

Frequency and Correlates of Intimate Partner Violence by Type: Physical, Sexual, and Psychological Battering

ABSTRACT

Objectives. This study estimated the frequency and correlates of intimate partner violence by type (physical, sexual, battering, or emotional abuse) among women seeking primary health care.

Methods. Women aged 18 to 65 years who attended family practice clinics in 1997 and 1998 took part. Participation included a brief in-clinic survey assessing intimate partner violence. Multiple polytomous logistic regression was used to assess correlates of partner violence by type.

Results. Of 1401 eligible women surveyed, 772 (55.1%) had experienced some type of intimate partner violence in a current, most recent, or past intimate relationship with a male partner; 20.2% were currently experiencing intimate partner violence. Among those who had experienced partner violence in any relationship, 77.3% experienced physical or sexual violence, and 22.7% experienced nonphysical abuse. Alcohol and/or drug abuse by the male partner was the strongest correlate of violence.

Conclusions. Partner substance abuse and intimate partner violence in the woman's family of origin were strong risk factors for experiencing violence. Efforts to universally screen for partner violence and to effectively intervene to reduce the impact of such violence on women's lives must be a public health priority. (*Am J Public Health*. 2000;90:553-559)

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Violence against women is a significant public health problem that has both short- and long-term physical and mental health consequences for women and their families.¹ Prevalence estimates for current intimate partner violence among women receiving care in primary health care settings range between 7% and 29%.²⁻⁵ Women experiencing intimate partner violence use a disproportionate share of health care services, making more visits to emergency departments, primary care facilities, and mental health agencies than nonabused women.⁶⁻¹¹ Currently, only about one third of women experiencing partner violence voluntarily discuss their problem with their health care providers,³ and most providers do not routinely screen for abuse.¹²

The present research represents the first time that a clinical study, following a recommendation from the National Research Council,¹³ has investigated in the same population the occurrence and co-occurrence of physical assault, sexual assault, battering, and perceived emotional abuse as 4 forms of intimate partner violence. Battering is distinguished from physical assault by its chronic, continuous nature, and it is defined as "a process whereby one member of an intimate relationship experiences psychological vulnerability, loss of power and control, and entrapment as a consequence of the other member's exercise of power through the patterned use of physical, sexual, psychological and/or moral force."^{12(p2)}

Because battering is conceptually distinct from physical and sexual assault, some women will experience the fear, loss of control, and entrapment that characterize it without being physically or sexually assaulted. We use the term *psychologically battered* here to characterize the experiences of the group of women who are currently not being physically or sexually assaulted but do report being battered as defined above.¹⁴ The approach of

using multiple measurement instruments allowed us to identify—and distinguish—women who are victimized by different types of intimate partner violence.

We hypothesized that (1) past partner violence would predict current partner violence, (2) the demographic characteristics of those experiencing psychological battering would differ from the characteristics of those experiencing physical or sexual violence, and (3) women experiencing physical and sexual violence would experience more severe violence than women experiencing physical violence alone.

Methods

Data Collection

In this cross-sectional study, we recruited and interviewed 1443 women seeking medical care in 2 university-associated family practice clinics in Columbia, SC, from February 1997 through December 1998. The inclusion criteria stipulated that women be aged 18 to 65 years and be insured through either Medicaid or a managed care provider. To be classified as at risk for intimate partner violence, women had to have had an intimate (i.e., sexual) relationship with a man

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This article was accepted September 23, 1999.

that lasted at least 3 months; 2.9% (n = 42) were excluded because they had never been involved in such an intimate relationship. A total of 1401 eligible women were screened for intimate partner violence.

Female graduate students trained in sensitivity issues regarding intimate violence worked with the clinic staff to identify and recruit women who met the inclusion criteria (age and insurance status). Recruiters then spoke privately with each potential study participant to describe the study and obtain informed consent. Participation involved a 5- to 10-minute in-clinic interview that included questions about violence in intimate relationships. Women received \$5 for participating in the screening interview. Women with current or past intimate partner violence experience were counseled by recruiters and referred to local services for victims of violence. The University of South Carolina Institutional Review Board approved the project.

