Violence Victimization After HIV Infection in a US Probability Sample of Adult Patients in Primary Care

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ABSTRACT

Objectives. This study estimated the proportion of HIV-infected adults who have been assaulted by a partner or someone important to them since their HIV diagnosis and the extent to which they reported HIV-seropositive status as a cause of the violence.

Methods. Study participants were from a nationally representative probability sample of 2864 HIV-infected adults who were receiving medical care and were enrolled in the HIV Costs and Service Utilization Study. All interviews (91% in person, 9% by telephone) were conducted with computer-assisted personal interviewing instruments. Interviews began in January 1996 and ended 15 months later.

Results. Overall, 20.5% of the women, 11.5% of the men who reported having sex with men, and 7.5% of the heterosexual men reported physical harm since diagnosis, of whom nearly half reported HIV-seropositive status as a cause of violent episodes.

Conclusions. HIV-related care is an appropriate setting for routine assessment of violence. Programs to cross-train staff in antiviolence agencies and HIV care facilities need to be developed for men and women with HIV infection. (*Am J Public Health.* 2000;90: 208–215)

Physical assault is common in the United States, with 1994 estimates of 6.6 million men and 5 million women being assaulted annually.[1] Although overall, men are victims of violent crime more often than women are, women are 5 to 8 times more likely to be victims of assaults in the context of intimate relationships. In 1996, nearly 1 million women, compared with 150 000 men, reported rape, sexual assault, aggravated assault, or simple assault by an intimate partner, and slightly more than half of the women victims were living with children younger than 12 years at the time.[2] Notably, the epidemiology of physical assault within important personal relationships mirrors the epidemiology of HIV infection in women.[3,4] Overlapping risk factors include poverty, unemployment, drug dependency, childhood sexual and physical abuse, being younger than 30 years, and homelessness.[3–6]

Violence and HIV also may be linked in other ways. Some researchers have suggested that a diagnosis of HIV infection may trigger violence at the time of disclosure to significant social relationships.[7–10] The extent to which people in treatment for HIV infection experience their condition as a reason for violence within intimate relationships has yet to be measured for women or men. Apart from the risk of serious injury, physical assault victimization may have dire consequences for HIV-infected persons. Physical assault may directly affect immune function as well as disrupt other bodily systems.[11,12] Indirectly, the body's stress may be in response to the use of alcohol and drugs, including tobacco, and exposure to genital fluids carrying infectious agents.[13,14]

To describe risk indicators for violence as a comorbid condition, we undertook a study within a nationally representative probability sample of 2864 HIV-infected adults who were receiving medical care and were enrolled in the HIV Costs and Service Utilization Study. The purpose of our analysis was (1) to estimate the prevalence of physical violence since the diagnosis of HIV among women and men who were assaulted by a partner or someone important to them and (2) to estimate, among cohort members reporting violence, the proportion of people who reported that having HIV infection was a cause of the violence. We hypothesized that relationship violence occurs frequently among people with HIV infection and, furthermore, that having HIV infection is an important self-perceived contributing factor to this victimization.

Methods

Study Design

The HIV Costs and Service Utilization Study cohort is a nationally representative

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This article was accepted September 2, 1999.

TABLE 1—Proportion of US Adults, by Gender, in HIV Treatment Reporting Physical Harm by a Partner or Other Important Person Since HIV Diagnosis

