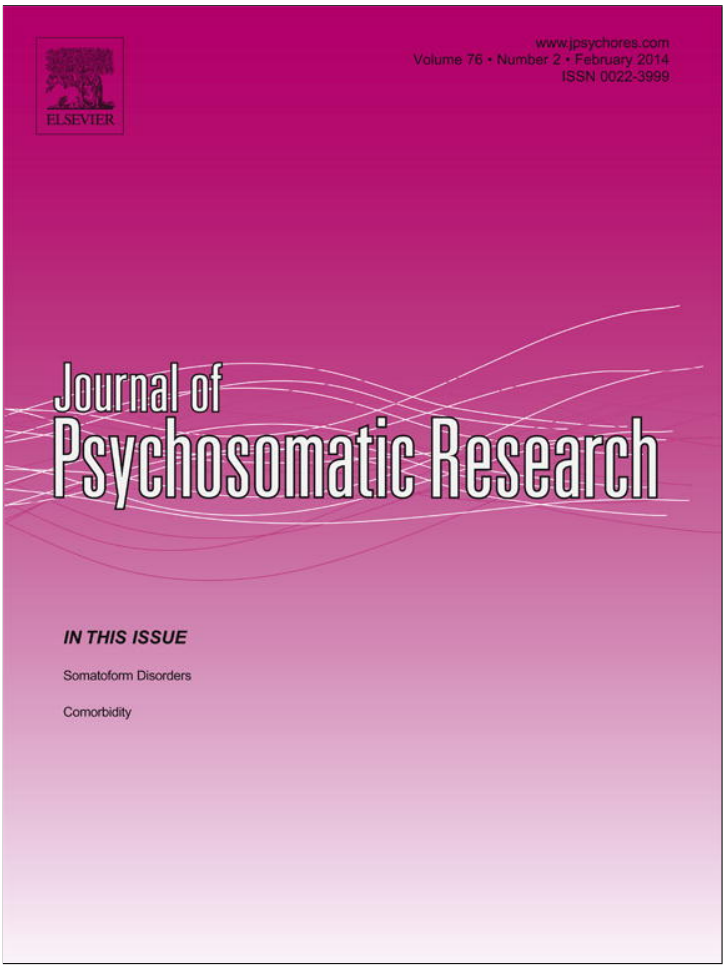

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Pain, pain catastrophizing, and past mental healthcare utilization

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ABSTRACT

Objective: Pain symptoms have been associated with a number of psychiatric disorders, particularly mood and anxiety disorders as well as personality disorders. However, to our knowledge, no study to date has examined pain symptoms in terms of participants' past mental healthcare utilization—the focus of the present study.
Methods: Using a cross-sectional approach and a self-report survey methodology in a sample of 242 consecutive internal medicine outpatients, we examined pain symptoms at assessment, over the past month, and over the past year as well as pain catastrophizing in relationship to 4 mental healthcare variables (i.e., ever seen a psychiatrist, ever been in a psychiatric hospital, ever been in counseling, and ever been on medication for "nerves").
Results: Only three of the four mental-healthcare-utilization variables were analyzed due to response rate (i.e., ever been hospitalized in a psychiatric hospital was infrequently endorsed and not analyzed), and each demonstrated statistically significant relationships with self-reported pain levels at all three time-points and with pain catastrophizing at the $p < .001$ level.
Conclusions: In this study, primary care outpatients with histories of mental health treatment evidenced statistically significantly higher levels of pain as well as statistically significantly higher levels of pain catastrophizing than their peers.

Introduction

According to the empirical literature, chronic pain is frequently comorbid with a number of psychiatric disorders, particularly mood and anxiety disorders as well as borderline personality disorder [1–4]. In addition, relationships have been historically noted in the literature between specific types of pain and various psychiatric conditions (e.g., [5–8]) as well as the role of psychiatric antecedents in the unfolding of subsequent pain symptoms (e.g., [9]). Moreover, various authors have discussed the role of psychiatric medications in the treatment of pain (e.g., [10,11]) as well as described the over-utilization of non-psychiatric medical services by patients with pain (e.g., [12]). Given the associations between chronic pain and various psychiatric syndromes, we speculated about relationships between chronic pain symptoms and past mental healthcare utilization as well as relationships between the catastrophizing of pain and past mental healthcare utilization. Using the PubMed search drive and entering search terms such as "pain and mental healthcare utilization, pain and past psychiatric treatment, non-cancer pain and psychiatric disorders," and "chronic pain and healthcare utilization," and after reviewing hundreds of references, we were unable to find any previous literature dealing with our reported variables (see below). However, given that the pain literature is colossal, it is possible that we missed some relevant papers. In contrast, the literature on pain catastrophizing does not contain any studies with these current variables. Overall, we believe that the particular combination of variables in this study have not been previously examined and at the very least, not examined in a general population of internal medicine outpatients.

