Targeted IPV Education: Sustained Change in Rural and Mid-sized Medical Settings

Barbara A. Elliott, PhD
Professor, Department of Family Medicine;
Medical School Duluth;
University of Minnesota; Duluth, MN

Irina V. Haller, PhD
Senior Scientist, Division of Education and Research;
St Mary's Duluth Clinic; Duluth, MN

Jennifer M. Peterson, MSW
Program Officer, Generations Health Care Initiatives, Inc., Duluth, MN
(Previously, Community Health; St Mary's Duluth Clinic; Duluth, MN)

Corresponding Author: Barbara A. Elliott, PhD; Department of Family Medicine; Medical School Duluth, University of Minnesota; 1035 University Drive; Duluth MN 55812.
Ph: (218) 726-6981 Fax: (218) 726-7699
E-mail: belliott@d.umn.edu

Acknowledgements
We extend special thanks to the staff of the St Mary's Duluth Clinic Division of Education and Research for data collection and management, and to members of the St Mary's Duluth Clinic Domestic Violence Steering Committee for interest in the project and valuable suggestions. This project was supported by the Duluth Clinic Foundation and the St Mary's Duluth Clinic Research Committee.

INTRODUCTION

In rural and mid-sized settings, more than 30% women report a lifetime experience with violence (Elliott & Johnson, 1995; Johnson & Elliott, 1997; Kershner & Anderson, 2002), and between 12% and 25% women seen in primary care offices report living with an abusive partner (Elliott & Johnson, 1995; Johnson & Elliott, 1997; Kershner, Long & Anderson, 1998). The lack of appropriate IPV education and training have consistently been noted as important barriers to assessment and intervention (McLeer, Anwar, Herman & Maquiling, 1989; Rodriguez et al, 1999). Studies examining the effects of training on health care providers' behaviors have reported conflicting results (Haney, Kachur & Zabar, 2003; Harwell, Casten, Armstrong, Dempsy, Coons & Davis, 1998; Saunders & Kindy, 1999; Shepard, Falk & Elliott, 2002; Thompson et al, 2000), and temporary impact, if any (Glowa, Frasier, Wang, Eaker & Osterling, 2003; McCauley, Jenckes & McNutt, 2003; Shepard et al, 2002).

The study reported here was designed to evaluate the effectiveness of a targeted IPV educational intervention over time on self-reported knowledge and practice behaviors of health care providers in rural and mid-sized communities.

METHODS

Design

This study occurred between February 2001 and October 2002 and consisted of baseline and follow-up (20 months later) surveys of a health care provider cohort to assess their screening, intervention, and perceived barriers in caring for patients with IPV. Baseline findings were used to design a 5-month educational intervention that offered Continuing Education Credits (CEUs). System-level efforts were also introduced.

Population and Setting

The study took place in a multi-specialty, multi-site group practice based in a mid-sized community (86,917 population, US Census 2000) with eight regional clinics in

rural settings. All physicians, nurse-practitioners, and physician assistants who had direct contact with adult patients received the baseline survey, were exposed to the system-level efforts, and had opportunities to participate in the educational intervention. Only those providers who responded to the baseline survey received the follow-up survey. This project was approved by Human Subjects Committees at the St Mary's Duluth Clinic health system and the University of Minnesota.

Intervention

Targeted educational sessions included: a) information on IPV that was clinically relevant to the audience (e.g., IPV in pregnancy and post partum health for obstetricians); b) approaches to screening for IPV; c) risk assessment in patients who disclose IPV; d) referral and follow-up options for that setting; and when possible, e) questions and case discussion. In addition to one-hour hospital-based conferences, five out-patient presentations (15 to 45 minutes) were given at departmental meetings with the same learning objectives. Videotapes of the educational sessions were available. System-level interventions were introduced concurrently as follows: placing pamphlets in bathrooms, waiting and exam rooms; adding a question about personal safety to outpatient rooming sheets and inpatient nursing assessment forms; training sessions with clinic support staff and in-patient nurses; and identifying trained staff or social workers to help with IPV in outpatient settings. These interventions were consistent across the entire system, so all providers were equally exposed to them.

