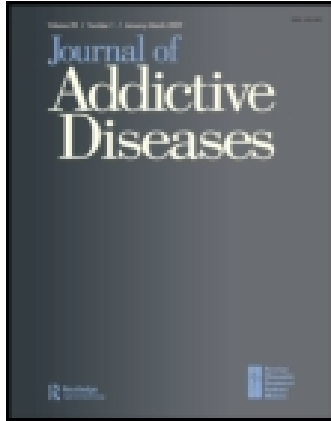


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PAIN, PAIN CATASTROPHIZING, AND PAST LEGAL CHARGES RELATED TO DRUGS

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Using a self-report survey methodology in a cross-sectional consecutive primary care sample (N = 238), we examined pain at 3 time points (today, past month, past year), pain catastrophizing using the Pain Catastrophizing Scale, and history of legal charges for 5 drug-related crimes as defined by the Federal Bureau of Investigation. Among the subsample of 185 participants with histories of being prescribed analgesics, 33 reported a history of legal charges for drug-related crimes. Analyses of variance among this subsample confirmed statistically significant relationships between the current level of pain and history of legal charges for drug-related crimes, as well as level of pain catastrophizing and history of legal charges for drug-related crimes.

KEYWORDS. Drug misuse, pain, pain catastrophizing, Pain Catastrophizing Scale

INTRODUCTION

According to the Institute of Medicine, at least 100 million adults in the United States have chronic pain conditions.¹ Patients with chronic pain are often prescribed prescription analgesics, which, unfortunately, poses a risk for prescription misuse. In this regard, Ives et al.² found that exposure to analgesics for pain conditions resulted in up to one third of participants engaging in opioid misuse. In turn, Nordstrom and Dackis³ described relationships between drug misuse and criminal activity, and characterized these relationships as mutually facilitative. Collectively, these findings suggest possible relationships between the prescription of analgesics, analgesic misuse, and criminal behavior, all of which are relationships that have not been defined in the current literature. In the current study, we hypothesized that individuals with high levels of pain might harbor higher rates

of legal charges for drug-related crimes compared with their counterparts. In addition, we suspected that pain catastrophizing (the over-perception of pain) might also be associated with a history of legal charges for drug-related crimes—the foci of the current study.

METHOD

Participants

Potential participants in this study were men and women, aged 18 years or older, who were being seen at an outpatient internal medicine clinic for nonemergent medical care. This clinic includes residents and faculty in the Department of Internal Medicine and is located in a mid-sized, mid-western U.S. city. However, the majority of patients recruited for this study were seen by resident providers. We excluded individuals with compromising medical (e.g.,

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debilitating pain), intellectual (e.g., mental retardation), cognitive (e.g., dementia), or psychiatric symptoms (e.g., psychotic) of a severity that would preclude the candidate's ability to successfully complete a survey ($n = 13$). This exclusion process was informal (based on observation) and undertaken by the recruiter as patients registered for clinical service.

At the outset, 349 individuals were approached and 244 agreed to participate, resulting in a participation rate of 70%. As for the 105 individuals who did not participate, 68 refused outright, 13 appeared too distressed, 21 appeared too burdened (e.g., struggling with children), and 21 reported not wanting to commit the time. Of the 244 individuals who agreed to participate, 238 completed the items under analysis. Of these 238 respondents, 62.2% were women and 37.8% were men, ranging in age from 21 to 80 years (mean = 45.77 years, $SD = 15.14$ years). (This ratio reflects the sex ratio of patients presenting for service in this clinic.) Most participants were White (76.1%); however, 20.6% of participants were African American, 0.8% were Asian, 1.7% were Hispanic, and 0.8% identified as Other. With regard to educational attainment, all but 2.1% had at least graduated high school, whereas 24.4% had earned at least a bachelors degree.

Procedure

During clinic hours, one of the authors (D.A.W.) positioned himself in the lobby of the outpatient clinic, approached consecutive incoming patients following registration, and informally assessed exclusion criteria. (An informal method of exclusion was elected due to time constraints—surveys needed to be completed prior to patients' appointments with their primary care providers.) With potential candidates, the recruiter reviewed the focus of the project (i.e., a study examining pain and past legal histories) and then invited each to participate. Participants were asked to complete a 6-page anonymous survey, which took approximately 10 minutes. Surveys were completed onsite in the lobby before appointments with providers. Participants were asked to place

completed surveys into sealed envelopes and then into a collection box in the clinic lobby.

