

Intimate Partner Violence and Functional Health Status: Associations with Severity, Danger, and Self-Advocacy Behaviors

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Abstract

Objective: To assess physical and mental functional health status as associated with the severity of intimate partner violence (IPV) and perceived danger.

Methods: Prospective cross-sectional survey of all patients aged 18–55 in an urban emergency department during a convenience sample of shifts. Instruments included the George Washington Universal Violence Prevention Screening protocol, administered by computer during the initial visit, the Short-Form 12 Health Survey (SF-12), the Conflict Tactics Scale (CTS2), and the Revised Danger Assessment (DA), administered by interview at 1 week follow-up.

Results: In total, 548 (20%) participants screened disclosed IPV victimization. Of those, 216 (40%) completed the follow-up assessment 1 week later. This cohort was 91% African American, 70% single, and 63% female, with a mean age of 35 (SD 10.41). Both physical and mental health functioning scores were lower than normative levels (50) compared with national averages: Physical Component Summary (PCS) scale 43.64 (SD 10.86) and Mental Component Summary (MCS) scale 37.46 (SD 12.29). As physical assault, psychological aggression, and reported injury increased on the CTS2, mental health functioning diminished ($p < 0.01$). Increased physical assault and psychological aggression were also associated with diminished physical health functioning ($p < 0.05$). As victim-perceived danger increased on the DA, both physical and mental health functioning decreased ($p < 0.01$, $p < 0.001$, respectively). Greater self-advocacy activities were associated with lower mental (but not physical) health functioning as well. Females experienced worsening mental health functioning as both physical assault and psychological aggression increased, whereas male victims experienced worsening mental health functioning only as psychological aggression increased.

Conclusions: These findings suggest that IPV takes a greater mental than physical toll (for both sexes) and that as IPV severity increases, mental health functioning diminishes and self-advocacy behaviors increase. Additionally, as perceived danger increases, both physical and mental health status worsens. This has important implications for clinicians to assess and consider IPV victims' perceptions of their situations relative to danger, not just the levels of abuse they are experiencing.

Introduction

INTIMATE PARTNER VIOLENCE (IPV) is a pattern of physical, sexual, or verbal assault (or a combination) of one partner by the other and is significantly prevalent in patients

across a range of clinical settings.^{1,2} IPV is associated with a number of adverse medical conditions, such as pain, injury, and depression.³ This paper further describes how different characteristics of the abuse—its type and severity, the victims' perceived danger, and their self-initiated advocacy

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behaviors—might be associated with their functional health status and health-related quality of life. These results provide interesting information about assessment for risk and safety planning.

Reports have been mixed on the rates and severity of IPV in African American women compared with other populations. McFarlane et al.⁴ note that African American women disclosed abuse at a rate two thirds higher than that of Caucasian women and slightly higher than the disclosure rates for Hispanic women in multiple public health clinics in Texas. These women are also likely to experience additional stressors, such as racism, and, in some cases, the effects of lower socioeconomic status, which may heighten their vulnerabilities to abuse.^{5,6} Furthermore, African American victims of IPV are likely to need access to mental health, legal, and social services.⁷

Functional health status of IPV victims has been evaluated in a range of population studies and clinical settings.^{2,8–10} As used here, functional health status refers to the measurement of disease burden (on health) of an individual as well as a comparison of disease/condition-specific results with general population norms. Prior investigations suggest diminished Medical Outcomes Study 36-Item Short Form (SF-36) Health Survey scores, or Medical Outcomes Study 20-item Short-Form (SF-20) Health Survey scores, in victimized patients as well as in those who have specific additional medical and psychiatric diagnoses that may be related to IPV, such as depression or posttraumatic stress disorder (PTSD).^{3,11–13} Previous work suggests differing abuse characteristics (including type and timing of the abuse) may correlate with, although not explain, the majority of health-related quality of life findings (using the SF-36).¹⁴ More recent studies by Bonomi et al.^{15,16} suggest that type, proximity, and duration of abuse all affect functional health status.

