Risk indicators to identify intimate partner violence in the emergency department

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ABSTRACT

Background: Intimate partner violence against women is prevalent and is associated with poor health outcomes. Understanding indicators of exposure to intimate partner violence can assist health care professionals to identify and respond to abused women. This study was undertaken to determine the strength of association between selected evidence-based risk indicators and exposure to intimate partner violence.

Methods: In this cross-sectional study of 768 English-speaking women aged 18–64 years who presented to 2 emergency departments in Ontario, Canada, participants answered questions about risk indicators and completed the Composite Abuse Scale to determine their exposure to intimate partner violence in the past year.

Results: Intimate partner violence was significantly associated with being separated, in a common-law relationship or single (odds ratio [OR] = 2.08, 95% confidence interval [CI] 1.17–3.71); scoring positive for depression (OR = 4.26, 95% CI 2.11–8.60) or somatic symptoms (OR = 4.09, 95% CI 2.18–7.67); having a male partner who was employed less than part time (OR = 5.12, 95% CI 2.46–10.64), or having a partner with an alcohol (OR = 4.36, 95% CI 2.16–8.81) or drug problem (OR = 4.63, 95% CI 1.89–11.38). Each unit increase in the number of indicators corresponded to a four-fold increase in the risk of intimate partner violence (OR = 3.92, 95% CI 3.06–5.02); women with 3 or more indicators had a greater than 50% probability of a positive score on the Composite Abuse Scale. Intimate partner violence was not associated with pregnancy status.

Conclusion: Specific characteristics of male partners, relationships and women's mental health are significantly related to exposure to intimate partner violence in the past year. Identification of these indicators has implications for the clinical care of women who present to health care settings.

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DESPITE ITS IDENTIFICATION OVER A DECADE AGO as a serious public health problem,[1] statistics on the prevalence,[2-4] consequences[5-8] and costs[9-11] of intimate partner violence (IPV) against women attest to its persistent and devastating impact on families and society today. As many as 37% of women who present to emergency departments (EDs) in the United States report having been victims of emotional or physical abuse at some point during their lives; 2.2% present with acute physical trauma resulting from partner abuse; and 14.4% report abuse in the past year.[12]

The best approach to the identification, in health care settings, of women exposed to IPV remains unclear. Several recent systematic reviews,[13-15] including one that examined the ED context,[16] found no evidence for the effectiveness of IPV screening in improving outcomes for women. Two evidence-based practice guidelines have concluded that there is insufficient evidence to support routine screening for IPV, primarily because of the lack of evidence for effective IPV interventions to which women identified as abused can be referred.[17,18]

The absence of evidence for the effectiveness of routine screening requires that clinicians be especially aware of the signs and symptoms of abuse to facilitate appropriate case identification of women experiencing violence who may wish to discuss the issue but may not self-disclose.[19,20,21] Similarly, the absence of evidence for effective interventions puts an additional burden on clinicians to understand the woman's context and develop a treatment or referral plan suited to her situation. Therefore, knowledge of the risk indicators for IPV can assist in the "diagnostic" or "case-finding" approach to identification of abused women.[19,20,21]

The purpose of this study was to examine the relationship between IPV and factors posited to correlate with IPV among female ED patients. For this study we selected risk indicators that could be assessed using information elicited during a routine patient interview; the selection was also based on the results of a systematic review of prior evidence[22] and an unpublished meta-analysis of risk indicators for IPV (available from the authors).

Methods

Study setting, participants and procedures. The study was conducted from May 2004 to February 2005 (data were analyzed in January and February 2006). Participants were the subgroup of women from a larger trial[23] that evaluated approaches to IPV screening who presented to 1 of 2 EDs in southwestern Ontario. The EDs were in communities of 15,000 ("town," also serving a large rural area) and 122,000 ("city") people and had 32,000 and 39,000 annual ED visits,

respectively.

