Prevalence of Interpersonal Abuse in Primary Care Patients Prescribed Opioids for Chronic Pain

Stacey Balousek¹, Mary Beth Plane¹, and Michael Fleming^{1,2}

¹Department of Family Medicine, University of Wisconsin School of Medicine and Public Health, Madison, WI, USA; ², 777 South Mills St., Madison, WI 53715, USA.

BACKGROUND: Interpersonal abuse is associated with clinical problems including chronic pain disorders.

OBJECTIVES: The objective of this study is to describe 30-day and lifetime prevalence of emotional, physical, and sexual abuse found in men and women prescribed opioids for chronic pain.

DESIGN: Cross-sectional interview is the design of this study.

PARTICIPANTS: Patients, 1,009, currently prescribed opioids for chronic noncancer pain. They were recruited from the practices of 235 Family Physicians and Internists in Wisconsin. The most common pain diagnoses were arthritis, low back pain, headache, and fibromyalgia/myofascial pain.

MEASUREMENT: Data for this secondary analysis on rates of interpersonal abuse were based on 3 questions from the Addiction Severity Index (ASI) regarding 30-day and lifetime emotional, physical, and sexual abuse.

RESULTS: Forty-seven percent of women and 22% of men reported a history of lifetime physical abuse. Thirty-five percent of women and 10% of men reported lifetime sexual abuse. Binary logistic regression identified the following variables associated with lifetime physical abuse: female gender (RR 2.81, CI 2.01–3.94), age 31–50 (RR1.77, CI 1.30–2.41), Caucasian (RR1.67, CI 1.19–2.35), increased psychiatric symptoms as measured by the ASI (RR 2.14, CI 1.56–2.94), and lifetime suicide attempts (RR 3.98, CI 2.76–5.74).

CONCLUSIONS: This study reports prevalence of abuse in both men and women prescribed opioids for chronic pain in primary care settings. Subjects who report experiencing interpersonal abuse also report significantly higher rates of suicide attempts and score higher on the ASI psychiatric scale. Screening patients taking opioids for chronic pain for interpersonal abuse may lead to a better understanding of contributors to their physical and mental health.

KEY WORDS: abuse; prevalence; chronic pain; primary care; opioids.

DOI: 10.1007/s11606-007-0257-6

© 2007 Society of General Internal Medicine 2007;22:1268–1273

INTRODUCTION

Interpersonal abuse (IPA) by family members such as parents, siblings, sexual partners/spouse, and children, or others such as close friends, neighbors, and coworkers, is a major public health concern. Perhaps as many as 20% of women and 7% of men in the United States have been physically abused by a partner in their lifetime, while 4.5% of women and 0.2% of men have been sexually abused.¹ A higher prevalence of abuse has been reported in primary care, with studies in Wisconsin reporting rates of lifetime physical abuse in women of 38.8% to 49.5%.^{2,3} Coker et. al.⁴ found that 54% of women in primary care reported lifetime physical, sexual, or psychological violence, and 18% reported abuse in a current or recent relationship. This highlights primary care settings as important points for identifying patients experiencing abuse and for initiating referrals for service.

While demographic factors have been associated with partner violence including younger age, marital status, and income^{3,5–7}, men and women who experience interpersonal abuse are also less healthy than their demographic counterparts. This can result in an increase in health care utilization.^{8,9} Studies have found an inverse association between interpersonal abuse and both physical and mental health,^{3,4,7,10} with those reporting lifetime abuse having higher rates of suicide attempts,^{3,5,6} depression,^{3,8,11} Posttraumatic Stress Disorder (PTSD),^{12,13} injuries,^{8,10} disabilities,^{4,10} sleep problems,¹¹ fibromyalgia,^{3,4,11} headaches,^{3,4,11} substance use/abuse,^{3,8,10} reproductive disorders,^{3,4,10} gynecological and gastrointestinal problems,^{12,14} and sexually transmitted diseases.^{4,12}