In the clinical setting, day-to-day functioning is of great importance. A person's ongoing pain, ability to perform daily activities, or ongoing risk of a worsening health status, are matters of constant focus for healthcare providers. In the case of IPV, where the abuse affects functional health status, it is important to better understand how different factors influence daily functioning. For example, Coker et al.¹⁷ suggest higher social support scores are associated with a reduced perception of poor mental health. In a sample of family practice patients ($n = 1152$), Coker et al.¹⁷ found that higher social support reduced depression, PTSD symptoms, and suicide attempts. In a second study using a random digit-dial national telephone survey, Coker et al.¹⁸ also explored associations between IPV and physical and mental health. The researchers found that both physical and psychological abuse have an impact on consequences for male and female victims' physical and mental health.¹⁸ For lower-socioeconomic status African American women who report abuse, researchers explored how coping patterns impact mental health.¹⁹ Our study explores whether self-advocacy behaviors have an impact on health-related functioning. Mitchell et al.¹⁹ found maladaptive coping strategies in women victims of IPV were associated with worse mental health, as measured by depression and anxiety.

Assessing the amount of perceived danger present for an IPV victim is also of clinical and legal importance. The amount of danger present can affect the clinical management of a case; misinterpreting the danger may lead to unnecessary injury for

a patient and possible litigation. Workplace violence might also occur.^{20–23} How the perceived danger and level of abuse experienced may affect functional health status scores is unknown.

In this paper, we seek to better understand how IPV affects physical and mental health functioning as it relates to abuse severity, perceived danger, and victims' self-advocacy steps. Examples of self-advocacy steps include patients reading referral materials, creating a safety plan, changing door locks, and calling services. We hypothesized that individuals with a higher severity of abuse would have lower levels of physical and mental health functioning on the SF-12. We further hypothesized that those with higher severity abuse and lower physical and mental health functioning would have higher self-advocacy scores as a result of feeling more adversely affected by the abuse and perhaps more motivated to act. We also assessed for the potential interaction between gender and the variables of interest.

Materials and Methods

Setting

The study site was a comprehensive Level 1 emergency department (ED) in a large southeastern U.S. city. This Level 1 trauma center is the only public hospital in the city, with an annual patient volume of 105,000 visits. Patients are predominantly urban, African American, and medically indigent. In this clinical setting, the standard of care for screening for IPV involves a yes/no check box. Current screening is dependent on provider recognition and is minimal at baseline. The number of patient visits related to IPV to this ED is undetermined; however, findings from similar settings nationwide suggest an acute IPV prevalence of 11% within 1 year^{24–26} and an approximately 25% lifetime prevalence in adult female patients.²⁷ The university institutional review board and the hospital research oversight committee approved this study.

Participants

Research staff approached all patients between ages 18 and 55 in the ED waiting room during set study times. Inclusion criteria included ability to read English at a 5th grade level, ability to stand for 20 minutes to complete the study, and screening positive for IPV on the screening tool²⁸ administered at a computer kiosk.²⁹ A positive response to any of the five questions yielded a positive screen for IPV victimization. This screening was specific to the research protocol, as no screening for IPV was suggested as part of routine care in this clinical setting. The screening tool, George Washington Universal Violence Prevention Screening Protocol (UVPSP), was previously validated for use in this setting.³⁰ Exclusion criteria included patients appearing incoherent or showing indications of acute, critical medical illness. Research assistants invited study participants reporting IPV victimization or perpetration to return to the hospital ED for a 1-week follow-up assessment.

Data collection and processing

Trained research assistants were present in the waiting room 3 days a week daily for 8 hours a day to identify and approach potential participants. These times represented peak, high-volume intervals in the ED. Participants answered

survey questions on a touch screen computer kiosk in a semiprivate booth in the waiting room.^{29,31} The survey was modified from one used in a midwest urban ED. We obtained contact information for all participants who disclosed victimization. In addition, we provided participants reminder telephone calls about their research interview appointments. We obtained individual permission to call each patient and, on placing the call, reaffirmed the permission and that it was an acceptable time to speak. All calls were placed from the hospital so that any monitoring of caller ID would yield only the generic hospital name. In addition, all participants had the option of appearing in-person at the hospital for their follow-up interview in lieu of phone interactions.

Staff conducted follow-up assessments, which consisted of the administration of a series of questionnaires described later. Participants had an option to have the questions read aloud to them or to complete the surveys by themselves. This assessment interview took place in a private room and lasted approximately 1 hour. On completion of the interviews, the assistants provided the participants \$20 for their time and public transportation tokens to cover the cost of transportation to and from the interviews.