Sample size was determined by the requirements of the larger trial. All women who presented for care at each ED during the study period were invited to participate if they met the following criteria: 18 to 64 years old; at the ED for their own health care visit; able to be interviewed away from individuals accompanying them, including dependent children other than those less than 18 months old; able to speak and read English; not too ill to participate (as defined by a score of 3 to 5 (on a scale of 5) on the Canadian Emergency Department Triage and Acuity Scale (CTAS), that is "urgent," "less urgent" and "non urgent"); and able to provide informed consent. For safety reasons no reference to abuse or violence was made until the women were taken to a private area where informed consent was obtained. Following informed consent, the women were asked to complete all of the measures described below.

Ethical and safety issues. All participants were advised before enrollment that the ED staff would not be informed of their responses to any of the questions asked but were available to discuss any concerns. The women were provided with information about resources in the community and were given the option to have shredded any study material that they felt might put them at risk. All women answered the risk indicator questions on paper forms provided by the study's recruitment staff. According to the requirements of the larger trial, approximately two-thirds of the women were provided with the questions by the trial recruiter before being seen by the health care provider. Women who were randomly assigned, for the randomized trial, to the face-to-face screening condition answered the risk indicator and demographic questions after the clinical visit and before leaving the ED. Health care providers at each site were given specialized training in responding to IPV. Led by clinical experts in the field, the training included information on the causes and consequences of IPV and local resources to which providers could refer women (for the 2 settings discussed in the present report, this included on-site resources, such as a Sexual Assault Domestic Violence Care Centre, and community-based services, including advocacy agencies and shelters). The study was approved by the McMaster University / Hamilton Health Sciences Research Ethics Board and the research ethics committees of the participating hospitals.

Development of risk indicator questions. Indicators were selected according to the results of a systematic review[22] and an unpublished meta-analysis conducted by the authors to assess the strength of association between risk indicators and abuse status. The likelihood that a given risk indicator could be assessed using information elicited during a routine patient interview was another factor in the selection process.

The following indicators (described below) were selected for assessment: type of relationship; employment status of the male partner (women were asked the sex of their partner: 97.4% indicated that they had a male partner, resulting in too small a sample (n = 19) to make meaningful statements about risk indicators in same-sex relationships; therefore, the data are presented for female-male relationships only); current pregnancy status; alcohol or drug abuse by the partner; depressive and somatic symptoms in the woman; and specific demographic characteristics identified in the literature. The psychometric properties of the indicator questions are provided below where available; we do not have these data for the demographic and de novo questions (e.g., alcohol and drug use). Development of the questions was iterative and included input from pilot testing with IPV and questionnaire design experts and from women residing in a shelter for abused women and in the community. There were 12 parts to the questionnaire, the last 2 being scales for depression (9 items) and somatic complaints (15 items): in total, there were 34 items. Although we did not time the study participants, pilot testing with women indicated a mean completion time of 15 minutes (standard deviation = 5 minutes).

Measures. In addition to answering standard demographic questions, participants completed items on the following variables.

Type of relationship. A single question asked about type of relationship: single and never married; married; common-law (referring to 2 people of the same or opposite sex who live together but are not legally married); separated; divorced; or widowed. This variable was dichotomized as "separated or common-law or single" versus "divorced or married or widowed" according to the associations between these categories and IPV risk in this data set and based on previous literature indicating that recent separation is associated with stalking and other forms of harassment.

Male partner's employment status. The woman was asked to describe her male partner's employment status using 1 of 5 options: full-time job; part-time job; works once in a while, e.g., as a day labourer; unemployed in the last 6 months; or unemployed for more than 6 months. The category associated with risk for IPV was employment less than part-time (options other than full-time job or part-time job), and so categories were collapsed for subsequent analyses.

Male partner's alcohol and drug use. Single-item, dichotomized (yes/no) questions were created for this study that asked each woman if her partner had, in her opinion or that of family, friends or professionals, an alcohol problem (1 question) or a drug problem (1 question).

Pregnancy. A single item asked if the respondent was pregnant (yes/no).