Instruments

The 35-item questionnaire was developed from published research (Parsons, Zaccaro, Wells & Stovall, 1995; Reid & Glasser, 1997; Rodriguez et al, 1999; Sugg & Inui, 1992; Sugg et al, 1999) and pilot-tested before use. Health care providers' screening practices, barriers to identifying patients, and management of patients with IPV were assessed as well as knowledge and opinion of local IPV resources. The follow-up questionnaire contained the same items and requested information about IPV training since the baseline survey.

Data Analysis

Responses were dichotomized (Rodriguez et al, 1999). The effect of the educational interventions on self-reported screening and intervening behaviors, knowledge, and barriers was analyzed using chi-square test and Fisher exact test, as appropriate. Multivariable logistic regression models adjusted for gender and baseline response were used to obtain adjusted odds ratios (OR) and corresponding 95% confidence intervals (CI). Statistical significance was at 5% level. Analyses were performed using SAS v.8.2 for microcomputer (SAS, Inc., Cary, NC).

RESULTS

Of the study cohort (n=334), 227 (68%) of health care providers responded at baseline. Twenty months later, 119 (61% of 195 who completed the baseline and were still practicing in the health care system) responded to the second survey. Consistent with the health system's health care provider group, the sample included 74% physicians, 42% primary care providers, and 32% females. Two-thirds (67%) practiced in the mid-sized community, and 33% in the rural (regional) clinics. Of the respondents, nearly a quarter (24%) reported participating in at least one IPV educational session during the intervention period.

Baseline provider knowledge, perceived barriers, attitudes, and behaviors were comparable to those reported in the literature using similar questions (McCauley, et al, 2003; Rodriguez et al, 1999; Waalen, Goodwin, Spitz, Petersen & Saltzman, 2000).

After twenty months, participants in the targeted educational sessions were more likely to provide some of the desired responses. Table 1 *(See Page 5)* shows the effect of IPV education at follow-up. Significant differences between the participants and non-participants are noted in screening, assessment, attitudes, and knowledge.

Table 2 *(See Page 6)* illustrates the findings of the regression analysis adjusted for gender and baseline responses. Compared to non-participants, participants in IPV education reported significant improvement in screening behaviors (annual/periodic visits); fewer barriers that interfered with screening and care decisions (patient disclosure of IPV, and cultural differences); better assessment of the lethality risk when IPV had been disclosed (by asking about the presence of guns in the home); and better knowledge of whom to contact for information and referrals when patients disclosed IPV concerns.

DISCUSSION

The current study demonstrates significant improvement of screening and intervention behaviors for providers who participated in IPV education and were practicing in rural and mid-size communities. Previous studies have indicated no change following intervention (McCauley et al, 2003), or some desired changes observed immediately after the intervention (Glowa et al, 2003; Shepard et al, 2002), or up to six months post-intervention (Thompson et al, 2000). One clinical trial with a twenty-one month follow-up did not document an increase in self-reported screening behaviors (Haney et al, 2003). In another report, systems-level interventions resulted in the only measured changes in IPV screening and services (Thompson et al, 2000).

It is possible that these positive findings result from the design of the intervention. The intervention included specific educational efforts that have since been suggested in the literature: focusing on providers' biases and beliefs (Institute of Medicine (IOM), 2002), using evidence-based content (IOM, 2002), incorporating supportive system-level activities (Haney et al, 2003; IOM, 2002), and teaching specific screening and assessment questions (IOM, 2002; McCauley et al, 2003).

