Clinical Review

Effect of domestic violence training
Systematic review of randomized controlled trials

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Abstract

Objective To describe and evaluate the effectiveness of domestic violence education in improving physicians’ knowledge, recognition, and management of abused women.

Data sources The Cochrane Database of Systematic Reviews, MEDLINE, PubMed, PsycINFO, ERIC, and EMBASE were searched for articles published between January 1, 2000, and November 1, 2012. This search was supplemented by manual searches for relevant articles using a combined text-word and MeSH-heading search strategy.

Study selection Randomized controlled trials were selected that used educational interventions among physicians and provided data on the effects of the interventions.

Synthesis Nine randomized controlled trials were included that described different educational approaches with various outcome measures. Three studies examined the effects of educational interventions among postgraduate trainee physicians and found an increase in knowledge but no change in behaviour with regard to identifying victims of domestic violence. Six studies examined educational interventions for practising physicians. Three of these studies used multifaceted physician training that combined education with system support interventions to change physician behaviour, such as increasing general awareness of domestic violence with brochures and posters, providing aids to remind physicians how to identify victims, facilitating physician access to victim support services, and providing audits and feedback. Multifaceted educational interventions included interactive workshops, Web-based learning, and experiential training. Another study used focus-group discussions and training, and showed improved domestic violence reporting among physicians. The remaining 2 studies showed improved perceptions of practising physicians’ self-efficacy using problem-based online learning.

Conclusion It was difficult to determine the most effective educational strategy, as the educational interventions and the outcome measures varied among the selected studies. Brief interventions for postgraduate trainee physicians improved knowledge but did not seem to affect behaviour. Online education using a problem-based learning format improved practising physicians’ perceptions, knowledge, and skills in managing domestic violence. Physician training combined with system support interventions seemed to benefit domestic violence victims and increase referrals to domestic violence support resources.

Domestic violence is a global health issue that creates serious health problems and has long-term emotional, psychological, and physical effects on victims and families.1,2 Domestic violence, also known as intimate partner violence (IPV), is defined by the World Health Organization as “any act of physical, sexual, or emotional abuse by a current or former partner, whether cohabiting or not.”3,4 Domestic violence is a universal problem that is poorly identified, acknowledged, and addressed.5-7
According to the World Health Organization, domestic violence has reached epidemic proportions in many societies, with 15% to 71% of women in various countries experiencing physical or sexual violence—or both—at some point in their lives. Health care providers perceive difficulties in dealing with victims of abuse owing to several factors including time constraints, lack of training, and limited access to domestic violence resources.

During the past decade, there has been some progress in implementing domestic violence training programs for physicians and other health care providers, with the goal of improving their ability to manage victims of abuse. However, considerable international controversy remains about whether to routinely screen women for domestic violence, particularly when resources are limited. While the recent United States Preventive Services Task Force guidelines recommend screening asymptomatic women of childbearing age for signs of domestic violence and referring those who need treatment to the appropriate agencies, the Canadian Task Force on Preventive Health Care has found insufficient evidence for or against routine screening for domestic violence among women. Nevertheless, research shows that physicians face challenges when implementing domestic violence preventive measures because of inadequate multidisciplinary staff training, as well as lack of time, experience, awareness of community resources, and availability of effective interventions to support women and protect them from further abuse. Research on the effectiveness of domestic violence education in postgraduate and continuing medical education (CME) activities suggests that such activities improve physicians’ knowledge and attitudes about domestic violence but casts doubt on whether such activities affect patient outcomes.

The objective of this systematic review is to describe and evaluate the effects of domestic violence educational interventions among physicians. The focus, scope, target population, and key questions were determined using the standard approach, the PICO (population, intervention, comparison, outcome) method. The target population includes postgraduate trainee physicians and practising physicians from all specialties who received CME or continuing professional development on identifying and managing domestic violence. The intervention is any educational program that involves training physicians in IPV or domestic violence compared with no intervention. The outcome measures include learner satisfaction, change in knowledge or attitude, change in behaviour, and effect at the patient level (ie, greater number of domestic violence cases identified and referred to intervention programs).