Intimate partner abuse is associated with chronic pain disorders.^{10,15,16} One study found that 70–93% of women with current health problems including headaches and chronic pain reported lifetime physical, emotional, and/or sexual abuse.³ In addition, a meta-analysis by Davis, Luecken and Zautra¹⁷ indicated that childhood abuse puts individuals at increased risk for chronic pain in adulthood, suggesting it may be informative to uncover remote histories of abuse in addition to current abuse when assessing patients with chronic pain. Failure to identify IPA can inhibit medical diagnoses,¹⁸ while treatment of patients with unexplained chronic pain such as headaches, myofascial pain, and fibromyalgia may be informed by identification of those affected by abuse.¹⁵

Although studies have shown an association of IPA with chronic pain, the prevalence of IPA in patients receiving opioids for chronic benign pain syndromes in a primary care setting is unknown. The objective of this analysis was to report 30-day and lifetime prevalence of emotional, physical, and sexual abuse for both men and women in primary care receiving

Received November 16, 2006

Revised April 30, 2007

Accepted May 21, 2007

Published online July 20, 2007

opioids for chronic pain. We analyzed these variables separately to address gaps in the literature which has not included reports of abuse over the last 30 days and rarely reports physical and sexual abuse separately. In addition, few studies have examined abuse rates in men or considered emotional abuse despite evidence that emotional or psychological abuse may be as strongly associated with adverse outcomes.^{3,4} Based on the literature cited above, we hypothesized that subjects reporting IPA were more likely than our general sample to have: psychiatric symptoms, PTSD, attempted suicide, increased hospitalizations, and more doctor visits, less education, employment difficulties, and be female, single, and younger. We further hypothesized that specific chronic pain diagnoses, ASI psychiatric symptoms, reported attempted suicide, drug and/or alcohol abuse/dependence, or sex, age, and race would be associated with reports of IPA. We wanted to know if these associations would vary according to any interpersonal abuse within the past 30 days, lifetime physical or sexual abuse, or lifetime prevalence of physical, sexual, and emotional abuse. We specifically examined potential risk factors for interpersonal abuse that were likely to be known by primary care providers.

METHODS

We used an existing dataset obtained from cross-sectional interviews of a census of 1,009 chronic pain patients from the practices of 235 primary care physicians in eight counties across Wisconsin. As the primary goal of the original study was to assess rates of drug addiction in patients receiving daily opioid therapy, all subjects had been prescribed opioids. Inclusion criteria included: (a) age between 18 and 81; (b) a diagnosis of chronic noncancer pain; and (c) current treatment with chronic opioid therapy by a primary care physician. Exclusion criteria included pregnancy and non-English speaking subjects. Electronic medical records and billing databases using ICD-9 codes identified patients with chronic pain, and physician logs and pharmacy records identified patients receiving opioids. Patients were invited to participate in the study through a mailed invitation via their primary care providers per institutional review board requirements. The invitation included an opt-out card, and subject information was made available to researchers to call those who did not opt out.

Consenting subjects participated in a 2-hour interview from which the Addiction Severity Index (ASI),¹⁹ the Substance Dependence Severity Scale (SDSS),²⁰ a urine immunoassay, a 15-question chronic pain inventory, and the 15-question Impact of Events Scale (IES)^{21,22} provided data for this analysis. The ASI was the source of demographic, health care utilization, and suicide attempt data. The ASI Psychiatric Scale assessed symptoms of depression, anxiety, hallucinations, concentration/memory, violent behavior, and suicide resulting in a scale ranging from 0–1, with 1 being the highest. Higher scores indicate increased symptoms. Normative data scores obtained from substance-abusers seeking treatment range from 0.15 to 0.225.¹⁹ The family/social relationship subscale of the ASI provided information on 30-day and lifetime prevalence of interpersonal abuse using the questions presented in Table 1.

The SDSS assessed current alcohol and drug use, abuse, and dependence using DSM-IV and ICD-10 criteria. This was

Table 1. Interpersonal Abuse Questions from the ASI

"Have you had significant periods in which you have experienced serious problems getting along with your mother, father, brothers, sisters, sexual partners or spouse, children, close friends, neighbors, co-workers?" If yes: "Did this happen in the last 30 days?"
If the answer is affirmative, the researcher then asks, "Did any of these people abuse you emotionally (make you feel bad through harsh words)?" If yes: "Did this happen in the last 30 days?"
"Did any of these people abuse you physically (cause you physical harm)?" If yes: "Did this happen in the last 30 days?"
"Did any of these people abuse you sexually (force sexual advances or sexual acts)?" If yes: "Did this happen in the last 30 days?"

augmented by urinalysis immunoassay. The IES is a 15-item, self-report measure designed to assess for Posttraumatic Stress Disorder (PTSD). It addresses two of the four DSM IV domains for PTSD: avoidance and intrusion. A review of 18 studies shows a mean internal consistency of 0.86 for the avoidance subscale and 0.82 for the intrusion subscale.²² A score of 25 or higher for the IES indicates the presence of symptoms of PTSD. Lastly, a chronic pain inventory provided data on pain diagnoses.