Some limitations of this study are important to note. The relatively small number of study participants may have affected the statistical power of our findings. There are two important aspects of this limitation. First, although more providers were exposed to the targeted education, only those who responded to the baseline survey could be included in the analysis. Second, IPV is not a topic of broad CEU interest so fewer providers elect to attend sessions about it. California's obligation for IPV training is a systems-level response to this observation. Also, the main outcomes in the study are self-reported rather than observed behaviors. Finally, the statistical results are based on 5% level of significance, and are not conservatively reported. Nonetheless, the consistency of these findings suggests that when combined with systems-level efforts, targeted educational interventions do result in measurable, sustained changes in rural and mid-sized community providers' IPV behaviors and attitudes.

REFERENCES

Elliott, B. A., & Johnson, M. M. P. (1995). Domestic violence in a primary care setting: patterns and prevalence. *Archives of Family Medicine,* 4, 113-119.

Glowa, P.T., Frasier, P.Y., Wang, L., Eaker, K., & Osterling, W. L. (2003). What happens after we identify intimate partner violence? The family physician's perspective. *Family Medicine,* 35, 730-736.

Haney, K., Kachur, E., & Zabar, S. (2003). A brief but multi-faceted approach improves clinicians' domestic violence confidence, competence and clinical performance. *Medical Education,* 37, 473-489.

Harwell, T., Casten, R., Armstrong, K., Dempsy, S., Coons, H., & Davis, M. (1998). Results of a domestic violence training program offered to the staff of urban community health centers. *American Journal of Preventive Medicine*, 15, 235-242.

Institute of Medicine. (2002). Confronting chronic neglect: the education and training of health professionals on family violence. Executive Summary. Copyright 2002, 2001: The National Academy of Sciences. http://books.nap.edu/books/0309074312.html/1.html Accessed May 7, 2002.

Johnson, M. M. P., & Elliott, B. A. (1997). Domestic violence among patients in urban and rural family practices. *Journal of Family Practice,* 44, 391-400.

Kershner, M., & Anderson, J. E. (2002). Barriers to disclosure of abuse among rural women. *Minnesota Medicine.* 85, 32-37.

Kershner, M., Long, D., & Anderson, J. E. (1998). Abuse against women in rural Minnesota. *Public Health Nursing.* 15, 422-431.

McCauley, J., Jenckes, M. W., & McNutt, L. A. (2003). ASSERT: The effectiveness of a continuing medical education video on knowledge and attitudes about interpersonal violence. *Academic Medicine,* 78, 518-524.

McLeer, S., Anwar, R., Herman, S., & Maquiling, K. (1989). Education is not enough: a system failure in protecting battered women. *Annals of Emergency Medicine,* 18, 651-653.

Parsons, L., Zaccaro, D., Wells, B., & Stovall, T. (1995) Methods of and attitudes toward screening obstetrics and gynecology patients for domestic violence. *American Journal of Obstetrics and Gynecology,* 173, 381-387.

Reid, S., & Glasser, M. (1997). Primary care physician's recognition of and attitudes toward domestic violence. *Academic Medicine,* 72, 51-53.

Rodriguez, M., Bauer, H., McLoughlin, E., & Grumbach, K. (1999). Screening and intervention for intimate partner abuse: practices and attitudes of primary care physicians. *JAMA,* 282, 468-474.

Saunders, D., & Kindy, P. (1999). Predictors of physician's response to woman abuse: the role of gender, background, and brief training. *Journal of General Internal Medicine,* 8, 606-609.

Shepard, M., Falk, D., & Elliott, B. A. (2002). Enhancing coordinated community responses to reduce recidivism in case of domestic violence**.** *Journal of Interpersonal Violence,* 17, 551-569.

Sugg, N., & Inui, T. (1992). Primary care physicians' response to domestic violence: opening Pandora's box. *JAMA,* 267, 3157-3161.

Sugg, N., Thompson, R., Thompson, D., Maiuro, R., & Rivara, F. (1999). Domestic violence and primary care. *Archives of Family Medicine,* 8, 310-306.