Measures of Intimate Partner Violence

We characterized intimate partner violence by (1) the timing of the violence (in a past relationship or in a current or most recent relationship) and (2) the type of violence (physical, sexual, battering, or perceived emotional abuse). We began by asking women whether they were currently involved in an intimate relationship with a man that had lasted at least 3 months. If a woman was not currently involved in a relationship, we asked her to think about her most recent relationship. We then asked about demographic characteristics of the current or most recent partner and about the woman's violence experience in this relationship.

We used the Index of Spouse Abuse^{15,16} to measure current or most recent physical and sexual violence and the Women's Experience with Battering Scale^{17,18} to measure current battering. Because we had to keep our interviews as brief as possible, we used a shortened version of the Abuse Assessment Screen¹⁹ to measure physical, sexual, and emotional abuse in any past relationship. Table 1 provides a description of the types of intimate partner violence by relationship timing.

Current Violence

Physical violence. We used a modified version of the Index of Spouse Abuse (ISA)–Physical scale,¹⁵ a 25-item scale designed to measure the severity of physical violence inflicted upon a woman by her male partner. For each questionnaire item, the woman responded on a scale ranging from 1 (never) to

7 (all of the time). The responses for each item were summed to obtain an overall crude score (the total crude score is 25 × 7). The crude score was then rescaled as a percentage ranging from 0% to 100%. The recommended cutpoint for defining physical violence on the scale is 2%.¹⁶

We modified the ISA–Physical Scale by reducing the 25-item version to 12 items that directly assessed physical violence (we included items 2–5, 7, 8, 10, 11, 14, 15, 23, and 24 of the original scale¹⁵). The Cronbach α coefficient for the full 25-item scale used in the pilot phase of this study (n = 89) was 0.95; the coefficient in the full sample for the reduced 12-item scale changed minimally ($\alpha = 0.91$). We used a more conservative cutpoint for the 12-item scale, because when we directly compared the 2 versions of the scale, the 3% cutpoint for the 12-item scale corresponded more appropriately to the 25-item cutpoint.

Sexual violence. We used 3 items of the ISA–Physical scale to separately assess sexual violence: (1) your partner badly hurts you while you are having sex, (2) your partner physically forces you to have sex, and (3) your partner injures your breasts or genitals. Preliminary factor analyses indicated that these 3 items load separately on the same factor. We used the same weighted scale score and cutpoints just described (score of more than 3%) to indicate sexual violence. We created separate measures of physical and sexual violence.

Battering. We used the Women's Experience with Battering Scale¹⁷ to assess battering. This scale quantifies the level of psychological vulnerability women experience in their intimate relationships. We defined psychological vulnerability as women's continuous perceptions of susceptibility to physical and/or psychological danger, disempowerment, and loss of control in a relationship with a male partner.

As reported elsewhere,^{17,18} the Women's Experience with Battering Scale has good construct validity, accurately discriminates known battered women from known nonbattered women, and shows strong internal consistency ($\alpha = 0.99$). Each item is scored in a Likert format ranging from agree strongly to disagree strongly. Scores range from 10 to 60. We used a cutpoint of 20 to define battering. In this study, the Cronbach α coefficient for the 10-item scale score was 0.95.

We classified women scoring 20 or higher on the Women's Experience with Battering Scale as battered if they also scored above 3% on the Index of Spouse Abuse scales. If, however, women scored 20 or higher on the Women's Experience With Battering Scale but 3% or below on the Index of Spouse Abuse scales, indicating no physical

or sexual violence, we classified these women as psychologically battered.

Past Violence

To keep our interview as brief as possible, we used a modified version of the 3-item Abuse Assessment Screen.¹⁹ We modified the instrument by asking specifically about physical, sexual, and emotional violence by an intimate male partner. Our modified screening questions were as follows: (1) "Did a male partner hit, slap, kick, or otherwise physically hurt you?" (2) "Did you ever feel emotionally abused in a past intimate relationship?" and (3) "Did a male partner force you to have sexual activities against your will?" Women were instructed to think about past intimate relationships with men (lasting at least 3 months) prior to the relationship they had been questioned about earlier (i.e., the current or most recent relationship).