Depression. Depression was assessed using the self-report version of the depression subscale from the PRIME-MD Patient Health Questionnaire (PHQ-9),[24] which has been extensively validated against clinician-administered approaches and has good psychometric properties (kappa = 0.65, sensitivity = 75%, specificity = 90%. accuracy = 85%).[24] The PHQ-9 has 9 items that range in frequency from 0 ("not at all") to 3 ("nearly every day") with a range in total scores of 0 to 27. Scoring was performed according to the instruction manual, and this variable was dichotomized as "with symptoms of major depressive disorder" versus "without symptoms of major depressive disorder."

Somatic symptoms. Somatization was assessed using the self-report version of the 15-item somatic complaints subscale from the PRIME-MD Patient Health Questionnaire (PHQ-15),[25] a valid and reliable assessment tool (construct validity as assessed against 3 other somatic complaints instruments and Cronbach's alpha >> 0.80 for reliability). The items were scored from 0 ("not bothered at all") to 2 ("bothered a lot"), for a total score range of 0–30, with cut-off points for somatic symptom severity of < 5 (none or minimal), 5–9 (low), 10–14 (medium) and ≥ 15 (high).[25] This variable was dichotomized as a score of ≥ 15 (high) versus 0–14 (low or moderate).

IPV exposure. The Composite Abuse Scale (CAS)[26,27] was completed by all women and served as the reference standard to assess abuse exposure. The CAS is a validated 30-item instrument developed for research purposes that assesses physical, sexual and emotional abuse, harassment and severe combined abuse. Women were asked to consider their exposure in the past 12 months to such items as "[My partner] slapped me"; "forced me to have sex"; "harassed me over the telephone"; "told me I wasn't good enough." The CAS has a total possible score of 150; each of the 30 items is measured according to frequency, from 0 ("never") to 5 ("daily"). A CAS score of ≥ 7 was deemed positive for IPV.[26]

Women's perceptions of the risk indicator questions. Women completed 8 questions about the experience of responding to the risk indicator questions, including the ease of understanding them, their emotional responses to them (anger, upset, discomfort), and whether the questions were embarrassing, offensive, too harsh or too personal. Questions were scaled 1 to 5, anchored by 1 ("not at all") and 5 ("very").

Statistical analysis. Analyses were run in SPSS version 11.0.1 (SPSS Inc., Chicago, Ill.). Descriptive statistics were determined for each variable of interest. Logistic regressions provided odds ratios (ORs) and 95% confidence intervals (CIs) for the bivariate relationships between each indicator and IPV exposure, and between the woman's age (in years) and IPV, and the partner's age (in years) and IPV. To

determine whether risk indicators performed differently in the 2 settings, a term for site and a term for the interaction of site and the indicator variable were included in each regression. Indicators with significant bivariate associations with IPV exposure were entered into a multiple logistic regression. The positive and negative predictive values, sensitivity, specificity and efficiency of the risk indicators in predicting abuse status were also calculated.

Logistic regression was used to determine the relationship between the number of positive risk indicators and IPV status, as well as for combinations (interactions) of indicators specified a priori to be strongly associated with IPV status. These combinations, based on the literature, were as follows: partner alcohol problem plus partner underemployment; partner drug problem plus partner underemployment; and partner drug problem plus partner alcohol problem.

Results

Descriptive data. Of the 798 eligible women who entered the 2 EDs during the study period, 768 provided informed consent, for a refusal rate of 3.8%. Table 1 presents the demographic characteristics of the 768 women in the sample, overall and by site.

Examination of demographic characteristics indicated some differences between sites. Women in the larger, urban ED were younger and less likely to be married. They were also more likely to self-identify as being a member of a minority group and to have been born outside Canada. Women in the more urban site were also more likely to work outside the home or be students and less likely to be homemakers, retired, unemployed or disabled. More women in the urban site relied on their own wages or salary and fewer on their partners' income or other form of support or social assistance. Analysis by site revealed no statistically significant differences in the nondemographic risk indicators and no difference in IPV rates; therefore, subsequent inferential analyses were conducted on the grouped sample.