The survey consisted of 4 core sections. The first section was a demographic query. The second section explored participants' pain histories. In this section, participants were asked whether they had ever had a prescription for pain medication. Then, using an author-developed assessment, participants were asked to rate the intensity of their pain at 3 specific time points: today, over the past month, and over the past year. For each point in time, respondents were presented with the numbers 0 to 10 positioned on a single line. Labels beneath the numbers were "No Pain" under the number 0, "Mild" under the numbers 1 to 3, "Moderate" under the numbers 4 to 6, and "Severe" under the numbers 7 to 10. Respondents were then asked to circle the single number that best corresponded with their level of pain during that time period.

The third section of the survey assessed the catastrophizing of pain using the Pain Catastrophizing Scale (PCS),⁴ which is a 13-item self-report measure that assesses catastrophic thoughts and feelings about pain. This measure has a 5-point Likert-like response scale (0 = not at all to 4 = all the time) and the scoring range is 0 to 52 points, with higher scores indicating higher levels of catastrophic thoughts and feelings about pain. The PCS has three underlying factors or dimensions of pain catastrophizing: rumination (items 8–11), magnification (items 6, 7, and 13), and helplessness (items 1–5 and 12). With regard to its psychometric properties, the PCS has been validated in both clinical and nonclinical populations.^{5–7} In the current study, Cronbach's alpha was 0.98 for the 13-item measure, 0.97 for the rumination subscale, 0.88 for the magnification subscale, and 0.96 for the helplessness subscale.

Using a yes-or-no response format, the final section of the survey examined the lifetime history of legal charges (not necessarily convictions) for drug-related crimes; based on the categories defined by the Federal Bureau of Investigation, 5 categories were examined.⁸ Specifically, respondents were asked whether they had "ever been charged with any

drug-related crime," and were then asked to check all charges for crimes that applied: (1) assault related to drug use, (2) disorderly conduct related to drug use, (3) driving under the influence, (4) drug abuse violation (e.g., possession, sale, use of illegal drugs), and (5) drunkenness or public intoxication.

This project was reviewed and exempted by the institutional review boards of the sponsoring hospital and the local university. Completion of the survey was assumed to be implied consent, which was explicitly clarified for participants on the cover page of the survey. Participants were advised to take the cover page for their records. Data were collected in November 2012. There was no funding for this project.

RESULTS

Of the 238 respondents, 185 (78.4%) indicated having ever had a prescription for a pain medication. Because the focus in the current study was the potential for drug-related legal charges among patients who had ever received a prescription for pain medication, all subsequent analyses involved just those respondents who indicated having ever had such a prescription. Of the 185 respondents who ever had a pain medication prescription, 33 (17.8%) indicated having ever been charged with (not necessarily convicted of) a drug-related crime. The responses by these 33 patients regarding each of the 5 forms of such crimes were as follows: assault ($n = 8$), disorderly conduct ($n = 7$), driving under the influence ($n = 21$), drug abuse violation ($n = 5$), and drunkenness or public intoxication ($n = 10$). More men (25.0%) than women (12.8%) reported having been charged with a drug-related crime ($\chi^2 = 4.52, P < .05$).

Among the 185 respondents, ratings of pain for the 3 time periods (at present, over the past month, over the past year) each ranged from 0 to 10, with respective means of 3.85 ($SD = 2.82$), 4.03 ($SD = 2.81$), and 4.10 ($SD = 2.84$), respectively. Scores on the PCS ranged from 0 to 44 (mean = 14.73, $SD = 13.50$). Because scores on each of the 3 subscales of the PCS correlated so highly with each other and with the total PCS score (all correlations ranged from

TABLE 1. Results from Analyses of Variance Involving Having Been Charged with a Drug-Related Crime as the Independent Variable

	Ever Charged with a Drug-Related Crime?		F	P <
	Yes (n = 33) Mean (SD)	No (n = 152) Mean (SD)		
Rating of pain now	5.36 (2.98)	3.53 (2.68)	12.23	.001
Rating of pain over past month	4.48 (2.62)	3.93 (2.85)	1.07	.31
Rating of pain over past year	4.52 (2.73)	4.01 (2.86)	0.85	.36
Score on the Pain Catastrophizing Scale	25.27 (12.50)	12.42 (12.62)	28.18	.001

0.93 to 0.98), only the total PCS score was considered in further analyses.

