

Indicators of Woman Abuse Based on a Chart Review at a Family Practice Center

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Objective: To identify demographic and health indicators of domestic violence.

Design: Anonymous questionnaire survey of patients regarding violence and a chart review regarding symptoms and diagnoses.

Setting: Community-based family practice residency training center in a midwestern city.

Participants: Women 18 years of age or older visiting the center over a 2-month period in 1990. Of 476 eligible participants, 394 (82.7%) consented to complete the survey.

Measures: A detailed, standardized measure of violence was used. Physical and psychological problems were given codes from the *International Classification of Diseases, Ninth Revision (ICD-9)*.

Results: Younger women and those separated or divorced from their partners were more likely to have been victims. Never-married women also had substantially high rates of victimization. Depression was the strongest indicator of victimization, even when controlling for demographic factors. Back pain, ulcers, headaches, and anxiety were not strong indicators of abuse. A classification analysis showed that a combination of all variables could predict lifetime injury only about half the time and violence in the past year only about 20% of the time.

Conclusions: Since neither demographic nor health factors could accurately predict who had been victimized, all women need to be asked about abuse. Physicians should also keep in mind that divorced and unmarried women are often affected by abuse, either immediately or by its long-term aftereffects.

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DESPITE RECEIVING increased attention in recent years, the abuse of women by intimate partners continues to be a major social and medical problem.¹⁻³ Medical facilities are the first place that many battered women seek help,⁴⁻⁶ either for acute care^{7,8} or for the long-term care of the physical and mental health sequelae of assaults.^{9,10} Although health care professionals are in a position to aid battered women, they are often criticized for failing to detect these women's source of injuries and ill health.^{11,12} Victims may provide hints about their abuse, but remain reluctant to directly disclose it out of shame, fear of the abuser, or other reasons. If asked directly, however, most victims reveal the abuse.^{5,13,14} Increased knowledge of the typical medical and emotional problems pre-

sented by battered women may aid the physician in detection.

The purpose of this study is to provide more information on indicators of abuse. Physicians have been provided with lists of health complaints and behavioral and emotional signs to guide detection, but these are based largely on experts' impressions and uncontrolled studies.¹⁵⁻¹⁷ Previous studies of the health problems of battered women have relied primarily on surveys of the general population, victims seeking social services, and patients from specialty

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PATIENTS AND METHODS

SETTING

The study was conducted at a large, community-based, family practice residency training center. About 180 women are seen every month in the center. All faculty members and residents received periodic training on domestic violence and other psychosocial problems. However, no protocol existed in the center for detection of these problems.

PARTICIPANTS

Patients eligible for the study were women over 18 years of age who had been in a committed relationship with a man for at least 6 months. They had to be free of dementia and able to speak English.

The mean age of participants was 36.6 years (SD, 15 years); 48% were married, 19% separated or divorced, 29% never married, and 3% widowed. Eighty-nine percent were white, 7% black, 3% Hispanic, and 1% Native American. Almost half (48%) had some college education. As we reported elsewhere, one fourth (25.1%) of the women in close relationships revealed that they had been assaulted in the past year.²⁸ Nearly 40% (38.8%) of the women reported being physically abused at some time in their lives; about 20% had been hit or almost hit with an object and 10% had been threatened with a knife or gun.

PROCEDURE

Over a 2-month period in 1990, a research assistant invited patients to participate after they had been taken to the examination room and before the physician's visit. The research assistant was a female medical student with no prior knowledge of the patients. If the patient could not be approached at this time because of scheduling, the patient was asked to participate after the physician's visit but before leaving the center. If this did not work, patients were contacted at their

homes on the day of their visits. Women who showed a willingness to participate after hearing about the project were provided with an informed consent form to read, discuss, and sign. Support was given to any woman who experienced emotional distress from the survey. Participants were assured that, unless they gave permission, their surveys would not be placed in the medical chart, and their physicians would have no knowledge of the results. Names were not attached to the questionnaires.

RESPONSE RATE

During the study period, a total of 476 eligible participants attended the center. Of these, 394 consented to complete the survey, a response rate of 82.7%. Twenty surveys were completed inadequately, making a total of 374 complete cases for analysis. Respondents did not differ from nonrespondents by race, marital status, or number of physician visits. Nonrespondents tended to be 6 years older on the average. Some of them complained that the survey was too long and complex or that it did not apply to them.