Seventy-eight percent (1009/1252) of eligible subjects consented to participate in the study. Subjects were paid \$50 for their participation. The study was approved by the University of Wisconsin Health Sciences Institutional Review Board and each health system review board. A federal certificate of confidentiality ensured protection of subjects' records. Although physicians initially informed subjects of the study, they were not informed of individual subject's participation.

ANALYSIS

Researchers entered data into an Access database and used SAS software to conduct the analysis. Descriptive statistics report the 30-day and lifetime prevalence of interpersonal abuse and subject demographic and clinical characteristics. Logistic regression models examined factors associated with (1) any reports of abuse in the last 30 days, (2) lifetime physical abuse, (3) lifetime sexual abuse, and (4) physical, sexual, and emotional abuse combined over the lifetime based on a priori hypotheses from the literature using patient information available in the data set and likely to be available to primary care physicians. All variables were added simultaneously to the regression models and retained regardless of significance because all were considered potential factors or confounders related to domestic violence. Odds ratios and confidence intervals were reported along with the statistical significance of the hypothesized factors.

RESULTS

Eight hundred and one of the 1,009 subjects were taking opioids daily to treat their chronic pain; 115 used opioids intermittently, and 93 were using no opioids at the time of the study. Table 2, column 4 summarizes data from the entire

Table 2. Characteristics of Respondents by IPA Status

Characteristics	Any abuse; 30 days (n=97)	Physical; lifetime (n=392)	Sexual; lifetime (n=275)	All subjects (reference; not comparison) (n=1,009)
Demographics				
Female (%)	85*	83*	89*	69
Age (mean)	44.2*	46.1*	45.8*	48.8
African/Native American, Hispanic (%)	21	20*	18*	24
Marital status				
Married (%)	27.8*	36.7*	36.4*	44.0
Widowed (%)	4.1	5.6	6.5	5.6
Separated/divorced (%)	48.5*	39.5*	37.8†	31.7
Never married	19.6	18.1	19.3	18.7
Education (mean years)	13.1	13.1	13.3	13.1
Employment				
Full/part-time or student (%)	43.3	39.8	40.7	44.2
Disability (%)	39.2	49.5	49.5	45.1
Unemployed/seeking work (%)	17.5	10.7	9.8	10.6
Health care utilization				
Hospitalized (past 12 months) (%)	35.1	37.0	34.2	35.3
Primary care visits, mean (past 12 months)	9.6†	8.6*	9.0*	7.8
Mental health				
ASI Psych Scale—composite score (past 30 days)	0.45*	0.34*	0.36*	0.27
PTSD diagnosis (past 7 days; %)	23.9*	16.8*	20.1*	11.3
Lifetime attempted suicide (%)	32*	36*	41*	20
Substance use disorders				
Alcohol abuse/dependence (past 30 days; %)	9.3*	4.6	4.0	4.1
Illicit drug use—patient report, (past 30 days and/or positive UA) (%)	32.0	26.0	26.9	24.0
Prescription opioid drug abuse (past 30 days; %)	3.1	4.3	4.4	3.6
Pain diagnoses				
Fibromyalgia/myofascial pain	6	8*	9*	6
Headache (%)	9	11	13	11
Lower back (%)	20	20	15	20
Arthritis (%)	25	20†	23	24
All other diagnoses (%)	40	41	39	39

* $P < .01$ † $P < .05$

sample. Sixty-nine percent were women, and the average age was 49, ranging from 18–81 years. The majority of subjects were Caucasian, while 22% percent were African American and 2% Native American or Hispanic. Subjects had an average education of 13 years and monthly income of \$1450. Forty-three percent were employed full or part-time; 11% were looking for employment, and 45% on disability. Forty-four percent were married, 32% were separated or divorced, and 24% were single. Thirty-five percent had been hospitalized,

and subjects averaged 7.8 primary care visits over the past year. ASI psychiatric status averaged on the high side of normative data with a composite score of 0.27; 11.3% met criteria for PTSD symptoms; and 1 in 5 reported attempting suicide in their lifetimes. We found low percentages of alcohol abuse/dependence (4.1%) and prescription opioid drug abuse (3.6%), but high illicit drug use (24%). The most common pain diagnoses were arthritis (24%), back pain (20%), headache (11%), and fibromyalgia/myofascial pain (9%).