Presence of risk indicators and relationship with IPV status. Of the 768 women who provided informed consent and were included in the sample, 40 women (5.2%) did not provide sufficient data on the CAS to allow a determination of their IPV status. These cases were excluded from the regression analyses, leaving 728 cases for these analyses. CAS scores indicated that 13.9% (101/728) of these women reported being exposed to IPV in the previous 12 months. Table 2 presents the percentage of women in the sample who were positive for each risk indicator, stratified by IPV status, and the bivariate associations between risk indicators and reports of IPV. Since no significant

interactions between site and any indicator were found, simple bivariate associations are presented. Those women who reported IPV were significantly more likely to be separated, living in a common-law relationship or single, to have a male partner employed less than part time, to have a partner with an alcohol or drug problem, and to be experiencing depression or somatization. They were also significantly younger, as were their partners. Being pregnant was not significantly associated with IPV status.

Table 3 presents the positive and negative predictive values, sensitivity, specificity and efficiency of the risk indicators as predictors of abuse status, singly and in groups. Although the absence of indicators is quite predictive of no abuse exposure (as seen in the specificity values of > 90% and the negative predictive values of > 86%), the sensitivity and positive predictive values are low to moderate. Generally, the questions are reasonably efficient in predicting abuse status, although this is driven by the negative predictive values.

Overall relationship between risk indicators and IPV. In the full regression model (Table 4), with the exception of marital status and the 2 age variables, all indicators that were significantly related to IPV in the bivariate analyses remained so. Each indicator was associated with an OR of at least 4.0. Overall, the model accounts for 22% of the variance in IPV status. None of the hypothesized interaction effects was significant.

Regarding the number of risk indicators, the majority of women had no (40.1%) or 1 (38.3%) indicator; 21.6% had 2 or more indicators; and 8.9% had 3 or more. The number of risk indicators present was significantly related to IPV status, with each unit increase in number of indicators corresponding to a nearly four-fold increase in IPV risk (OR = 3.92, 95% CI 3.06–5.02, p < 0.001). Figure 1 shows the receiver operating characteristic (ROC) curve describing the predictive value of the number of risk indicators; the area under the curve was 0.839 (95% CI 0.793–0.885, p < 0.001).

Evaluation of risk indicator questions by participants. Most women found the risk indicator questions acceptable. The percentage of women who indicated "not at all" to the items were as follows: hard to understand, 93.4; make you feel uncomfortable, 87.7; make you feel upset, 89.5; make you feel angry, 93.4; embarrassing, 90.1; offensive, 95.5; too harsh, 95.3; too personal, 88.8.

Discussion

The present study took a clinically oriented approach to examining the relationship between intimate partner violence and the specific characteristics of women,