MEASURES

Victimization

The Conflict Tactics Scales²⁹ were used to measure the presence of verbal and physical aggression experienced any time in the relationship and the frequency of this aggression in the past year. The Conflict Tactics Scales ask about 19 behaviors, beginning with nonabusive ones, leading to verbal abuse, and ending with severe physical abuse. They are the most widely used instruments for measuring the severity and frequency of family violence. The reliability and validity of the measure have been established in previous studies.³⁰ For this study, women were considered battered if they experienced nonsevere or severe physical aggression one or more times in the relationship. One or more episodes is the standard cutoff point, since researchers point out that even one shove or punch can dramatically alter levels of fear and power in the relationship.²

Several questions were asked about the frequency and

clinics. More research is needed of women presenting to primary care centers.

Previous studies in nonmedical settings documented the severity of the problems experienced by battered women, in particular, depression, anxiety, and to a lesser extent psychosomatic problems.^{1,18-21} One of the first studies in a medical setting was of women referred for psychiatric evaluation from a rural health clinic.²² A variety of somatic complaints and psychophysiologic reactions were noted in the women: headaches, choking sensations, hyperventilation, asthma, chest pains, gastrointestinal symptoms, pelvic pain, back pain, and allergic phenomena. No comparison group of nonbattered women was used, yet this study is the basis for widely disseminated profiles of battered women.

More recent studies have used comparison groups of nonbattered women. Studies of psychiatric patients document greater self-destructive tendencies among women survivors of sexual and physical abuse.^{23,24} Abused women referred to a gastroenterology clinic were more likely to have abdominal and pelvic pain and more frequent visits to a physician.²⁵ These

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women were more likely to report nonabdominal symptoms of fatigue, headache, shortness of breath, backache, pain around the heart, unexplained bleeding, and irritation of eyes. The study is limited because only one item asked about physical abuse and only

severity of injuries resulting from the violence, over the lifetime and in the past year. About 60% of the battered women had been injured in the past year. More detailed information on the women's victimization and subsequent injuries is reported elsewhere.²⁸

Medical and Emotional Problems

Each patient's list of problems was used as the primary source of information on her medical and emotional condition. This list was constructed in the chart by the physician. It contained diagnoses, signs, symptoms, and problems. All medical charts are audited, as part of quality assurance, to be certain that diagnoses and problem lists are up-to-date. Problems were written onto separate sheets with no other information except a code to substitute for the woman's name. The research assistant also reviewed the chart notes for other diagnoses and problems and wrote these on the same sheet as the other problems. Problems were categorized according to *International Classification of Diseases, Ninth Revision (ICD-9)* diagnoses and symptoms by a registered nurse and confirmed by one of the authors. Coders were blind to the abuse status of the women. A subsample of 70 cases was used for a reliability check. Two students trained to make ICD-9 codes, blind to abuse status, gave ICD-9 codes to the problems independently. They gave the same code in 90.2% of the 355 problems listed. Most of the differences resulted from vaguely worded responses or unfamiliar abbreviations. Only about 1% of the problems were given different codes. The differences were resolved with the help of the coders' supervisor.

Some categories of ICD-9 codes were combined because they were closely related. The categories of "physiological malfunction arising from mental factors" (306, psychosomatic) and "special symptoms and syndromes" (307, psychogenic) were combined. These categories included tension headaches, sleep and eating disorders of psychogenic origin, hyperventilation, and nervous stomach. Both reactive and nonspecific depression were coded as "depression."

"Alcohol and other drug disorders" were listed for many of the women. However, almost all these disorders were for

tobacco abuse. Alcohol disorders were listed only seven times, too few for analysis. Other drug abuse was mentioned even less often. Rates of alcohol and other drug disorders did not differ significantly between battered and nonbattered women. Two other symptoms of interest also could not be analyzed because they were infrequently recorded. "Fatigue" was listed 12 times and "dizziness" was listed three times. Rates of fatigue for battered and nonbattered women were about equal (3%) and fatigue did not correlate with depression or anxiety.