Table 3 presents the 30-day and lifetime prevalence of interpersonal emotional, physical, and sexual abuse for women and men using opioids for chronic pain as assessed by the ASI. Lifetime prevalence of abuse was higher for women than men in all reported categories. The prevalence of 30-day physical and sexual abuse was less than 2% for both genders, but emotional abuse and any abuse over the last 30 days was reported by nearly 12% of the women and 5% of men. Over 2/3 of women and 1/3 of men reported at least 1 form of lifetime abuse. Nearly half of women and 1 in 5 men reported lifetime physical abuse; over 1/3 of women and 1 in 10 men reported a lifetime prevalence of sexual abuse.

Table 2 compares characteristics of each of three subgroups, reporting any 30-day abuse, lifetime physical abuse, and lifetime sexual abuse to the overall sample. Statistical significance was determined in a bivariate analysis, comparing the group of subjects in question to its complement (all those not in that particular group). Subjects who reported any 30-day abuse, or lifetime physical or sexual abuse were significantly more likely to be women, younger, Caucasian, and less likely to be married. Those who reported abuse were similar to the overall sample of patients with chronic pain for education level and employment status. There was no difference in hospitalizations over the last 12 months across the groups; however, those in the overall sample had fewer than 8 primary care visits over the last 12 months, while patients in each of the groups reporting abuse had 9 or more, a statistically significant difference. Subjects reporting abuse were significantly more likely to have a higher score on the ASI Psychiatric measure, have symptoms of PTSD, and have attempted suicides, with those who had experienced sexual abuse over twice as likely (41%) to have attempted suicide.

All groups had rates of alcohol abuse and prescription drug issues similar to the general population,²³ with the exception

Table 3. Prevalence of IPA in Respondents

Interpersonal abuse	Women; n=699 (%)	Men; n=310 (%)
Emotional abuse		
30 day	11.3	4.5
Lifetime	62.1	32.9
Physical abuse		
30 day	1.6	0.0
Lifetime	46.5	21.6
Sexual abuse		
30 day	0.7	0.3
Lifetime	34.9	10.0
Emotional and physical and sexual abuse		
30 day	0.3	0.0
Lifetime	28	7.1
Any abuse		
30 day	11.7	4.8
Lifetime	67.8	37.7

Table 4. Odds Ratios of Patient Characteristics by 30-Day IPA Status

Patient Characteristics (n=1,007)*	30 Day Prevalence Any Abuse, Physical, Sexual, or Emotional		
	OR	95% CI	P
Female	2.15	1.19–3.90	.012
Male	1		
Age 18–30	2.68	1.06–6.78	.038
Age 31–50	2.11	1.26–3.55	.005
Age >50	1		
Caucasian	1.52	.88–2.63	.137
African/Native American, Hispanic	1		
ASI Psychiatric Scale (per 0.50 Increase)	5.62	3.29–9.60	<.001
Drug/alcohol abuse/dependence	.99	.51–1.92	.972
Lifetime attempt suicide	1.11	.67–1.83	.695
Pain diagnoses			
Fibromyalgia/myofascial	.52	.20–1.38	.192
Headache	.47	.21–1.05	.66
Lower back	.84	.45–1.56	.575
Arthritis	.82	.47–1.45	.500
All other diagnoses	1		

*Two subjects from the initial sample were removed from this analysis due to missing data

of those reporting abuse in the last 30 days, who were twice as likely to have alcohol abuse or dependence issues. All groups were similar in pain diagnoses, with the exception of subjects who reported lifetime sexual and physical abuse being more likely to have a fibromyalgia pain diagnosis, and those reporting lifetime physical abuse having fewer diagnoses of arthritis.