Rationale for Combining Psychological Battering and Past Emotional Abuse

Because of our interest in investigating the demographic correlates of intimate partner violence by type, we combined, in some analyses, women who had experienced psychological battering in their current/most recent relationship with those who had experienced perceived emotional abuse in a past relationship. Battering, as measured by the Women's Experience with Battering Scale, and perceived emotional abuse, as measured by the Abuse Assessment Screen, tap different phenomena. The Women's Experience With Battering Scale specifically operationalizes psychological vulnerability, a construct drawn initially from the victimology literature and refined through qualitative research with battered women.^{14,17,18} The perceived emotional abuse item of the Abuse Assessment Screen, in contrast, is less defined and specific and measures women's generalized feeling of "being emotionally abused."

Despite these differences, we believed that it was appropriate to combine women classified as psychologically battered in a current/most recent relationship with those who had experienced perceived emotional abuse in a past relationship for purposes of comparing the demographics of women who had experienced different types of intimate partner violence.

Demographic Correlates of Violence

We included the following demographic characteristics, self-reported by the women: current marital status, age, race/ethnicity,

TABLE 1—Description of Intimate Partner Violence (IPV) Terms, by Type of Violence and Timing

Abbreviation	Description	Timing of IPV in a Relationship		
		Current or Most Recent Relationship	Past Relationship	Any Relationship
IPV	Any type of intimate partner violence by a male intimate partner: physical, sexual, or psychological	Index of Spouse Abuse Physical scale (ISA-P) score >3% or ISA Sexual (ISA-S) score >3% or Women's Experience with Battering Scale (WEB) score >20	Abuse Assessment Scale Physical (AAS-P), Sexual (AAS-S), or Emotional (AAS-E) = yes	ISA-S >3% or ISA-P >3% or WEB >20 or AAS-P or AAS-S or AAS-E = yes
IPV-P	Physical violence with or without sexual violence and battering	ISA-P >3%	AAS-P = yes	ISA-P >3% or AAS-P = yes
IPV-P + S	Physical violence with sexual violence	ISA-P >3% and ISA-S >3% (with or without WEB >20)	AAS-P = yes and AAS-S = yes (with or without AAS-E)	AAS-P and AAS-S = yes or ISA-P >3% and ISA-S >3%
IPV-P no S	Physical violence without sexual violence	ISA-P >3% and ISA-S <3% (with or without WEB >20)	AAS-P = yes and AAS-S = no (with or without AAS-E)	AAS-P and AAS-S = no or ISA-P >3% and ISA-S <3%
IPV-S	Sexual violence with or without physical violence	ISA-S >3%	AAS-S = yes	ISA-S >3% or AAS-S = yes
IPV-S only	Sexual violence without physical violence	ISA-S >3% and ISA-P <3%	AAS-S = yes and AAS-P = no	ISA-S >3% and ISA-P <3% or AAS-S = yes and AAS-P = no
IPV-B ^a	Battered with or without physical or sexual violence	WEB >20	...	...
IPV-PB ^a	Battered without physical or sexual violence	WEB >20 and ISA-P <3% and ISA-S <3%	...	...
IPV-E only ^b	Perceived emotional abuse without sexual or physical violence	...	ISA-E = yes, ISA-S = no, and ISA-P = no	...
IPV-P + S + B ^a	Battered, physical violence, and sexual violence	ISA-S >3% and ISA-P >3% and WEB >20	...	...
IPV-P + S + E ^b	Emotional abuse, physical and sexual violence	...	AAS-P, AAS-S, and AAS-E = Yes	...
IPV-P + S + B/E	Physical and sexual violence and battered or emotional abuse	...	...	WEB >20 and ISA-P >3% and ISA-S >3% or AAS-E and AAS-P = yes and AAS-S = yes
IPV-B/E only	Battered or emotional abuse without physical or sexual violence	...	...	WEB >20 and ISA-P <3% and ISA-S <3% or AAS-E = yes and AAS-P = no and AAS-S = no

^aAssessed in current/most recent relationship only.

^bAssessed in past relationship only.

education, number of people living in household, employment status, number of guns in household, presence of alcohol or drug use problems, and whether the respondent's father was abusive toward her mother. For the current or most recent male partner, we gathered information on age, race/ethnicity, employment status, and whether the woman perceived her partner as having a drinking or drug problem.