	Women			Men Reporting Sex With Men			Men Not Reporting Sex With Men		
		Weighted % Harmed Since Diagnosis			Weighted % Harmed Since Diagnosis			Weighted % Harmed Since Diagnosis	
	Weighted US Population Size	Any Violence	Related to HIV	Weighted US Population Size	Any Violence	Related to HIV	Weighted US Population Size	Any Violence	Related to HIV
Overall	51 671	20.5	10.3	130 974	11.5	4.5	48 726	7.5	3.2
Geographic region									
Northeast	19 975	18.8	9.8	16 939	9.3	3.8	20 149	8.4	3.2
West	4 657	21.0	6.7	56 433	10.9	3.6	4 642	8.2	6.6
Midwest	5 493	33.6	15.1	17 744	9.8	4.8	2 440	0.0	0.0
South	21 502	18.6	10.6	39 944	10.7	5.6	21 494	7.3	5.4
Age at diagnosis, y									
18–30	13 726	26.8	8.8	20 102	11.8	5.4	3 251	6.2	1.4
31–40	23 025	20.8	12.6	66 402	13.1	5.1	17 699	10.0	5.1
41–50	11 405	11.9	8.4	34 645	7.7	3.5	18 318	5.7	3.2
≥51	3 472	21.2	9.2	9912	4.1	3.0	9 457	6.8	6.1
Race									
White, non-Hispanic	13 070	26.0	11.9	87 066	9.6	4.0	13 820	6.5	3.7
Black, non-Hispanic	27 972	18.5	10.0	22 752	10.3	5.0	25 106	8.7	5.6
Hispanic	9 391	18.1	9.6	15 328	13.6	6.0	9 461	5.9	2.0
Asian/Pacific Islander/ Alaskan/American Indian	1196	25.9	10.5	5915	10.8	1.7	338	0.0	0.0
Current sexual orientation									
Gay/lesbian/bisexual	2 449	24.3	14.0	115 547	12.0	4.4	0	0.0	0.0
Heterosexual	43 134	20.4	10.1	5 767	7.7	4.7	44 620	7.6	4.6
Celibate/transexual, other	6 045	19.7	10.9	9 620	6.6	3.3	3 974	6.6	1.0
Education									
< High school	22 481	18.3	10.5	15 312	16.1	6.7	20 122	10.1	6.3
High school diploma	22 973	21.9	9.6	61 126	11.6	4.4	21 148	6.9	3.6
> High school	6 173	23.0	13.3	54 622	10.0	4.0	7 366	2.1	1.2
Family financial assets[a]	12 289	18.5	10.1	79 569	8.5	3.0	13 173	6.0	3.0
No assets	38 949	21.1	10.4	49 614	12.6	6.0	35 335	8.1	6.0
Currently employed	12 234	17.4	11.2	62 560	8.7	2.9	11 472	4.1	3.3
No paid employment	39 350	21.4	10.2	68 501	14.0	5.9	37 254	8.5	4.6
Ever drug dependent	19 398	32.2	16.2	44 747	14.1	5.9	24 367	11.0	6.6
Never drug dependent	32 229	13.4	7.0	86 313	8.1	3.5	24 359	4.0	2.0
Household composition									
Spouse	7 807	17.4	9.1	4 814	6.2	3.9	12 049	4.2	1.8
Male partner	10 451	25.2	14.6	40 170	11.4	2.8	408	0.0	0.0
Female partner	998	8.9	4.3	1 416	16.7	11.4	5 879	15.2	8.8
Others	23 910	19.9	9.5	37 770	9.6	3.5	14 354	7.3	3.7
Lives alone	8 019	18.8	7.4	45 987	10.1	5.0	15 185	6.1	4.1
Homeless	443	53.4	53.4	904	36.4	24.2	850	31.4	27.0
Children in home[b]	23 466	21.2	11.3	3 217	3.7	2.2	7 857	5.3	3.0
No children in home	28 162	19.9	9.7	127 843	10.8	4.6	40 868	7.9	4.6

Continued

probability sample of HIV-infected adults receiving care in the contiguous United States who made at least 1 visit for regular or ongoing care to a nonmilitary, nonprison medical provider other than an emergency department during January 5, 1996, through February 29, 1996, in all but 1 metropolitan area, where the start was delayed until March 1996. The study used a multistage design in which geographic areas, medical providers, and patients were sampled. Full details of the design and sampling response rates are available elsewhere.[15–18]

All interviews were conducted with computer-assisted personal interviewing instruments designed for this study.[19] Interviews began in January 1996 and ended 15 months later. We approached anonymously selected subjects for interviews only after providers or their agents obtained permission. The RAND and a local institutional review board reviewed all consent forms and informational materials, or selected providers signed Single Project Assurances or Independent Investigator agreements when there was no local institutional review board.

Outcome definition. The percentage of adults reporting interpersonal physical harm since their HIV diagnosis was the conceptual outcome of interest, with a goal of estimating the proportion of people who reported that violence against them was related to their HIV status. We measured these outcomes by asking participants the following 2 questions: (1) "Since your HIV diagnosis, have you ever been physically hurt by your partner or someone important to you?" and (2) "Do you think it (being physically hurt) was related to or because of your HIV infection?"