In conjunction with a research librarian, electronic databases and gray literature were searched. The primary search was performed using the following databases: the Cochrane Database of Systematic Reviews, MEDLINE, PubMed, PsycINFO, ERIC, and EMBASE. These were searched for articles published between January 1, 2000, and November 1, 2012. Search terms for electronic databases included medical subject headings, controlled vocabulary, free-text words, key terms, and key words such as physicians, doctors, residents, continuing medical education, postgraduate, educational programs, intimate partner violence, domestic abuse, domestic violence, physical, sexual, psychological, violence, abuse, spouse abuse, and partner abuse.

Study selection

For inclusion, studies needed to meet the following criteria (Table 1): they must have been published in the English language; they must have been published within the past 12 years to update the review by Davidson et al in 2001; the target population must have included physicians from any specialty; study designs must have been randomized controlled trials (RCTs); and interventions had to be aimed at influencing professional practice at any level of the Kirkpatrick model for evaluating training effectiveness. Regarding the latter criterion, points of influence of the model might include learner satisfaction or reaction; knowledge or learning outcomes; performance or behaviour; and patient outcomes or results for consumers.

The initial search identified 350 articles. Titles and abstracts were examined for relevance, and entire studies were reviewed if abstracts were not clear. A total of 25 articles were identified as potentially eligible for inclusion (Figure 1). When results were combined, 11 articles were duplicated, and 3 were excluded because they did not meet the study inclusion criteria. Thus, 7 studies were identified as eligible. The references and citations of the retrieved articles were manually searched, and 2 additional RCTs were identified, to provide a total of 9 studies in this review. Descriptive methods were used to summarize the results owing to heterogeneity of the included studies with respect to study quality, setting, target population, educational intervention, and outcomes assessed.

Validity assessment. The quality of included studies was independently appraised by 3 reviewers (E.Z., K.K., S.R.) using the following criteria from the Cochrane Handbook for Systematic Reviews of Interventions: selection bias, performance bias, detection bias, attrition bias, and reporting bias. Any disagreements between
the first 2 reviewers (E.Z., K.K.) were resolved through consultation with the third reviewer (S.R.). Each study was assigned 1 of 3 ratings according to the Cochrane Handbook for Systematic Reviews of Interventions: low risk of bias (A), moderate risk of bias (B), or high risk of bias (C).

**Risk of bias.** Of the 9 studies, 2 were rated as A, high quality with low risk of bias; 2 were rated as B, moderate quality with a moderate risk of bias; and the remaining were rated as C, low quality with high risk of bias. Concealment and protection against contamination was done in 3 studies. Blinded assessment of primary outcomes was done in 3 studies. Reliable primary and secondary outcome measures were used in all the studies.

### SYNTHESIS

Of the 9 studies included in this review (Table 2), 3 targeted postgraduate trainees. Workshops and brief seminar sessions that used videotapes and role-playing substantially improved knowledge about domestic violence, but did not result in a change in resident physicians’ behaviour or attitudes toward domestic violence. Adding shelter experience (in which residents attended a weekly shelter meeting for IPV survivors) to the IPV workshop was found to have a modest effect on knowledge gain. The use of standardized patients did not result in correct identification of IPV cases by residents in the intervention group, but resulted in higher scores on a proficiency checklist and in safety plan counseling proficiency.

Six studies targeted practising physicians. Online CME about domestic violence was assessed in 2 RCTs, in which problem-based learning approaches were used and before-and-after surveys were conducted to evaluate perceived knowledge, attitude, and behaviour changes, including physician self-efficacy and reported IPV management practices during the study period. Online education about domestic violence resulted in a 17.8% mean improvement in

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**Table 1. Inclusion criteria for primary studies**

| TYPE                | DESCRIPTION                                                                
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<tr>
<td>Population</td>
<td>Postgraduate physicians (ie, residents or practising physicians from any specialty)</td>
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<tr>
<td>Intervention</td>
<td>Any IPV or domestic violence educational program, course, or training that involves a multidisciplinary group of health care providers or physicians only</td>
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| Outcome (Kirkpatrick model) | • Learner satisfaction or reaction  
• Change in physicians’ knowledge of, attitudes toward, or learning outcomes toward IPV  
• Change in physicians’ performance or behaviour (ie, case finding, screening, documentation, and referral to IPV resources)  
• Patient outcomes or results for consumers and organizations (cost-effectiveness, improved quality of life among abused victims) |
| Study               | Randomized controlled trial |
| Language            | English |
| Time                | From January 1, 2000, to November 1, 2012 |

IPV—intimate partner violence.
Effect of domestic violence training | Clinical Review