Measurements

We used previously validated instruments to screen for presence and severity of abuse, for perceived danger, for self-advocacy behaviors, and for physical and mental health-related functioning.

CTS2

The Conflict Tactics Scale (CTS2)³² measures the extent to which partners in a relationship engage in psychological and physical violence and their use of negotiation to deal with conflicts. In this study, it was used to ascertain the types and levels of violence in those who disclosed IPV victimization at baseline. The CTS2 is a 39 pair-item questionnaire comprising five subscales demonstrating high reliability coefficients: negotiation (alpha = 0.86), psychological aggression (alpha = 0.79), physical assault (alpha = 0.86), sexual coercion (alpha = 0.87), and injury (alpha = 0.95). Other research has found reliabilities for the negotiation, psychological aggression, and physical assault subscales ranging from alpha = 0.67 to 0.87.^{33,34} For this paper, we used the physical assault subscale (alpha = 0.92) and the psychological abuse subscale (alpha = 0.81) for violence the subjects reported receiving at the hands of their partners.

Danger assessment

The Revised Danger Assessment (DA) is a brief instrument designed to provide a clinical assessment of danger in violent intimate relationships.²¹ It was created in 1985 and revised in 1988 after reliability and validity studies.³⁵ The first portion of the measure assesses severity and frequency of IPV by asking the participant to recall the number of times an incident occurred in the past year and the level of severity from 1 (slap) to 5 (weapon involvement). The second part of the tool consists of 19 dichotomous (yes/no) questions to assess substance use, level and type of violence, weapon involvement, and suicidality. The totaled scores are assessed relative to their proximity to a cutoff point established in ED populations. The test

has a test-retest correlation of 0.89–0.94.³⁶ The test has an internal consistency of 0.69–0.78 and has shown moderate to strong correlation with the Index of Spouse Abuse (ISA) and the CTS.³⁷ For the current sample, the alpha was 0.80. We used an unweighted frequency score for analysis and did not use the first section requiring a calendar review.

SF-12

Instruments measuring functional health status have been used internationally in numerous settings for a variety of health-related issues.^{38–40} The SF-12 is a 12-item survey derived from the SF-36. The SF-12 is designed to measure functional health status for physical and psychological domains in episodic treatment environments.^{38,41} The SF-12 has excellent validity and reliability when compared to the widely used SF-36.⁴² This brief tool holds special interest for those who might use the instrument in particularly busy environments or for settings in which limiting the number of survey items might allow other necessary inquiries. From the SF-12 (version 1), scores on both the Mental Component Summary Scale (MCS) and the Physical Component Summary Scale (PCS) are obtained and compared to a fixed normative scale of 50. The alpha for the current sample is 0.84.

Self-help

The National Center for State Courts created an 18-item measure to assess steps a victim may have taken postcourt to seek safety.⁴³ Questions include such items as changing locks on doors, creating a safety plan, and talking to a friend or family member. We adapted this questionnaire to create a 12-item continuous score survey removing those tasks that were unlikely to be completed within a week (e.g., taking a course) and those related to expendable income, given our sample population (e.g., installing security systems, hiring a guard). We replaced some of the items with the tasks that were achievable within 1 week, even for those with subjects with few resources (e.g., read the materials provided, hide clothes). The alpha for the revised self-help measure is 0.77.

Data analysis

The baseline and follow-up data were entered in SPSS 11.0 for analysis (SPSS, Chicago, IL). Data were analyzed using SPSS 6. Bivariate analyses were conducted using independent sample *t* tests and Pearson correlations. Two linear regressions were used for the adjusted analyses to assess for interactions between gender and physical/assault on PCS and MCS scores. To limit the influence of outliers on the analyses, subjects who scored >3 standard deviations (SD) from the mean on the CTS2 physical, psychological, and injury subscales from the mean were rescored to be equivalent to 3 SDs ($n = 3, 1, \text{ and } 8$, respectively).