Statistical Analyses

We calculated the prevalence of intimate partner violence by the types defined in Table 1. Because types of violence may co-occur in differing combinations, we present prevalence estimates by type for a range of these combinations according to timing of the violence (i.e., in a current, most recent, or past intimate relationship; see Table 2). Note that

battering with or without physical/sexual violence and battering without physical/sexual violence were assessed only for the current or most recent relationship, while perceived emotional abuse without physical/sexual violence was assessed for past relationships only. We used dichotomous categorizations of violence by type.

We addressed the question of whether women experiencing intimate partner vio-

TABLE 2—Frequency of Intimate Partner Violence (IPV), by Type of Violence and Timing, Among 1401 Eligible Women Surveyed: Columbia, SC, 1997–1998

	Timing of IPV			
	Current Relationship (n = 983), No. (%)	Most Recent Relationship (n = 418), No. (%)	Past Relationship (n = 1401), No. (%)	Any Relationship (n = 1401), No. (%)
IPV	145 (14.8)	138 (33.0)	644 (46.0)	772 (55.1)
IPV–P	58 (5.9)	79 (18.9)	448 (32.0)	527 (37.6)
IPV–P + S	24 (2.4)	46 (11.0)	188 (13.4)	253 (18.1)
IPV–P no S	34 (3.5)	33 (7.9)	260 (18.6)	274 (19.5)
IPV–S	50 (5.1)	60 (14.4)	243 (17.3)	323 (23.1)
IPV–S only	26 (2.6)	14 (3.3)	55 (3.9)	70 (5.0)
IPV–B ^a	123 (12.8)	124 (29.7)	...	...
IPV–PB ^a	61 (6.2)	45 (10.8)	...	...
IPV–E only ^b	...	...	141 (10.1)	...
IPV–P + S + B ^a	21 (2.1)	44 (10.5)	...	...
IPV–P + S + E ^b	...	...	175 (12.5)	...
IPV–P + S + B/E	...	...	...	242 (17.3)
IPV–B/E only	...	...	...	175 (12.5)

Note. See Table 1 for definitions of other abbreviations. Current and most recent relationships are mutually exclusive.
^aAssessed in current/most recent relationship only.
^bAssessed in past relationship only.

lence in a past relationship are more likely to be involved in a violent relationship in the future by correlating violence in a past relationship with that in the current or most recent relationship (Table 3). For this analysis, we calculated odds ratios and 95% confidence intervals for experiencing past and current violence by combinations of violence types. In each case, we were “predicting” the same set of violence experiences (e.g., sexual violence in a past relationship and sexual violence in the current or most recent relationship).

To test our hypothesis that women who experience both physical and sexual violence were more likely to experience more severe violence than were women who experience only physical violence, we conducted non-parametric analyses of variance using the violence severity measures (the modified Index of Spouse Abuse and the Women’s Experience With Battering Scale) to compare these groups.

We addressed demographic and relationship characteristics as correlates of intimate partner violence by means of polytomous logistic regression models²⁰ (Table 4). We created the following 3 mutually exclusive violence categories for the women’s current or recent relationship (labeled in Table 4 as *current*): (1) physical and sexual violence with or without battering, (2) physical but not sexual violence with or without battering, and (3) battering or emotional abuse without physical or sexual violence.

We also created 3 mutually exclusive categories for violence experience in any intimate relationship (labeled in Table 4 as *any*): (1) physical/sexual violence with or

TABLE 3—Frequency of Violence in a Current or Most Recent Relationship Given Violence in a Past Relationship: Columbia, SC, 1997–1998

	IPV ^a in a Current or Most Recent Relationship			
	Current/Recent IPV Among Those With Past IPV, %	Current IPV Among Those With No Past IPV, %	Odds Ratio	95% Confidence Interval
Any past IPV (physical, sexual, or emotional)	24.0	17.0	1.6	1.2, 2.0
Past IPV–P	13.0	8.3	1.6	1.2, 2.3
Past IPV–S	12.4	6.9	1.9	1.2, 2.9
Past P + S + E	6.9	4.3	1.6	0.9, 3.1

Note. IPV = intimate partner violence. See Table 1 for definitions of other abbreviations.
^aPredicting same type of IPV in past as in current relationship (e.g., any IPV in past predicting any IPV in current/most recent relationship); referent group is those who never experienced IPV.
^bFor past IPV “predicting” current/recent IPV.

without emotional abuse or battering, (2) physical but not sexual violence with or without emotional abuse or battering, and (3) battering or emotional abuse without physical/sexual violence. The reference group for analysis was the group of women not experiencing any form of violence (e.g., those who indicated no physical assault, no sexual assault, and no battering).

