

Original
Contributions

IMPROVING THE EMERGENCY DEPARTMENT DETECTION RATE OF DOMESTIC VIOLENCE USING DIRECT QUESTIONING

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Abstract—The purpose of this study was to compare the domestic violence (DV) rate identified with simple direct questioning to a historical cohort of patients receiving routine emergency department (ED) care. One thousand ED charts of female patients were retrospectively reviewed. Each patient in the prospective cohort was asked five DV specific questions. The historical cohort revealed a DV prevalence rate of 0.4%. The prospective study group of 302 patients identified 11 (3.6%) patients who admitted to acute DV on direct questioning. Ten of these patients accepted help. Twenty (6.6%) were identified as probable DV and 12 (4%) admitted to past violence. The total number of victims of DV, past, present, and probable was 43 (14.2%). This increase in detection from 0.4% (4/1000) to 14.2% (43/302) is significant at $p < 0.001$. Only 1.3% of patients refused to participate in the DV specific questions. The conclusion of the study indicated that the use of simple, direct questioning significantly improves the detection rate of DV in the ED. © 2000 Elsevier Science Inc.

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INTRODUCTION

Experts in the field have estimated that at least 10% of all females are victims of domestic violence (DV) (1). Most would agree this number does not reflect the true prevalence because detection and reporting are suboptimal (2–5).

Strauss estimated an incidence rate of 3.8% in a U.S. national survey published in 1980 (6). McLeer extrapolated, using this rate, and a medium frequency of 2.4 assaults per year, and a U.S. population of 47 million married couples, to conclude that every 7.4 s a woman is beaten by her husband (7). A national representative sample of women surveyed by telephone in 1996 revealed an overall 1 year prevalence rate of physical abuse as 7.3% (8).

The emergency department (ED) is an entry point into the health care system used by some of the more severely abused women who may be at risk for serious physical impairment or death (9). There is a high incidence of domestic violence and child abuse in the families of batterers and victims of battering, suggesting that witnessing violence as a way of dealing with frustration and anger has a negative impact on children (10,11). By not asking directly about the risk of DV, the physician misses the underlying precipitant of the patient's medical condition and the opportunity to prevent further violence. The failure to diagnose DV is an important factor in the development of psychopathology (6). Studies have documented that DV escalates in frequency and severity, and morbidity and mortality rates rise without recognition and intervention (6,10). The personal and social morbidity and related mortality rates are too high to ignore this diagnosis and fail to treat appropriately. In any other clinical situation, it is unacceptable to discharge a patient with a potentially life-threatening illness without making the diag-

Table 1. Partner Violence Screen

Question 1	Have you been hit, kicked, punched, or otherwise hurt by someone within the past year? If so, by whom?
Question 2	Do you feel safe in your current relationship?
Question 3	Is there a partner from a previous relationship who is making you feel unsafe now?

*Feldhaus (22).

nosis, offering appropriate therapy, and allowing the patient to make an informed decision about her care (12).

A survey of 1000 women conducted by Bower in 1987 revealed that abused women ranked health care professionals the lowest in effectively addressing their abuse (13). Abused women report poor communication and dissatisfaction with physician care more frequently than non-abused women (14). Stark et al. reported that physicians detected only 1 in 25 DV cases (15). In 1985, Goldberg and Tomlanovich reported that Emergency Physicians had a 5% documentation rate of DV (16). Hilberman and Munson reported that four out of 120 cases referred for a psychiatric assessment were identified, by the referring physician, as victims of domestic violence. In contrast, with direct questioning, 60 answered affirmatively (17). Using direct questioning, Downey et al. improved the domestic violence detection rate from 7% to 20% in families visiting the local social service agency (18). Abused women typically suggest that specific direct screening questions are more effective than indirect generic questions (14).