Using analyses of variance (ANOVAs), we examined the relationships between a history of pain (ratings and catastrophizing) and legal charges for drug-related crimes. Specifically, among those participants indicating having ever had a prescription for a pain medication, we compared those with versus those without a drug-related legal charge. The results are presented in Table 1. Of the 4 ANOVAs, 2 were statistically significant: ratings of pain now and the total score on the PCS. In both cases, patients with a history of drug-related charges had higher ratings/scores.

DISCUSSION

Findings confirm our hypotheses that there are relationships between pain levels and legal charges for drug-related crimes and between pain catastrophizing and legal charges for drug-related crimes. However, the relationship between pain levels and legal charges for drug-related crimes was only significant for pain at the present time and not for pain over the past month or the past year. Taken together, these findings could suggest that currency of high pain levels and catastrophized intensity of pain are key risk factors associated with a greater risk for past drug-related charges.

Interestingly, both higher levels of reported current pain and pain catastrophizing could be both conceptualized as the overrepresentation of pain to others, either on a conscious or unconscious level. This style of overrepresentation or embellishment suggests that individuals with pathological dramatization might be at risk. This would include individuals with explicit personality disorders, particularly those with cluster B personality disorders. Cluster B personality disorders are characterized in the *Diagnostic and Statistical Manual of Mental Disorders* 5th edition by dramatic, erratic, and emotional styles of behavior and include the personality disorders of antisocial, borderline, histrionic, and narcissistic.⁹

In support of this contention, in a review of the literature, we found that approximately 64% of individuals with borderline personality disorder had lifetime histories of substance misuse.¹⁰ In addition, the relationships between substance misuse and antisocial personality disorder are well-known. Importantly, we did not examine the relationships of substance misuse with various personality disorders in this study.

The relationships identified in this study are clinically concerning given that the prescription of analgesic medications, which is more likely with high levels of pain and the catastrophizing of pain, is associated with analgesic misuse² and past charges for drug-related offenses (findings in the current study). Findings suggest that clinicians need to be keenly alert to unexpectedly high levels of pain or the subjective elaboration of pain and to be judicious with prescriptions for analgesic medications, as well as alert to potential misuse—not only to protect the patient from the consequences of addiction and withdrawal, but also to curtail future legal charges for drug-related crimes.

This study has several potential limitations. First, all data were self-report in nature, including assessments for pain and pain catastrophizing, and therefore were subject to various forms of potential bias. In this regard, some patients may not have been candid about their history of criminal behavior due to fears of repercussion, stigma, or embarrassment—even though the survey was anonymous. Second, those in-

dividuals who were actively excluded ($n = 13$) may have influenced the findings had they been included. Third, individuals who refused to participate (30%) may have declined due to past criminal histories, thereby potentially tempering results. Fourth, the study sample was relatively small; therefore, we viewed this as a pilot study. Fifth, these data are from a resident-provider clinic. This clinic has a high percentage of indigent patients, and the unusual socioeconomics could partially explain the prevalence of histories of drug-related charges among the 33 affected participants. Therefore, we advise caution in generalizing findings to other types of clinical settings. Last, we do not know the temporal relationship between pain, pain medication misuse, and charges for drug-related crimes, so we cannot infer causal relationships. It could be that the over-experience of pain results in drug-seeking behaviors and subsequent crime. Likewise, it could be that a criminal orientation at the outset culminates in the illicit seeking of prescription medications, among other types of crime. Likewise, for some individuals, there could be a bidirectional mixture of both processes.

Despite these limitations, to our knowledge, this is the first study to link current pain levels and the catastrophizing of pain to histories of past legal charges for drug-related crimes. Findings indicate statistically significant associations and warrant further investigation in larger samples of patients and in nontrainee settings.

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