TABLE 1—*Continued*

	Women			Men Reporting Sex With Men			Men Not Reporting Sex With Men		
		Weighted % Harmed Since Diagnosis			Weighted % Harmed Since Diagnosis			Weighted % Harmed Since Diagnosis	
	Weighted US Population Size	Any Violence	Related to HIV	Weighted US Population Size	Any Violence	Related to HIV	Weighted US Population Size	Any Violence	Related to HIV
First tested HIV+									
1978–1989	11 023	25.0	14.1	51 157	12.2	4.5	10 202	14.6	7.2
1990–1993	21 413	19.1	8.5	47 977	10.6	5.0	20 372	5.7	3.2
1994–1996	18 577	19.7	10.3	29 885	7.7	3.6	17 799	5.0	3.5
Exposure/risk group									
M sex M + IDU	. . .	. . .	. . .	18 625	15.2	7.9	. . .	. . .	. . .
M sex M	. . .	. . .	. . .	112 436	10.8	3.9	. . .	. . .	. . .
IDU	14 578	28.1	14.2	. . .	. . .	. . .	22 623	10.0	5.6
Heterosexual contact									
Sex with IDU	11 007	29.0	14.9	. . .	. . .	. . .	5 996	8.9	6.2
Sex with HIV-infected person	15 708	13.4	6.2	. . .	. . .	. . .	9 926	4.7	3.8
Iatrogenic/undefined	10 335	11.6	6.8	. . .	. . .	. . .	10 181	3.8	1.0
CD4 count at diagnosis, cells/μL									
≥500	19 768	27.0	13.2	54 464	11.4	4.3	11 041	9.8	5.6
200–499	13 757	17.4	7.1	39 608	10.0	3.9	11 920	4.9	3.5
50–199	4 471	15.8	10.9	12 162	9.4	5.7	7 088	12.1	4.9
<50	2 373	10.3	2.7	8 115	7.8	4.1	4 716	2.2	0.6
Missing	11 258	16.8	11.1	16 711	10.5	4.9	13 961	7.4	5.0
AIDS at HIV diagnosis	14 104	18.3	9.7	57 646	12.0	5.6	17 094	6.9	4.4
Not AIDS at HIV diagnosis	37 198	21.3	10.8	72 764	9.2	3.6	30 951	7.7	4.4
Abnormal vaginal discharge	18 406	30.3	15.5	. . .	. . .	. . .	. . .	. . .	. . .
No discharge in <6 months	33 222	15.1	7.6	. . .	. . .	. . .	. . .	. . .	. . .
Cervical dysplasia	19 931	24.1	12.5	. . .	. . .	. . .	. . .	. . .	. . .
Never	31 697	18.3	9.1	. . .	. . .	. . .	. . .	. . .	. . .

Note. M sex M = men who have sex with men; IDU = injection drug user.
[a]Family financial assets refers to self or partner having a checking or savings account or any bonds, stocks, or other accounts.
[b]Children defined as younger than 18 years.

All responses were binary (yes or no), as reported during the interview. We estimated the percentage of adults reporting harm as a direct proportion of the number of "yes" responses within each of 3 population subgroups: women, men who reported having sex with men at the time of HIV diagnosis, and men who did not report having sex with men and also were identified as heterosexual at the time of the interview.

Determinant definitions. Conceptually, our interest was to derive a national estimate of physical harm reported by US adults in treatment for HIV infection and then to identify the populations most at risk, specifically in relation to sociodemographics, mode of HIV acquisition, and HIV clinical characteristics. Operationally, we defined these characteristics as self-reported gender, race/ethnicity, age at HIV diagnosis, employment status, household member relationships, drug dependence (defined as using 1 or more drugs far more than the respondent intended or ever having had emotional or psychological problems from using drugs), HIV risk exposures before the first positive HIV test result, years since HIV diagnosis, results of the first CD4 cell count, presence of AIDS at the time of the first positive HIV test result, and, for women, gynecologic health (measured as cervical dysplasia or cervical cancer diagnosis; abnormal vaginal discharge in the past 6 months).

Data Analysis

We used weighted sample proportions to estimate the population percentage of people with HIV infection who reported physical violence within an important relationship context. To adjust the standard errors and statistical tests for the differential weighting and complex sample design, we used linearization methods[20] available in the SUDAAN (Research Triangle Institute, Research Triangle Park, NC) and Stata (Stata Corp, College Station, Tex) software packages.[18]

In separate analyses for women and gay or bisexual men, we simultaneously estimated the proportion of adults reporting harm based on age at and years since first positive HIV antibody test result. These analyses were done to describe the cross-sectional experience of the cohort in relation to age at diagnosis (a strong predictor of violence victimization) and time since HIV diagnosis (hypothesized to be a trigger for violence, implying that people with a more recent diagnosis would more often report that violence was a result of having HIV infection than people with the diagnosis for a longer interval).