This systematic review suggests that physicians’ knowledge about domestic violence can be substantially improved through educational interventions that involve physicians’ active participation and experiential learning. Some studies have shown that interactive workshops change clinicians’ attitudes and performance and influence their everyday practices for managing victims of domestic violence. On the other hand, domestic violence workshops for postgraduate trainee physicians did not produce a meaningful effect on their behaviour in identifying victims of domestic abuse. Domestic violence identification and management is not a 1-step process; identification itself can have multiple and complex consequences such as finding a shelter for the victim, making arrangements for the children, and sometimes finding help for the abuser. The identification and management of domestic violence can be an emotional experience not only for the patient but also for the provider, and some studies have called for more than a brief intervention to improve physicians’ abilities to identify and manage cases of domestic violence.

The use of standardized patients in domestic violence training among postgraduate physicians improved their knowledge and skills, and led to more reported cases of domestic violence. Previous systematic reviews show that e-learning can improve physicians’ knowledge and skills, and can produce more sustained behavioural change compared with workshops. In this systematic review, 2 RCTs that used interactive, Web-based domestic violence modules resulted in significant improvement in physicians’ knowledge and self-efficacy to diagnose and deal with domestic violence cases. However, the long-term effects on physicians’ actual behaviour and patient health care outcomes, as well as the cost-effectiveness of the e-learning domestic violence modules, need to be assessed by future RCTs. Further, promoting online CME on domestic violence to physicians requires resources and social media marketing strategies that need to be considered when designing such programs.

This review found multifaceted education and institutional or systemic changes to be effective in improving physicians’ behaviour toward domestic violence reporting and referrals. This approach also increased patient satisfaction and was found to be cost-effective and possibly cost-saving from a social perspective. Essential elements of effective education were multidisciplinary training for physicians with reinforcement sessions, along with additional training for team leaders and champions. System-based interventions for physicians were cues to remind physicians to ask about abuse in situations where it was likely to be an underlying cause of a
### Table 2. Study descriptions and outcomes

<table>
<thead>
<tr>
<th>STUDY AND SETTING OR PARTICIPANTS</th>
<th>NO. OF PARTICIPANTS</th>
<th>DESCRIPTION OF INTERVENTION</th>
<th>OUTCOME MEASURES</th>
<th>RESULTS</th>
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<tbody>
<tr>
<td><strong>Study 1</strong></td>
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<tr>
<td>Feder et al (2011, UK)</td>
<td>24 practices</td>
<td>Interactive multidisciplinary DV training</td>
<td>No. of referrals to DV agencies recorded in EMRs in the intervention practices was 21 times larger than that recorded in the control practices (adjusted intervention rate ratio = 22:1)</td>
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<tr>
<td>Lo Fo Wong et al (2006, Netherlands)</td>
<td>38 FG discussions about DV and DV training</td>
<td>Low-grade intervention: 6 FG discussions on IPV led by a qualified social scientist</td>
<td>No. of reported IPV cases</td>
<td></td>
</tr>
<tr>
<td>Coonrod et al (2000, US)</td>
<td>53 Brief video and role-playing about DV</td>
<td>Intervention in 1995: 20-min videotape about DV</td>
<td>Self-reported diagnosis of a case of DV between the intervention and the follow-up 9-12 mo after the intervention</td>
<td></td>
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<tr>
<td>Thompson et al (2000, US)</td>
<td>91 System-based intervention based on behaviour change model</td>
<td>2 half-day training sessions with extra training for designated leaders</td>
<td>Providers’ KAB</td>
<td></td>
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<tr>
<td>Haist et al (2007, US)</td>
<td>14 Interactive DV workshop (2 h) using SPs</td>
<td>DV workshop discussion about DV background, signs of abuse, methods of screening for DV, elements of a safety plan, and state law requiring reporting</td>
<td>Insinuated SPs with DV case scenarios were not identified more frequently by DV workshop residents than by chronic pain workshop residents: 16 of 25 (64%) vs 13 of 23 (56%) (P=.86, OR = 1.12, 95% CI 0.35 to 3.59)</td>
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**Table 2 continued on page 623**
There were limitations to this review such as the small RCTs could not be searched or included, thus raising the possibility of missing some important literature. On the other hand, the use of a validated search strategy to identify the eligible studies minimized the chance of missing relevant articles.