Results

For this study, we approached 5473 ED patients, and 4425 (81%) were eligible for participation. Of the eligible patients, 3083 (70%) consented to participate in the computer survey, and 2737 (89%) completed the entire survey (62% of total eligible). There were no significant differences in race, gender, chief complaint, or age between study participants and nonparticipants. When screened for IPV, 548 participants

disclosed victimization, and of these, 430 (78%) consented to participate in follow-up interviews. Two hundred sixteen (50%) participated in the 1-week face-to-face interview; the rest were lost to follow-up ($n = 149$) or participated in a brief phone follow-up interview that did not include all the measures required for this analysis ($n = 65$).

Demographic statistics were compared for those individuals who completed a 1-week follow-up interview with the individuals who were lost before 1-week interviews. Although not surprising because of the homogeneity of the sample, no statistically significant differences were found between the two groups in gender, education level, race, marital status, or health insurance. However, more of the patients who followed up had moderate to severe depression (44% vs. 33%), PTSD (30% vs. 20%), and suicidal ideation (14% vs. 6%). The follow-up cohort consisted of 216 participants who had self-reported victimization on the IPV screen and returned for the follow-up interview. Of note, 32% of this sample also screened positive for perpetration of IPV. The sample was largely African American (91%), female (63%), and single (70%), with a mean age of 35 years (SD 10.4). Analysis for differences between those who disclosed both perpetration and victimization vs. victimization alone revealed that 37% of women ($n = 50$), compared with 23% of men ($n = 18$), self-disclosed perpetration (chi-square = 4.91, $df = 1$, $p < 0.05$). However, there were no differences for race or age. Regarding those who reported victimization, women reported higher percentages of receiving more physical violence, forced sex, threats with guns/knives, fear of being physically hurt, and being frightened. For those who disclosed also being perpetrators ($n = 68$), women reported higher percentages of being in control of their partner (44% vs. 39%), feeling it was okay to hurt a partner (30% vs. 22%), and men reported higher percentages of making their partner afraid (72% vs. 30%), actually having hurt their partners (56% vs. 32%), being worried they might hurt their partners (50% vs. 32%), and having made their partner have sex when they did not want to (29% vs. 10%). Because of small cell sizes, statistical inferences are not drawn (Table 1).

SF-12 and sample characteristics

Associations between the SF-12 and sociodemographic characteristics, violence, risk, and self-advocacy behavior are shown in Table 2. The sample had a mean (SD) score on the physical health measure of 43.6 (SD 10.9) and on the mental health measure of 37.5 (SD 12.3). These are weighted scores compared with a normative value of 50 (SD 10). Our cohort demonstrates lower than normal physical health functioning and even lower mental health functioning. SF-12 findings did not vary within the cohort for race, marital status, or education. As age increased, however, the physical health score worsened significantly ($p < 0.001$). Additionally, female victims scored significantly lower than male victims on both the physical health score ($p = 0.005$) and the mental health score ($p = 0.004$).

SF-12 and violence

Compared with findings on the three CTS2 subscales, SF-12 scores were significantly associated. Higher levels of physical assault and psychological aggression were significantly correlated with lower PCS scores, although not with injury.

TABLE 1. SOCIODEMOGRAPHICS OF SAMPLE ($N = 216$)

	Number	%
Age, years	35 (SD 10.41)	
Gender		
Female	136	63
Male	80	37
Race		
White	18	8
Black	196	91
Hispanic	1	0.5
Other	1	0.5
Marital status		
Single	149	70
Separated	28	13
Divorced	17	8
Widowed	1	0.5
Now married	18	8.5
Education		
No high school diploma	59	28
High school diploma/GED	79	37
Some college	62	29
College degree	13	6
Intimate partner violence status		
Victimization	216	100
Perpetration	68	32

However, all three CTS2 categories—physical assault, psychological aggression, and reported injury—were significantly associated with lower mental health scores. Overall, these findings indicate victims experience poorer mental health functioning (and to a lesser extent, poorer physical health functioning) as different forms of violence increase (Table 2).