Bivariate analyses of cohort characteristics and prior hypotheses in relation to predictors of physical harm guided which variates we included in multiple regression models. These prior hypotheses included the following: violence is more frequent among adults who are younger rather than older, women rather than men, gay men rather than heterosexual men, and adults who are dependent on drugs, including alcohol. We also hypothesized that women reporting vaginal infections were more likely to report assaults than women without these symptoms, based on previous studies documenting that gynecologic disease was associated with higher rates of sexual and physical violence.[3]

Initially, we constructed 3 models corresponding to gender of primary sexual relationships at the time of HIV diagnosis, because intimate relationships are the context in which violence is most likely to occur for women and, we hypothesized, for gay and bisexual men. Gender relationships for each model were (1) all women who reported intimate relationships with men, women, or no one; (2) men who reported sex with men as their likely route of HIV acquisition, regardless of history of injection drug use; and (3) men who did not report sex with men at the time of HIV diagnosis *and* identified themselves as heterosexual at the time of the interview, regardless of history of injection drug use.

Thus, the variables used to construct these 3 subgroups were gender and, for men only, reported mode of HIV transmission. Because men not reporting sex with men at the time of HIV diagnosis had the smallest sample size and the lowest percentage reporting violence victimization within an important relationship, most coefficients from this model were too imprecise to be informative. Thus, only the 2 models for women and gay and bisexual men are presented. These models, constructed as logistic regression equations, were used to estimate associations for the proportion of adults reporting physical harm within an important relationship context and then for the proportion reporting harm specifically related to having HIV infection. The antilogs of coefficients and their standard errors for the weighted sample were the basis for estimates of odds ratios and 95% confidence intervals.

TABLE 2—Women and Physical Violence Since HIV Diagnosis: Estimates of Adjusted Odds Ratios (ORs) From Multiple Logistic Regression Model

	Violence Overall	Violence Linked to HIV Infection
	Adjusted OR (95% CI)	Adjusted OR (95% CI)
Age at diagnosis, y		
18–24	2.08 (1.02, 4.22)	0.95 (0.25, 3.57)
25–29	2.20 (1.19, 4.05)	2.10 (0.91, 4.90)
30–39	1.39 (0.79, 2.45)	2.00 (0.85, 4.65)
≥40	1.00 (reference category)	1.00 (reference category)
Race/ethnicity		
Black, non-Hispanic	1.00 (reference category)	1.00 (reference category)
White, non-Hispanic	1.34 (0.92, 1.94)	0.99 (0.60, 1.63)
Hispanic	0.97 (0.42, 2.26)	0.95 (0.36, 2.49)
Other	1.94 (0.71, 5.31)	1.07 (0.20, 5.64)
HIV exposure category		
Sex with men	1.00 (reference category)	1.00(reference category)
Injection drug user	2.66 (1.55, 4.59)	2.47 (1.44, 4.25)
Other	1.20 (0.65, 2.24)	1.47 (0.69, 3.12)
Ever drug dependent	1.99 (1.15, 3.44)	2.47 (1.44, 4.25)
Region of current residence		
Northeast	1.00 (reference category)	1.00 (reference category)
Midwest	2.90 (1.53, 5.48)	2.32 (1.08, 5.00)
South	1.42 (0.80, 2.52)	1.31 (0.71, 2.41)
West	1.39 (0.71, 2.73)	0.71 (0.25, 1.98)
Household composition		
Lives alone	1.00 (reference category)	1.00 (reference category)
Male spouse	0.91 (0.41, 2.03)	1.71 (0.44, 6.59)
Male sexual partner	1.32 (0.57, 3.10)	2.16 (0.95, 4.90)
Female sexual partner	0.47 (0.10, 2.28)	0.58 (0.07, 5.04)
Other adults	0.95 (0.45, 2.02)	1.28 (0.59, 2.75)
Homeless	5.24 (0.83, 33.26)	16.8 (3.38, 83.40)
CD4 count at diagnosis, cells/μL		
≥500	1.74 (0.99, 3.07)	1.69 (0.75, 3.79)
<500	1.00 (reference category)	1.00 (reference category)
Missing	1.13 (0.62, 2.05)	1.71 (0.61, 4.76)
Abnormal vaginal discharge	2.25 (1.21, 4.17)	1.86 (0.88, 3.93)

Note. CI = confidence interval.
Odds ratios also adjusted for education, years since HIV diagnosis, and paid employment.

