Detecting Intimate Partner Violence: More Than Trauma Team Education Is Needed

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BACKGROUND: Intimate partner violence (IPV) is an underappreciated cause of morbidity and mortality in female trauma patients. We investigated the impact of a domestic violence education program for trauma residents on the detection of IPV.

STUDY DESIGN: In January 2008, an educational IPV program was implemented for all trauma residents. A retrospective review of all female patients evaluated by the trauma service before and after institution of the IPV program was performed. Medical records were reviewed for demographic data, injury mechanism, social habits, and IPV documentation. Chi-square and Fisher’s exact tests were used to compare patients before and after institution of the educational IPV program.

RESULTS: The records of 645 female trauma patients evaluated in 2007 and 2008 were reviewed. Patients were not routinely asked about IPV, despite implementation of the educational program; 39.9% were asked about IPV in 2007 versus 46.1% in 2008 (p = 0.11). The positive disclosure of IPV did not increase from 2007 to 2008 (20.1% versus 21.2%; p = 0.83). Documentation about social habits increased considerably. In 2008, patients were asked more regularly about alcohol (71.8% versus 80.8%; p = 0.01), drugs (64.1% versus 73.7%; p = 0.01), and tobacco use (67.0% versus 78.1%; p = 0.002). Importantly, patients with documented IPV (n = 57) frequently presented to the trauma team with nonviolent mechanisms of injury (n = 30, 52.6%).

CONCLUSIONS: IPV is a frequent finding in female trauma patients. Despite increased education, questions about IPV are not documented routinely. In addition, screening at-risk patients by mechanism will underestimate the prevalence of IPV. Universal screening should be mandated to increase IPV detection and enhance opportunities for intervention. (J Am Coll Surg 2011;212: 867–872. © 2011 by the American College of Surgeons)
professional organizations have concluded that every female patient evaluated in a health care setting should be screened for IPV.1,18

Because domestic violence represents such a pervasive public health problem, the American College of Surgeons and the Eastern Association for the Surgery of Trauma have published statement papers encouraging surgeons to take a more active role in identifying, preventing, and treating domestic violence.19,20 The trauma surgeon, in particular, has a unique opportunity to recognize abuse and provide meaningful intervention. A more formalized physician educational program about the psychosocial and physical features of IPV might assuage perceived barriers to screening and improve the quality of care for victims. The current study examines the incidence of IPV in the trauma population presenting to a Level I trauma center and evaluates the impact of an instituted IPV educational program for residents on their detection of IPV.

METHODS

In January 2008, an IPV educational program was mandated for all residents rotating at the Hospital of the University of Pennsylvania’s Level I trauma center. The educational program consisted of a 1-hour conference on IPV with a pretest and post-test validated by Davis and colleagues previously.2 The educational program emphasized prevalence, warning signs, how to best question patients about IPV, how to document that questioning occurred, and the need to perform universal screening for IPV. Residents’ performance on the pretest and post-test was not evaluated. Tests functioned solely to reinforce the material and were not used to determine the amount of material learned.

A retrospective chart review of female trauma patients evaluated at our Level I trauma center was conducted in accordance with the ethical standards of the University of Pennsylvania’s Institutional Review Board. Female trauma patients evaluated between March 1 and August 31, 2007 (before the educational program) were compared with those admitted in 2008 (after the educational program) for the same 6-month time period (March 1 to August 31, 2008). Documentation on IPV, social habits (alcohol, drug, and tobacco use), demographic data, and mechanism of injury were abstracted from the medical record. Documentation in the medical record was the sole basis for determining whether or not a patient was questioned about IPV and their social habits. A Student’s t-test, chi-square test, or Fisher’s exact test, as appropriate, was used to compare demographic characteristics, questioning, and detection rates of IPV, and social habits pre- and post-program implementation. A p value <0.05 was considered statistically significant.

RESULTS

Medical records of 645 female trauma patients evaluated in 2007 and 2008 were reviewed. A demographic summary can be found in Table 1. There were no substantial differences in age or race between patients admitted before