It is relevant that many of the people experiencing psychological abuse are also physically abused when considering the impact of abuse on mental and physical function. Accordingly, we analyzed those subjects who reported only

TABLE 2. FUNCTIONAL HEALTH CORRELATIONS TO VIOLENCE, DANGER, AND SELF-HELP ($N = 216$)

	PCS		MCS	
	Mean (SD)	p	Mean (SD)	p
Gender				
Female	42.07 (10.85)	0.005	35.64 (11.64)	0.004
Male	46.32 (10.42)		40.56 (12.83)	
Race				
White	39.22 (12.05)	0.065	33.69 (11.02)	0.161
Black	43.91 (10.61)		37.75 (12.45)	
Education				
<12 years	43.32 (11.19)	0.613	38.04 (13.17)	0.364
>12 years	44.11 (10.14)		36.42 (10.71)	
	r	p	r	p
Age	-0.259	<0.001	-0.024	0.730
CTS2				
Physical	-0.163	<0.05	-0.274	<0.001
Psychological	-0.169	<0.05	-0.393	<0.001
Injury	-0.075	0.274	-0.182	<0.010
DA	-0.187	<0.01	-0.436	<0.001
Self-help	-0.054	0.427	-0.246	<0.001

psychological abuse. In this sample, there were only 14 women who experienced isolated psychological abuse. Correlations between the variables of interest produced interesting results. Although there was no statistically significant relationship between the physical and mental health scores and the abuse, there was a statistically significant relationship between the physical health score and their self-advocacy steps ($r=0.542$, $p=0.045$). The better their physical health score, the more steps they took toward safety.

There were 19 men who reported psychological abuse only. Unlike women, the impact of isolated psychological abuse on mental health function in men was statistically significant ($r=-0.568$, $p=0.01$). The greater the psychological abuse, the worse the mental health scores. Unlike the female victims, this decrease in mental health function did not have an impact on men's self-advocacy steps. Because of the small sample sizes for men and women with isolated psychological abuse, caution is warranted in interpreting these results.

Given the bivariate analysis results, we assessed whether there was an interaction for gender with the CTS2 subscales and mental and physical health function scores. Separate models were run for the dependent variables mental health score and physical health score. Because of high collinearity between the CTS2 subscales (physical assault and psychological aggression, $r=0.298$, $p=0.000$; psychological aggression and injury, $r=0.506$, $p=0.000$; and physical aggression and injury, $r=0.769$, $p=0.000$), separate models were run including gender and self-advocacy steps. For both mental and physical health scores, there was no interaction for gender with physical assault, psychological aggression, or injury.

SF-12 and danger

On the DA, this cohort displayed a mean score of 6.71 (SD 4.04). Higher DA scores were significantly associated with lower physical health ($p<0.01$) and mental health scores ($p<0.001$) on the SF-12.

SF-12 and advocacy

This cohort reported whether they had taken self-advocacy actions in the preceding week. Scores on the SF-12 showed no correlation between physical health scores and self-advocacy; however, lower mental health scores were significantly associated with greater self-advocacy ($r=-0.246$, $p<0.001$). This may indicate that there is a relationship between individuals' experiences of psychological suffering and their motivation to change their circumstances.

Discussion

For this study, 2737 ED patients were screened, with 548 patients who identified themselves as victims of IPV. This sample prevalence of 20% is similar to that of a number of other study populations in this age group^{27,44} but higher than in other ED studies.⁴⁵ Drawing a study sample from an ED population of an urban public hospital often leads to specific sample characteristics. The predominance of African Americans in this sample (91%) offered an opportunity to reach individuals who may not have access to regular medical care (clinic populations), individuals who have not been exposed to the formal justice system, or even individuals who have no telephones.

Results from the SF-12 for this cohort of IPV victims showed diminished physical and, especially, mental health functioning, particularly in females. These findings were similar to reports from other settings where more extensive health functioning instruments were used, although the gender differences merit further exploration.¹⁸ It is worth emphasizing the greater impact on mental health functioning compared with physical functioning for both genders.

Findings on the SF-12 correlated with findings from the CTS2, especially in the physical, psychological, and injury categories, as they were associated with diminished mental health functioning. The CTS2 has been used extensively to characterize IPV across a range of settings, yet it is a bit unwieldy to administer, especially in clinical and other service environments. The CTS2 measures severity of abuse or prevalence of abuse acts, whereas the SF-12 measures impact of abuse on functional health status. Using the SF-12 as an indicator of significant or more severe abuse in some service environments may not yield as many specifics but may allow for tracking relevant outcomes data, such as individual well-being over time. Thus, both tools can provide useful information on the abuse in a victim's life. Because the SF-12 focuses on how the person is functioning rather than detailing a condition, it may be more useful for clinicians.