Historically, most commonly used validated instruments (Combat Tactics Scale and the Index of Spouse Abuse) measure violence as opposed to screen for victims of violence and are long and cumbersome to apply to the ED setting (19,20). Recently, a shorter interview instrument, the Partner Abuse Interview, was shown to have good inter-rater agreement (kappa 0.77–1.0) and strong internal consistency (alpha of 0.82) for English-speaking participants with a committed relationship for at least 6 months. This instrument screens for physical abuse only and consists of 11 questions. It reportedly takes 3 min to complete when there is no abuse and 10–15 min with evidence of physical abuse (21). It has not been validated for universal application in the ED clinical setting. The need for Emergency Physicians to recall verbatim or remember to use an instrument consisting of 11 questions may limit the universal clinical application of this screening tool.

Feldhaus et al. published a diagnostic test evaluation of the Partner Violence Screen (PVS) using the Combat Tactics Scale and the Index of Spouse Abuse as the standardized measures. The PVS is comprised of 3 questions (Table 1) and identifies a similar prevalence rate as the two standardized tests with substantial confidence limit overlap on the point estimate. The sensitivity was 64.5% and 71.4% and the specificity was 80.3% and 84.4%, respectively, relative to the standard of compar-

ison (22). The feasibility of use in the ED and the reliability, internal consistency, and concurrent validity measures of the instrument have not been published.

It was the intention of this study group to evaluate the feasibility of using a minimum number of questions focused directly on all forms of abuse as a universal screening tool for DV. The challenge was to design the questions such that they could be easily incorporated into every routine ED patient encounter and generic enough to allow for variations in physician style and comfort level. This prospective observational study was done to determine if the detection rate of victims of violence in the ED could be improved using this simple, direct line of questioning compared to a historical control group.

MATERIALS AND METHODS

The study was conducted at the Royal Victoria Hospital in Montreal, Canada. This is a downtown tertiary hospital affiliated with McGill University. The ED annual volume at the time of the study was 36,000, including 15,000 to 17,000 adult female patients. The historical cohort consisted of a random sample of 1000 charts of women who presented to the ED during the two-month period just before the onset of the prospective study. The charts were selected as per the temporal frequency of patient presentation, i.e., 0800–1600: 54%, 1600–2400: 37%, and 2400–0800: 8%. The single data abstractor was trained on a sample of medical charts. All consecutive charts for each 8-h period were included in the study. The definition for a domestic violence positive chart was established a priori as any reference to past, present, or probable domestic violence in the documentation from the ED, the ambulance report, or consultant(s). The descriptors included domestic violence; wife abuse; battered women; spousal abuse; husband, cohabitant or partner-related violence; intimate partner abuse or violence; physical, psychological or sexual abuse. A standardized abstraction form was used. The data abstractor was not blinded to the objective of the study and inter-rater agreement was not assessed. The frequency of DV identification was defined as the number of DV positive charts (past, present, or probable) as a percentage of all charts.

Previous studies and discussions with patients representative of the study population, local experts and support groups of victims of DV assisted in the development

Table 2. Emergency Department Domestic Violence Screening Questions

Question 1	Does anyone in your family have a violent temper?
Question 2	During an argument at home have you ever worried about your safety or the safety of your children?
Question 3	Many women who present to the Emergency Department with similar injuries or complaints are victims of violence at home. Could this be what has happened to you?
Question 4	Would you like to speak to someone about this?
Question 5	Were any of the previous visits to the Emergency Department prompted by an injury or symptom suffered as a victim of violence at home?

of five questions to be used to screen the prospective cohort. The questions were suitably direct and could be easily incorporated into the routine of a normal Emergency Physician’s assessment. Shelters, community groups, and the police department supported the study. Face and content validity were assured by the diversity of input obtained in the derivation of the questions. To ensure the questions were comprehensible and clear, they were piloted on colleagues, patients, and a focus group including a social worker, lawyer, administrator, and researcher. The chair of the research ethics board was involved in the derivation of the questionnaire. At the time of the study, the Institutional Research Ethics Board advice was that consent was implicit in the voluntary nature of the survey.