The multivariate analysis reported logistic regression odds ratios of characteristics of subjects who had experienced any abuse in the last 30 days, lifetime physical abuse, lifetime sexual abuse, and lifetime combined physical, sexual, and emotional abuse (Tables 4 and 5). The results are consistent over all models. Significant odds ratios included the following. Subjects reporting any interpersonal abuse in the last 30 days, lifetime physical abuse, lifetime sexual abuse, or combined

lifetime physical/sexual/emotional abuse are 2 to 4 times more likely to be women. Caucasians and subjects under 50 years of age are from 1.5 to 2 times more likely to report abuse. Those scoring higher on the ASI psychiatric scale are over 5 times as likely to report any abuse in the past 30 days, and twice as likely to report physical, sexual or combined lifetime abuse for each half point increase on the scale. Subjects who have attempted suicide are four times more likely to report physical, sexual, or lifetime combined abuse. Conversely, drug or alcohol dependence was not associated with a subject's odds of reporting any form of lifetime abuse in any models. Of the chronic pain diagnoses hypothesized to be related to IPA, headaches were significantly associated with lifetime physical abuse, and fibromyalgia/myofascial pain was significantly associated with reports of combined lifetime physical, sexual, and emotional abuse.

DISCUSSION

Nearly half of women and 1 in 5 men prescribed opioids for chronic pain reported lifetime physical abuse; over 1/3 of women and 1 in 10 men reported a lifetime prevalence of sexual abuse. Although the prevalence of 30-day physical and sexual abuse was low for both genders, emotional abuse and any abuse over the last 30 days was reported by nearly 12% of the women and 5% of men. Over 2/3 of women and 1/3 of men reported at least 1 form of lifetime abuse. These prevalence rates in men are novel, as we found no prior studies in primary care with physical or sexual abuse rates reported by men.

This study supports information from past studies that show a link between interpersonal abuse, an increase of health care utilization, and an increase in comorbidity of pain and mental health issues. It does not support a relationship between drug and alcohol abuse and IPA in this group with the exception of those reporting abuse in the past 30 days. Strengths of this study include demographic and diagnostic data, mental health and health care utilization data, and data

Table 5. Odds Ratios of Patient Characteristics by Lifetime IPA Status

Patient characteristic (n=1,007)*	Lifetime prevalence physical abuse			Lifetime prevalence sexual abuse			Lifetime prevalence physical, sexual, and emotional abuse		
	OR	95% CI	P	OR	95% CI	P	OR	95% CI	P
Female	2.90	2.07–4.06	<.001	4.12	2.68–6.32	<.001	4.22	2.58–6.89	<.001
Male	1			1			1		
Age 18–30	1.92	0.99–3.74	.05	2.56	1.28–5.11	.008	2.46	1.19–5.08	.02
Age 31–50	1.78	1.31–2.42	<.001	1.69	1.20–2.39	.003	1.74	1.20–2.54	.004
Age >50	1			1			1		
Caucasian	1.69	1.2–2.37	.003	1.79	1.21–2.64	.003	1.93	1.25–2.97	.003
African/Native American, Hispanic	1			1			1		
ASI Psychiatric scale (per 0.50 increase)	2.18	1.59–3.00	<.001	1.96	1.38–2.77	<.001	2.03	1.39–2.97	<.001
Drug/alcohol abuse/dependence	.91	0.55–1.50	.71	.87	0.51–1.49	.60	.98	0.56–1.72	.94
Lifetime attempt suicide	3.98	2.76–5.74	<.001	3.98	2.76–5.72	<.001	4.00	2.75–5.83	<.001
Pain diagnoses									
Fibromyalgia/myofascial	1.17	0.63–2.21	.62	1.59	0.93–2.7	.09	1.78	1.02–3.10	.04
Headache	.60	0.37–0.98	.04	.80	0.47–1.36	.40	.72	0.40–1.27	.25
Lower back	.91	0.61–1.34	.62	.70	0.44–1.11	.13	.72	0.43–1.18	.19
Arthritis	.73	0.50–1.06	.10	1.09	0.71–1.65	.70	.93	0.59–1.48	.76
All other diagnoses	1			1			1		