Method

Participants in this study were men and women, aged 18 years or older, being seen for non-emergent medical care at an outpatient internal medicine clinic staffed predominantly by residents in the department of internal medicine. During clinic hours, one of the authors (D.A.W.) positioned himself in the lobby of the internal medicine outpatient clinic, approached consecutive incoming patients following registration, and informally assessed exclusion criteria. Individuals were excluded based upon compromising medical (e.g., debilitating pain), intellectual (e.g., mental retardation), cognitive (e.g., dementia), or psychiatric symptoms (e.g., psychotic) of a severity to preclude the candidate's ability to successfully complete a survey (these individuals

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appeared too distressed and were not approached; $n = 13$). This exclusion process was informal because participants needed to complete surveys before appointments with primary care providers.

At the outset, 349 individuals were approached and 244 agreed to participate. Of the 105 individuals who did not participate, 89 refused outright, 13 appeared too distressed (please see exclusions above), and 21 appeared too burdened (e.g., struggling with children). Of the resulting 244 participants, 242 completed all study measures; 63.2% were women and 36.8% were men, ranging in age from 21 to 80 years ($M = 45.89$, $SD = 15.12$). Participants were 76.4% White, 20.7% African-American, 0.8% Asian, 1.7% Hispanic, and 0.4% "Other." All but 2.5% had at least graduated from high school and 24.1% had earned at least a bachelor's degree.

Each participant was asked to complete a 6-page anonymous survey, which took about 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 lobby of the clinic.

The survey comprised 4 core sections. The first section was a demographic query. The second section was an author-developed assessment that explored pain intensity at three specific time points: "today," "over the past month," and "over the past year." For each point in time, respondents were presented with the numbers 0–10 positioned on a single line (0 as "no pain"; 1–3 as "mild pain"; 4–6 as "moderate pain"; and 7–10 as "severe pain"). Respondents were asked to circle the single number that best corresponded to 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) [13]. The PCS is a 13-item self-report measure of catastrophic thoughts and feelings about pain. This measure has a 5-point Likert-style response scale and the scoring range is 0–52, with higher scores indicating higher levels of catastrophic thoughts and feelings about pain. With regard to validity, the PCS has been validated in both clinical and nonclinical populations [14–16]. In the current study, Cronbach's alpha was .98.

The fourth section of the survey queried participants about their past mental healthcare utilization, using a typical clinical approach. With yes/no response options, participants were asked: (1) Have you ever been seen by a psychiatrist? (2) Have you ever been hospitalized in a psychiatric hospital? (3) Have you ever been in counseling? and (4) Have you ever been on medication for your nerves?

As for the statistical approach, we report descriptive statistics. In addition, we performed one-way analyses of variance (ANOVAs) when comparing mean scores of two groups. Because relatively few respondents reported psychiatric hospitalization, we did not include that mental healthcare variable in the analyses.

This project was reviewed and exempted by the institutional review boards of the sponsoring hospital and the local university. Survey completion was assumed to be implied consent, which was explained to participants on the cover page of the survey. Participants were encouraged to take the cover page.

Results

Of the 242 respondents, 65 reported having seen a psychiatrist, 17 being hospitalized in a psychiatric hospital, 81 being in counseling, and 97 on medication for their "nerves." Most respondents (76.9%) who reported having been seen by a psychiatrist also reported having been on medication. However, of the respondents who had been on medication for their "nerves," only 51.5% had been seen by a psychiatrist. Of the 91 respondents who reported having been seen by a psychiatrist and/or been in counseling, most (60.4%) reported both.

