An Evidence-Based Domestic Violence Education Program for Internal Medicine Residents

Deborah Korenstein, David C. Thomas, and Cara Foldes
Division of General Medicine
Department of Medicine
Mount Sinai School of Medicine
New York, New York, USA

Julie Ross
Department of Family Medicine
Department of Social Work
Mount Sinai School of Medicine
New York, New York, USA

Ethan Halm
Division of General Medicine
Department of Medicine
Department of Health Policy
Mount Sinai School of Medicine
New York, New York, USA

Thomas McGinn
Division of General Medicine
Department of Medicine
Mount Sinai School of Medicine
New York, New York, USA

Background: Domestic violence (DV) is prevalent but often unrecognized, and it is a challenge to teach. This article presents an evidence-based DV education program for medical residents and incorporates it into a women’s medicine curriculum.

Description: An initial 3-hr seminar included video and case discussion, literature review, and role play. Participants then actively screened patients for 2 weeks and returned for a follow-up discussion session. The program was well received.

Evaluation: Six to 12 months after the intervention, key features questions were utilized to measure ability to correctly suspect DV in patient situations. Residents who had not attended the program served as controls. Three of the 8 questions were suspicious for abuse. Fifty-four percent of respondents in the intervention group correctly suspected DV in at least 2 out of 3 questions compared with 20% of controls (p = .02).

Conclusions: An evidence-based DV education program was well received and helped correctly suspect DV.

Domestic violence (DV) is a prevalent problem, with an estimated 2.5 million women experiencing violence annually in the United States. The problem is particularly common in patients seen in primary care, with an estimated 5% one-year prevalence rate\(^1\) and a lifetime prevalence as high as 54%.\(^2\) Ongoing violence has myriad clinical implications. Women experiencing abuse exhibit higher rates of substance abuse, suicide attempts, visits to the emergency department, and physical symptoms including poor appetite, bruising, vaginal discharge, abdominal and pelvic pain, diarrhea, breast pain, headaches, chest pain, dyspnea, and insomnia.\(^3\) Abused women often present to their internist with multiple or somatic complaints.
Despite the high prevalence of DV and its presentations with physical complaints, physicians are ineffective at diagnosing it. Only a minority of abused women report being asked by their physician about abuse, although most abused women would discuss the problem if asked about it. More disturbing, 20% of abused women who told their physicians about the abuse reported receiving no help from their doctor. Further, although most women are in favor of routine screening for abuse and many groups such as the American Medical Association and American College of Obstetricians and Gynecologists recommend it, only 6% of internists surveyed reported routinely screening new patients. The most common barriers to screening cited by physicians include lack of training and knowledge, time constraints, inability to impact the problem, and fear of offending the patient.

Teaching about DV is an important challenge in internal medicine training. Knowledge of DV is important for clinicians, and the American Board of Internal Medicine has included knowledge of abuse and how to recognize, diagnose, and treat it as part of its recommended core competencies in women’s health for internal medicine trainees. However, there are few educational programs for medical residents described in the literature, and none that have integrated DV training into broader educational programs.

Internal medicine training increasingly emphasizes an evidence-based approach to patient care. However, DV training is often performed by nonphysicians and rarely emphasizes an evidence-based approach. We hypothesized that incorporating evidence-based concepts into DV training and including internists among the primary teachers would enhance its impact on resident behavior.

We set out to create an educational program in DV as one component of a comprehensive curriculum in women’s medicine for internal medicine residents, incorporating concepts of evidence-based medicine as well as psychosocial medicine.

The Educational Program

We designed an educational program in DV and incorporated it into an evidence-based curriculum in women’s health given to all internal medicine residents in the post-graduate year 2 (PGY2) year during the second of two ambulatory block months. The curriculum consisted of four ½-day seminars over a 4-week period and was designed to teach content material relevant to women’s medicine and concepts of evidence-based medicine. The seminar topics included breast cancer prevention and screening, menopause, contraception, and DV.

The DV component of the curriculum was facilitated by two faculty members in the division of General Internal Medicine and one social worker with expertise in the area. The educational program consisted of an initial 3-hr interactive session, active DV screening during clinical practice for 2 weeks, and a ½-hr follow-up session. Residents were given materials 1 week prior to the first session including background material, two case vignettes, and a study evaluating the performance characteristics of the Partner Violence Screen (a brief screening tool for DV). They were asked to answer questions about the cases and calculate likelihood ratios based on the included data; they handed in their work the day before the session. There were five distinct components to the educational program.

Trigger Tapes

The first component was led by the social worker with support from the medical faculty and consisted of a discussion of two brief video clips: Twisted Love, a documentary about teen violence; and Swimming With Sharks, a commercial film. The first clip depicted a couple discussing the violence in their relationship, and the second depicted abuse in the workplace in which the abuser demonstrated many classic behaviors of abusive partners. The group viewed and then discussed each clip, with active learner participation. The video segment was designed to stimulate a discussion of common strategies used by abusers to maintain control, including nonviolent aspects of abuse and the intermittent nature of abuse, and to help build an understanding of why women stay in abusive relationships.