| Table 1. Demographic Data of Female Trauma Patients Evaluated in 2007 and 2008 |
|-------------------------------------------------|-----------------|-----------------|-----------------|
| Female trauma patients                         | 2007 (n = 348)  | 2008 (n = 297)* |
| Age, mean (SD)                                 | n=348           | n=297           |
|                                                  | 46.8 (22.0)     | 47.9 (21.9)     | 0.54            |
| Race                                            |                 |                 |                 |
| Asian                                           | 4 (1.1)         | 6 (2.0)         | 0.60            |
| Black                                           | 151 (43.4)      | 132 (44.4)      |                 |
| White                                           | 172 (49.4)      | 147 (49.5)      |                 |
| Other                                           | 9 (2.6)         | 7 (2.4)         |                 |
| Unknown                                         | 12 (3.4)        | 5 (1.7)         |                 |
| Mechanism of injury                             |                 |                 |                 |
| Fall                                            | 103 (29.6)      | 120 (40.4)      | 0.01            |
| Gunshot wound                                   | 20 (5.7)        | 9 (3.0)         |                 |
| Motor vehicle/motorcycle crash                  | 162 (46.6)      | 109 (36.7)      |                 |
| Pedestrian versus motor vehicle                 | 24 (6.9)        | 15 (5.1)        |                 |
| Stabbing                                        | 12 (3.4)        | 18 (6.1)        |                 |
| Assault                                         | 11 (3.2)        | 15 (5.1)        |                 |
| Other†                                          | 16 (4.6)        | 11 (3.7)        |                 |

Percentages might not sum to 100% due to rounding.

*One patient missing age data for 2008; n = 296 for age comparison.
†Other category includes drug overdose, burn, bicycle accident, equestrian accident, unknown.
and after the institution of the program (2008, n = 297). The majority of female trauma patients seen in 2007 and 2008 were evaluated after falls or motor vehicle crashes.

During the pre-educational time period, questioning about IPV was documented in 139 of 348 medical records (39.9% in 2007). Of those questioned about domestic violence, a positive disclosure of IPV was documented in 28 of the 139 patients (20.1%). After institution of the IPV educational program, 297 female trauma patients were evaluated during the same 6-month time period in 2008. The screening rate increased to 46.1% (n = 137), but this increase was not statistically significant (p = 0.11). The disclosure rate for IPV after institution of the educational program remained essentially unchanged (n = 29, 21.2%; p = 0.83; Fig. 1).

Social habits were documented more often than IPV screening questions (Fig. 1). In 2007, documentation on alcohol, drug, and tobacco use occurred in 71.8%, 64.1%, and 67.0% of medical records, respectively. After implementation of the IPV educational program, questioning rates increased approximately 10% for each habit (alcohol, 80.8%; p = 0.01; drugs, 73.7%; p = 0.01; tobacco, 78.1%; p = 0.002). In both years, there was a positive and significant (p < 0.001) relationship between asking about IPV and social habits; if asked about IPV, patients were asked about one or more of their social habits 98% of the time. When not questioned about IPV, one or more of their social habits were recorded in only 62% of encounters in 2007 and in 71% of encounters in 2008 (Fig. 2).

Patients who reported IPV in both 2007 and 2008 (n = 57) were most often evaluated after an assault (n = 18, 31.6%), a fall (n = 16, 28.1%), or a motor vehicle crash (n = 10, 17.5%). The remaining mechanisms of injury in decreasing frequency included gunshot wound (n = 4, 7.0%), stabbing (n = 4, 7.0%), and pedestrian versus motor vehicle collision (n = 2, 3.5%). The category of “other” included an equestrian accident, a drug overdose, and a patient with an unknown mechanism of injury (n = 3, 5.3%) (Fig. 3).

**DISCUSSION**

IPV is a pervasive and serious public health issue affecting millions of Americans every year. Although the Joint Commission for the Accreditation of Healthcare Organizations has required screening for domestic violence since 1992, our study demonstrates that IPV screening is far from universal. Despite a small increase in domestic violence questioning (39.9% in 2007 versus 46.1% in 2008; p = 0.11), the majority of female trauma patients’ charts did not have any documentation pertaining to domestic violence screening after institution of our resident education program. This lack of screening raises the possibility that a considerable number of victims will remain uniden-
tified and unassisted. Although the positive IPV disclosure rate in this study (20.1% in 2007 and 21.2% in 2008) was slightly lower than the 22% to 35% reported in other emergency settings, our findings are consistent with a recent multi-institutional study by Melnick and colleagues that reported an 18% prevalence of domestic violence in women presenting to the trauma department. In a similar study, 46% of women requiring inpatient admission to a trauma service reported a lifetime history of severe IPV; >25% of these patients had experienced physical abuse within the last year. Our study relied on the trauma provider to self-initiate and document questions about IPV and might underestimate its true incidence. Importantly, if our study’s 1-in-5 positive disclosure rate is extrapolated to include the 369 patients from 2007 and 2008 who were not asked about IPV, 74 to 78 cases of domestic violence might have been missed.