The sample size was calculated to detect a five-fold improvement in the rate of detection (20/1000) of DV. Practicing physicians agreed this improvement would be clinically significant. The estimation of sample size included an alpha of 0.05 and a beta of 0.10 (two-sided) and totaled 291. The overall study sample size was augmented to include an estimated 30% exclusion rate.

All women registering in the department were included in the prospective study. The distribution of the sample reflected the temporal pattern of patient presentation (as outlined in the historical cohort) including time of day and weekday versus weekend visits. Exclusions were defined as: a) any patient presenting with a critical condition that required immediate surgical intervention or admission to an intensive care unit, case room, or operating room, or b) anyone presenting with an acute medical condition that prevented the patient from answering the questions within the first 16 h of therapy in the ED.

After registration and triage were completed, the patient was assigned to an examination room and inter-

viewed alone by the research assistant. The research assistant asked the patient if she was willing to participate in a ‘women’s health’ questionnaire. Data collection preserved patient anonymity. It was clearly stated that there was no linkage between the results of this questionnaire and the hospital file or ED charts and there would not be a follow-up survey by mail or telephone. Patients were encouraged to answer only the questions they felt comfortable with and their refusal would be respected without any further inquiry.

The one-page questionnaire included demographics, age, number of children, education, religion, employment, marital status, presenting complaint, time delay in presentation from onset of symptoms, frequency of use of the ED, past medical history, and husband’s/lover’s/cohabitant’s education, religion, and employment.

Each patient was asked five domestic violence specific questions (Table 2). If the patient responded positively to question 4, the patient was offered all of the following options:

1. To notify the Emergency Physician.
2. Immediate assistance with respect to shelters, victim advocacy, police involvement or protective admission to hospital.
3. A follow-up appointment the next day with the ED social worker.
4. Printed matter on shelters, legal aid, social services, community support groups, etc.

Decision rules for assigning responses to categories were developed a priori by the investigators with input from content experts (Table 3). Any patient who refused to answer the first three DV specific questions was identified as a violence specific refusal. Any patient who

Table 3 Outcome Measures

<ul style="list-style-type: none"> ● ADV Acute Domestic Violence ● PADV Probable Acute Domestic Violence ● PDV Past Domestic Violence 	<ul style="list-style-type: none"> ● YES to q. 3; or YES to q. 1 or 2 and 4 ● YES to q. 1 or YES to q. 2 or both ● Patient confirmation of abuse in the past (Yes to q. 5)
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Table 4. Demographics

	ADV	PADV	PDV	Negative	Exclusions
Age (mean \pm SD)	41 \pm 17	41 \pm 18	49 \pm 15	51 \pm 21	61 \pm 18
No. Children (mean \pm SD)	1.4 \pm 1.4	1 \pm 1	2 \pm 2	2 \pm 2	0.5 \pm 1
	%	%	%	%	%
Time of Presentation					
Weekday	73	75	83	78	83
Weekend	27	25	17	22	17
Day	46	65	33	42	51
Night	18	5	17	12	12
Evening	36	30	50	46	37
Marital Status					
Married	36	35	8	49	37
Divorced	27	15	67	5	32
Single	36	40	8	27	15
Widow	0	10	17	19	7
Unknown	0	0	0	0	10
Employment Status					
Employed	36	45	33	30	5
Unemployed	46	25	42	32	24
Retired	9	10	25	31	46
Single	9	20	0	7	0
Unknown	0	0	0	0	24
Education Level					
Primary	9	15	25	31	17
Secondary	46	55	33	38	5
University	27	20	17	14	2
College	9	10	25	9	2
Unknown	9	0	0	8	7

refused to participate in the questionnaire was identified as a non-participant.

Descriptive statistics included sample means, standard deviation and other univariate analysis. Comparative statistics were calculated using a χ^2 test and a significance level of 0.05. All patients refusing to participate in the survey (non-participants) or to answer the violence specific questions (DV specific refusals) were included in the demographics database and in the overall denominator.