The SF-12 scores also worsened as DA scores worsened. If both the SF-12 and the DA were used together, they might form an even more sensitive modality for identifying more dangerous abuse situations. The effects of current contact with the abuser and self-advocacy behaviors are potentially more nuanced and warrant further attention. These data suggest that victims who engage in more self-advocacy are the subset experiencing more severe abuse and more diminished mental health functioning. It is unclear from these data whether certain self-advocacy behaviors are stronger indicators than others.

We also must explore further whether self-selection bias within the 1-week sample is influenced significantly by (unmeasured) additional concerns of participants, such as a desire to discuss safety options in more detail or to gather more information as to whether they found their initial visits helpful. It is also possible that those who are suffering emotionally to a greater extent are more motivated to seek follow-up. They may be more tolerant of physical abuse, but a rise in emotional abuse or sense of danger may be more strongly motivating.

Also worthy of further exploration are the findings related to gender and self-disclosed perpetration. A growing body of literature is exploring gender and status as a victim and perpetrator. Our study shows the heterogeneity of perpetrator status. When perpetration is explored across gender lines, it becomes clear that even for those women reporting use of violence, when compared with men, the men report higher percentages of making their partners afraid, having hurt them, and forcing sex. This issue of who uses violence and in what circumstances becomes particularly important in light of mandatory arrest laws that often result in dual arrests absent exploration of who the primary aggressors are.

Limitations include an overall low retention rate (39%), which may have influenced study findings in either direction (or both). Individuals may have chosen not to participate because of perceived risks of conversing with others about their abuse experiences or perhaps because their abuse had

become less pressing and a lower priority for their time. Individuals may have been more motivated to participate if they experienced support and validation within the research process. Likewise, with a cross-sectional study, it is impossible to ascertain causality. Although it is possible that IPV caused low physical and mental health function scores, we must also consider that women with lower scores were victimized by perpetrators for other reasons, perhaps related to their medical and mental health histories. This merits further exploration.

The findings of this study may allow other investigators to substitute the shorter, more easily administered SF-12 into their study protocols when the need arises. There continues to be a patchwork of services available in the community for victims of IPV, such as shelters, ED medical care, counseling, and court advocacy. A validated, easy-to-use, brief instrument may have a useful role in tracking victims' physical and mental health function in myriad settings. Community-based service providers, such as IPV advocates, case managers, and social workers in shelters, rape crisis centers, and even phone-based hotlines, might use such an instrument. For example, court-based settings resemble busy ED waiting rooms, and victims may benefit from having a brief health instrument administered on-site.⁴⁶ Individual findings in a given setting might be linked to specific referrals to other medical, legal, or social community-based resources based on results. Furthermore, it would be important to measure victims' improvements in perceived health and mental health function collectively over time to assess what approaches to violence reduction (medical, legal, social, psychological) increase victims' mental and physical health as well as safety. The SF-12 may provide a measure to track changes in the patient's functional health status over a period of time or after a particular intervention.⁴⁷

Clinicians might take these findings as reinforcement that IPV affects health functioning, especially mental health functioning. Increasing severity of abuse and increased danger are associated with worsening mental health functioning for both males and females. Although engagement in self-advocacy behaviors might suggest to a clinician that a patient is safer or healthier, in fact, these behaviors might be an indication of more severe danger and reduced mental health functioning. Such situations may warrant further attention to safety planning and mental health services in conjunction with standard care using a trained IPV advocate.

Conclusions

People who experience IPV suffer diminished physical and, especially, mental health functioning. As IPV severity increases, mental health functioning diminishes. Those in greater danger display distinctly poorer mental health functioning and are more likely to have engaged in self-advocacy behaviors.

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Disclosure Statement

The authors have no conflicts of interest to report.

