

Correlates of Intimate Partner Violence Among Female Patients at a North Carolina Emergency Department

Melissa Roche, MA; Kathryn E. Moracco, PhD, MPH; Kimberly S. Dixon, MSW; Elizabeth A. Stern, MPH; J. Michael Bowling, PhD

Abstract

Objective: This paper identifies comorbid factors among female emergency department (ED) patients who have experienced intimate partner violence (IPV).

Methods: 321 adult female patients completed self-administered questionnaires while in an urban North Carolina emergency department. IPV was assessed by questioning whether the patient had ever been afraid of a partner, physically hurt or threatened by a partner, or forced to have sex by a partner.

Results: One third of all female patients reported at least one form of IPV in their lifetimes. IPV was associated with a low self-rating of physical and mental health, frequent visits to the ED, and problems with alcohol, drugs, and mental health. In multivariate analysis, only a history of alcohol and mental health problems and a low self-rating of mental health remained significant.

Conclusions: The findings illustrate the need for IPV screening protocols that address mental health and substance abuse and also emphasize the importance of screening all women for IPV.

Background

It is well established that physical, sexual, and psychological intimate partner violence (IPV) against women is both widespread and a serious threat to women's health. The National Violence Against Women Survey estimates that 25% of women are physically or sexually assaulted by intimate partners in their lifetimes.¹ Physical health consequences of IPV include fatal and nonfatal injuries, trauma-specific and generalized pain, unwanted pregnancies, sexually transmitted infections, and gynecological problems.^{2,3,4,5} IPV is also associated with substance abuse and a variety of mental health problems including depression, anxiety,

suicide, and post-traumatic stress disorder (PTSD).^{6,7,8,9,10} Victimized women view themselves as being less healthy and report lower levels of physical and mental well-being than women who have not been victimized.^{1,11,12}

The prevalence of IPV among emergency department (ED) patient populations varies widely depending on the definition of IPV, identification method, sample, and setting. Research indicates that 5% to 19% of all female ED patients have been physically or sexually abused in the previous year and 33% to 54% report a lifetime history of abuse.^{13,14,15,16} Moreover, studies suggest that 2% to 7% of all female ED patients present with acute trauma due to abuse,^{17,18,19} and 30% to 41% of the

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Melissa Roche, MA, is a doctoral student in the Department of Health Behavior and Health Education at the University of North Carolina at Chapel Hill.

Kathryn E. Moracco, PhD, MPH, is a research scientist at the Pacific Institute for Research and Evaluation, an adjunct assistant professor at the Department of Health Behavior and Health Education and an adjunct associate professor at the Department of Maternal and Child Health at the University of North Carolina at Chapel Hill. She can be reached at moracco@pire.org or 1516 East Franklin Street, Suite 200, Chapel Hill, NC 27514.

Kimberly S. Dixon, MSW, is an administrative manager at Duke University.

Elizabeth A. Stern, MPH, is the domestic violence program coordinator at the Duke University Health System.

J. Michael Bowling, PhD, is a research associate professor at the Department of Health Behavior and Health Education at the University of North Carolina at Chapel Hill.

violence-related injuries to female ED patients are inflicted by intimate partners.^{20,21} However, most battered women present in emergency departments with health problems other than injuries.^{16,20}

The ED is an optimal setting for identifying and referring victims of IPV because clinicians come into contact with past, current, and future victims daily, yielding multiple opportunities to reduce morbidity and mortality caused by IPV. Accordingly, during the past two decades there has been a call for emergency departments to develop and implement IPV screening protocols for female patients. Since 1992, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has required that accredited emergency departments have IPV policies, procedures, and educational opportunities in place. Despite widespread efforts to train providers and institutionalize IPV protocols, research indicates that IPV screening rates in emergency departments remain low.^{22,23} This is in part because health care providers feel they lack effective interventions to respond to the needs of women who disclose violence.²⁴

The purpose of this paper is to identify comorbid factors among adult female ED patients who have experienced intimate partner violence. Given the high prevalence of IPV in this population, distinguishing characteristics and conditions that are associated with IPV may enable providers to respond more effectively to these patients by identifying their specific physical and mental health needs.

Methods

Data for this study come from an evaluation of a hospital-based intervention designed to increase IPV detection and provide appropriate services to IPV survivors in the emergency department of a mid-sized community hospital located in an urban, ethnically diverse county in north central North Carolina. We consecutively approached all female patients age 18 and older who visited the ED to receive care for themselves during randomly selected six-hour shifts within two three-week periods pre and postintervention. Women were excluded from the study if they showed signs of cognitive impairment (including intoxication), were in police custody, did not speak English or Spanish, or were admitted to the hospital.