Results

Overall, 20.5% of the women, 11.5% of the men who reported having sex with men as their mode of HIV transmission (regardless of injection drug use), and 7.5% of the remaining men reported physical harm since their HIV diagnosis; of these, nearly half reported that HIV infection was a trigger for violent episodes. Moreover, factors predictive of HIV-related violence were similar to factors associated with violence for any reason. Most of the cohort members learned of their HIV-seropositive status between 1990 and 1996.

Specific predictors of violence against women and men since their awareness of HIV infection are listed in Table 1, with adjusted estimates of odds ratios for selected variables in Tables 2 and 3 for women and men, respectively. Women at greatest risk for any violence and for violence attributed to HIV infection received the diagnosis of HIV infection before 30 years of age (relative to 40 years or older), lived in the Midwest (relative to the Northeast), were homeless (relative to living alone as owners or renters), had ever been drug dependent, had ever injected drugs, and had recent symptoms of abnormal vaginal discharge. Although women who self-identified as gay, lesbian, or bisexual at the time of the interview reported partner or other relationship violence as frequently as women who self-identified as heterosexual (24.3% vs 20.4%, $P_2 = .73$), women living with a male sexual partner vs a female sexual partner were nearly 3 times more likely to report violence since their HIV diagnosis (25.2% vs 8.9%, $P_2 < .0001$) (Table 1). Also, after we controlled for AIDS at diagnosis, women who had initial CD4 cell counts of at least 500 cells/μL reported nearly 75% more violence than did women with lower cell counts (Table 2).

Among men who reported sex with men at the time of HIV diagnosis, unadjusted (Table 1) and adjusted (Table 3) analyses showed victimization risk to be higher among men who were 40 years or younger, were Hispanic, self-identified as gay or bisexual at the time of the interview, had no financial assets, had a female partner, were homeless, or reported a history of drug dependence.

The highest proportion of men who did not report sex with men but who reported physical violence since their HIV diagnosis was among those reporting a history of drug dependence, a female partner, homelessness, or an HIV diagnosis before 1990 (Table 1). In multivariate analyses (data not shown), men with a high school education or less had nearly 3 times the odds of harm as men with more education (odds ratio = 2.7, 95% confidence interval = 0.9, 7.8).

Figures 1 and 2 present the prevalence of women and of men with male sexual partners reporting any violence and the proportion of HIV-related violence in relation to age at diagnosis and time since diagnosis; data are not

TABLE 3—Men With Male Sexual Partners and Physical Violence Since HIV Diagnosis: Estimates of Adjusted Odds Ratios (ORs) From Multiple Logistic Regression Model

	Violence Overall	Violence Linked to HIV Infection
	Adjusted OR (95% CI)	Adjusted OR (95% CI)
Age at diagnosis, y		
18–24	3.46 (1.24, 9.62)	4.09 (0.78, 20.5)
25–29	2.9 (1.16, 7.29)	2.12 (0.53, 8.49)
30–39	3.27 (1.21, 8.86)	2.33 (0.43, 12.6)
≥40	1.00 (reference category)	1.00 (reference category)
Race/ethnicity		
White, non-Hispanic	1.00 (reference category)	1.00 (reference category)
Black, non-Hispanic	1.05 (0.65, 1.70)	0.74 (0.33, 1.66)
Hispanic	1.88 (1.15, 3.08)	2.36 (1.16, 4.77)
Other	1.02 (0.54, 1.94)	0.38 (0.06, 2.60)
HIV exposure category		
Sex with men only	1.00 (reference category)	1.00 (reference category)
Sex with men and IDUs	1.08 (0.60, 1.93)	2.10 (1.08, 4.10)
Ever drug dependent	1.57 (1.18, 2.08)	1.07 (0.61, 1.87)
Region of current residence		
Northeast	1.00 (reference category)	1.00 (reference category)
Midwest	1.34 (0.81, 2.21)	1.99 (0.74, 5.33)
South	1.58 (0.92, 2.71)	1.94 (0.66, 5.70)
West	1.44 (0.88, 2.36)	1.09 (0.35, 3.40)
Household composition		
Lives alone	1.00 (reference category)	1.00 (reference category)
Male sexual partner	1.04 (0.71, 1.52)	0.72 (0.40, 1.30)
Other adults	0.76 (0.51, 1.13)	0.49 (0.23, 1.07)
Homeless	3.65 (1.47, 9.06)	2.78 (0.47, 16.5)
CD4 count at diagnosis, cells/μL		
≥500	1.17 (0.79, 1.74)	0.92 (0.49, 1.72)
<500	1.00 (reference category)	1.00 (reference category)
Missing	1.37 (0.95, 1.99)	1.01 (0.42, 2.41)
Paid employment	0.60 (0.40, 0.89)	0.49 (0.27, 0.87)
Self/partner has financial assets	0.63 (0.43, 0.91)	0.54 (0.31, 0.94)