References

- Alpert EJ. Violence in intimate relationships and the practicing internist: New "disease" or new agenda? *Ann Intern Med* 1995;123:774-781.
- Plichta SB. Intimate partner violence and physical health consequences: Policy and practice implications. *J Interpers Violence* 2004;19:1296-1323.
- Campbell JC. Health consequences of intimate partner violence. *Lancet* 2002;359:1331-1336.
- McFarlane JM, Groff JY, O'Brien JA, Watson K. Prevalence of partner violence against 7,443 African American, white, and Hispanic women receiving care at urban public primary care clinics. *Public Health Nurs* 2005;22:98-107.
- West CM. Black women and intimate partner violence: New directions for research. *J Interpers Violence* 2004;19:1487-1493.
- Waltermayer E, Watson CA, McNutt LA. Black women's health: The effect of perceived racism and intimate partner violence. *Violence Against Women* 2006;12:1214-1222.
- Paranjape A, Heron S, Thompson M, Bethea K, Wallace T, Kaslow N. Are alcohol problems linked with an increase in depressive symptoms in abused, inner-city African American women? *Womens Health Issues* 2007;17:37-43.
- Tjaden P, Thoennes N. Prevalence, incidence, and consequences of violence against women: Findings from the National Violence Against Women Survey, Research in Brief. Washington, DC: US Department of Justice, National Institute of Justice. November, 1998: NCJ 172837.
- Yoshihama M, Hammock A, Horrocks J. Intimate partner violence, welfare receipt, and health status of low-income African American women: A lifecourse analysis. *Am J Community Psychol* 2006;37:95-109.
- Centers for Disease Control and Prevention. Intimate partner violence injuries—Oklahoma, 2002. *MMWR* 2005;54:1041-1045.
- Kovac SH, Klapow JC, Kroenke K, Spitzer RL, Williams JBW. Differing symptoms of abused versus nonabused women in obstetric-gynecology settings. *Am J Obstet Gynecol* 2003;188:707-713.
- Laffaye C, Kennedy C, Stein MB. Post-traumatic stress disorder and health-related quality of life in female victims of intimate partner violence. *Violence Vict* 2003;18:227-238.
- Wagner PJ, Mongan PF. Validating the concept of abuse: Women's perceptions of defining behaviors and the effects of emotional abuse on health indicators. *Arch Fam Med* 1998;7:25-29.
- Parker G, Lee C. Predictors of physical and emotional health in a sample of abused Australian women. *J Interpers Violence* 2002;17:987-1001.
- Bonomi AE, Thompson RS, Anderson M, et al. Intimate partner violence and women's physical, mental, and social functioning. *Am J Prev Med*. 2006;30:458-466.
- Bonomi AE, Anderson ML, Rivara FP, Thompson RS. Health outcomes in women with physical and sexual intimate partner violence exposure. *J Womens Health* 2007;16:987-997.
- Coker AL, Smith PH, Thompson MP, McKeown RE, Bethea L, Davis KE. Social support protects against the negative effects of partner violence on mental health. *J Womens Health Gend Based Med* 2002;11:465-476.

