical and mental health sequelae (e.g., Relf, 2001; Tjaden & Thoennes, 2000).

PA researchers could initiate collaborations with abuse researchers in other subspecialties (e.g., rape, child abuse) because of the frequent co-occurrence of multiple types of abuse (Plichta, 2004). Collaborations across disciplines (e.g., psychology, nursing, criminology) could promote standardization of definitions and data collection instruments, and may bring together multiple theoretical perspectives on the etiology and consequences of PA.

A lack of treatment studies exists in general for same-sex PA, and certainly for individuals of both sexes living with HIV and who have experienced PA. Successful treatment outcome studies with empirical support in samples of uninfected women should be evaluated for acceptability and eventual efficacy for uninfected and HIV-infected women and MSM as well. Here, it may be useful to employ a syndemics framework in terms of planning and executing interventions to prevent PA or to mitigate consequences when it does occur. Because cooccurrence of PA and mental health problems is common, intervention programs should focus hierarchically on multiple targets. There has been a push in the health psychology literature to advance interventions that do just that (e.g., Safren, Reisner, Herrick, Mimiaga, & Stall, 2010); that is, to treat mental health problems and improve health risk behaviors such as reducing unprotected sex or increasing medication adherence. This type of intervention would be well suited for many of the PA victims investigated in this review.

Implications for Practice

Given the relative lack of empirical work in the area of interventions related to PA, it is difficult to make recommendations about evidence-based practices for health care providers. However, as rates of PA are comparable across HIV statuses, HIV prevention and treatment providers might take into account the very real possibility of PA in clients' lives. Similarly, programs designed to provide services for PA victims should acknowledge the potential for HIV infections (known and unknown) among clients and, therefore, encourage testing and facilitate access to care. Barriers exist to increasing provider knowledge about PA in this population, including the fact that patients are reluctant to report PA to providers unless the provider asks specifically (Battaglia, Finley, & Liebschutz, 2003). Providers should routinely assess for PA using behaviorally specific items. However, evidence shows that providers often refrain from asking because they are concerned about the limits of their own training and their abilities to follow-up (Ross, Walther, & Epstein, 2004). A review of 12 manuscripts reported that successful provider interventions were multi-faceted, and incorporated education along with additional assessment strategies (e.g., providing specific screening questions in every protocol; Waalen, Goodwin, Spitz, Petersen, & Saltzman, 2000). The benefits of provider screening alone have not been researched quantitatively; however, several qualitative reports had noted that discussions with providers alone are therapeutic, if they are conducted in a concerned, non-judgmental way (e.g., Rhodes et al., 2002).

Conclusions

Irrespective of HIV status, the existing body of work in PA makes it clear that PA should be classified as a major public health and criminal justice concern in the United States. The study of the experiences of HIV-infected individuals with PA is a field in its infancy. The 31 manuscripts reported in this review have given enough information to determine that additional study is needed to better understand both basic and more nuanced questions about the phenomenon of PA among HIV-infected men and women. Further research and funding for manuscripts of the prevalence of PA, as well as the physical and mental health consequences of such abuse, should be pursued, and PA should be investigated in combination with other forms of interpersonal abuse in childhood and in adulthood.

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Table 1

U.S. Based Studies of Frequency of Partner Abuse (PA) among HIV-Infected Women and MSM

Author (Year)	Sample/Measures	Any PA	Multiple Forms	Relative Frequency of PA					
				Lifetime			Other Time frame		
				Physical	Sexual	Psycho-logical	Physical	Sexual	Psychological
HIV-Infected Women Only									
(1) Lang et al. (2007)	Recruited from HIV clinics in Georgia and Alabama; 1997–2000 <i>N</i> = 391; <i>M</i> age = 33; 77% African American Interviewer administrated measures of psychosocial characteristics and recent gender-based violence in the previous 3 months.	-	> 10% reported physical and/or sexual PA in the previous 3 months	-	-	-	-	-	-
(2) Brady et al. (2002)	Recruited from home-based primary medical HMO for people with advanced HIV; 1991–1996 <i>N</i> = 100; <i>M</i> age = 38; 52% White Nursing staff examined patients’ progress notes for mention of experiences of interpersonal violence	-	-	-	40% reported partner rape	-	-	-	-
(3) Rose et al. (2010)	Recruited from infectious disease clinics in Georgia and South Carolina; dates N/R <i>N</i> = 40; <i>M</i> age = 40.9; 100% African American TLEQ; one item assessed partner physical abuse	-	-	60% lifetime; frequency > 5 times: 20%	-	-	-	-	-
(4) Gielen et al. (2000)	Recruited from outpatient primary HIV care clinic, outpatient drug tx clinic in Baltimore, MD (Project WAVE); 1997–1999 <i>N</i> = 310; 47% between 30–39 years of age; 94% African American Researcher created and interviewer administered (5 items) and followup questions concerning dates of	67% as an adult	All three: 34% only before dx, 16% only after dx, 17% both before and after dx	-	-	-	34% before dx, 15% after, 11% both	13% before dx, 4% after, 4% both	29% before dx, 15% after, 13% both