Participants completed a two-page self-administered questionnaire (available in English and Spanish) that included questions about their demographic characteristics, self-assessed physical and mental health status, history of IPV, and whether they were asked about IPV during their ED visit. Respondents indicated whether they were willing to be called for a 15 to 20 minute phone interview, and if so, they were asked to provide a safe date, time, and number for project staff to call.

In order to protect patients' safety and privacy, participants were offered one of two versions of the questionnaire. Women who were unaccompanied or could complete the form alone received a full version of the questionnaire, which contained questions about adult lifetime IPV experience and IPV screening in the ED. Women who could not complete the form in privacy received an abbreviated version that did not contain questions

about IPV. Those women who completed the abbreviated questionnaire and indicated willingness to participate in a phone interview were called and asked the questions about IPV. All participants received \$5 in cash for completing the survey.

The Institutional Review Boards of Durham Regional Hospital, Duke University Health System, and the Pacific Institute for Research and Evaluation (PIRE) all reviewed and approved this study.

Variable Definitions

Lifetime experience with IPV was assessed via 3 items on the questionnaire that asked whether the respondent had ever been (1) afraid of a partner, (2) physically hurt or threatened by a partner, and (3) forced to have sex by a partner. For this study, we categorized women as having experienced IPV during their lifetime if they responded "yes" to any of the 3 questions.

Demographic variables included age, race, educational level, and marital status. Health-related variables included single questions about participants' self-assessment of their current physical and mental health ("Compared to women your age, would you say your physical / mental health is: excellent / very good / good / fair / poor?"), disability status ("Do you have a physical disability or health condition that limits your physical functioning?" yes / no), history of problems with mental health ("Have you ever had any mental health problems, like depression, bipolar disorder, or post-traumatic stress disorder?" yes / no), alcohol ("Have you ever had a problem with alcohol?" yes / no), and drugs ("Have you ever had a problem abusing prescription or nonprescription (recreational/illegal) drugs?" yes / no). We also asked participants a number of health care related items, including how many times they had been to the ED in the past 12 months, how most of their medical costs were covered (self pay, Medicare, Medicaid, private insurance, other), the reasons for their current visit (injury, illness, or other), and satisfaction with their current ED visit (very satisfied, somewhat satisfied, somewhat dissatisfied, very dissatisfied).

Data Analysis

We used SPSS version 11.3 (SPSS Inc, Chicago, IL) for all analyses. After examining univariate frequencies, we used Fisher's exact tests for analysis of bivariate associations with whether or not women reported IPV. We then included factors that were significantly associated with experiencing IPV in a logistic regression model and calculated adjusted odds ratios (AOR) and 95% confidence intervals (CI). A p-value of .05 was considered significant for all analyses. We assessed for multi-collinearity among the independent variables in our model and did not find any cause for concern using the criteria of variance inflation factor (VIF) = 2.5.²⁵

Results

A total of 346 female patients completed the survey during a visit to the emergency department, representing 75% of eligible patients. Of those, 321 completed the full form that included questions about their personal experience with IPV and 25

completed the abbreviated form. Of the women who completed the full form, seven failed to provide information about their history of IPV. Of the 25 women who completed the abbreviated form, seven were successfully contacted by telephone and provided information about IPV. In total, 321 women (93%) provided information on their history of IPV and are thus included in the analysis. Of the sample included in this analysis, 124 women were interviewed preintervention and 197 were interviewed postintervention. Given that the intervention was designed to increase identification of IPV among female ED patients and that respondents were, in fact, more likely to have been asked about IPV by ED staff postintervention, there is a possibility that the women surveyed postintervention would be more likely to note a history of IPV on their self-administered survey. However, we found that the pre and postintervention groups did not differ significantly on any of the independent variables nor in their reporting of IPV.

Table 1 describes the characteristics of the study sample. The ages of women ranged from 18 to 74, with a mean age of 37. Two thirds of the patients were African American and more than half (56%) were not married. In addition to the current visit, most (81.2%) of the patients had made at least one other visit to an ED in the previous 12 months, with 63.9% of the sample reporting 2 or more other ED visits in the last year.

One third of women (33.3%) reported that they had experienced some form of IPV in their lifetimes. Table 2 presents the combinations of IPV reported by women who disclosed some form of IPV. As indicated in the table, most types of IPV did not occur in isolation.