Note. CI = confidence interval; IDUs = injection drug users.
Odds ratios also adjusted for education and years since HIV diagnosis.

shown for heterosexual men because of the small sample size within age and duration of diagnosis strata for this population. The median number of years since the first positive HIV antibody test result was 4 years for women (range 0–15 years), 6 years for men who had had male sexual partners (range 0–18 years), and 4 years for the remaining (presumably heterosexual) men (range 0–16 years). The proportion of adults reporting HIV-related violence was reasonably constant within each age category, regardless of the number of years since the first positive HIV antibody test result (Figures 1 and 2). The exception was among the youngest and most recently diagnosed women and men, who reported most frequently that their victimization was not related to HIV infection.

Discussion

In this national probability sample of adults in treatment for HIV infection, the weighted percentage of relationship violence since diagnosis was 12.6% overall, with women reporting twice as much violence as men. Among adults reporting harm since diagnosis, nearly 45% noted that it was their HIV-seropositive status that prompted physical aggression by their partner or someone else of importance.

This study did not detect a particular high-risk period for physical harm after HIV diagnosis. In part, this may be the result of not having detailed information on frequency and severity of violent episodes after disclosure of HIV status. Alternatively, there may be no heightened risk period after disclosure, but rather ongoing stressors related not only to HIV infection but also to poverty, social isolation, and antigay hostility.

Reporting HIV infection as a cause of violence victimization implies that HIV status had been disclosed in relationships in which HIV-related violence occurred. Because our analyses do not include information on disclosure patterns, we cannot comment on the role of disclosure in the risk of violence in this cohort. However, if we further assume that HIV status was disclosed in important relationships within the first year after HIV diagnosis, our findings, as shown in Figure 1, do not support a hypothesis of an acute increase in risk of physical harm after disclosure. Furthermore, not having data on the prevalence of violence during a comparable period before HIV diagnosis means that we cannot determine whether our estimates of harm postdiagnosis are in excess of what would have been found in the absence of HIV infection.

One study comparing violence victimization between HIV-seropositive and HIV-seronegative women reported that 5.1% of the seropositive and 8.3% of the seronegative women had been physically or sexually attacked in the previous 6 months.[21] In that study, 66% of the seropositive and 69% of the seronegative women reported physical abuse within any relationship context during adulthood, without reference to age at or time since HIV diagnosis. These estimates are about triple the level of our findings, most likely because we narrowly defined the context and timing of physical harm rather than measuring violence in any context and at any time in adulthood, regardless of when HIV was diagnosed.

National probability samples of US women unselected for HIV infection (thus, presumably noninfected for the most part) reported considerably lower estimates of physical assault than those found in this study. Among US women aged 19 to 29 years in families with annual incomes below $10 000 (thus, demographically more comparable to women with HIV infection), average annual estimates for 1992 through 1993 were approximately 6%, which is less than one third of the rate reported by the HIV Costs and Service Utilization Study cohort.[22] To our knowledge, no national samples of gay and bisexual men are available with which to compare estimates of relationship violence from the HIV Costs and Service Utilization Study cohort. In one selected sample of 283 gay men and lesbians, it was observed that 29.7% of the men and 47.5% of the lesbians reported violence victimization within same-sex relationships at some time in their lives.[23] These percentages are about double what we found, and, as noted above, this discrepancy may be the result of our using a shorter time frame in assessing physical harm in the current study.

