This study was designed to investigate the detection rate of domestic violence by resident physicians in a community-based, primary care training program. Baseline information on detection rates was gathered from residents in the prestudy phase and was compared with data from the 6-month investigation phase of the study, during which a self-administered pencil-and-paper questionnaire on domestic violence was provided to patients and residents. The nursing staff screened new female patients and established patients returning for annual physical examinations. Patients older than 18 years were asked to complete a four-question survey. The examining resident physicians then reviewed the questionnaire answers with patients.

During the 6-month prestudy phase, only 7 of 136 patients (5.1%) were determined to be in current (2.9%) or past (2.2%) abusive relationships. Of the 52 patients who completed the investigation phase of the study, 25 (48.1%) reported a lifetime history of abuse, with 9.6% of patients reporting current abuse and 38.5% reporting past abuse.

There was a statistical difference regarding history of abuse and lifetime incidence of abuse between the control and study groups. The authors found that routine screening with a few questions could significantly increase detection of domestic violence and enable victims to begin to address their problems.

This study has implications for continuing medical education programs as well as residency training programs.

There is an epidemic of domestic violence in the United States that is producing major social and public health problems. Conservative estimates indicate that approximately 2 to 4 million American women are physically abused each year, and that domestic violence may occur in as many as one of every four families. Moreover, studies document that women in the United States are more likely to be assaulted, raped, or killed by current or former male partners than by all other types of assailants combined.

The prevalence of domestic violence is exacerbated when women are young or single, separated or divorced, from a relatively poor socioeconomic background, have substance abuse problems or specific psychological symptoms, and/or have multiple physical symptoms. However, when the lifetime incidence of abuse is considered, abuse seems to affect women similarly across diverse socioeconomic circumstances, as shown in a 1995 study of abuse among black and white women in urban and rural primary care settings.

In 1992, the ubiquitous nature of domestic violence prompted then–Surgeon General of the US Public Health Service, Antonia C. Novello, MD, MPH,1 to call for health care providers to take an active role in identifying this serious health problem among their patients. Abused women visit primary care physicians more often than nonabused women,6 and abuse screening is challenging for physicians as these women most often have health complaints that may seem unrelated to domestic violence.6

Symptoms may include multiple somatic complaints, chronic abdominal pain, chronic headaches, pelvic pain, anxiety, depression, posttraumatic stress disorder or other psychiatric disorders, alcohol and drug addiction, musculoskeletal complaints, and eating disorders.7

Given that a patient may intentionally mask her experience of domestic violence, it is incumbent on physicians to screen female patients routinely for a history of domestic violence.1,3,7 In spite of the acknowledged need among health care professionals to address domestic violence in the clinical setting, physicians have been decidedly reluctant to open the so-called Pandora’s box of domestic violence.8
Although female patients indicate they would welcome the discussion of abuse, physicians have been shown to diagnose correctly fewer than 1 in 25 clinically presented cases of abuse. Furthermore, most battered women seeking care in family practice clinics reported that they were not asked about victimization. Moreover, Rodriguez et al found that although 79% of primary care physicians would routinely screen injured patients for intimate partner abuse, only 10% of physicians screened new patients for histories of abuse, 9% screened established patients during health maintenance examinations, and 11% screened women during prenatal visits.

Numerous studies have shown the use of specific interviewing techniques and questionnaires ranging from a few questions to more extensive surveys to increase the detection rate of domestic violence in the clinical setting. Unfortunately, the routine use of such tools by physicians in practice has been limited.

Most of the aforementioned studies include queries regarding some or all of the power-and-control dynamics often referred to as the “cycle of violence.” In this paradigm, coercive behavior may include repeated battering and injury, psychological abuse, sexual assault, progressive social isolation, deprivation, and intimidation by a person in an intimate relationship with the victim. In the cycle of violence, most abusive behavior has been found to recur and escalate over time in both frequency and severity. The underlying (though perhaps unconscious) goal of the perpetrator seen in these dynamics is to assert power and maintain control over the victim.

Background
As part of the family practice residency program, residents at the West Side Medical Center in Lansing and Okemos, Mich, participated in quarterly academic training weeks. During these academic training weeks, faculty trainers from the Department of Family and Community Medicine at Michigan State University’s College of Osteopathic Medicine (MSUCOM) in East Lansing presented educational workshops at the college on various topics pertinent to primary care. The dynamics of domestic violence were the discussion topic at one such session.