Table 3 presents the results of the bivariate analyses of factors associated with reporting IPV. Factors consistently associated with all 3 forms of IPV are describing current mental health as fair or poor, a self-reported history of alcohol problems, a self-reported history of drug problems, and a self-reported history of mental health problems. Factors associated with reporting IPV, but not consistently associated with the individual forms of IPV, are Medicaid status, describing physical health as fair or poor, and two or more visits to the ED in the past year. None of the other factors analyzed were significantly associated with reporting IPV, including whether the woman was at the ED due to an injury or came accompanied by a partner.

We included the variables that were bivariate associated with IPV in a logistic regression analysis, with reporting any IPV as the outcome variable (Table 4). After controlling for age, education, race, and marital status, only a self-described history of mental health problems, history of alcohol problems, and reporting mental health as fair or poor remained significantly associated with experience of IPV. Marital status also independently predicted experience of IPV. Women who were separated or divorced were more than eight times more likely (AOR 8.47; 95% CI: 3.44-20.88) to report a history of IPV compared with single women.

Discussion

Our finding that a third of female ED patients have experienced IPV in their lifetimes is consistent with the high prevalence

Table 1.
Respondent Characteristics (n=321)

	%
RACE	
African American	66.4
White	25.5
Latina/Hispanic	2.8
Native American	2.5
Other	2.8
AGE GROUPS	
18 to 24	21.9
25 to 34	24.1
35 to 44	26.3
45 to 54	15.9
55 to 64	7.8
65 and over	4.1
EDUCATION	
Did not complete high school	23.4
Completed high school	36.8
Some college	26.2
Graduated college	13.7
MARITAL STATUS	
Single	43.9
Married	29.3
Separated	9.0
Divorced	13.4
Widowed	4.4
HOW MEDICAL COSTS ARE PAID	
Self pay	27.1
Medicare	8.8
Medicaid	32.5
Private/group insurance	27.8
Other	3.7
EXPERIENCED IPV	
	33.3
Hurt or threatened by a partner*	24.4
Forced to have sex*	16.3
Afraid of a partner*	26.5
* IPV categories are not mutually exclusive	

of IPV among female patients found in other ED-based studies.^{13,14,15,16} Also consistent with previous research are the findings that most women who have experienced IPV visit the ED for noninjury complaints, and that there are few discernable differences between victims and nonvictims.^{13,14,15,16} The differences that remained significant, self-reported histories of alcohol and mental health problems and fair or poor self-assessed

Table 2.
Patterns of IPV Among Respondents
Reporting IPV (n=107)

Type of IPV	n	%
Physically hurt or threatened only	14	13.1
Afraid only	12	11.2
Forced sex only	6	5.6
Physically hurt or threatened and afraid	29	27.1
Afraid and forced sex	11	10.3
Physically hurt or threatened and forced sex	2	1.9
All three forms of IPV	33	30.8

mental health status, indicate that ED patients who are IPV survivors may have unaddressed mental health and substance abuse needs.

The results of this study indicate that the ED is a good place to identify and assist IPV survivors, and that all women should be screened for IPV, regardless of their presentation. We recognize that there is an ongoing debate over the effectiveness of IPV screening in health care settings, including how to measure the long-term effectiveness of IPV screening.^{26,27} While there certainly is an urgent need for rigorous research regarding the effectiveness of screening, universal IPV screening for female ED patients seems warranted given the high prevalence of IPV among

female ED patients, support for screening by professional organizations as well as patients,^{16,28,29,30} and the lack of evidence that screening is more harmful than not screening.

The fact that IPV survivors were more likely than women who had not experienced IPV to report having ever had alcohol and mental health problems, and that they were more likely to rate their current mental health status as fair or poor, suggests that women who have experienced IPV have potentially unaddressed mental health and substance abuse needs. Previous research has documented the strong association between IPV and mental health problems, particularly depression and post-traumatic stress disorder (PTSD).^{6,7,8,9,10} Similarly, alcohol use or abuse has been associated with an increased risk of past or current IPV.^{6,10,16,31} The etiology of mental illness and substance abuse among battered women is unclear, as the bulk of previous research cannot establish temporal sequence. Regarding the link between IPV and mental health problems, Frank and Rodowski (1999) note that mental health problems may be more common among female IPV victims "both because mentally ill women are more vulnerable to abuse and because verbal or physical abuse may precipitate or perpetuate psychiatric disorders."³² Regardless of the exact nature of the relationship, previous research, along with this study's findings, suggest that a high proportion of IPV survivors presenting in the emergency department will have concurrent mental health needs. Referrals to services to address these needs should be part of IPV screening protocols in health care settings.