Demographic Information

The first page of the patient questionnaire asked about current demographic characteristics of the respondents. Included were questions regarding age, marital status, race, religion, and education.

Other Information

The survey asked whether, during their last visit to the center, anyone had inquired about a history of abuse. The results from these questions are reported in another article.²⁸ Finally, the number of physician visits made by each patient in the past year was recorded as a rough measure of health care use.

Analysis

Victimization rates were compared between different demographic and health problem groups with the χ^2 statistic. The relative contributions of medical and demographic indicators of victimization were assessed with logistic regression (Statistical Package for the Social Sciences-PC).³¹ The Wald statistic was used to assess the contribution of each indicator (it has a χ^2 distribution and is the square of the regression coefficient divided by SE).³¹ The odds ratio was also inspected to judge the effect of each variable in the multivariate equation. Finally, classification analysis was conducted to assess the ability of the indicators to predict whether someone had been victimized.

those abused "often" were considered victims. These limitations probably led to the very low abuse prevalence rate of 7%. Also, childhood and adult abuse were combined in the analysis, and domestic and nondomestic abuse were not distinguished.

A study of women referred to a pain center for chronic headache showed much higher rates of physical and sexual abuse than the above study, with two thirds of the women reporting abuse.²⁶ The higher rate probably resulted from the use of a broader definition of abuse and a lengthy history-taking interview. Abused women were more likely to report constant daily headaches and higher rates of hospitalization for medical problems. The abused women reported that the onset of headache pain was almost always associ-

ated with marriage, separation, or divorce (90% of the abused women vs 43% of nonabused women). An earlier, larger study of women referred to this center for any type of pain revealed that 53% had a history of abuse.²⁷ Pain problems always followed incidents of abuse.

Previous studies were useful in showing that victims might have higher rates of psychosomatic disorders. However, the studies had one or more of the following limitations: measures of violence were inadequate, or participants were from specialty clinics, or no distinctions were made between domestic and nondomestic assaults or between assaults in adulthood or childhood.

The present study used a detailed, standardized measure of violence that focused on victimization in adult,

intimate relationships. We assessed whether demographic and health factors were indicators of victimization and the relative strength of each factor.

RESULTS

Table 1 shows the rates of victimization in various demographic groups (injury in the past year is not shown because it was less common and statistically more difficult to predict). Slightly more than half the divorced or separated women experienced violence and injury at some time. Unmarried women also had a fairly high lifetime prevalence rate of victimization and the highest rate in the past year. There was a tendency for less-educated women to be more likely to have been injured at anytime in the

relationship or victimized in the past year (overall χ^2 was not significant, but correlation coefficient was). Those with Protestant or Catholic religious affiliations were somewhat less likely to be victimized or injured than those of other religions or those with no religious affiliation.

Women under 45 years of age were consistently more likely to be victimized and injured than women older than that. The number of physician visits in the past year was not an indicator of victimization, but was associated with being injured at some time (overall χ^2 was not significant, but correlation coefficient was). No significant differences existed between races.

Table 2 shows the victimization rates for the various problem groups. Women with hypertension listed as a problem were less likely to be victimized. Women listed as depressed had consistently higher rates of victimization and injury than nondepressed women (difference for victimization approached statistical significance at $P=.06$). There were nonsignificant trends for women with psychosomatic symptoms to have higher victimization rates than women without these symptoms. Anxiety was a weak indicator of past injury (difference was almost significant).

Victimization in the past year and injury any time were chosen for multivariate analysis because they could be most accurately predicted. **Table 3** shows the results of logistic regression using violence in the past year as the dependent variable. The first R column lists the partial correlation coefficients either when all of the demographic and background variables are in the equation (top half) or when all of the problem variables are in the equation (bottom half). The second regression column lists the partial correlation coefficients when both sets of variables are included in the model. The right column, the exponent of the B coefficient, is the factor by which the odds are increased when the indicator is present, or the odds ratio. For each additional year of age, odds of violence in the past year decreased by 5%.