*Two subjects from the initial sample were removed from this analysis due to missing data

on IPA from a large sample of primary care patients prescribed opioids for chronic pain, and a high response rate of eligible patients. The study reports more information on IPA for men than previously available. It also reports 30-day IPA rates in both men and women living with chronic pain not reported before. Existing studies often do not differentiate between physical and sexual abuse or report only physical abuse and have generally ignored emotional abuse. The multivariate analysis has enabled us to identify some patient characteristics that are more likely to be present in people living with chronic pain and taking opioids who also report physical, sexual, or physical, sexual, and emotional interpersonal abuse. Instruments measuring addiction and mental health characteristics are reliable and valid and have been used in other studies for comparability.

Limitations of this study include its cross-sectional design, use of data made available from an existing data set not intended to address issues of IPA, and the use of 3 questions assessing abuse from the Addiction Severity Index. These limit our ability to compare this data with data from the literature with incompatible definitions of abuse and differing definitions of perpetrators. Our data provides subject reports of violence at the hands of family, friends, neighbors, and coworkers. Past studies tend to measure violence over the past 12 months and the lifetime, while the ASI measures violence over the past 30 days and lifetime. Because patients were informed of the study by their physicians, it is possible that they could have felt pressure to participate in the study, or refused participation believing that their physician would see their individual information. Socially desirable response bias may have been in effect as a result of data being collected via personal interview. Subjects could have underreported their data regarding current abuse, suicide attempts, or current drug abuse, or overreported other behaviors spuriously inflating or deflating the odds ratios.

High rates of reported IPA and suicide attempts in this sample suggest that all patients on opioids for chronic pain should be screened for a history of IPA and suicide or depression. Pain diagnoses such as fibromyalgia and myofascial pain and headaches are weakly associated with IPA and may be more indicative for screening than other pain diagnoses.

We also found, with one exception, that patients reporting lifetime physical or sexual IPA are no more likely to be abusing drugs or alcohol than the patients in the overall study, who are no more likely to abuse drugs and alcohol than the general population.²³ Patients who report any abuse in the last 30 days are more likely to be abusing drugs and alcohol than the overall sample. It may be that patients currently experiencing abuse are living with more stress in the last 30 days. The need for abuse identification is underscored by the extent of health problems that are associated with IPA, particularly as some chronic pain may have its origin in the IPA itself or be a secondary result of the IPA.

Future studies should explore the relationship between IPA and chronic pain. More information in this area could contribute to the identification and treatment of IPA, and potentially, certain chronic pain syndromes, especially those that lack a clear medical explanation. Based on our data, we do not know the extent that IPA may contribute to chronic pain conditions.

We recommend that primary care physicians remain aware that men and women receiving opioids for chronic pain report

IPA at levels comparable to the highest reports in the primary care literature. Based on the findings of this study and our responsibility as health care providers to identify abuse as a health threat,²⁴ we recommend that providers screen patients with chronic pain for IPA to better understand contributors to their physical and mental health and make appropriate referrals to domestic violence and sexual abuse service providers in their communities. For information on domestic abuse services in any US community, call 1-800-747-4045 or go to <http://www.endabuse.org>.

Acknowledgments: This work was funded by National Institute of Drug Abuse 1 R01 DA13686.

The authors would like to acknowledge Cynthia Colombo, Kimberly Bastic, Ellyn Stauffacher, Marlon Mundt, Larissa Zakletskaia, Donna Baranowski, Linda Norton, and Nicholas Di Meo, who helped conduct the study.

Conflict of Interest: None Disclosed.

Corresponding Author: Michael Fleming, 777 South Mills St., Madison, WI 53715, USA (e-mail: mike.fleming@fammed.wisc.edu)