Table 1: Demographic characteristics by site

Characteristic	Total, n (%) (N = 768)	Site 1, n (%) (n = 433)	Site 2, n (%) (n = 335)
Marital status (n = 735)			
Single	148 (20.1)	100 (24.2)	48 (15.0)
Married	355 (48.3)	180 (43.5)	175 (54.5)
Common-law	152 (20.7)	93 (22.5)	59 (18.4)
Separated /divorced/ widowed	80 (10.9)	41 (9.9)	39 (12.1)
Male partner (n = 749)	707 (97.4)	391 (95.6)	316 (99.7)
No. of children at home (n = 729)			
None	314 (43.1)	171 (41.6)	143 (45.0)
1 or 2	330 (45.3)	189 (46.0)	141 (44.3)
3 to 8	85 (11.6)	51 (12.4)	34 (10.7)
Born in Canada (n = 737)	646 (87.7)	349 (83.9)	297 (92.5)
Self-ID as belonging to minority (n = 699)	67 (9.6)	48 (12.1)	19 (6.3)
Education (n = 733)			
1–11 years (less than high school)	143 (19.5)	76 (18.4)	67 (20.9)
12–13 years (completed high school)	292 (39.8)	166 (40.3)	126 (39.3)
14+ years (at least some college or university)	298 (40.7)	170 (41.3)	128 (39.9)
Main activity (n = 735)			
Working outside the home	344 (46.8)	200 (48.3)	144 (44.9)
Homemaker, caring for family	93 (12.7)	49 (11.8)	44 (13.7)
Working outside home and caring for family	156 (21.2)	97 (23.4)	59 (18.4)
Student	41 (5.6)	26 (6.3)	15 (4.7)
Retired	19 (2.6)	5 (1.2)	14 (4.4)
Unemployed	20 (2.7)	8 (1.9)	12 (3.7)
Disabled or otherwise unable to work	36 (4.9)	17 (4.1)	19 (5.9)
Other	26 (3.5)	12 (2.9)	14 (4.4)
Main income source (n = 732)			
Wages or salary	416 (56.8)	255 (61.7)	161 (50.5)
Spouse's or partner's income	200 (27.4)	101 (24.5)	99 (31.0)
Alimony or child support, social assistance or employment insurance	116 (15.8)	57 (13.8)	59 (18.5)
Household income* (n = 719)			
Less than $24,000	161 (22.4)	89 (21.9)	72 (23.1)
$24,000 − $39,999	162 (22.5)	96 (23.6)	66 (21.2)
$40,000 − $62,999	181 (25.2)	99 (24.3)	82 (26.3)
$63,000 − $89,999	112 (15.6)	58 (14.3)	54 (17.3)
$90,000 or over	103 (14.3)	65 (16.0)	103 (12.2)
Woman's age in years, mean (SD) (n = 735)	36.4 (12.4)	34.4 (11.5)	39.0 (13.0)
Partner's age in years, mean (SD) (n = 720)	38.4 (12.8)	36.8 (12.3)	40.7 (13.1)

Site 1: city of 122,000 people   Site 2: town of 15,000 people
*Income groups and cut-off points are taken from Ontario income quintiles, Statistics Canada, 2006.

Table 2: Laboratory testing while on monotherapy, by drug class

	Test density (number of tests per 100 patients per 6 months, expressed as mean and 95% CI)					
		Initially prescribed antihypertensive class				
Test	Total (n = 164,413)	ACE inhibitor (n = 48,810)	ARB (n = 1,479)	Beta-blocker (n = 24,274)	CCB (n = 25,393)	Thiazide (n = 64,457)
Electrolytes	38.4 (38.0-38.9)	36.6 (35.8-37.3)	23.4 (20.2-26.7)	26.0 (25.2-26.9)	26.9 (26.0-27.8)	49.4 (48.6-50.2)
Renal function	46.9 (46.4-47.3)	48.5 (47.7-49.3)	36.4 (32.5-40.4)	38.6 (37.5-39.6)	39.9 (38.8-40.9)	51.7 (51.0-52.5)
Cholesterol	28.7 (28.3-29.0)	31.8 (31.2-32.4)	29.4 (26.2-32.6)	29.6 (28.8-30.5)	30.0 (29.2-30.8)	25.4 (24.9-25.9)
Glucose	42.2 (41.8-42.6)	41.5 (40.7-42.2)	34.0 (30.3-37.8)	39.9 (38.8-40.9)	39.9 (38.9-40.9)	44.8 (44.1-45.4)
Any test	156.2 (154.8-157.5)	158.3 (155.9-160.7)	123.3 (111.3-135.3)	134.1 (131.0-137.2)	136.7 (133.5-139.8)	171.3 (169.0-173.6)

CI = confidence interval

Table 3: Predictive ability of risk indicators

Risk indicator	IPV+ n	IPV– n	Sensitivity (CI)	Specificity (CI)	PPV (CI)	NPV (CI)
Separated, common-law or single	71	266	0.71 (0.61–0.79)	0.57 (0.53–0.61)	0.21 (0.17–0.26)	0.92 (0.89–0.95)
Partner employed less than part-time	28	37	0.29 (0.21–0.40)	0.94 (0.92–0.96)	0.43 (0.31–0.56)	0.89 (0.87–0.92)
Partner has an alcohol problem	37	36	0.37 (0.28–0.48)	0.94 (0.92–0.96)	0.51 (0.39–0.62)	0.90 (0.88–0.93)
Partner has a drug problem	29	14	0.30 (0.21–0.40)	0.98 (0.96–0.99)	0.67 (0.51–0.80)	0.90 (0.87–0.92)
Pregnant	7	52	0.07 (0.03–0.15)	0.92 (0.89–0.94)	0.12 (0.05–0.23)	0.86 (0.83–0.89)
Experiencing depression	40	32	0.42 (0.32–0.52)	0.95 (0.93–0.96)	0.56 (0.43–0.67)	0.91 (0.89–0.93)
Experiencing somatic symptoms	42	65	0.43 (0.33–0.54)	0.90 (0.87–0.92)	0.39 (0.30–0.49)	0.91 (0.88–0.93)