Author (Year)	Sample/Measures	Any PA	Multiple Forms	Relative Frequency of PA					
				Lifetime			Other Time frame		
				Physical	Sexual	Psycho-logical	Physical	Sexual	Psychological
	violence and of HIV diagnosis.								
(5) Illangasekare et al., (2012)	Recruited from outpatient HIV clinic in inner-city Baltimore, MD <i>N</i> = 196; <i>M</i> age = 45.7; 85.7% African American 3 item Partner Violence Screen using previous year timeframe	26.5% in previous year	-	-	-	-	-	-	-
Mixed HIV-Infected and Uninfected Women									
(6) Williams et al. (2008)	UCLA - Drew Women and Family Project Service agencies in Los Angeles County; 1994–2001 <i>N</i> = 457; 299 HIV infected; <i>M</i> age = 36.8; 155 African American Interviewer administered WSHQ-R and CTS at baseline, 6 months and 12 months	-	HIV - infected women more likely to report 1 incident of physical PA than uninfected women at baseline and 6 months	-	-	-	-	-	-
(7) Sareen et al. (2009)	National Epidemiologic Survey on Alcohol and Related Conditions Wave 2 <i>N</i> = 13,928; <i>M</i> age = N/A Uninfected women = 13,842; HIV-infected women = 30 Interviewer administered CTS	-	Previous year physical and sexual PA = 1.7% for HIV infected				N/R	N/R	-
(8) Burke et al. (2005)	Outpatient clinics, homeless shelter, drug tx center, community center in Baltimore, MD (Project WAVE); 1997–1999 310 HIV infected; 60% < 40 years of age; 95% African American 301 uninfected; 77% < 40 years of age; 98% African American Researcher created (2 items); Interviewer administered	63% HIV infected (physical or sexual) vs. 66% uninfected ever@	Physical & sexual, ever: HIV infected vs. 19% uninfected@ Either, 63% HIV infected vs. 66% uninfected@	Any physical: 62% HIV infected; 63% uninfected; Physical only: 41% HIV infected; 45% uninfected @	Any sexual: 22% HIV infected vs. 22% uninfected; Sexual only: 1% HIV infected vs. 3% uninfected @	-	-	-	-

Author (Year)	Sample/Measures	Any PA	Multiple Forms	Relative Frequency of PA				
				Lifetime		Other Time frame		
				Physical	Sexual	Psycho-logical	Physical	Sexual
(9) El-Bassel et al. (2005)	14 methadone maintenance tx programs in New York, NY; 1997–2000 <i>N</i> = 405; <i>M</i> age = N/A; 47% Latina ≈ 20% of sample was HIV infected at baseline; HIV prevalence remained consistent throughout the study [‡] All women reported a sexual/dating relationship with a man during the year prior to baseline visit. Interviewer administered full CTS2 using 6 month timeframe	-	For total sample, previous 6 months, physical & sexual PA: 46% at baseline, 41% at 6 months, 31% at 12 months @	-	-	-	-	-
(10) Gielen et al. (2005)	Outpatient clinics, homeless shelter, drug tx center, community center in Baltimore, MD (Project WAVE); 1997–1999 <i>N</i> = 611; 310 HIV infected; 301 uninfected; <i>M</i> age = N/A; 96% African American Interviewer administered 2 items adapted from the Abuse Assessment Screen	-	Physical or sexual PA: 32% of HIV infected women, 33% of uninfected women	-	-	-	-	-
(11) McDonnell et al. (2005)	Outpatient clinics, homeless shelter, drug tx center, community center in Baltimore, MD (Project WAVE); 1997–1999 188 HIV infected; 257 uninfected; <i>M</i> age for HIV+ = 34.6; <i>M</i> age for HIV- = 32.9; 96% African American 100% had main partner in the year preceding the interview. Physical assault (12 items) and sexual coercion (7 items) subscales of the CTS2; Interviewer administered	65% HIV infected (physical or sexual) vs. 67% uninfected ever	In previous year: 43% HIV infected vs. 42% uninfected; Not in previous year, but > 1 year ago, 23% uninfected @	-	-	-	-	-
(12) Newcomb & Carmona (2004)	Community settings: clinics, hospitals, AIDS organizations in and around Los Angeles, CA (Latina subsample from WFP); Dates N/R 79 HIV infected; 34 uninfected. <i>M</i> age = 33; 100% Latina	-	-	-	-	-	66% total sample, 1 instance in previous 6 months; being HIV infected a predictor of	-