Table 3 shows that only age is significantly and negatively predictive of victimization in the past year. Thus, age appears to explain the initial relationship between victimization and marital status and religion that was shown in Table 1. Age remains the only significant variable when

Table 1. Victimization Rates in Different Background and Demographic Groups

| | No. of Subjects | Violence Past Year, % | Violence Ever, % | Injury Ever, % |
|----------------------------|-----------------|-----------------------|------------------|----------------|
| Marital status | | | | |
| Married | 179 | 17.9 | 19.6 | 12.2 |
| Separated/divorced | 71 | 25.4 | 56.3 | 56.5 |
| Widowed | 13 | 7.7 | 23.1 | 30.8 |
| Never married | 109 | 31.2† | 37.6‡ | 22.1‡ |
| Religion | | | | |
| Protestant | 92 | 15.2 | 30.4 | 25 |
| Catholic | 162 | 19.1 | 25.9 | 17.8 |
| Other | 77 | 32.5 | 42.9 | 34.2 |
| None | 39 | 35.9† | 38.5† | 34.3§ |
| Highest education | | | | |
| High school | 138 | 24.6 | 31.2 | 22 |
| Some college | 168 | 25 | 35.7 | 29.6 |
| College degree | 40 | 15 | 22.5 | 16.2 |
| Post baccalaureate | 23 | 13 | 30.4 | 17.4 |
| Age, y | | | | |
| 18-24 | 96 | 39.6 | 39.6 | 19.3 |
| 25-32 | 90 | 23.3 | 38.9 | 34.5 |
| 33-45 | 88 | 21.6 | 42 | 33.3 |
| 46-75 | 98 | 6.1‡ | 10.2‡ | 11.4‡ |
| Visits to physician | | | | |
| 1 | 107 | 25.2 | 32.7 | 19.4 |
| 2-3 | 89 | 20.2 | 33.7 | 24.4 |
| 4-5 | 79 | 17.7 | 31.6 | 25 |
| 6 or more | 95 | 26.3 | 31.6 | 31.9 |
| Race | | | | |
| White | 331 | 22.4 | 33.5 | 25.7 |
| Nonwhite | 39 | 28.2 | 23.1 | 18.9 |

* Sample sizes for injury ever were slightly smaller than for violence: married, 164; separated/divorced, 69; widowed, 13; never married, 104; Protestant, 88; Catholic, 152; other, 73; none, 35; high school, 127; some college, 162; college degree, 37; post baccalaureate, 23; 18 to 24 years, 88; 25 to 32 years, 87; 33 to 45 years, 87; 46 to 75 years, 88; 1 visit to physician, 103; 2 to 3 visits, 82; 4 to 5 visits, 72; 6 to 19 visits, 91; white, 311; and nonwhite, 37.

† $P < .01$.

‡ $P < .001$.

§ $P < .05$.

Depression was the strongest indicator of victimization

the problem indicators are added to the equation. Among the physical and mental health indicators, hypertension and depression maintain the same relationships they had in the bivariate analyses. However, when demographic variables are added, depression remains a significant predictor but hypertension does not. A post hoc analysis revealed that age accounted for the negative relationship between hypertension and violence. Older women were

Table 2. Victimization in Different Problem Groups

| | No. of Subjects | Violence Past Year, % | Violence Ever, % | Injury Ever, %* |
|----------------------|-----------------|-----------------------|------------------|-----------------|
| Hypertension | | | | |
| Yes | 46 | 4.3 | 13 | 14.6 |
| No | 328 | 25.3† | 34.8† | 26 |
| Back pain | | | | |
| Yes | 35 | 14.3 | 25.7 | 21.2 |
| No | 339 | 23.6 | 32.7 | 25.1 |
| Migraine | | | | |
| Yes | 19 | 15.8 | 26.3 | 33.3 |
| No | 335 | 23.1 | 32.4 | 24.3 |
| Depression | | | | |
| Yes | 26 | 38.5 | 53.8 | 44 |
| No | 348 | 21.6 | 30.5 | 23.2 |
| Psychosomatic | | | | |
| Yes | 22 | 36.4 | 45.5 | 33.3 |
| No | 352 | 21.9 | 31.3 | 24.2 |
| Anxiety | | | | |
| Yes | 50 | 20 | 32 | 35.6 |
| No | 324 | 23.1 | 32.1 | 23.1 |

*Sample sizes for injury ever were slightly smaller than for violence: hypertension (yes, 41; no, 311); back pain (yes, 33; no, 319); migraine (yes, 18; no, 334); depression (yes, 25; no, 327); psychosomatic (yes, 21; no, 331); and anxiety (yes, 45; no, 307).
†P<.001.

more likely to have hypertension and were less likely to report victimization. Similar results were found when victimization at any time was the dependent variable, although hypertension remained a weak indicator in the final equation ($r = -.07$; specific results are not shown).