Because we sampled on insurance status (Medicaid or managed care) and insurance was strongly associated with intimate partner violence, we present odds ratios and 95% confidence intervals adjusted for insurance status via polytomous logistic regression models.²⁰ We assessed interactions with the Breslow–Day test for homogeneity.²¹ We also had partner information

for the current or most recent relationship; thus, we present correlates of the partner or current household associated with current violence experience.

Results

Of 1605 women contacted for study participation, 162 women declined, which yielded a refusal rate of 10.1%. Forty-two women were ineligible because they had never had an intimate relationship with a male partner lasting at least 3 months; 1401 consenting and eligible women remained for analysis. There were no differences between refusers and willing participants by race/ethnicity, age, or insurance type.

TABLE 4—Demographic Correlates of Violence in a Current or Most Recent Relationship, by Type of Violence: Columbia, SC, 1997–1998

Correlate (% in Population) (n = 1401)	Timing of Intimate Relationship	Adjusted Odds Ratio ^a (95% Confidence Interval)		
		IPV–P + S	IPV–P no S	IPV–B/E only
Attributes of respondent				
Insurance status: Medicaid vs managed care (24.1% Medicaid)	Current	2.6 (1.7, 3.9)	7.2 (4.3, 12.2)	1.5 (1.0, 2.4)
	Any	2.2 (1.6, 3.1)	1.7 (1.2, 2.4)	1.4 (1.0, 2.0)
Age, y (continuous) (mean = 37.6)	Current	1.03 (1.02, 1.05)	1.00 (0.98, 1.02)	1.01 (1.00, 1.03)
	Any	1.02 (1.01, 1.03)	1.00 (0.99, 1.02)	1.00 (0.98, 1.01)
Race: White vs Black (37.2% White)	Current	1.0 (0.6, 1.5)	1.8 (1.1, 3.1)	1.5 (1.0, 2.2)
	Any	1.1 (0.8, 1.4)	0.9 (0.7, 1.2)	1.5 (1.1, 2.1)
Education: high school or less vs beyond (35.2% high school or less)	Current	1.2 (0.8, 1.8)	1.2 (0.7, 2.1)	1.0 (0.6, 1.5)
	Any	1.0 (0.8, 1.4)	0.7 (0.5, 0.9)	0.7 (0.5, 0.9)
Not currently employed vs employed (12.0% unemployed)	Current	1.8 (1.0, 3.0)	1.7 (0.9, 3.2)	0.7 (0.3, 1.5)
	Any	1.5 (1.0, 2.3)	0.7 (0.4, 1.2)	0.8 (0.4, 1.4)
Currently divorced/separated vs all other marital status categories (20.3% divorced or separated)	Current	2.8 (1.8, 4.2)	2.7 (1.6, 4.6)	2.1 (1.4, 3.3)
	Any	3.4 (2.4, 4.8)	3.0 (2.1, 4.4)	2.8 (1.9, 4.2)
IPV in family of origin (31.3%)	Any	3.5 (2.6, 4.8)	2.5 (1.8, 3.5)	1.8 (1.3, 2.6)
	Physical abuse (21.8%)	4.1 (2.9, 5.8)	2.9 (2.0, 4.2)	2.0 (1.3, 3.0)
Emotional abuse alone (9.5%)	Any	2.6 (1.7, 4.2)	1.7 (1.0, 2.9)	1.9 (0.9, 2.7)
No IPV in family of origin (68.7%)	Any	Reference	Reference	Reference
Attributes of current partner or household				
Partner's age, y (continuous) (mean = 38.9)	Current	1.02 (1.00, 1.03)	0.99 (0.97, 1.01)	1.01 (0.99, 1.03)
≥10-year difference in age (15.7% ≥10-year difference)	Current	1.7 (1.0, 2.7)	1.1 (0.6–2.1)	1.1 (0.6, 1.9)
Partner's race: White vs Black (35.2% White)	Current	0.8 (0.5, 1.3)	1.1 (0.6, 1.9)	1.4 (0.9, 2.1)
Partner of different race vs same race (5.1% different race)	Current	1.1 (0.4, 2.7)	3.4 (1.5, 7.6)	2.1 (1.0, 4.4)
≥4 vs 1–3 persons living in household (14.7% ≥4)	Current	1.4 (0.9, 2.3)	1.3 (0.7, 2.4)	1.0 (0.6, 1.7)
Partner not currently employed vs employed (4.8% unemployed)	Current	2.8 (1.4, 5.6)	2.0 (0.9, 4.6)	2.1 (0.9, 4.6)
Any vs no guns in current home (26.0% guns)	Current	0.9 (0.6, 1.5)	0.6 (0.3, 1.2)	1.1 (0.7, 1.7)
Partner has a drug or alcohol problem vs no substance use (22.8% with drug/alcohol problem)	Current	10.4 (6.7, 16.0)	7.5 (4.4, 12.9)	5.5 (3.6, 8.4)
Partner has an alcohol problem (20.0%)	Current	6.1 (3.3, 11.3)	5.6 (3.0, 10.4)	4.5 (2.9, 7.2)
Partner has a drug problem (9.4%)	Current	3.9 (2.3, 6.7)	2.6 (1.3, 5.3)	2.0 (1.1, 3.7)
No drug or alcohol use (77.2%)	Current	Reference	Reference	Reference
Drug or alcohol use problem				
Both woman and partner (6.7%)	Current	13.1 (6.5, 26.5)	13.7 (6.0, 31.3)	5.3 (2.3, 12.0)
Partner only (15.1%)	Current	10.0 (5.7, 17.6)	5.8 (2.7, 12.4)	5.1 (2.8, 8.9)
Woman only (11.1%)	Current	1.7 (0.7, 4.1)	1.6 (0.5, 5.0)	2.1 (0.9, 4.4)
No drug or alcohol use: woman or partner (67.1%)	Current	Reference	Reference	Reference