Ratings of pain for the three time periods (today, over the past month, over the past year), each ranged from 0 to 10, with respective means of 3.43 ($SD = 2.86$), 3.71 ($SD = 2.88$), and 3.81 ($SD = 2.85$). These mean scores indicate a relatively low-to-moderate level of pain, but the relatively large standard deviations indicate a good deal of variation in these ratings. Scores on the PCS ranged from 0 to 44 ($M = 13.28$, $SD = 13.14$). Similar to the pain ratings, the mean score on the PCS indicates a relatively low-to-moderate level of pain catastrophizing, but the relatively large standard deviation indicates a good deal of variation across respondents.

Table 1
Comparisons between respondents who indicated a particular form of mental healthcare utilization and respondents who did not with regard to reports of pain

History of this form of healthcare:	No		Yes		F	$p <$
	Mean	(*SD*)	*Mean*	(*SD*)		
Seen by a psychiatrist	$n = 177$		$n = 65$			
Rating of pain "now"	2.73	(2.60)	5.34	(2.70)	46.69	.001
Rating of pain "over past month"	2.98	(2.55)	5.72	(2.80)	51.51	.001
Rating of pain "over past year"	3.05	(2.56)	5.91	(2.83)	58.34	.001
Score on the PCS	9.89	(11.31)	22.52	(13.41)	52.68	.001
Been in counseling	$n = 161$		$n = 81$			
Rating of pain "now"	2.67	(2.65)	4.95	(2.69)	39.56	.001
Rating of pain "over past month"	2.93	(2.60)	5.26	(2.80)	40.78	.001
Rating of pain "over past year"	3.09	(2.68)	5.25	(2.65)	34.86	.001
Score on the PCS	9.04	(10.99)	21.51	(13.11)	60.13	.001
Been on medication for "nerves"	$n = 145$		$n = 97$			
Rating of pain "now"	2.53	(2.33)	4.78	(3.06)	42.01	.001
Rating of pain "over past month"	3.04	(2.54)	4.71	(3.08)	20.94	.001
Rating of pain "over past year"	3.12	(2.52)	4.84	(3.02)	22.90	.001
Score on the PCS	7.87	(8.79)	21.28	(14.41)	79.39	.001

Note: PCS = Pain Catastrophizing Scale.

Scores for each pain variable are presented in Table 1 as a function of the remaining three forms of mental healthcare utilization. For the subsamples that endorsed each form of mental healthcare utilization, note that all pain levels and the PCS score were significantly elevated at the $p < .001$ level.

Discussion

Findings indicate clear associations between past mental healthcare utilization, and both pain and the catastrophizing of pain. However, the nature of these relationships remains unclear (e.g., does pain exacerbate pre-existing mental health issues, resulting in greater levels of mental health treatment; do mental health issues predispose to or exacerbate pain syndromes through inter-related inflammatory processes; do mental health issues and pain syndromes participate in a bidirectional relationship with each other?) These correlational data also do not inform us of the temporal nature of these relationships. However, they verify hypothesized relationships among these variables.

To our knowledge, this is one of the few studies to present data on pain and pain catastrophizing, and relationships with mental healthcare utilization. The current literature describes pain symptoms in association with psychiatric symptoms and in relationship to non-psychiatric healthcare utilization—but not in relationship to multiple psychiatric healthcare variables. These data now add to the literature on healthcare utilization, suggesting that pain concurrently contributes to both mental and medical healthcare utilization.

This study has a number of potential limitations. First, all data were self-report in nature and subject to the potential distortions of recollection, misinterpretation, exaggeration, denial, etc. Second, the 13 individuals who were excluded because of distress may have influenced findings had they been included. Third, these data are from a resident–provider clinic, which harbors a high percentage of patients with government insurance; therefore, findings may not generalize to other clinical settings. Fourth, we may have missed some relevant references in the pain literature; nevertheless, we believe that it is unlikely that this unique combination of variables has been previously examined in an internal medicine outpatient sample. To our knowledge, this is the first study to link pain and the catastrophizing of pain to various types of past mental healthcare utilization. Findings indicate strong associations, although the nature of these associations remains unclear.

Conflict of interest

There are no conflicts of interest to declare. There was no funding for this study.

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