IPV+ = exposed to intimate partner violence in the past year
IPV– = not exposed to intimate partner violence in the past year
CI = 95% confidence interval
PPV = positive predictive value
NPV = negative predictive value

their partners and their relationships to provide information about the potential risk indicators for IPV that are both clinically relevant and detectable during history-taking and diagnostic assessment.

The annual prevalence rate of 13.9% in the present study included all forms of abuse by an intimate partner (physical, sexual and emotional/psychological), and falls within the range of annual rates reported in studies conducted in clinical samples in the United States and Canada,[12,28,29] although the largest US study using an ED sample measured only physical and sexual abuse, finding a prevalence of 14.4%.[12] In addition, the results regarding relationship and partner characteristics are consistent with existing data, including type of union[30,31] and the significant impact of the male partner's alcohol or drug abuse[30-36] and underemployment.[33,36] Finally, the significant bivariate association between both the woman's age and IPV and the partner's age and IPV is consistent with previous research,[12,30] women reporting IPV being significantly younger and having younger partners. However, these age variables, as well as the marital status variable, were not significant in the multivariate model, indicating that the significant bivariate relationships result from the correlation of these variables with other variables in the model. For example, younger women are more likely to have younger partners. Younger males are more likely to be aggressive and to perpetrate more severe violence[30,37] and are more likely to be underemployed.[38]

In terms of specific characteristics of women and their clinical utility in predicting IPV exposure, the 2 indicators of mental health are of particular interest. Recent guidelines suggest that screening adults for depression and linking the results to a diagnostic and treatment plan are effective in reducing depression and its health-related outcomes.[39,40] The present results and those of others[5,6] suggest that the presence of depression is an important risk indicator for IPV; therefore, any woman with suspected depression should be asked about IPV, as this could be a critical factor in determining treatment options. Similarly, the finding that 15% of the current sample scored "high" on the questions concerning somatic symptoms is of note. Of these women, 43% also reported IPV, a finding consistent with that of Glass and colleagues,[41] who found that 20% of women disclosing in the ED physical or sexual abuse in the past year were presenting for pain-related, non-injury complaints. This finding suggests that women presenting with high levels of somatic symptoms should be asked about exposure to IPV; such inquiry has the potential to limit the need for additional diagnostic investigations.

Of particular note is the additive effect of risk indicators: for each additional indicator present, the woman's odds of reporting IPV in the past year increased almost four-fold. More than 50% of the women with 3 indicators reported IPV in the past year, and this percentage approached 100% for women with 4–6 indicators, although the subsamples in the latter group were small. The data on the predictive value of multiple indicators provide further support for this observation: the presence of 4 or more indicators predicts abuse status with 96% accuracy.

The sole indicator that was not significantly associated with abuse was pregnancy, a finding consistent with the current literature. Although unintended pregnancy has been linked to abuse,[42] most studies find either no significant difference in rates of abuse during the pre-, peri- and post-natal periods or a trend toward a decrease in abuse when a woman is pregnant.[43,44,45] Abuse that occurs earlier in the time span between the pre- and post-natal periods (rather than the pregnancy itself) is by far the strongest predictor of abuse later in this time span; that is, pre-natal abuse predicts peri- and post-natal abuse, and