Note. See Table 1 for descriptions of abbreviations. IPV = intimate partner violence.

^aAdjusted for insurance status (Medicaid vs managed care).

Table 2 presents the prevalence of intimate partner violence in the current or most recent intimate relationship by type of violence, the prevalence of violence in a past relationship by type of violence, and the prevalence of violence by type in any past or current intimate relationship. Twenty percent of the women experienced some form of intimate partner violence in a current or recent relationship; 9.8% experienced physical inti-

mate partner violence. The mean age at the first experience of a violent relationship was 22.4 ± 6.0 years (median: 21.0 years; range: 15–56 years).

In this population, 55.1% experienced some type of violence in an intimate relationship. Of these 772 women, 77.3% (n = 597) experienced physical or sexual violence, and 22.7% (n = 175) were psychologically battered or emotionally abused. Most (85.4%)

of those who experienced physical violence in a current or recent relationship also were classified as battered. Similarly, 86.2% of those who reported past physical violence also reported emotional abuse without physical/sexual violence. We found that intimate partner violence was more common among women in a recent as compared with a current relationship (33.0% vs 14.8%). This pattern held true for every violence type.

Severity of Violence by Violence Type

As hypothesized, we found that women who currently experienced physical and sexual violence had significantly higher Index of Spouse Abuse scores (mean \pm SD = 24.3 \pm 20.5) and higher Women's Experience With Battering Scale scores (mean \pm SD = 46.1 \pm 13.9) than did women who experienced physical but not sexual violence (Index of Spouse Abuse Physical scale: mean \pm SD = 14.3 \pm 12.3; Women's Experience With Battering Scale: mean \pm SD = 34.4 \pm 15.2). Women who experienced psychological battering only had significantly lower Women's Experience With Battering Scale scores (mean \pm SD = 28.6 \pm 9.8) than did women who also experienced physical violence. There were no differences in length of violent intimate relationship by violence status.