REFERENCES

1. Tjaden P, Thoennes N. Prevalence and consequences of male-to-female and female-to-male intimate partner violence as measured by the national violence against women survey. *Violence Against Women*. 2000;6(2):142–61.
2. Hamberger LK, Saunders DG, Hovey M. Prevalence of domestic violence in community practice and rate of physician inquiry. *Fam Med*. 1992 May–Jun;24(4):283–7.
3. Kramer A, Lorenzon D, Mueller G. Prevalence of intimate partner violence and health implications for women using emergency departments and primary care clinics. *Womens Health Issues*. 2004 Jan–Feb;14(1):19–29.
4. Coker AL, Smith PH, Bethea L, King MR, McKeown RE. Physical health consequences of physical and psychological intimate partner violence. *Arch Fam Med*. 2000 May;9(5):451–7.
5. Dube SR, Anda RF, Felitti VJ, Chapman DP, Williamson DF, Giles WH. Childhood abuse, household dysfunction, and the risk of attempted suicide throughout the life span—findings from the adverse childhood experiences study. *JAMA*. 2001 DEC 26;286(24):3089–96.
6. Abbott J, Johnson R, Koziol-McLain J, Lowenstein SR. Domestic violence against women. Incidence and prevalence in an emergency department population. *JAMA*. 1995 Jun 14;273(22):1763–7.
7. McCauley J, Kern DE, Kolodner K, et al. The “battering syndrome”: Prevalence and clinical characteristics of domestic violence in primary care internal medicine practices. *Ann Intern Med*. 1995 Nov 15;123(10):737–46.
8. Coker AL, Davis KE, Arias I, et al. Physical and mental health effects of intimate partner violence for men and women. *Am J Prev Med*. 2002 Nov;23(4):260–8.
9. Finestone HM, Stenn P, Davies F, Stalker C, Fry R, Koumanis J. Chronic pain and health care utilization in women with a history of childhood sexual abuse. *Child Abuse Negl*. 2000 Apr;24(4):547–56.
10. Plichta SB. Intimate partner violence and physical health consequences—policy and practice implications. *J Interpers Violence*. 2004 NOV;19(11):1296–323.
11. Dienemann J, Boyle E, Baker D, Resnick W, Wiederhorn N, Campbell J. Intimate partner abuse among women diagnosed with depression. *Issues Ment Health Nurs*. 2000 Jul–Aug;21(5):499–513.
12. Campbell JC. Health consequences of intimate partner violence. *Lancet*. 2002 Apr 13;359(9314):1331–6.
13. Leserman J. Sexual abuse history: prevalence, health effects, mediators, and psychological treatment. *Psychosom Med*. 2005 Nov–Dec;67(6):906–15.
14. Campbell J, Jones AS, Dienemann J, et al. Intimate partner violence and physical health consequences. *Arch Intern Med*. 2002 May 27;162(10):1157–63.

15. **Rubin JJ.** Psychosomatic pain: new insights and management strategies. *South Med J.* 2005 NOV;98(11):1099–110.
16. **Goldberg RT, Pachas WN, Keith D.** Relationship between traumatic events in childhood and chronic pain. *Disabil Rehabil.* 1999 Jan;21(1):23–30.
17. **Davis DA, Luecken LJ, Zautra AJ.** Are reports of childhood abuse related to the experience of chronic pain in adulthood? A meta-analytic review of the literature. *Clin J Pain.* 2005 Sep–Oct;21(5):398–405.
18. **Varjavand N, Cohen DG, Novack DH.** An assessment of residents' abilities to detect and manage domestic violence. *J Gen Intern Med.* 2002 Jun;17(6):465–8.
19. **McLellan AT, Kushner H, Metzger D, et al.** The fifth edition of the addiction severity index. *J Subst Abuse Treat.* 1992;9(3):199–213.
20. **Miele GM, Carpenter KM, Smith Cockerham M, Dietz Trautman K, Blaine J, Hasin DS.** Concurrent and predictive validity of the substance dependence severity scale (SDSS). *Drug Alcohol Depend.* 2000 Apr 1;59(1):77–88.
21. **Horowitz M, Wilner N, Alvarez W.** Impact of event scale: a measure of subjective stress. *Psychosom Med.* 1979 May;41(3):209–18.
22. **Sundin EC, Horowitz MJ.** Impact of event scale: psychometric properties. *Br J Psychiatry.* 2002 Mar;180:205–9.
23. **Fleming MF, Balousek SL, Kiessig CL, Mundt MP, Brown DD.** Substance use disorders in a primary care sample receiving daily opioid therapy. *J Pain.* 2007 May 10; PMID: 17499555 (in press).
24. **Coker AL.** Preventing intimate partner violence: how we will rise to this challenge. *Am J Prev Med.* 2006 Jun;30(6):528–9.