As a result of these training sessions, the principal investigator (J.D.W.) was able to identify one of his patients as a victim of domestic violence and begin intervention. Because of this success in the detection of domestic violence and to fulfill the research and residency paper requirement of the family practice residency program, the principal investigator elected to conduct a study to measure the detection rate of domestic violence in a primary care setting by resident physicians at West Side Medical Center.

Building on the experiences of other researchers, the established use of self-administered pencil-and-paper questionnaires to detect domestic violence, and incorporating key components of the power-and-control dynamics of the cycle of violence, we designed a study to evaluate current levels of detection in the primary care setting and to determine whether current detection rates could be enhanced.

The principal investigator constructed a tool that is simple and easy to use, a self-administered pencil-and-paper questionnaire for patients that can be used as part of a routine screening process to increase the awareness of physicians and patients regarding the problem of domestic violence.

Methods

Questionnaire
The principal investigator designed the patient questionnaire to be a short and concise tool that could be easily and quickly reviewed by family physicians in busy clinical settings. The questionnaire covers key areas of abuse with a minimal number of questions. It includes questions about physical abuse; other forms of abuse, such as intimidation and threats; power-and-control dynamics, such as the use of economic power and isolation to control; and past history of abusive relationships.

The questions were asked in the easy-to-answer Yes/No format shown to be useful in other similar studies. Residents were asked to fill out a five-question survey; patients were given surveys with only four questions.

Subjects
The Michigan State University Office of Research Ethics and Standards approved the project. The Michigan State University Committee on Research Involving Human Subjects approved the wording used on the self-administered questionnaires and the manner in which informed consent was obtained.

There are three groups of subjects in this study: (1) residents who were surveyed twice: once after their academic training week (which provided an orientation to the concerns of primary care physicians screening for domestic violence) but at the beginning of the prestudy phase, and then again at the end of the investigation phase (ie, 12 months apart); (2) the control group: patients who were surveyed once during the 6-month prestudy phase of the investigation; and (3) the study group: patients who were surveyed once during the 6-month investigation phase of this study.

Five resident physicians who were training at the West Side Medical Center, a community-based primary care outpatient clinic, participated in this study. The residents were third- and fourth-year graduates from MSUCOM’s Department of Family and Community Medicine, a university-based family medicine residency program, at the time the study began.

At the beginning of the 6-month prestudy phase, these five residents were surveyed regarding their domestic violence screening habits and the number of cases of domestic violence they had detected before the study began. At the conclusion of the investigation phase, the same questionnaire was presented to these residents so that investigators could evaluate any change in detection rates. The survey presented to residents...
Resident Questionnaire

This questionnaire is part of a study designed to educate and raise the awareness of physicians concerning the problem of domestic violence. It is hoped that the information gathered during this study will help physicians provide better care for patients who are the victims of domestic violence.

Do not sign your name on this questionnaire. All information you provide on this questionnaire is confidential and will only be seen by study investigators. Filling out this questionnaire indicates your voluntary participation in this study.

Please circle Yes or No in answering the questions below.

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Do you routinely query patients about domestic violence during health maintenance examinations?</td>
</tr>
<tr>
<td>Yes</td>
<td>Have you discovered and/or detected any patients who are currently victims of domestic violence in the clinic? If Yes, how many?</td>
</tr>
<tr>
<td>Yes</td>
<td>Have you discovered and/or detected any patients with a history of domestic violence (i.e., they are not currently in an abusive situation) at the clinic? If Yes, how many?</td>
</tr>
</tbody>
</table>

If you answered Yes to either or both of the two previous questions, please go on to complete the remaining two questions. If you answered No, you may leave the remainder of this questionnaire blank.

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
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<tbody>
<tr>
<td>Yes</td>
<td>In either case, did you record this discovery or detection of domestic violence in the patient’s medical chart?</td>
</tr>
<tr>
<td>Yes</td>
<td>Did you record the diagnosis of domestic violence on the patient’s coding and/or billing sheet? If Yes, how did you code the diagnosis?</td>
</tr>
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</table>

Figure 1. The self-administered pencil-and-paper questionnaire on domestic violence that was provided to residents (N=5) choosing to participate in this study.

twice and twelve months apart was a self-administered pencil-and-paper questionnaire (Figure 1) regarding the number of patients suffering from domestic violence that they had detected previously and to indicate whether those patients were currently involved in an abusive relationship or had a past history of abuse.

The resident questionnaire also included queries about whether resident physicians routinely screened for domestic violence, and whether they noted their findings in patients’ medical records.

The information reported on resident questionnaires was then kept anonymous and confidential, except for analysis by study investigators.