Does Past Violence Predict Current Violence?

Table 3 presents the odds ratios for our analysis of past violence associated with violence in the current or most recent relationship. Past violence was correlated with a significant increasing probability that a woman would experience violence in a future relationship (either the current or most recent relationship). Past sexual violence was most strongly associated with current or most recent sexual violence (odds ratio [OR] = 1.9; 95% confidence interval [CI] = 1.2, 2.9).

Correlates of Violence by Type of Violence

Attributes of the woman. Table 4 presents proportions of the entire population (n = 1401) reporting the correlates of interest, along with odds ratios and 95% confidence intervals for the demographic characteristics of the woman, the characteristics of her current/most recent intimate male partner, and violence experience by timing (current/most recent relationship or any intimate relationship). We had demographic information only on current male partners.

The following attributes of the women were correlates of intimate partner violence (Table 4) across all violence types: insurance status, currently divorced or separated, and intimate partner violence in family of origin. Additional significant correlates of physical and sexual violence, after adjustment for insurance, included increasing age and current unemployment. White race was significantly associated with physical but not sexual violence and battering without physical or sexual violence in a current relationship; White race was also significantly associated with batter-

ing or emotional abuse without physical or sexual violence in any intimate relationship.

Attributes of the male partner or household. As reported by the women interviewed, male partners' unemployment and drug or alcohol use were significantly associated with all violence categories. The following were additional correlates of physical violence with sexual violence: increasing age of the partner and an age difference of more than 10 years between the members of the couple. White race was significantly associated with physical but not sexual violence and with battering but not physical or sexual violence.

Discussion

Our finding regarding prevalence of physical assault in a current or recent intimate relationship (9.8%) is consistent with other reports in similar clinical populations. For example, Bullock et al.⁵ reported a prevalence of physical violence of 8.2%, and Freund et al.² reported a rate of 11.6% among women currently involved in a relationship. Our lifetime prevalence of physical assault (37.6%) is somewhat higher than what others have found. Gin et al.,³ for example, reported a lifetime prevalence of 28% among female primary care patients.

Importantly, however, we found that 7.7% of the women currently involved in a relationship, and 17.7% in their most recent relationship, experienced sexual violence. In addition, more than one third of the violence assessed in a current or most recent relationship was classified as nonphysical psychological battering. This indicates that women are experiencing vulnerability, loss of control and power, and entrapment as a consequence of their partner's patterned use of abusive behaviors other than physical and sexual assault. Altogether, 12.8% of the women had been battered (with or without physical/sexual assault) in their current relationship, while 29.7% had been battered in their most recent one. Therefore, about one half of the battered women were not concurrently experiencing physical or sexual assault.

In a population-based study, Smith and Edwards found that 10% of women currently involved in a relationship had been battered and that 28.2% had been battered in their most recent relationship.²² Consistent with the findings reported here, about one half of the battered women were not concurrently being physically or sexually assaulted.

Our data clearly show that women who experience both physical and sexual violence have higher physical violence scores and higher battering scores than do women who experience physical but not sexual vio-

lence. Sexual violence may be a marker of more severe violence and, perhaps, a marker of violence escalation. Longitudinal studies are needed to better clarify the natural history of intimate partner violence by type.

Our finding that more violence is reported for past than current relationships strongly suggests that women who experience violence frequently leave their violent partners; 82% of the women who experienced physical violence had left their partner at least once. This finding is further substantiated by the association of marital status and intimate partner violence; in comparison with married women, divorced women were almost twice as likely to report physical violence, and separated women were 2 to 3 times more likely to report past or current physical violence. It is not clear from our data, however, whether violence ends with the marriage.

Demographic correlates of physical violence have been explored in several studies in similar populations. Like Ernst et al.,²³ Gin et al.,³ Bullock et al.,⁵ and Smith and Edwards,²² we found that marital status and lower income (measured here by Medicaid vs managed care status) were associated with physical violence. Like Smith and Edwards,²² but unlike Ernst et al.²³ and Gin et al.,³ we did not find a significant difference in reports of physical violence by race.