Table 4 shows the logistic regression results with lifetime injury history as the dependent variable. Marital status and a greater number of physician visits were indicators of injury. As in the bivariate analysis, being divorced or separated was the best indicator of a history of injury among the demographic variables. Among the health indicators, anxiety was a weak and nonsignificant indicator of injury.

In the classification analysis of victimization in the past year, about 19% of the battered women were correctly classified. The sets of demographic and problem indicators were about equal in predictive accuracy when used alone (12.7% and 10.1%, respectively). Almost all of the nonbattered women were predicted accurately as nonbattered (95.7%).

When injury history was classified, the demographic variables alone produced a correct classification rate for injury of 45.2%. The health indicators alone had a classification rate of 6.9%. Adding the two sets of indicators produced a correct classification rate of 47.9%. Again, almost all of the nonbattered women were correctly classified (89.9%). The overall rate of correct classification was 78.7%.

Some problems were mentioned too seldom for com-

parative analysis but are worth reporting because of concerns over the improper use of psychosocial labels.¹¹ Two diagnoses with psychotic features were listed, both for battered women: paranoid schizophrenia and manic-depressive disorder. One battered woman was given the label of *histrionic personality*. Two battered women and one nonbattered woman were each said to have had a *nervous breakdown*. Six women had marital or family "stress" or marital "problems" identified on the problem list. None were battered women.

Three women were identified as having been suicidal. All three were battered women, but the charts did not report their abuse. Domestic violence was listed as a problem for only three women, or 0.8% (all three identified themselves as battered on the Conflict Tactics Scales). Another woman was charted as psychologically abused, but she reported physical as well as psychological abuse on the questionnaire.

COMMENT

The results show that the majority of divorced and separated women had been victimized, with rates higher than

Table 3. Logistic Regression Results With 'Violence in the Past Year' as Dependent Variable

| | R | | Odds Ratio |
|-------------------------------------------------|-------------|-------|------------|
| | Demographic | All | |
| Demographic/background variables | | | |
| Education | .04* | .00 | ... |
| Age | -.16† | -.14† | 0.95 |
| Visits to physician in past year | .00 | .00 | 0.99 |
| Race | .00 | .00 | ... |
| Religion | .00 | .00 | ... |
| Marital status | .00 | .00 | ... |
| $\chi^2 = 37.93†$ | | | |
| | R | | Odds Ratio |
| | Problem | All | |
| Problem variables | | | |
| Hypertension | -.12† | -.03 | 0.28 |
| Back pain | -.03 | .00 | 0.61 |
| Migraines | .00 | .00 | 0.63 |
| Depression | .10* | .09* | 3.62 |
| Psychosomatic | .00 | .00 | 1.37 |
| Anxiety | .00 | .05 | 2.46 |
| $\chi^2 = 19.33†$ Combined $\chi^2 = 50.93†$ | | | |

*P<.05.
†P<.01.
‡P<.001.

for other marital status groups. Their victimization could have led to the divorce or separation. It is also possible, however, that they were currently victimized. Some studies show that about a fourth of all battered women are subjected to threats and abuse while separated,^{32,33} and stalking of women by their ex-partners has been the focus of much recent legislative action. Divorced and separated women may also have been directly or indirectly seeking help for the effects of abuse that occurred years earlier. Depression and posttraumatic stress disorder may

Since neither demographic nor health factors could accurately predict who had been victimized, all women need to be asked about abuse

continue long after a violent relationship ends. The findings support this interpretation since more physician visits in the past year and higher rates of depression were indicative of past but not recent injury. Most of these women may not be in danger now, but may need help for the psychological aftermath of violence.