During the 12-month study, women aged 18 years or older who were either new patients or established patients returning for annual health maintenance examinations were included as potential patient subjects for this study. The nursing staff determined each patient’s eligibility and distributed the patient questionnaire (Figure 2) to each patient meeting the stated criteria along with a routine medical history form.

After the patients completed the patient questionnaires, residents verbally reviewed the patients’ answers privately with them during the physical examinations. This open discussion of the questionnaire results with each patient facilitated patient education—and, in some cases, intervention—relating to issues of domestic violence.

After each encounter, the completed patient questionnaires were gathered and stored separately from the patient’s personal medical record. The information reported on patient questionnaires was then kept anonymous and confidential, except for analysis by study investigators. Any positive findings of domestic violence detected by the patient questionnaires and reviewed by the resident physicians were recorded separately in the patients’ confidential medical records with their knowledge.

Cases of domestic violence identified from the patient questionnaires completed during the 6-month prestudy phase constituted the control group for this study; cases identified during the 6-month investigation phase constituted the study group.
Study Analysis

Basic descriptive statistical analysis was used in reviewing data obtained during the study. Positive responses were tallied, and these totals were compared to the total number of participants involved. Percentages were calculated in each study category, and comparisons were made between the results for the control group and the study group.

Domestic abuse variable means were calculated using a scale of 1 for a positive response to the item and 0 for a negative response. Therefore, means ranged from 0 to 1. Independent sample Student t tests were then calculated to compare means between the control and study groups on these measures of domestic abuse, including current abuse, history of abuse, and lifetime incidence of abuse. The effect size for each measure was also determined.

Results

Over the 12 months of the study, data were gathered on 136 patients in the control group during the 6-month prestudy phase and on 52 patients in the study group from the 6-month investigation phase of the study (N=188). The rates at which residents were able to detect current and past history of domestic violence in their patients was obtained from the resident and patient questionnaires.

In the prestudy control group, resident physicians noted a total of seven patients (5.1%) who had experienced domestic violence at some point in their lives. Four patients (2.9%) self-reported being currently involved in abusive relationships. Three patients (2.2%) relayed histories of past abuse.

In the investigation phase study group, five patients (9.6%) stated that they are currently involved in abusive relationships. Two of these patients (3.8%) stated that they are in relationships that are physically violent. Four (7.7%) indicated that their partners use or have used intimidation and threats against them. Three patients (5.8%) noted that economic control, isolation, or some other form of harassment or control was occurring in their relationships. Twenty-four patients (46.2%)—including four of the five women who admitted to current abuse—stated that they had experienced at least one of these forms of abuse in the past.

Three of the five patients currently involved in abusive relationships reported two or more forms of abuse. One of the five patients reported abuse in all three areas of abuse. Twenty patients (38.5%) reported histories of past abuse but also reported that they were not currently in abusive situations. Twenty-seven patients (51.9%) reported no history of domestic violence. In all, 25 (48.1%) of the surveyed patients reported at least one incident of domestic violence at some point in their lives.

Prior to the prestudy phase, only one of the five partici-
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results from our study reinforce the results of these two earlier investigations, reemphasizing the extent of the problem of domestic violence in the United States and indicating the number of victims who primary care physicians may be able to reach.

In this study, only one of five resident physicians routinely asked their patients about domestic violence prior to the study—a number that is consistent with data concerning physician screening practices. As might be expected, the resident who included this screening as a routine part of her examinations discovered half of the current abuse victims detected in the prestudy phase.

During the course of this study, resident physicians were surprised by their increased ability to detect the underlying dynamics of domestic violence when conducting annual physical examinations for established patients and when seeing new patients for “routine” complaints. Concurrent educational debriefings with training faculty and residents during clinic sessions focused on appropriate interventions into the cycle of violence.

In this study, the addition of four short patient-answered questions to the standard medical history form led to a significant increase in physicians’ detection rates of patients victimized by domestic violence. Patients’ answers were easy for busy physicians to review quickly and provided them with an effective tool that could be part of a routine screening process.

Certain limitations in the study should be noted. Because this study was undertaken to complete a residency training research requirement, time in the training schedule for the study was limited, and thus the sample sizes for resident physicians and patients were also limited.

Further, the West Side Medical Center was relocated from Lansing, Mich, to Okemos, Mich, a distance of approximately 17 miles, between the prestudy and investigation phases of this study, further limiting the subject sample size for the patient portion of this study, as patient volume understandably declined after the clinic’s move to the new location. Although the patient base remained largely the same, a few patients chose to seek care closer to home.

Even with the limitations described, data obtained throughout this study were comparable to data available from previous studies. Use of the patient questionnaire created a consistent screening process and facilitated a meaningful dialogue between patients and their physicians regarding the dynamics of domestic violence. The process was easily carried out and led to a significant increase at this clinic in the detection rate of domestic violence by resident physicians.