Consistent with the majority of studies correlating substance abuse and intimate partner violence,^{2,3,24} we found the male partner's drug or alcohol use, as reported by his partner, to be the strongest correlate of current violence independent of type. We found, as did Ernst et al.,²³ a stronger association with violence for problem alcohol use than for problem drug use. Furthermore, male partner's drug or alcohol use was associated with violence independently of the woman's substance use. These findings suggest the need to link substance abuse identification and treatment with violence screening.

We found that, after adjustment for insurance status, unemployment of either the partner or the woman was associated only with physical/sexual violence. Because physical/sexual violence was associated with more severe violence, as measured by the Women's Experience with Battering Scale and the Index of Spouse Abuse, this finding could indicate that battered women are controlled by their partners to such an extent that they are not allowed to work. Alternatively, severe violence could result in a range of physical and mental health consequences, leaving the woman unable to work. According to our data, 33.6% of women who had experienced physical/sexual violence had a disability preventing work, as compared with 15.5% of

women who had not experienced violence. Partner unemployment may be linked to violence through drug and alcohol use; unemployed partners were more than twice as likely as employed men to have drug or alcohol problems (as reported by their partners).

Like Kalmuss,²⁵ we found that women with a father who physically or emotionally abused their mother were at a significantly increased risk of intimate partner violence. This finding is consistent with existing literature that addresses the multigenerational effect of violence. Women who experience violence in their family of origin may perceive violence as a normal part of intimate relationships.²⁴ These results strongly suggest the need for earlier identification of intimate partner violence and intervention for the entire family to reduce the occurrence of violence in subsequent intimate relationships.

We found that, after adjustment for insurance status, guns in the household were not associated with intimate partner violence. Because having guns in the home has been associated with increasing injury severity among women living in violent relationships,²⁶ we compared having guns in the household with increasing Index of Spouse Abuse and Women's Experience With Battering scale scores among those classified as experiencing violence; we found no association. We did not, however, include questions about frequency of firearm use, who owns the firearm, or the reason for having a firearm. Interestingly, White women and those with managed care insurance were significantly more likely to have guns in the household.

While this research is limited in terms of the ability to generalize our findings to non-clinical populations or to women in same-sex relationships, it contributes to the literature by estimating the prevalence of intimate partner violence by type and timing and by evaluating correlates of physical assault, sexual assault, battering, and emotional abuse. This is one of the first studies to use the Women's Experience with Battering Scale, developed to assess battering and psychological battering independently of specific violent acts and their frequency.

Substance abuse and violence in the woman's family of origin were the strongest correlates of intimate partner violence, and this was true for all categories of violence, including psychological battering or emotional abuse without physical or sexual violence. This suggests that current psychological battering or past perceived emotional violence not accompanied (as yet) by physical violence may be on the same severity continuum with physical violence and may result in the same mental and, perhaps, physical health consequences experienced by vic-

tims of physical violence.¹ Interventions are needed for this group, as well as for those being physically and/or sexually assaulted, to prevent a range of physical and mental chronic and acute health consequences. Future research is necessary to assess short- and long-term mental and physical health consequences of intimate partner violence by type and timing, as well as the health care costs of such violence.

For many abused women, contact with primary care providers may be the only opportunity for an effective intervention, because battering men are often very controlling. By asking about intimate violence in this setting, health care providers can support victims, validate their concerns, and provide them with needed community and medical referrals and more appropriate health care. Asking about intimate violence can lead to earlier interventions to reduce violence in the home or to help women safely leave abusive relationships, provided that clinicians are supportive of their patients' emotional and financial needs and their need to work through difficult decisions in their own time. Early and effective interventions, both within the clinic and in the larger community, are needed to reduce the negative health consequences of intimate partner violence and to reduce society's tolerance of non-fatal violence against women. □

Contributors

A. L. Coker planned the study, drafted the questionnaires, analyzed the data, and wrote the paper. P. H. Smith contributed to the questionnaire design and to writing the paper. R. E. McKeown assisted in the data analyses and contributed to writing the paper. M. J. Remsburg coordinated data collection and management and contributed to drafting the manuscript.

Acknowledgments

This research was funded by grant CCR412752 from the National Center for Injury Prevention and Control and the Disabilities Prevention Program of the National Center for Environmental Health.

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