Author (Year)	Sample/Measures	Any PA	Multiple Forms	Relative Frequency of PA					
				Lifetime			Other Time frame		
				Physical	Sexual	Psycho-logical	Physical	Sexual	Psychological
	Abbreviated CTS (3 items); Interviewer administered						reporting PA but raw data N/R		
(13) Jones et al. (2003)	<p>HIV infected: public primary health clinics (93%) and private practices of physicians (7%) in New Orleans, LA.</p> <p>Uninfected: stratified random sample drawn from children's school in zip codes where HIV-infected women lived.</p> <p>FHP, longitudinal multi-site study conducted in several urban areas; 1998</p> <p>53 HIV infected (CD4+ T cell count < 600 cells/mm³); 84 uninfected; <i>M</i> age = 31.7; 100% African American</p> <p>CTS physical and psychological abuse subscales; Interviewer administered at baseline visit</p>	For total sample, 92% PA in previous year	Previous year: 42% of total sample reported psychological and physical abuse	-	-	-	N/R *	-	Previous year: 50% of total sample *
(14) McDonnell, et al. (2003)	<p>Hospital-based clinics, homeless shelter, outpatient drug tx center, community center; Baltimore, MD (Project WAVE); Dates N/R</p> <p>310 HIV infected; 301 uninfected; <i>M</i> age = 36; 91% African American</p> <p>Researcher created (# items N/R); Interviewer administered</p>	58% HIV infected vs. 66% uninfected @	-	56% HIV infected vs. 64% uninfected @	N/R	55% HIV infected vs. 53% uninfected @	-	-	-
(15) Gielen et al. (2002)	<p>Outpatient primary HIV care clinic, outpatient drug tx clinic in Baltimore, MD (Project WAVE); 1997–1999</p> <p>188 HIV infected; 257 uninfected; 75% < 40 years of age; Race % not Provided</p> <p>In a relationship at the time of interview</p> <p>CTS2 (32 items), Interviewer</p>	62%, previous year 44%, frequency (> 13 events)@	Previous year:@ Physical & Psychological: 17% HIV infected 18% uninfected Physical & sexual: 42% HIV infected	-	-	-	-	-	Previous year:@ Psychological: 21% HIV infected 19% uninfected

Author (Year)	Sample/Measures	Any PA	Multiple Forms	Relative Frequency of PA				
				Lifetime		Other Time frame		
				Physical	Sexual	Psycho-logical	Physical	Sexual
	administered		43% uninfected All: 19% HIV infected 20% uninfected					
(16) Koenig et al. (2002)	Prenatal care units of health departments and clinics in NY, CT, FL, and NC; 1996–1998 Pregnant women at > 24 weeks; 336 HIV infected; 298 uninfected; <i>M</i> age = 27.8; 70% African American Researcher created (4 items), Interviewer administered	-	@ previous 6 months combined physical and sexual: 7% HIV infected, 11% uninfected	-	-	-	-	Current male partner: @ 15% HIV infected, 17% uninfected
(17) Cohen et al. (2000)	Outpatient clinics in New York, NY, Chicago, IL; Washington, DC; San Francisco & Los Angeles, CA, & HI (multi-site longitudinal study, WIHS); 1994-1995 <i>N</i> = 1288 HIV infected; <i>N</i> = 357 uninfected; <i>M</i> age for HIV+ = 35.0; <i>M</i> age for HIV+ = 34.0; 64% African American; Researcher created (5 items), Interviewer administered	-	Lifetime, combined sexual & physical: 66% HIV infected 67% uninfected@ Previous year, combined sexual & physical: 28% HIV infected vs. 21% [*] uninfected	-	-	-	-	-
(18) Axelrod et al. (1999)	Public and private HIV clinics in Los Angeles, CA; Dates N/R (WFP) 275 HIV infected; 140 uninfected; <i>M</i> age = N/A; 36% African American Abbreviated CTS (7 items) & Wyatt Sexual Abuse Scale (13 items, patient indicated relationship if perpetrator was a partner); Interviewer administered	-	-	-	-	32% HIV infected vs. 27% uninfected, in most recent relationship @	-	-