It is important to note that data from previous studies indicate that screening resident physicians routinely screened patients for domestic violence. This physician detected two (50%) of the four cases of current abuse reported in the control group.

Participating residents reported from memory on their use of screening practices for domestic violence before the prestudy phase of this study. Use of the patient questionnaire produced a greater rate of physician detection of domestic violence than had been previously discovered unaided (ie, before the prestudy phase) and reported to investigators.

Statistical analysis revealed that the rates of detection of current abuse were similar in both the control (prestudy) and study (investigation) groups, but that there were statistically significant differences between the means of the control and study groups regarding the history of past abuse and revelation of lifetime incidence of abuse. Although the two groups varied in size (control, n=136; study, n=52), the effect size for each measure was greater than 0.80, indicating true statistical differences (Table 1).

With the help of the patient questionnaire, residents’ self-reported detection rates of current incidents of domestic violence among their patients increased by three times (2.9% to 9.6%) from before the study began to the end of the investigation phase. In addition, the residents’ self-reported detection rate for a history of violence in a domestic relationship increased from 2.2% to 38.5% when this screening method was used consistently. Overall, a ninefold increase was noted in the detection of lifetime incidence of violence (5.1% to 48.1%).

**Discussion**

The prevalence rates reported here for the incidents of domestic violence are consistent with other studies in primary care settings. For example, Elliott and Johnson reported a 45% lifetime incidence of abuse (current, 12%; history, 36%) in their study of a community-based family practice residency clinic. Hamberger et al noted a lifetime incidence of 38.8% in a larger investigation based at a Midwestern family practice clinic. The

<table>
<thead>
<tr>
<th>Variable*</th>
<th>Control Group (n=136)</th>
<th>Study Group (n=52)</th>
<th>P†</th>
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</thead>
<tbody>
<tr>
<td>Current abuse</td>
<td>.03</td>
<td>.10</td>
<td>NS</td>
</tr>
<tr>
<td>History of abuse</td>
<td>.02</td>
<td>.46</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Lifetime incidence of abuse</td>
<td>.05</td>
<td>.48</td>
<td>&lt;.001</td>
</tr>
</tbody>
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* Values for the Patient Questionnaire (Figure 1) responses: Yes = 1, No = 0.
† NS indicates that the results are not statistically significant. The results for current abuse and history of abuse are statistically significant with an effect size that is greater than 0.80.

**Table 1**

<table>
<thead>
<tr>
<th>Measure of Domestic Abuse: Study Group and Control Group</th>
<th>Comparison of Means (N=188)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable*</td>
<td>Control Group (n=136)</td>
</tr>
<tr>
<td>Lifetime incidence of abuse</td>
<td>.05</td>
</tr>
<tr>
<td>History of abuse</td>
<td>.02</td>
</tr>
<tr>
<td>Current abuse</td>
<td>.03</td>
</tr>
</tbody>
</table>

It is important to note that data from previous studies indicate that screening resident physicians routinely screened patients for domestic violence. This physician detected two (50%) of the four cases of current abuse reported in the control group.
as well as our more recent results, indicate that women who are victims of domestic violence are willing to discuss this problem when queried by their primary care physicians. These findings highlight the importance of establishing a routine screening procedure for domestic violence in the primary care setting.

It is apparent, however, that many primary care physicians have been reluctant in the past to open discussions about domestic violence with their patients. This reticence may be due to time constraints on primary care physicians, or it may be due to the physicians’ own feelings of discomfort or inadequacy in knowing how to approach a difficult and often delicate situation. Nevertheless, the magnitude of the problems resulting from domestic violence and its impact on victims and families necessitates that primary care physicians take action.

Many times, victims of domestic violence are challenging and frustrating patients who end up labeled as mentally ill, which only reinforces batterers’ claims that the fault lies with the woman. Further, this diagnosis often leads to inappropriate prescribing of sedatives and pain medications—a practice that increases the risk of suicide and drug abuse and that can dull women’s senses, making them vulnerable to further assault. Thus, physicians inadvertently become enablers in the cycle of violence.

As noted, the costs of domestic violence are significant in both human and financial terms. Estimates show almost 100,000 hospital days, 30,000 emergency department visits, and 40,000 physician visits each year are due to domestic violence. Failure to diagnose domestic violence leads to continuation of the cycle of violence, continued morbidity, and sometimes mortality of the women involved, increasing both the financial and social costs related to this problem in the United States.