Case Discussion

The second activity involved discussion of the prepared case vignettes. Each case consisted of a brief description followed by a series of questions. The cases involved common presentations of DV in primary care or related ethical issues. The group discussed the management of the medical, psychosocial, and ethical issues raised in each case, including an exploration of barriers to discussions of DV from the perspective of both the patient and the physician. Participants acknowledged barriers to physician screening such as time constraints, inability to impact the problem, and fear of offending the patient and resolved each one, either by consensus that the barrier reflected a simple misconception or by developing strategies to overcome it. The case discussions were primarily facilitated by the medical faculty, but the social worker remained present to contribute her expertise.

Evidence-Based Medicine

The group then analyzed the diagnostic accuracy of the Partner Violence Screen. Likelihood ratios were
calculated, and the usefulness of the tool in practice was discussed.

**Role Play**

Role play of three different clinical scenarios was performed to practice patient interview techniques for suspected victims of DV.

**Application to Real Patients**

After the session, participants were asked to use the Partner Violence Screen to screen all female patients seen for the ensuing 2 weeks. A laminated card with screening questions and resource information was distributed. Their findings from screening were discussed during a 30-min follow-up session 2 weeks later. Participants who had diagnosed a case of DV, either current or past, described the patient, her medical problems, and the nature of the abuse; key points from the first session were reinforced.

**Evaluation**

We measured the impact of the program using a questionnaire, hypothesizing that our educational program would enhance the ability of medical residents to appropriately suspect DV in clinical situations. We utilized key features questions, a reliable method for assessing clinical decision-making skills.\(^1\)\(^2\)\(^3\) The questionnaire contained eight key features questions concerning clinical scenarios seen in primary care, three of which were designed to stimulate a suspicion of DV, as shown in Figure 1. A response was counted as correct if it contained the words *violence* or *abuse.* In addition, there was one “control” question concerning male urethritis, which served to detect differences between the groups based on level of training alone. The other four questions concerned unrelated issues in primary care.

Six to 12 months after the educational sessions, all PGY2 and PGY3 residents in our internal medicine training program received the questionnaire. A cover letter explained that the purpose of the questionnaire was to evaluate various educational programs in the outpatient setting and did not mention women’s health, DV, or the names of any of the investigators.

All PGY3 residents surveyed (intervention group) had attended the educational session, whereas none of the PGY2 residents (control group) had received it. The questionnaire was distributed to the mailboxes of all residents, and completed questionnaires were returned to a centrally located box. One month later, nonresponders were personally handed another questionnaire by a faculty member who was not involved in DV education. All responses were anonymous. P values were calculated using a chi-square test.

**Results**

The program was well received, with an average “overall evaluation” rating of 4.6 on a 5-point Likert scale (n = 33). Residents were enthusiastic about both the 3-hr seminar and the experience of screening their

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**Figure 1.** Key features questions used in the evaluation.

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A 30-year-old woman returns for follow up. She has history of depression and arthralgias. On this visit, she complains of increasing joint pains, as well as headaches. She experiences the headaches as daily occipital throbbing, with mild photophobia. They improve with ibuprofen but always return. She denies nausea, vomiting, fever, or sinus pain. She also mentions that her boyfriend has been drinking more lately.</td>
</tr>
<tr>
<td>B</td>
<td>A 38-year-old woman presents with diffuse abdominal pain of 2 weeks duration. She states that the pain is sometimes made worse by food, and reports mild constipation but denies nausea and vomiting. She has taken Mylanta at home with slight relief. The patient has seen you 3 times in the last 5 months, each time for another vague complaint of pain, and work-ups have been unrevealing. At this visit she seems mildly anxious, and abdominal examination is entirely unremarkable.</td>
</tr>
<tr>
<td>C</td>
<td>A 68-year-old woman with a history of diabetes has a recent increase in her HbA1C from 8.5 to 13. She returns to you for a follow-up visit. She has not been checking finger sticks at home and admits to eating more sweets. She seems somewhat withdrawn and says she feels mildly depressed but is sleeping OK. She denies suicidal or homicidal ideation and her appetite is unchanged. She lives at home with her husband and son. You have convinced yourself that she does not have major depression. What other factors might explain the change in her glycemic control?</td>
</tr>
</tbody>
</table>

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\(^1\) \(^2\) \(^3\) Reference values were calculated using a chi-square test.
Table 1. Number of Correct Responses by Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Correct Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Intervention (%)</td>
<td>18</td>
</tr>
<tr>
<td>Control (%)</td>
<td>35</td>
</tr>
</tbody>
</table>

Note: Out of three possible correct responses to the three cases related to domestic violence, \( p = .03 \) for difference in trends between groups by Wilcoxon rank sum test.