A substantial proportion of unmarried women had been victimized. This is consistent with surveys in the general population.³ Also consistent with other surveys, the youngest women were at highest risk of current victimization.³⁴ The low rate of lifetime victimization among those over 45 is difficult to explain. A survey repeated between 1975 and 1985 revealed little change in victimization rates nationally.² It is possible that battered women suppress memories of their abusive experiences as they get older. Another possible explanation is that some battered women never live to be old because of suicide, homicide, or violence-induced health problems. Since this was not a population-based sample, the most likely explanation is related to the characteristics of patients in this practice. The younger women may differ in some way from the older women, and this difference is also related to lifetime risk of abuse.

While depression was confirmed in this study as an indicator of abuse, psychosomatic disorders (mainly tension headaches) and anxiety were found to be weak indicators. Our findings call into question other findings showing that back pain and ulcers are characteristic of battered women. (For a 1992 review, see Koss and Hselt.³⁵) This study is consistent with studies finding higher rates of functional disorders but not organically based disorders among battered women.²³⁻²⁵

The rate of depression recorded for battered women (14 [12%] of 120) is probably an underestimation, based on the rates found in other studies.^{1,18,23} No link between depression and abuse was explicitly noted in the charts. The US Public Health Service recently set the routine review of depressive symptoms as a high-priority objective

Table 4. Logistic Regression Results With 'Injured in Any Adult Relationship' as Dependent Variable

| | R | | Odds Ratio |
|--------------------------------------------|-------------|------|------------|
| | Demographic | All | |
| Demographic/background variables | | | |
| Education | .00 | .00 | ... |
| Age | .00 | .00 | 0.95 |
| Visits to physician in past year | .11* | .10 | 1.12 |
| Race | .00 | .00 | ... |
| Religion | .00 | .00 | ... |
| Marital status, separated/divorced | .33† | .32† | 4.91 |
| $\chi^2=70.35†$ | | | |
| | R | | Odds Ratio |
| | Problem | All | |
| Problem variables | | | |
| Hypertension | -.01 | .00 | 0.90 |
| Back pain | .00 | .00 | 0.45 |
| Migraines | .00 | .00 | 0.76 |
| Depression | .02 | .00 | 1.65 |
| Psychosomatic | .00 | .00 | 1.67 |
| Anxiety | .07 | .04 | 2.23 |
| $\chi^2=10.91$ Combined $\chi^2=76.46†$ | | | |

*P<.01.
†P<.001.

for primary care physicians; many people who commit suicide visit a physician not long before taking their lives.³⁶ Domestic violence should be added to the list of problems closely related to depression and suicidal tendencies.³⁷

A major finding of the study was that neither the demographic nor psychological problems were accurate indicators of violence or injury. Fewer than one in five women abused in the past year could be accurately classified as abused using the indicators in this study. Prediction of injury history was more accurate, especially when using marital status as an indicator.

A positive finding was the lack of negative psychosocial labels (eg, "hysterical") that other researchers have found.¹¹ Perhaps the training of these physicians was different or these women simply had different problems. There is evidence that women going to emergency medical or psychiatric services are more likely to be given psychosocial labels.²⁴

Only three cases of physical abuse were noted in the charts. If physicians do not feel comfortable or do not have the time to ask about abuse, perhaps a brief self-report measure like the Conflict Tactics Scales can be used once some trust has been established between patient and

physician. If abuse is detected, referrals for on-the-spot consultation can also be made to a staff specialist or a worker from a victim advocacy program.³⁸ Periodic in-service training and organizational support are likely to be needed because even detailed protocols for responding to battered women can fall into disuse.³⁹

The main limitation of this study is that we obtained indirect indicators of battered women's physical and psychological problems. Assessments recorded in patients' charts may incompletely reflect both symptoms that were discussed with the physician and those not discussed. Health questionnaires completed by battered women may provide a more accurate picture of the problems they experience. If use of a questionnaire is not feasible, physicians can use the patients' complaints and cues to guide further questioning. Ultimately, however, screening all patients for woman abuse, as the American Medical Association recommends,^{40,41} is likely to be the only way to uncover what is normally hidden behind the family's curtain of privacy.

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