RESULTS

The retrospective chart review of 1000 charts identified four patients (0.4%) as past or present victims of domestic violence by the physicians, consultants, nurses, or ambulance staff.

The prospective cohort consisted of 343 women. A questionnaire was completed on all the female patients including the 41 excluded patients (12%). Excluded patients were unstable, incoherent or unresponsive. The final sample size was 302. Included in the final sample were four patients who left before being seen by the research assistant or the treating physician and were classified as non-participants. There were four women

(1.3%) who refused to answer the violence specific questions. One patient voiced spontaneously that this was not because she did not need any help, she just felt that problems should remain within the family. The second patient felt the questions were not relevant to her situation. Two patients simply declined to answer. Table 4 summarizes the demographics and Figures 1 and 2 summarize the comparative analysis.

The 11 patients in the Acute Domestic Violence (ADV) group registered with the following complaints: chronic headaches, vulvar cyst, chest pain, foot injury, blocked intestines, suicidal thoughts, abdominal pain and dizzy, fainted, psychiatric problem, anxiety and fear with a stomach problem, and mononucleosis. Physical injuries accounted for only one patient's presenting complaint of the eleven patients in the ADV group.

DISCUSSION

Abbott et al. (1995) reported a cumulative lifetime prevalence rate of domestic violence in female patients presenting to the ED to be 54.2% (95% CI, 50.2% to 58.1%) and an incidence of ADV to be 11.7% (23). Only six of all victims of ADV were directly questioned, or told the nurse or MD about DV, for a detection rate of 2.6%. A

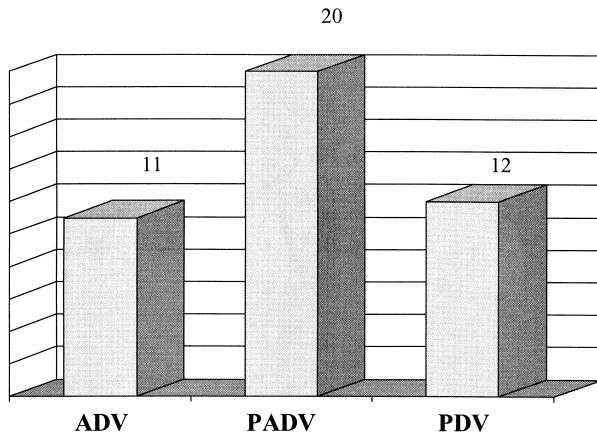


Figure 1. Prospective cohort results of 302 patients interviewed. ADV, acute domestic violence; PADV, probable domestic violence; PDV, past domestic violence.

review of charts revealed that ADV was documented on two records (23).

In our study, limited direct questioning in the ED improved the detection rate of victims of violence, past and acute, from 0.4% to 7.6%. Additionally, direct questioning identified 6.6% of all female patients with probable risk of DV. A 4% rate of patients admitting to ADV compares favorably with the national incidence of 3.8% reported by Strauss (6). This is low in comparison with the study by Feldhaus (22). In this study 13.7% of patient visits were associated with acute partner violence. Of these 38 patients, eight were considered negative for acute DV with the CTS, ISA and the PVS instruments. Thus, despite our best efforts and a multiplicity of instruments, the diagnosis remains elusive. The more positive interpretation is that the frequency of detection is higher with any instrument than not asking at all.