Author (Year)	Sample/Measures	Any PA	Multiple Forms	Relative Frequency of PA					
				Lifetime			Other Time frame		
				Physical	Sexual	Psycho-logical	Physical	Sexual	Psychological
HIV-infected Women & MSM									
(19) Bogart et al. (2005)	HIV-infected adults receiving non-ER medical care (HCSUS); Risk & Prevention Study sub-sample; 1996–1998 <i>N</i> = 726; 39% women; 40% gay or bisexual men; <i>M</i> age for women = 36.3; <i>M</i> age for gay/bi men = 38.8; For women 52.7% African American; For gay/bi men 70.1% White Researcher created (8 items), asked about victimization & perpetration; Interviewer administered	-	Physical & sexual, previous 6 months: 20% women, 24% heterosexual men, 17% MSM	-	-	-	-	-	-
(20) Ramachandran et al. (2010)	HIV-infected adults attending an urban AIDS tx clinic; dates N/R <i>N</i> = 56; 38 males, 18 females; 34% MSM; <i>M</i> age = N/A; 54% African American Interviewer administered Abused Assessment Screen; assesses psychological, physical, and sexual abuse	-	-	37% female; 31% MSM	44% female; 33% MSM	-	-	-	-
(21) Galvan et al. (2004)	HIV-infected adults receiving non-emergency medical care (HCSUS), Risk & Prevention Study subsample; 1996–1998 <i>N</i> = 741; 78% male; 68% < 44 years of age; 51% White All were in close relationships in the 6 months prior to interview. Researcher created (5 items), modeled after CTS to ask about victimization and perpetration	-	For total sample, physical & sexual, previous 6 months: 27% either victim or perpetrator; 48% both victim and perpetrator; 20% victims; 20% perpetrators	-	-	-	-	-	-

Author (Year)	Sample/Measures	Any PA	Multiple Forms	Relative Frequency of PA					
				Lifetime			Other Time frame		
				Physical	Sexual	Psycho-logical	Physical	Sexual	Psychological
(22) Zierler et al. (2000)	HIV-infected adults receiving non-emergency medical care (HCSUS), 1996–1997 <i>N</i> = 2,864; Reported demographics by category of violence experienced only. Researcher created (2 items), Interviewer administered	-	-	-	-	-	Since dx: 21% women, 12% MSM	-	-
(23) Schafer et al. (2012)	HIV-infected adults from a public HIV clinic; 2010–2011 <i>N</i> = 251; 52.2% MSM; 22.3% heterosexual female; <i>M</i> age = <i>N/A</i> ; 55% White Women’s Experiences with Battering questionnaire; Severity of Violence Against Women/Men Scales; interviewer administered	Total sample, 33.1% lifetime	-	-	-	-	-	-	-
(24) Martinez et al. (2009)	HIV-infected youth at a Midwestern inner-city health clinic; 1998–2006 <i>N</i> = 174; 116 male; 58.8% MSM; <i>M</i> age = 21.0; 79% African American; Interviewer administered CDQ	-	-	26.1% female; 15.1% male	-	-	-	-	-
Mixed HIV - Infected and Uninfected MSM									
(25) Greenwood et al. (2002)	Probability-based sample from 4 U.S. urban centers; 1996–1998 442 HIV infected; 1927 uninfected; 292 unknown HIV status; 38.9 % between 30–39 years of age; 78.7% White Modified CTS; (items not reported); Interviewer administered via telephone	43% HIV infected vs. 40% uninfected vs. 26% unknown HIV status, previous 5 years *	25% HIV infected vs. 18% uninfected vs. 10% unknown HIV status for multiple, previous 5 years *	-	-	-	Previous 5 years: 29% HIV infected 21% Uninfected 13% unknown HIV status *	Previous 5 years: 6% HIV infected, 5% uninfected, 4% Unknown HIV status@	Previous 5 years: 39% HIV infected, 35% uninfected, 21% unknown HIV status *