18. Coker AL, Davis KE, Arias I, et al. Physical and mental health effects of intimate partner violence for men and women. *Am J Prev Med* 2002;23:260–268.
19. Mitchell MD, Hargrove GL, Collins MH, Thompson MP, Reddick TL, Kaslow NJ. Coping variables that mediate the relation between intimate partner violence and mental health outcomes among low-income, African American women. *J Clin Psychol* 2006;62:1503–1520.
20. Campbell JC. Domestic homicide: Risk assessment and professional duty to warn. *Md Med J* 1994;43:885–889.
21. Walton-Moss BJ, Campbell JC. Intimate partner violence: Implications for nursing. *Online J Issues Nurs* 2002;7[1].
22. Kringen vs. Boslough and St. Vincent Hospital and Health Care Center, Inc. A Montana Corporation. Montana Case no. DV96-622. Montana Thirteenth Judicial District Court, Yellowstone County. 07-26-96.
23. Brown-Cranstoun J. Kringen vs. Boslough and St. Vincent Hospital: A new trend for healthcare professionals who treat victims of domestic violence? *J Health Law* 2000;33:629–655.
24. Lipsky S, Caetano R, Field CA, Bazargan S. Violence-related injury and intimate partner violence in an urban emergency department. *J Trauma* 2004;57:352–359.
25. El-Bassel N, Gilbert L, Witte S, et al. Intimate partner violence and substance abuse among minority women receiving care from an inner-city emergency department. *Womens Health Issues* 2003;13:16–22.
26. Feldhaus KM, Koziol-McLain J, Amsbury HL, Norton IM, Lowenstein SR, Abbott JT. Accuracy of 3 brief screening questions for detecting partner violence in the emergency department. *JAMA* 1997;277:1357–1361.
27. Tjaden P, Thoennes N. Extent, nature, and consequences of intimate partner violence. Washington, DC: US Department of Justice, National Institute of Justice. July, 2000: NCJ 181867.
28. Dutton MA, Mitchell B, Haywood Y. The emergency department as a violence prevention center. *J Am Med Womens Assoc* 1996;51:92–95, 117.
29. Rhodes KV, Lauderdale DS, He T, Howes DS, Levinson W. “Between me and the computer”: Increased detection of intimate partner violence using a computer questionnaire. *Ann Emerg Med* 2002;40:476–484.
30. Heron SL, Thompson MP, Jackson E, Kaslow NJ. Do responses to an intimate partner violence screen predict scores on a comprehensive measure of intimate partner violence in low-income black women? *Ann Emerg Med* 2003;42:483–491.
31. Rhodes KV, Lauderdale DS, Stocking CB, Howes DS, Roizen M, Levinson W. Better health while you wait: A controlled trial of a computer-based intervention for screening and health promotion in the emergency department. *Ann Emerg Med* 2001;37:284–291.
32. Straus MA, Hamby SL, Boney-McCoy S, Sugarman DB. The Revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *J Fam Issues* 1996;17:283–316.
33. Newton RR, Connelly CD, Landsverk JA. An examination of measurement characteristics and factorial validity of the Revised Conflict Tactics Scale. *Educ Psychol Measurement* 2001;61:317–335.
34. Connelly CD, Newton RR, Aarons GA. A psychometric examination of English and Spanish versions of the Revised Conflict Tactics Scales. *J Interpers Violence* 2005;20:1560–1579.
35. Campbell J, Webster D, Koziol-McLain J, et al. Assessing risk factors for intimate partner homicide. *NIJ Journal* 2003;250:14–19.
36. Stuart EP, Campbell JC. Assessment of patterns of dangerousness with battered women. *Issues Ment Health Nurs* 1989;10:245–260.
37. Campbell JC. Prediction of homicide of and by battered women. In: Campbell JC, ed. *Assessing dangerousness: Violence by sexual offenders, batterers, and child abusers*. London: Sage Publications, 1995.
38. Turner-Bowker DM, Bartley PJ, Ware JE. SF-36 health survey & “SF” bibliography, 3rd ed. Lincoln, RI: QualityMetric Incorporated, 2002.
39. Garratt A, Schmidt L, Mackintosh A, Fitzpatrick R. Quality of life measurement: Bibliographic study of patient assessed health outcome measures. *BMJ* 2002;324:1417–1419.
40. Whetten K, Leserman J, Whetten R, et al. Exploring trust in care providers and the government as a barrier to health service use. *Am J Public Health* 2006;96:716–721.
41. Alter HJ, Braun R, Zazzali JL. Health status disparities among public and private emergency department patients. *Acad Emerg Med* 1999;6:736–743.
42. Ware JE, Kosinski M, Turner-Bowker DM. SF-12v2 How to score version 2 of the SF-12 health survey with a supplement documenting version 1. Lincoln, RI: QualityMetric Incorporated, 2002.
43. Steketee M, Levey L, Keilitz S. Implementing an integrated domestic violence court: Systematic change in the District of Columbia. Williamsburg, VA: National Center for State Courts, June 2000.
44. McCloskey LA, Lichter E, Ganz ML, et al. Intimate partner violence and patient screening across medical specialties. *Acad Emerg Med* 2005;12:712–722.
45. Abbott J, Johnson R, Koziol-McLain J, Lowenstein SR. Domestic violence against women. Incidence and prevalence in an emergency department population. *JAMA* 1995;273:1763–1767.
46. Cerulli C, Gellman R, Hall D, Conner K, Caine E. Mental and physical health symptoms of family court intimate partner violence petitioners. *International Journal of Law and Psychiatry* (under revision) 2009.
47. Straus HE, Rydman RJ, Roberts RR, Guonjian EH, Couture E, Kampe LM. A three-month prospective outcomes study of recently abused women. *Acad Emerg Med* 2001;8:461.

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