Table 3.
Bivariate Analyses of Health Status and Emergency Department Visit with Intimate Partner Violence (IPV) Among Adult Female Emergency Department Patients (n=321)

	Total (n=321)	Any IPV		Physically hurt or threatened		Forced to have sex		Afraid of a partner	
		Yes (n=107)	No (n=214)	Yes (n=78)	No (n=242)	Yes (n=52)	No (n=268)	Yes (n=85)	No (n=236)
% with medical costs covered by Medicaid	35.3	43.0*	31.4*	43.6	32.4	42.3	34.1	43.5	32.3
% who report physical health as fair or poor	21.9	29.9*	17.8*	24.4	21.2	32.7*	19.9*	27.1	20.0
% who report mental health as fair or poor	12.9	23.4**	7.6**	21.8**	10.0**	30.4**	9.4**	21.2**	9.9**
% with 2 or more visits to the ED in past year	63.9	71.8*	60.0*	72.4**	61.4**	80.0**	60.7**	72.3	60.9
% with history of alcohol problem	8.4	17.8**	3.7**	20.5**	4.5**	26.9**	4.9**	21.2**	3.8**
% with history of drug problem	4.7	11.3**	1.4**	13.0**	2.1**	17.6**	2.2**	13.1**	1.7**
% with history of mental health problem	30.8	55.7**	18.4**	61.0**	21.3**	59.6**	25.3**	53.6**	22.6**
% who came to ED for an injury	32.4	31.8	32.7	29.5	33.1	26.9	33.2	36.5	30.9
% who were accompanied by a partner to the ED	28.1	26.2	29.1	25.6	29.0	23.1	29.2	20.0	31.1

* P < .05

** P < .01

Table 4.
Logistic Regression Model of Characteristics of Health Status and Emergency Department Visit History that Predict Intimate Partner Violence (IPV) Among Female Patients, Controlling for Age, Education, Race, and Marital Status (n=301)

Referent	Adjusted OR	95% CI
History of alcohol problem	4.09	(1.27, 13.18)
History of mental health problem	2.77	(1.44, 5.34)
Reports mental health as fair or poor	2.72	(1.04, 7.16)
History of drug problem	3.94	(.75, 20.6)
Medical costs covered by Medicaid	1.77	(.94, 3.34)
2 or more visits to the ED in past year	1.61	(.84, 3.06)
Reports physical health as fair or poor	1.35	(.62, 2.92)
Marital status Ref group: Single		
Married	1.75	(.79, 3.87)
Divorced / separated	8.47	(3.44, 20.88)

C statistic = .788 (95% CI .733 - .843, $p < .001$)

The results of our study should be viewed within the context of its limitations. First, because the study was conducted in a single urban emergency department, it is not generalizable to all women in the state nor to all female ED patients. The study also only included women who were discharged from the ED. These women may be significantly different from women who were subsequently admitted to the hospital in terms of the severity of their illness or injury. In addition, given that the ED intervention was designed to increase identification of IPV among female ED patients and that respondents were, in fact, more likely to have been asked about IPV by ED staff postintervention, there is a possibility that postintervention respondents would be more likely to note a history of IPV on their self-administered survey. However, we found that the pre and postintervention groups did

not differ significantly in the proportions reporting of IPV.

We also asked women about their lifetime experience with IPV without collecting any information about the characteristics (eg, recency, severity, frequency, duration) of those experiences. It is possible that some participants experienced only isolated incidents of IPV in the distant past. However, previous research has demonstrated that IPV has profound and long-lasting effects on women's physical and mental health,^{2,3,4} and past victimization is a risk factor for current and future IPV.³³ An additional limitation to the study is potential misclassification bias that could have occurred because respondents provided self assessments for several of the key independent variables, notably their histories of substances abuse and mental health problems. All respondents may not have understood and interpreted these questions in the same way.

Finally, the cross-sectional nature of this research makes it impossible to establish temporality, and the study is subject to both recall and reporting bias.

Despite these limitations, our study provides further evidence that the emergency department is an important setting in which to identify and

assist women who have experienced IPV. It also reinforces the need to screen all adult female ED patients regardless of their presenting complaint. Providers should also be cognizant of the potential concurrent mental health needs of women who have experienced or are experiencing IPV and ensure that they are equipped to provide appropriate referrals to mental health providers, substance abuse services, and intimate partner violence agencies. **NCMJ**

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