Author (Year)	Sample/Measures	Any PA	Multiple Forms	Relative Frequency of PA					
				Lifetime			Other Time frame		
				Physical	Sexual	Psycho-logical	Physical	Sexual	Psychological
(26) Nieves-Rosa et al. (2000)	Flyers distributed to both gay and non-gay venues in New York, NY; 1996–1997 84 HIV infected; 179 uninfected; 1 unknown HIV status [inconsistent reporting of Ns]; <i>M</i> age = 31; 100% Latino Researcher created (7 items); Interviewer administered	-	-	Total sample, 35% @	Total sample, 12% @	Total sample, 33% @	-	-	-
(27) Li et al. (2012)	Recruited from a gay men’s health clinic in Washington, DC; 2000–2007 127 HIV infected; 2,168 uninfected; median age = 30; 65% White; Researcher created (11 items)	28% HIV infected vs. 21% uninfected [†]	-	22% HIV infected vs. 16% uninfected [†]	8% HIV infected vs. 4% uninfected [†]	22% HIV infected vs. 16% uninfected [†]	-	-	-
HIV-Infected MSM									
(28) Craft & Serovich (2005)	Recruited from ongoing HIV research protocols or at HIV-specific community events; years N/R <i>N</i> = 51; <i>M</i> age = 40 years; 55% White CTS2 asked about current relationship	45% Previous year	-	-	-	-	Previous year: 45%	Previous year: 33%	Previous year: 73%
(29) Pantalone et al. (2012)	Receiving services at 2 urban, public, outpatient HIV clinics; 2006–2007 <i>N</i> = 168; <i>M</i> age = 44.0; 63.1% White CTS2; assessed physical, sexual, and psychological abuse	78% lifetime; 54.2% in previous year	-	38.1%	30.4%	73.2%	Previous year: 19%	Previous year: 17.3%	Previous year: 50.6%
(30) Shelton et al. (2005)	AIDS-service organizations; Houston, TX; 2002–2003 <i>N</i> = 54; 95% > 30 years of age; 69% African American Researcher created; Interviewers administered survey using computer assisted personal interviews	-	-	39%	32%	-	-	-	-

Author (Year)	Sample/Measures	Any PA	Multiple Forms	Relative Frequency of PA					
				Lifetime			Other Time frame		
				Physical	Sexual	Psycho-logical	Physical	Sexual	Psychological
(31) Ghanem et al. (2011)	Recruited from multiple venues throughout San Diego, CA; 2002-2008 <i>N</i> = 212; <i>M</i> age = 33.8; 72% White Researcher created survey	-	-	22.2%	-	-	-	-	-

Note. MSM = men who have sex with men; PA = partner abuse; HMO = health maintenance organization; TLEQ = Traumatic Life Events Questionnaire; dx = HIV diagnosis; tx = treatment; UCLA = University of California at Los Angeles; WAVE = Women, AIDS, and the Violence project; Epidemic CTS = Conflict Tactics Scale; CTS2 = Revised Conflict Tactics Scale; WSHQ-R = Wyatt Sex History Questionnaire; WIHS = Women’s Interagency HIV Study; HCSUS = HIV Cost and Services Utilization Study; WFP = Women and Families Project

* = significant differences were found between the HIV-infected and uninfected groups

@ = no significant differences between HIV-infected and uninfected respondents on this variable; dash (–) = manuscript did not report data corresponding to this cell

† = no statistical test was conducted to determine difference between groups

‡ exact *n* was not given for the number of HIV-infected participants; *N*/*R* = not reportable (> 1%); Gielen et al. (2000), Gielen et al. (2002), McDonnell et al. (2003), Burke et al. (2005), and McDonnell et al., (2005) present data from the same sample (WAVE Project); Zierler et al. (2000), Galvan et al. (2004), and Bogart et al. (2005) present data from the same nationally representative sample (HCSUS); Axelrod et al. (1999) and Newcomb & Carmona (2004) present data from the same sample (WFP).

Table 2

Estimates of Frequency of Partner Abuse from U.S.-Based Studies of HIV-Infected Women and MSM by Type of Abuse and Sex/Sexual Orientation Group