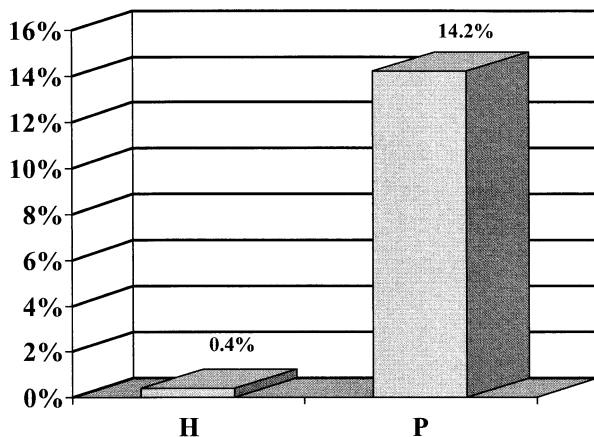


Figure 2. Total number of patients reporting any domestic violence. Historical (H) vs. prospective (P), $p < .001$.

Stark and Flitcraft described the ‘Battering Syndrome’ as a diagnosis with historical, physical, and emotional features associated with acute and chronic battering (15). ED studies revealed that between 16% and 19% of women presenting with physical injuries were battered (24,25). In Abbott’s study, victims of ADV presented with physical injuries in 23% of cases (24,25). In our study, only 9.1% of all complaints were physical injuries. The majority of patients presented with medical or psychiatric complaints. The signs and symptoms of DV are protean and require ongoing vigilance and initiative to suspect DV as possibly contributory to the patient’s presentation.

There have been attempts to identify risk factors for DV such that screening could be more effectively directed to high risk patients (26–28). The studies have failed to identify such risk factors and provide further evidence for universal screening.

Despite the media focus on sensational cases and a growing number of academic publications and research programs in domestic violence, health care professionals remain reluctant to diagnose and appropriately treat victims of domestic violence. A survey of 1000 abused women ranked physicians after clergy, police, social, and legal services for effectiveness in addressing abuse (17). Physicians fail to appreciate the magnitude of the problem and part of this stems from their medical education. The New Jersey Medical School Domestic Violence Project conducted a study of American and Canadian medical schools in 1988 and reported that 53% of schools did not offer any instruction in ADV (29). Recently, a survey of 189 fellows of the American College of Obstetricians and Gynecologists and a random sample of 1250 nonmember fellows reported that only 30% of respondents had received training on domestic violence during medical school, 37% received such instruction during residency, and 67% during continuing education (30).

Focused education and DV protocols may not substitute for learned behavior in the effectiveness or consistency of universal screening. A 1 year follow-up of multidisciplinary staff trained in the use of a protocol for identification and acute management of abused women demonstrated an inability to maintain the initial increase in identification and intervention when compared to a similar control group providing emergency care without the DV protocol (31). It may be more effective to include knowledge of DV in medical education and incorporate simple screening questions about DV into the basic history and physical examination in much the same manner as is done for cardiac or pulmonary embolism risk factors.

Physicians for the most part are reluctant to become involved in the diagnosis of ADV for a number of

Table 5. Patient Response to Direct Questioning About Domestic Violence

National Survey	1991 (11) –85% felt they could tell an MD if they were a victim or perpetrator of domestic violence
Multicenter Survey	1992* –78% favored routine direct inquiry about physical abuse –68% favored routine direct inquiry about sexual abuse
SURVEY BY SOG OF CANADA	1995† –98% comfortable with direct questioning about domestic violence
SURVEY OF ED PATIENTS	1997 (40) –55% of DV victims were comfortable disclosing to Emergency Physicians

* Friedman citation off endnote.

† Used with permission, Searle Canada 1995.

SOG, Society of Obstetricians and Gynecologists.

reasons. The issue of time restraint in the ED is always a concern. The four key questions used in this study (1,2,3, and 4) could quickly and easily be adapted to the style and comfort level of the Emergency Physician and routinely included in the history taking portion of an Emergency Medicine assessment. The second concern relates to the fear of opening a ‘Pandora’s box’ (32). Emergency Physicians need only to empathetically and professionally identify the risk and make a referral to more appropriate community resources (15). Even physicians committed to helping victims of violence have difficulty with the barriers to identification. A qualitative study by Gerbert et al. published in 1999 suggests that there is a need to frame questions in a way that fosters patient trust. The results of our study suggest that simple questions are effective. The simplicity of the questions may allow the clinician to adapt the questions to suit his or her professional style and the situation as it unfolds in the ED. This may ultimately improve the delivery of the question and may in fact foster the trust required for disclosure. Gerbert et al. also suggested redefining the goals of universal screening to asking the patient more consistently and compassionately about DV. This should, in and of itself, be the first step in helping battered patients (33). This single intervention may break the cycle of violence for some, provide comfort to the victim, and reinforce that the medical profession acknowledges spousal abuse is a criminal act and may lead to physical and emotional sequelae.