Thompson, R. S., Rivara, F. P., Thompson, D. C., Barlow, W. E., Sugg, N. K., Maiuro, R. D., & Rubanowice, D. M. (2000). Identification and management of domestic violence: a randomized trial. *American Journal of Preventive Medicine*, 19, 253-263.

Waalen, J., Goodwin, M. M., Spitz, A. M., Petersen, R., & Saltzman, L. E. (2000). Screening for intimate partner violence by health care providers: barriers and interventions. *American Journal of Preventive Medicine*, 19, 230-237.

TABLES

Table 1. Effect of IPV education on major outcomes at follow-up (reported as percentages)

Outcome	All N=118*	IPV Education N=28	No IPV Education N=90	p-value**
Routine screening for IPV				
New patient visit	20	30	17	0.150
Annual/periodic exams	30	50	22	**0.012**
Patients with injuries	70	78	68	0.282
Patients with suspicious behaviors	78	86	76	0.283
Major Barriers				
Patients not alone	65	64	65	0.932
Patients fear of retaliation	75	78	74	0.682
Patients do not follow up	62	48	66	0.097
Patients do not disclose	62	46	66	0.060
Patients' cultural differences	37	19	42	**0.034**
Patients are offended	26	36	22	0.162
Providers are not accustomed	42	25	48	**0.034**
Providers' time pressure	46	50	45	0.633
Providers are uncomfortable	20	18	20	0.764
Routine intervention practices				
Express concern***	93	100	91	0.196
Ask about guns	49	75	40	**0.001**
Suggest leaving	49	61	45	0.144
Provide info about shelters	81	93	77	0.067
Refer to local programs	67	82	62	**0.050**
Refer to individual counseling	64	63	65	0.864
Refer to family counseling	43	44	42	0.826
Document battering in chart	77	82	76	0.507
Knowledge and attitudes				
Know who to contact	48	69	42	**0.014**
Have sufficient info	58	64	57	0.475

* One case was excluded from analyses due to missing values
**Chi-square test of significance or Fisher Exact Test as appropriate
***Not included in subsequent multivariable logistic regression analysis due to small cell size

Table 2. Effect of IPV training on major outcomes: Results of multivariable logistic regression analysis

Outcome	Adjusted OR* (95% CI)	p-value
Routine screening for DV victims		
New patient visit	1.3 (0.4 – 3.8)	0.678
Annual/periodic exams**	**3.4 (1.0 – 11.0)**	**0.046**
Patient with injury	1.3 (0.4 – 4.1)	0.606
Patient with suspicious behavior	1.8 (0.5 – 7.0)	0.389
Major Barriers		
Patients not alone	0.9 (0.4 – 2.2)	0.840
Patients do not follow up	0.5 (0.2 – 1.2)	0.130
Patients do not disclose	0.4 (0.2 – 0.9)	**0.033**
Patients' cultural differences	0.2 (0.1 – 0.6)	**0.004**
Patients are offended	3.4 (0.5 – 4.9)	0.387
Providers are not accustomed	0.5 (0.2 – 1.4)	0.187
Providers' time pressure	2.2 (0.8 – 6.1)	0.112
Providers are uncomfortable	1.0 (1.3 – 3.1)	0.964
Routine intervention practices		
Ask about guns	3.9 (1.3 – 12.3)	**0.020**
Suggest leaving	1.5 (0.6 – 3.8)	0.427
Provide info about shelters	2.8 (1.6 – 13.6)	0.188
Refer to local programs	2.2 (0.7 – 6.3)	0.138
Refer to individual counseling	0.7 (0.3 – 1.7)	0.382
Refer to family counseling	1.1 (0.4 – 2.8)	0.876
Document battering in chart	1.0 (0.3 – 3.2)	0.993
Knowledge and attitudes about IPV		
Know who to contact	2.6 (0.9 – 7.4)	0.082
Have sufficient info	1.1 (0.4 – 3.2)	0.816

*Adjusted for baseline response and gender
**29% of respondents indicated that this setting is not applicable for their practice