Factors most strongly associated with partner/relationship violence in our study were drug dependence, homelessness, and unemployment. Previous studies have documented that such conditions in women's lives

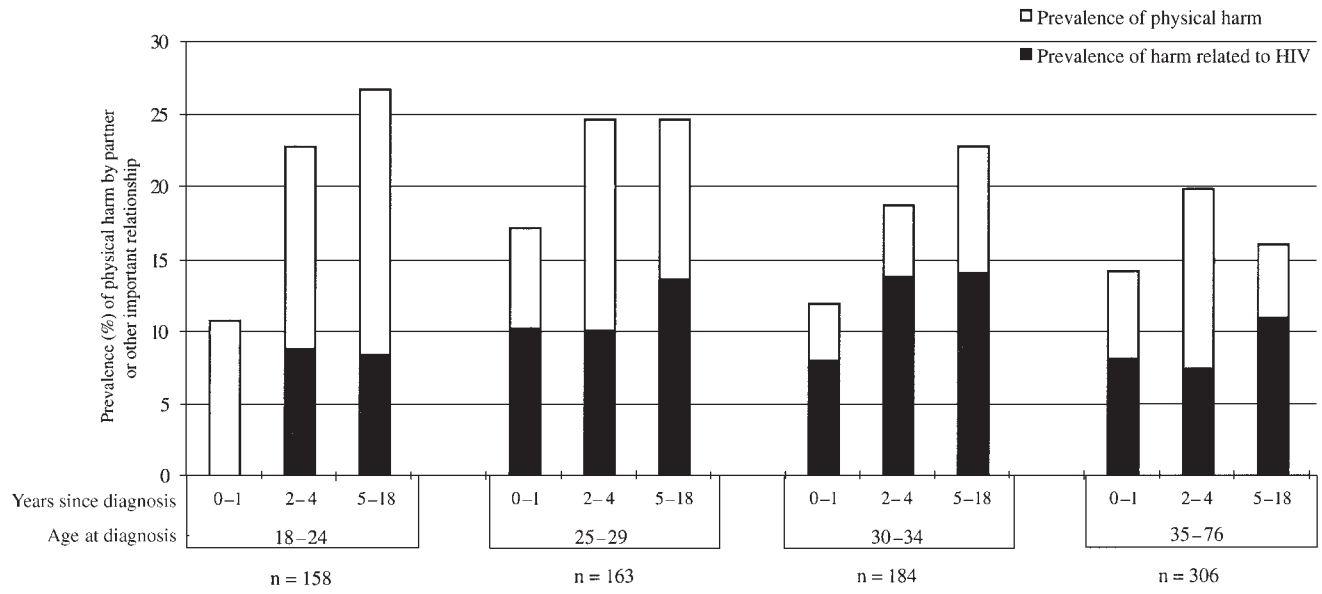

FIGURE 1—Prevalence of women reporting physical harm and proportion of harm related to HIV infection, by age at and years since first HIV-positive test result.