When the IPV questioning rate was compared with the questioning of social habits, it was apparent that IPV was not investigated nearly as frequently. It is unclear if the physicians caring for these patients did not consider IPV within their purview or if they were uncomfortable discussing, or documenting, a seemingly taboo topic. Additional barriers to IPV screening might have included lack of time, fear of offending the patient, or a concern that a positive screening might actually place the patient at additional risk for violence. In addition, despite the educational program, providers might not have believed IPV screening was relevant to the patient’s injuries or mechanism. Framing IPV in the context of other well-established social health issues, such as tobacco or alcohol use, might assure some of these perceived barriers. When questioned about IPV, 98% of patients in our study were also questioned about one or more of their social habits. When not asked about IPV, however, only 62% of the patients in 2007 and 71% of the patients in 2008 were asked about their social habits. In addition, because patients who disclose problems with alcohol or drugs might be at higher risk for domestic abuse, including questions about IPV in the context of social history can aid in making the patient’s history more complete and the treatment plan more comprehensive. Although there are some documented warning signs for IPV, many patients who are experiencing IPV present to the trauma bay with seemingly non-violent injury mechanisms. In this study, motor vehicle crashes and falls accounted for 45.6% of the cases in which IPV was disclosed. If taken at face value, neither of these injury mechanisms appears particularly violent. Screening only at-risk patients, therefore, would have failed to identify these victims and opportunities to intervene would have been missed.

Although our IPV educational program might have slightly improved screening rates, clearly more action is needed. More comprehensive and more frequent educational conferences can improve awareness about IPV, but the only method likely to ensure universal screening is to make questions about IPV part of a mandated clinical protocol. In 2006, the American College of Surgeons’ Committee on Trauma recommended that “all trauma centers incorporate alcohol screening and brief intervention as part of routine trauma care.” Including alcohol screening and intervention strategies in routine trauma care has been found to reduce trauma recidivism by up to 50%. We would argue that screening for domestic violence is similarly a responsibility of trauma surgeons. In addition to seeking help for physical injuries, victims might be more comfortable confiding in health care professionals than religious leaders or police officers. Additionally, when asked, female trauma patients overwhelmingly report that health care providers should ask women about family violence. Because IPV is potentially a recurring source of injury, any trauma encounter provides an opportunity to intervene and prevent additional violence. Trauma recidivism in female patients is highly correlated with IPV and is associated with a shorter time to injury recurrence when compared with male patients. In addition, victims of domestic violence are more likely to be injured again within 6 months when compared with those injured by nonintimates. Unfortunately, this recurring pattern of IPV is often missed by health care providers. When the medical records of 964 police-identified female victims were examined, 63.9% had received care in an emergency department at least once before their reported assault. Although the median number of emergency department visits was 4 per victim during the 3-year study period, with a total of 4,456 visits, a positive history of IPV was documented in only 5.8% of the cases. Although injury-related visits were more likely to have documented IPV screening, 74% of injured patients were not screened for domestic violence. Mandated screening of all injured female patients for IPV, regardless of mechanism, will increase detection, provide opportunity for meaningful interventions, and might reduce IPV-related recidivism.

There are several limitations to our study. Given its retrospective nature, the detection of IPV relied on provider documentation and patient disclosure. In some cases, the provider might have asked about IPV but did not document it, resulting in the encounter being categorized as “not asked.” Additionally, some patients might have been uncomfortable being asked about IPV and either did not...
answer or fallaciously answered “no.” Conversely, there also might have been some false positives. Despite these possible sources of inaccuracy, our study provides an important review of IPV at a Level I trauma center and highlights the need for better screening protocols.

CONCLUSIONS
Universal screening for IPV in the trauma population has the potential to save lives, as domestic violence is rarely an isolated event and abuse tends to escalate. In addition, most women tend not to volunteer unsolicited information about domestic violence and expect their physicians to initiate this dialogue as part of their routine care. Because the trauma surgeon is one of the first providers to interact with patients after a traumatic or violent event, they have a unique window of opportunity to help patients beyond treating their physical injuries. Diagnosing IPV can help women find the courage and resources needed to leave abusive relationships, thereby preventing additional injury and possible death.

Author Contributions
Study conception and design: Sims, Sabra, Sarani, Pascual, Kim, Dattner
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Drafting of manuscript: Sims, Sabra, Bergey, Grill, Sarani
Critical revision: Sims, Sabra, Bergey, Grill, Sarani, Pascual, Kim, Dattner

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