Physicians can begin to address this complex issue and provide better care for an underserved portion of their patients by educating themselves about the dynamics of this personal and public health problem.

Additionally, it is imperative that physicians begin to routinely screen all patients regardless of gender for domestic violence and are prepared to institute appropriate education and safety measures when abuse is revealed in the clinical setting.

The failure of physicians to diagnose domestic violence contributes to a feeling of entrapment for the women involved. Physicians who are reluctant to acknowledge and address the underlying cause of women’s injuries and problems as being domestic violence can increase women’s feelings of isolation and discourage their efforts to leave abusive relationships. These women see themselves as unable to find help and are therefore unable to see an escape from the violence.

Of the patients in this study currently reporting themselves to be victims of domestic violence, 80% reported histories of abuse in past relationships. This increased prevalence rate highlights the importance of detecting patients with histories of domestic violence, as these patients are at increased risk for future abuse. Knowledge of past abuse allows physicians to intercede with patient education and facilitates patient referrals to necessary resources.

Finally, with a continuing emphasis on cost containment and quality health care from all directions, physicians can use the simple screening device developed for this study to alert them to patients who may be (and may have been) the victims of domestic violence. Screening and intervention, done in a few moments today, can begin to address a health issue that escalates and that increases medical costs exponentially into the future.

Updates and Study Impact

The patient noted earlier in this paper who self-identified on the questionnaire as a victim of domestic violence received help and continues to see the principal investigator in his clinical practice. As a result of being identified and treated as victims of domestic violence through her primary care physician, she and her children have moved on with their lives and are no longer in a violent situation.

Further, the screening instrument developed for this study became a part of the new patient and annual physical examination protocol in the residency clinic at West Side Medical Center. Faculty development programs on the topic of domestic violence intervention have been expanded. New residents to the training program were exposed to an expanded domestic violence education and intervention workshop during their first academic week. Additional educational presentations on domestic violence were developed and shared with family practice and internal medicine residents at Ingham Regional Medical Center and family practice residents at Sparrow Health Systems, both in Lansing, Mich.

Two years after the completion of this study, the residency clinic was moved a second time to become an outpatient clinic for Ingham Regional Medical Center in Lansing, Mich. The screening instrument was used at West Side Medical Center until the clinic closed in April 2003.

After the completion of this study, one of the investigators (C.L.M.) developed continuing medical education presentations on domestic violence based on the results of this study. Variations of the original presentation have been presented at the Michigan Association of Osteopathic Family Physicians summer and winter conferences, the Michigan Academy of Family Practice, the American College of Osteopathic Family Physicians Review Course, and most recently, at the Michigan Osteopathic Association’s 105th Annual Postgraduate Convention and Scientific Seminar. Similar programs continue to be presented to first- and second-year medical students at MSUCOM, who are given the opportunity to attend domestic violence presentations at extracurricular events.

Additionally, preliminary results from a more recent study done by this investigator (C.L.M.) indicate that there is more physician screening for domestic violence in Michigan as a
result of these efforts. These latest results were presented on May 22, 2004 at the Michigan Osteopathic Association 105th Annual Postgraduate Convention and Scientific Seminar.

Comment

Domestic violence is a major social and public health problem that costs the United States a substantial amount on an annual basis both financially and socially. The good news is that most abuse victims are willing to discuss their situation when queried by their primary care physicians. Therefore, physicians must educate themselves and overcome the perceived barriers to screening and identifying victims of domestic violence.

Practicing clinicians’ skills are already highly developed in eliciting and gathering information while conducting physical examinations so that they may compile thorough medical histories. The tool introduced in this study—a few extra questions posed to a patient when recording the patient’s medical history and conducting an annual physical examination—can significantly increase the detection rate of victims of abuse and patients at high risk for abuse.

Finally, osteopathic physicians will recognize in this screening tool yet another place where our profession is able to demonstrate one of its core values: treating the whole patient. Further, as osteopathic physicians, we have a unique commitment to safeguard in our everyday medical practices one element in the osteopathic oath that can be said to speak directly to the issue of treating patients who are the victims of domestic violence:

I will always be mindful of my great responsibility to preserve the health and the life of my patients, to retain their confidence and respect both as a physician and a friend who will guard their secrets with scrupulous honor and fidelity....

It is our sincere hope that with the help of this screening tool, osteopathic physicians will find honoring this commitment a little easier to uphold when confronted in the clinical setting with the oftentimes harsh realities of domestic violence. Implementing a routine process, such as the one introduced here, can improve the detection, education, intervention, and ultimately, the prevention of domestic violence for our patients.

Acknowledgment

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