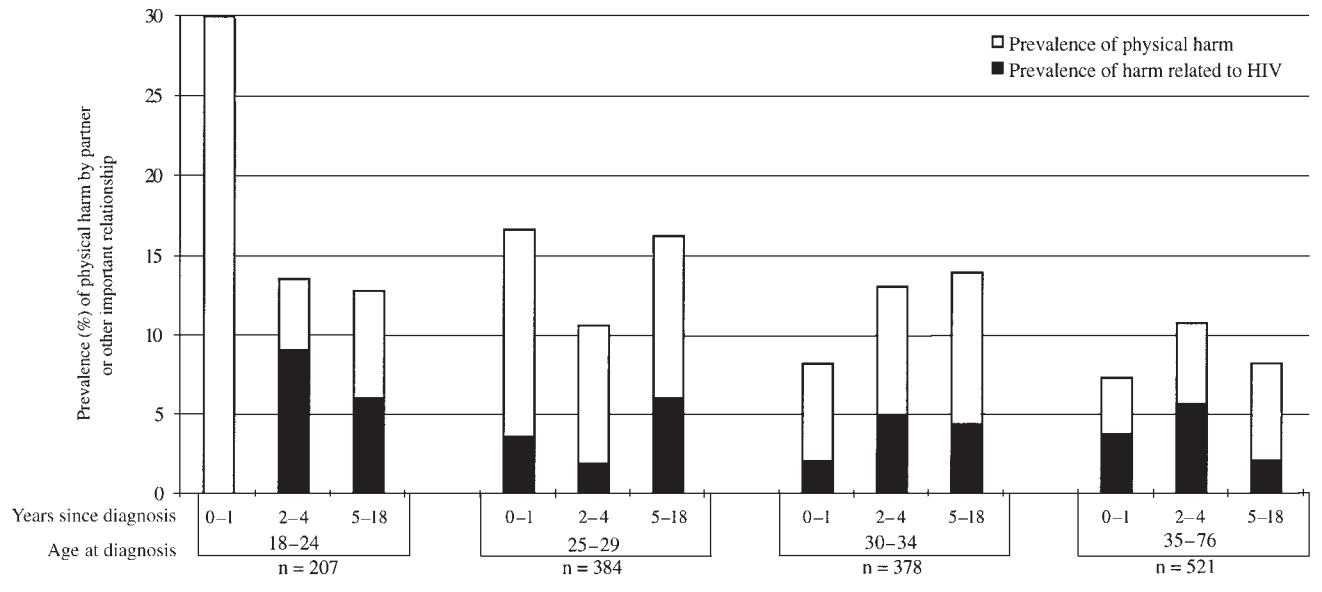

FIGURE 2—Prevalence of men with male sexual partners reporting physical harm and proportion of harm related to HIV infection, by age at and years since first HIV-positive test result.

are linked to an increased risk of partner violence,[3–8,10,21,24–28] but no study to date has linked these conditions in a population of HIV-infected men. Furthermore, after control for socioeconomic factors, drug use, and CD4 cell count, Hispanic men with male sexual partners were at greater risk for violence than men of other race/ethnicity. This finding was not extended to Hispanic women or Hispanic heterosexual men.

Hispanic communities, particularly of Puerto Rican or Mexican descent, have been reported to bear a disproportionate burden of intentional violence.[29] The extent to which violence occurs within important relationships of gay or bisexual Hispanic men has not been studied, to our knowledge. Some studies have suggested that Latino men are more

selective in revealing their HIV status, particularly if they are gay or bisexual and primarily Spanish speaking.[30,31] The finding that gay and bisexual Hispanic men had the highest percentage of harm among all identified racial/ethnic groups supports a need for attention to this population.

Findings for partner violence in relation to drug use were documented before HIV infection became prevalent in the United States. A recent national probability sample of 3006 women (unselected for HIV infection) followed up for 2 years found a cyclical relationship between physical and sexual abuse of women and substance use, with each potentiating the other.[14] Evidence of clinical deterioration has been reported to be associated with decreasing prevalence of intimate partner violence,[18,21] and our study supported this finding on the basis of CD4 cell count at the time of diagnosis. Another clinical factor was recent symptoms of abnormal vaginal discharge. More than 30% of the women reporting this symptom also reported violence since their diagnosis, a level that was twice that of women not reporting abnormal discharge. Although we cannot comment on whether this relationship was causal, women presenting with such symptoms may have been in an abusive relationship. Thus, screening for violence in this group may be particularly effective in identifying women who might benefit from referral to violence recovery programs.

Together, the frequency of physical abuse reports in this cohort and the extent to which participants believed the abuse to be related to having HIV infection suggest that HIV-related care may be an appropriate setting for routine assessment of harm and threats of harm. Programs to cross-train staff in antiviolence agencies and HIV care facilities have reported successful collaboration.[32] These programs need to be developed for HIV-infected men, particularly gay and bisexual men, as well. Benefits of screening for violence as a routine part of HIV primary care[33,34] are likely to include not only a reduction in physical harm but also an improvement in other factors that may affect HIV prognosis, such as drug adherence, patient satisfaction with care, and general well-being. □

Contributors

S. Zierler participated in the study design and questionnaire development, directed all analyses, and wrote the paper. W. E. Cunningham, R. Andersen, M. F. Shapiro, S. A. Bozzette, S. Crystal, M. Stein, and B. Turner participated in the study design, questionnaire development, analysis planning, and revision of all drafts. S. Morton and P. St. Clair participated in the study design and sampling methods, statistical leadership, and revision of drafts. T. Nakazono participated in the data analysis and revision of drafts.

Acknowledgments

This study was funded by Agency for Health Care Policy Research grant HS08578.

The HIV Cost and Services Utilization Study is being conducted under cooperative agreement HS08578 (M. F. Shapiro, principal investigator; S. A. Bozette, coprincipal investigator) between RAND and the Agency for Health Care Policy and Research. Substantial additional support for this agreement was provided by the Health Resources and Services Administration, the National Institute for Mental Health, the National Institute on Drug Abuse, and the National Institutes of Health Office of Research on Minority Health through the National Institute for Dental Research. Additional support was provided by the Robert Wood Johnson Foundation, Merck and Co., Glaxo-Wellcome, and the National Institute on Aging.

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