Physicians may have the perception that, like the alcoholic, the battered woman rarely seeks help or follows through to effect a change. Others believe the health professional does not have a role in influencing personal choice. Our study revealed that all but one victim of ADV sought help. A large longitudinal study of the treatment of victims of DV is required to evaluate outcome. However, it is reasonable to suggest that Emergency Physicians are in the most strategic position to provide a little timely focused help that in the long run

may be more effective than extensive expert help at a less emotionally vulnerable time (34).

The American Medical Association (AMA) has published practice guidelines and has supported the national agenda against violence through publications, the formation of the Coalition of Physicians Against Violence, sustained advocacy in Washington and the courts, and through the sponsorship of regional and national programs (12). The AMA lists 4 steps to increase detection of female victims of abuse, beginning with routine assessment documented in the medical record (35). The American College of Obstetricians and Gynecologists, the American Academy of Family Physicians, and the American College of Nurse-Midwives promote routine screening of all women (36–38).

It is a common belief that the patients will be offended or alienated if asked about DV. This belief is not supported by the literature summarized in Table 5. In fact, battered women expect physicians to ask about abuse and they will respond if they are questioned in a sympathetic and non-judgemental way (39). A 1997 survey of ambulatory female patients presenting to the ED (response rate of 73%) reported that the majority of DV victims felt comfortable disclosing to a physician, yet < 25% would disclose at triage (40). Our study revealed that only 1.3% of patients declined to respond to direct questioning. Feldhaus’ refusal rate was higher at 11% (22). The latter may be attributed to the design of the study and the time required to complete the three instrument evaluations on each patient.

This study is limited by the use of a retrospective cohort and the fact that the demographics of this cohort are not available for comparison to the prospective cohort. Additionally, the questions used in this intervention have not been validated against other more extensive measures of violence or a reliable domestic violence screening tool (19–21). A female research assistant, who spoke at least three languages well, administered this questionnaire, and thus the generalizability to the aver-

age Emergency Physician may be limited. The lack of longitudinal follow-up does not allow the study to comment on the long-term effect of direct questioning. Observational studies, such as this one, tend to overestimate the treatment effect of the intervention.

The more interesting, and clinically relevant question is whether Emergency Physicians can universally screen for DV using simple direct questions as part of a routine history. This would increase vigilance and allow clinicians to create a set of questions unique to their personal style. This could best be assessed using a before and after design and one year longitudinal follow-up of both the patient and the detection rate for the clinician. In addition, a good qualitative study could identify the diversity in how to effectively ask direct questions. It is unlikely that a single tool will meet the needs of every DV patient in all situations. Successful disclosure will depend on the diagnostic acumen and emotional sensitivity of the clinician as well as the ability for the clinician to choose words wisely.

The results of this study suggest that simple direct questioning about DV may be an effective screening tool. Direct questioning requires minimal time and the questions could be incorporated into the ED assessment. We recommend that physicians maintain a vigilance in detecting domestic violence, keeping in mind the diversity of the "battering syndrome" and not hesitating to directly question any patient about the diagnosis of acute, chronic, or past domestic violence. Ultimately, routine direct questioning about DV by all physicians sends a clear message to the public that violence is unacceptable criminal behavior resulting in physical and emotional injuries. It reinforces that if, in the future, any patient is at risk she or he should feel comfortable confiding in the physician.

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