Table 4: Regression of risk indicators on IPV status

Risk indicator	Odds ratio (95% CI)	p value
Separated, common-law or single	1.8 (0.9–3.6)	0.078
Partner employed less than part-time	5.6 (2.6–12.0)	< 0.001
Partner has an alcohol problem	4.6 (2.2–9.5)	< 0.001
Partner has a drug problem	4.4 (1.8–10.9)	0.001
Experiencing depression	4.6 (2.3–9.4)	< 0.001
Experiencing somatic symptoms	4.0 (2.1–7.5)	< 0.001
Woman's age	1.02 (0.97–1.1)	0.421
Partner's age	0.97 (0.9–1.0)	0.237

peri-natal abuse predicts post-natal abuse.[44] The potential consequences of abuse during pregnancy are, however, severe,[46,47] and clinicians should maintain a high degree of suspicion when pregnant women present with clinical indicators of abuse.

There were demographic differences between the two EDs from which participants were recruited, but because these differences were consistent with the urban versus semi-urban/rural characters of the 2 sites, the overall sample was representative of the broader population.[48]

Information not collected for this study, but that should be considered for future research, included whether the woman's reason for presenting to the ED (chief complaint) was directly related to IPV and whether she was currently experiencing post-traumatic stress disorder. These data would be useful to help understand not only the relationships between and among the current set of indicators, IPV and post-traumatic stress disorder, but whether the visits to the ED by women disclosing abuse was directly or indirectly related to violence.

Clinical implications. In the absence of clear evidence about whether routine screening for IPV does more good than harm,[14,17,18] awareness by health care providers of the types of indicators significantly associated with IPV can assist with assessing and responding appropriately to the patient (for example, being sensitive to the need to interview a woman away from any family members). Women in this study found the risk indicator questions to be acceptable and did not indicate concerns regarding being asked about violence. The relatively poor performance of the indicators as positive predictors of abuse, however, precludes recommending that these be used as a form of "risk-based screening"; rather, their utility lies in signaling to the clinician that violence may be a concern, especially when more than 1 risk indicator is present. There may be some conditions (such as depression) or symptoms (such as a high level of somatic complaints) for which identifying IPV exposure can assist with diagnosis and treatment. For example,
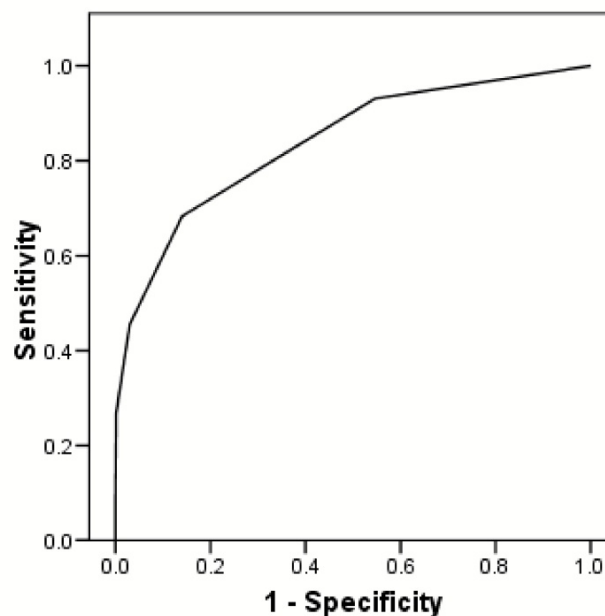

Figure 1: Receiver operating characteristic (ROC) curve for IPV detection at 0 through 6 significant risk indicators. Risk indicators are: woman is separated, living in a common-law relationship or single; partner is employed less than part-time; partner has an alcohol problem; partner has a drug problem; woman is experiencing depression; and woman is experiencing somatic symptoms.

developing a treatment plan for depression that includes antidepressants or cognitive behavior therapy or both without taking into account exposure to violence could reduce the effectiveness of the management strategy. Ultimately, these findings might serve as the basis for the derivation of a clinical prediction rule to be used by ED staff in the identification of IPV victims; however, additional research is needed to determine the right combination of indicators to ask about to improve the predictive value of this approach. An important yet unanswered question is, Once a woman is identified as a victim of violence, how can clinicians best care for her? This question remains a pressing research gap.

Acknowledgement

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