**Conclusion**

It was difficult to determine the most effective educational strategy from this review, as the educational interventions varied in delivery methods, duration, and outcome measures used for evaluation. Online problem-based learning seems to increase physicians’ perceived self-efficacy in treating domestic violence. Physician training combined with system support interventions, particularly diagnosis; improved access to support services; and continuous audits and feedback. In one study, an interesting finding was the lack of effect of system-based interventions on physicians’ ability to identify victims of abuse. These findings might have also been influenced by the women’s reluctance to report abuse.

**Limitations**

There were limitations to this review such as the small number of studies, the heterogeneity of the interventions and outcome measures, the limiting of the search to English-language articles, and the fact that unpublished RCTs could not be searched or included, thus raising the possibility of missing some important literature. On the other hand, the use of a validated search strategy to identify the eligible studies minimized the chance of missing relevant articles.

**Table 2 continued from page 622**

<table>
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<th>NO. OF PARTICIPANTS</th>
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<th>CONTROL</th>
<th>DESCRIPTION OF INTERVENTION</th>
<th>OUTCOME MEASURES</th>
<th>RESULTS</th>
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<tbody>
<tr>
<td>Harris et al (2002, US)(^\text{20}) Practising physicians in Kansas</td>
<td>50 Online CME</td>
<td>49 No online CME</td>
<td>• Interactive case-based scenarios</td>
<td>• Change in physicians’ confidence to manage DV patients</td>
<td>• There was a mean increase (17.8%) in the self-efficacy domain score for the intervention group versus a decrease (0.6%) in the control group (P&lt;.001) • Significant changes in 5 other domain scores • No evaluation of physicians’ actual behaviour • Long-term changes in knowledge and attitudes were not assessed</td>
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<tr>
<td>Brienza et al (2005, US)(^\text{20}) University-based internal medicine residents</td>
<td>22 residents DV training workshop</td>
<td>22 residents DV training workshop and women’s shelter experience</td>
<td>• All residents participated in a 90-min IPV workshop that included didactic learning, videos, and role-playing • Intervention residents received shelter experience (visiting a local women’s safe shelter, and attending a weekly meeting of IPV survivors)</td>
<td>• Change in scores on IPV knowledge, skills, attitudes, and resource awareness subscales</td>
<td>• Intervention residents had a significantly greater improvement in the knowledge subscale (P=.04) • No significant differences between intervention and control groups for change in the skill, attitude, and resource awareness composite subscales (P= .3, P=.9, and P=.8, respectively) • Intervention residents self-reported more screening for IPV in women with “red-flag” presentations but this did not achieve statistical significance</td>
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<tr>
<td>Campbell et al (2001, US)(^\text{20}) 12 hospital EDs in Pennsylvania and California</td>
<td>330 System-based intervention</td>
<td>319 No system-based intervention</td>
<td>• 2-d training and planning program • Multidisciplinary team training approach (physician, nurse, social worker, administrator, and local DV advocate)</td>
<td>• Change in ED culture about IPV • Change in ED personnel knowledge of IPV and attitudes toward victims of DV • Rate of identification of victims of DV and prevalence of IPV • Patient satisfaction</td>
<td>• The intervention EDs had significantly higher summary scores on all components of the culture criteria (P=.04) • The intervention hospitals scored significantly higher than the control hospitals on a staff knowledge and attitude measure (P=.019) • There was no significant difference in the rates of identifying victims of DV (P=.52) • Patient satisfaction: intervention hospitals scored significantly higher (P&lt;.001) after the intervention</td>
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<tr>
<td>Short et al (2006, US)(^\text{20}) Community physicians in different specialties</td>
<td>44 Asynchronous online IPV teaching program (4 h of CME)</td>
<td>37 No online IPV teaching program</td>
<td>• Multimedia, interactive clinical cases • Audio, video, and text-based materials</td>
<td>• IPV background • Actual knowledge • Opinions • Practice issues (self-reported)</td>
<td>• Online IPV CME program produced a substantial improvement in 8 of 10 KAB outcomes during the study period • Opinion scale related to alcohol or drugs and IPV did not significantly change (P=.445) • Self-reported IPV management practices (behaviour) following the program were not assessed</td>
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such as increasing awareness of domestic violence, reminders for victim identification, and improved access to support services, seem to benefit domestic violence victims and increase referrals to domestic violence resources.

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Contributors
All authors contributed to the literature search, analysis and interpretation of the data, and preparing the manuscript for submission.

Competing interests
None declared.

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References