Timeframe/type of PA	HIV-Infected Women	HIV-Infected MSM
Lifetime		
Physical	26% (24), 37% (20), 56% (14), 62% (8)	15% (24), 22% (27), 22.2% (31), 31% (20), 38.1% (29), 39% (30)
Sexual	22% (8), 40% (2), 44% (20)	8% (27), 30.4% (29), 32% (30), 33% (20)
Psychological	55% (14)	22% (27), 73.2% (29)
Physical only	41% (8), 60% (3)	-
Sexual only	1% (8)	-
Physical & sexual	20% (8), 66% (17)	-
Physical or sexual	32% (10), 65% (11), 63% (8)	-
Any	58% (14), 63% (7) 67% (4)	28% (27), 43% (25), 78% (29)
Previous 5 years		
Physical	-	29% (25)
Sexual	-	6% (25)
Psychological	-	39% (25)
Multiple types	-	25% (25)
Any	-	43% (25)
Previous year		
Physical	-	19% (29), 45% (28)
Sexual	-	17.3% (29), 33% (28)
Psychological	21% (15)	50.6% (29), 73% (28)
Physical & psychological	17% (15)	-
Physical & sexual	1.7% (7), 28% (17), 42% (15)	-
All three	19% (15)	-
Any	26.5% (5), 43% (11)	45% (28), 54.2% (29)
Previous 6 months		
Physical	-	-
Sexual	-	-
Psychological	-	-
Physical and sexual	7% (16), 20% (19)	17% (19)
Previous 3 months		
Physical and/or sexual	> 10% (1)	
Before diagnosis		
Physical	34% (4)	-
Sexual	13% (4)	-
Psychological	29% (4)	-
After diagnosis		

Timeframe/type of PA	HIV-Infected Women	HIV-Infected MSM
Physical	15% (4), 21% (22)	12% (22)
Sexual	4% (4)	-
Psychological	15% (4)	-
Both before and after diagnosis		
Physical	11% (4)	-
Sexual	4% (4)	-
Psychological	13% (3)	-
Current or most recent partner		
Physical	-	-
Sexual	-	-
Psychological	15% (16), 32% (18)	-
Lifetime but not in the previous year		
Physical	-	-
Sexual	-	-
Psychological	-	-
Physical or sexual	23% (11)	-

Note. MSM = men who have sex with men; PA = partner abuse; Dash (–) = no manuscript reported data corresponding to this cell; manuscripts by Newcomb & Carmona (2004), Galvan and colleagues (2004), and Schafer and colleagues (2012) are listed in Table 1 but do not contribute to Table 2, as the authors did not report relative frequency rates of PA by sex/sexual orientation group; manuscripts by Nieves-Rosa and colleagues (2000), Jones and colleagues (2003), El-Bassel and colleagues (2005), and Williams and colleagues (2008) are listed in v but do not contribute to Table 2, as the authors did not report relative frequency rates of PA by serostatus group.

Table 3

Associations of Partner Abuse with Mental Health, Health-Risk Behaviors, and Medication Adherence by Sex, HIV Status, and Sexual Orientation

	Mental Health		PTSD	Health-Risk Behaviors		HIV Medication Adherence
	Depression	Anxiety		Risky Sex	Substance Abuse	
HIV-Infected Women	Illangasekare et al., 2012	-	Rose et al. (2010)	Lang et al. (2007)	Gielen et al. (2000)	Rose et al. (2010)
HIV-Infected and Uninfected Women	Axelrod et al. (1999); Gielen et al. (2005); Jones et al. (2003); McDonnell et al. (2005); Newcomb & Carmona (2004); Williams et al. (2008)	Axelrod et al. (1999); Gielen et al. (2005)	Axelrod et al. (1999)	Cohen et al. (2000); El-Bassel et al. (2005); Gielen et al. (2002); Koenig et al. (2002)	Cohen et al. (2000); Burke et al. (2005); Koenig et al. (2002); Newcomb & Carmona (2004); McDonnell et al. (2003)	-
HIV-Infected Women & MSM	Galvan et al. (2004)	Galvan et al. (2004)	-	Bogart et al. (2005)	Bogart et al. (2005); Galvan et al. (2004); Zierler et al. (2000)	Ramachandran et al. (2010)
HIV-Infected and Uninfected Women & MSM	-	-	-	-	-	-
HIV-Infected MSM	Pantalone et al. (2012)	Pantalone et al. (2012)	-	-	Ghanem et al. (2011); Pantalone et al. (2012)	Pantalone et al. (2012)
HIV-Infected and Uninfected MSM	-	-	-	Li et al. (2012); Nieves-Rosa et al. (2000)	Li et al. (2012); Nieves-Rosa et al. (2000)	-

Note. PTSD = Posttraumatic Stress Disorder; Dash (-) = manuscripts did not report data corresponding to this cell. The manuscript by Schafer et al. (2012) included a discussion relevant to medication adherence; however, adherence was not measured in the study. The manuscript by Martinez et al. (2009) reported on associations between abuse experiences and depression, anxiety, and PTSD; however, the abuse experiences also included childhood abuse.