Table 2. Correct Response Rates by Question

<table>
<thead>
<tr>
<th>Question</th>
<th>Intervention (%)</th>
<th>Control (%)</th>
<th>( p ) Value</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>79</td>
<td>50</td>
<td>.04</td>
<td>3.7*</td>
</tr>
<tr>
<td>B</td>
<td>54</td>
<td>25</td>
<td>.05</td>
<td>3.5b</td>
</tr>
</tbody>
</table>

Note: \( OR = \text{Odds Ratio}. \)  
*95% CI (Confidence Interval) = 1.1–2.7. b95% CI = 1.1–12.

Most participants uncovered one or two cases of past abuse during the 2-week screening period, and during most months there was one case of current abuse diagnosed among all six participants.

The overall response rate to the questionnaire was 65%–75% in the intervention group, and 54% in the control group (\( p = .05 \)). Overall, 56% of respondents were women, 60% in the control group and 54% in the intervention group (\( p = ns \)).

The groups differed with respect to the number of questions answered correctly, with more correct responses in the intervention group as shown in Table 1. Fifty-four percent of the intervention group and 20% of the control group answered at least two out of three questions correctly (\( p = .02 \)) with Odds Ratio (OR) 4.6 (95% Confidence Interval [CI] 1.3–16.8). Correct response rates to each individual question are shown in Table 2. Correct responses to Question A were 79% in the intervention group and 50% in the control group (\( p = .04 \)); OR for a correct response was 3.7 (95% CI 1.1–12.7). Correct responses to Question B were 54% in the intervention group and 25% in the control group (\( p = .05 \)); OR for a correct response was 3.5 (95% CI 1.0–12.0). There were no statistically significant differences in correct response rates by gender. Correct responses to Question C were 14% in the intervention group and 15% in the control group (\( p = .95 \)). The control question was answered correctly by 71% in the intervention group and 70% in the control group (\( p = .91 \)).

**Discussion**

This evidence-based DV education program for medical residents was both well received and effective at improving the ability of residents to suspect DV in patient situations. Few previously described similar interventions have shown documented efficacy for inter-

patients for DV. Most participants uncovered one or two cases of past abuse during the 2-week screening period, and during most months there was one case of current abuse diagnosed among all six participants.

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**Discussion**

This evidence-based DV education program for medical residents was both well received and effective at improving the ability of residents to suspect DV in patient situations. Few previously described similar interventions have shown documented efficacy for inter-

nal medicine trainees. Several unique aspects of our program may have improved its impact. First of all, two of the three teachers of the sessions were internists rather than mental health professionals, implying to the residents that this topic was in the mainstream of medical practice. Second, the program applied evidence-based principles to the issue of DV. This approach reflects the way in which residents learn about other aspects of internal medicine and emphasizes the importance and centrality of the topic. Third, the learners were asked to screen all female patients for 2 weeks and then return to a follow-up seminar to discuss their findings. Many participants returned to the follow-up sessions with stories of shocking abuse from their patients, which had been previously unsuspected and which often explained aspects of the patient’s behavior. Eliciting these stories from their patients and sharing them in a structured manner with their colleagues was a powerful experience for the residents and helped cement their appreciation for the prevalence and importance of domestic abuse.

There are several limitations of our assessment of the effect of the program. First, the ideal way to measure the impact of our intervention would have been the use of an objective structured clinical examination, which we were unable to perform. There were also limitations with the survey instrument itself. Question C (see Table 2), concerning a diabetic woman with worsening glycemic control, was answered correctly by only a small percentage of learners in each group, and there was no difference between the groups. This is likely because the potential role of domestic abuse in that case was obscured by the many factors that could impact that patient’s glycemic control, making the question too subtle and highlighting the difficulty of remaining sensitive to psychosocial problems in complex medical patients. Discarding Question C, the overall correct response rate was 67% in the intervention group and 38% in the control group, so the effect of the intervention clinically may have been larger than what we were able to measure.

The control and intervention groups in our study were at different levels of training, which may explain some of the difference between the groups. However, our training is the only reference to DV in the formal curriculum, so a significant impact from level of training alone seems unlikely. To explore the importance of level of training, we inserted a control question on another topic. The rates of correct responses to that question were identical in the two groups, demonstrating an absence of improvement based on level of training alone.

Another limitation of the study was the poor response rate, especially in the control group. The educational intervention was integrated into the curriculum in the PGY2 year, and many residents in the control group who did not initially complete the survey re-
ceived the intervention before we were able to survey them.

In conclusion, this evidence-based DV educational program improved the ability of medical residents to correctly suspect DV in their patients. The program was well received and seems to have an effect lasting at least 6 to 12 months. Similar programs could be easily implemented in other internal medicine training programs.

References


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