



Original Research Article

Psychiatric Morbidity Among Patients with Chronic Pain Attending a Tertiary Care Centre: A Cross-Sectional Study

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Received:06.07.2021

Revised:30.08.2021

Accepted:05.08.2021

Published: 20.09.2021

Abstract: Chronic pain is a multidimensional health problem involving biological, psychological, and social factors. Psychiatric disorders, particularly depression and anxiety, frequently coexist with chronic pain and may contribute to greater pain severity, functional impairment, disability, poor treatment response, and reduced quality of life. Early identification of psychiatric morbidity is therefore important for comprehensive pain management. **Aim:** To determine the prevalence and pattern of psychiatric morbidity among patients with chronic pain attending a tertiary care centre and to evaluate factors associated with psychiatric morbidity. **Materials and Methods:** A hospital-based cross-sectional observational study was conducted among 200 adult patients with chronic pain attending a tertiary care centre. Chronic pain was defined as pain persisting or recurring for more than three months. Sociodemographic and clinical characteristics were recorded using a structured proforma. Pain intensity was assessed using the Numerical Rating Scale (NRS). Psychiatric morbidity was assessed through clinical psychiatric evaluation supplemented by validated screening instruments for depression and anxiety. Diagnoses were categorized according to standard diagnostic criteria. Associations between psychiatric morbidity and demographic and pain-related variables were analyzed using appropriate statistical tests. Multivariable logistic regression was used to identify independent predictors. **Results:** Illustrative data: The mean age of participants was 46.8 ± 12.7 years, and 112 (56.0%) were female. Overall psychiatric morbidity was identified in 94 (47.0%) participants. Depressive disorders were the most frequent psychiatric morbidity (24.0%), followed by anxiety disorders (13.0%), mixed anxiety-depressive presentations (6.0%), and other psychiatric disorders (4.0%). Psychiatric morbidity was significantly associated with female sex, pain duration ≥ 2 years, severe pain, sleep disturbance, functional impairment, and unemployment. Multivariable analysis identified severe pain, prolonged pain duration, and sleep disturbance as significant independent correlates. **Conclusion:** Psychiatric morbidity is common among patients with chronic pain. Depression and anxiety constitute the major psychiatric comorbidities. Routine psychological assessment and integration of psychiatric services with multidisciplinary pain management may facilitate early detection and improve patient-centered outcomes.

Keywords: Chronic pain; psychiatric morbidity; depression; anxiety; pain severity; sleep disturbance; tertiary care.

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INTRODUCTION

Pain is one of the most frequent reasons for seeking medical care and represents a major cause of disability

worldwide. Chronic pain differs fundamentally from acute pain because it may persist beyond the expected period of tissue healing and can become a disease

condition in itself. The International Association for the Study of Pain describes pain as an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.[1] Chronic pain is generally defined as pain that persists or recurs for longer than three months.[2] Its clinical significance extends beyond physical symptoms because chronic pain may affect emotional well-being, sleep, interpersonal relationships, employment, social functioning, and overall quality of life.

The global burden of chronic pain is substantial. Low back pain, musculoskeletal disorders, headache disorders, neuropathic pain, and other chronic painful conditions contribute substantially to years lived with disability.[3] Chronic pain is best conceptualized using a biopsychosocial framework in which biological pathology interacts with psychological processes and social circumstances to determine the individual's pain experience and disability.[4] Consequently, focusing exclusively on the physical cause of pain may fail to address important determinants of persistence, distress, and treatment response.

Psychiatric morbidity is particularly important in patients experiencing chronic pain. Depression and anxiety are among the most frequently reported psychiatric comorbidities.[5,6] The relationship is complex and often bidirectional. Persistent pain may contribute to hopelessness, loss of pleasurable activities, social withdrawal, disturbed sleep, occupational difficulties, and financial stress, increasing vulnerability to depression and anxiety. Conversely, psychiatric symptoms can influence pain perception, attention to painful sensations, coping strategies, catastrophizing, treatment adherence, and functional recovery.[4,7]

Depression has consistently been associated with chronic pain across clinical populations. Patients experiencing both conditions often report greater pain intensity, longer pain duration, increased disability, and poorer quality of life compared with patients experiencing pain without depression.[5] Similarly, anxiety may amplify fear of pain and movement, increase hypervigilance to bodily sensations, and promote avoidance behavior. Such processes can contribute to a cycle of physical inactivity, deconditioning, functional impairment, and persistence of pain.[7]

Sleep disturbance provides another important link between pain and psychiatric symptoms. Chronic pain frequently interferes with sleep initiation and maintenance, while inadequate sleep may increase pain sensitivity and adversely affect emotional regulation.[8] The coexistence of pain, insomnia, anxiety, and depressive symptoms may therefore result in considerable clinical complexity.

Recognition of psychiatric morbidity has direct therapeutic relevance. Multidisciplinary pain

management increasingly incorporates psychological interventions, behavioral modification, rehabilitation, and psychiatric treatment alongside pharmacological and interventional approaches.[9] Nevertheless, psychiatric symptoms may remain unrecognized when consultations predominantly focus on identifying and treating physical pathology.

Data concerning the pattern and determinants of psychiatric morbidity among chronic pain patients attending tertiary care services remain important, particularly because cultural, socioeconomic, and health-care factors may influence psychological responses to chronic illness. The present study was therefore undertaken to estimate the prevalence and pattern of psychiatric morbidity among patients with chronic pain attending a tertiary care centre and to identify associated sociodemographic and clinical factors.

Aim: To assess psychiatric morbidity among patients with chronic pain attending a tertiary care centre.

MATERIALS AND METHODS

Study Design

A hospital-based, cross-sectional observational study was conducted among patients with chronic pain attending a tertiary care centre.

Study Setting

The study was conducted in the outpatient services of the Departments of Psychiatry and/or Pain Medicine, General Medicine, Orthopaedics, Neurology, and other relevant specialties of a tertiary care teaching hospital. Patients fulfilling the eligibility criteria during the study period were consecutively approached for participation.

Study Population

Adult patients presenting with pain persisting or recurring for more than three months were considered for inclusion.

Inclusion Criteria

1. Patients aged 18 years or above.
2. Presence of chronic pain for more than three months.
3. Ability to understand and respond to the study questionnaire.
4. Willingness to participate and provide informed consent.

Exclusion Criteria

1. Patients with acute pain of less than three months' duration.
2. Severe cognitive impairment or delirium interfering with assessment.
3. Severe medical instability requiring emergency treatment.
4. Inability to communicate adequately during psychiatric evaluation.
5. Patients unwilling to provide informed consent.

Sample Size

For this model manuscript, an illustrative sample of **200 participants** was used. For an actual study, sample size should be calculated based on the expected prevalence of psychiatric morbidity, desired precision, confidence level, and anticipated nonresponse.

Data Collection

After written informed consent, information was collected using a structured case-record form. Sociodemographic characteristics included age, sex, marital status, education, employment, residence, and socioeconomic status. Clinical information included primary pain diagnosis, anatomical site, duration of pain, previous treatments, associated medical illnesses, sleep disturbances, and functional limitations.

Pain duration was categorized as 3–12 months, 1–2 years, and more than two years for analysis.

Assessment of Pain

Pain intensity was assessed using an 11-point Numerical Rating Scale (NRS), ranging from 0 ("no pain") to 10 ("worst imaginable pain").^[10] For analytical purposes, pain intensity was categorized as mild (1–3), moderate (4–6), and severe (7–10).

Psychiatric Assessment

All participants underwent psychiatric evaluation. Depressive and anxiety symptoms were evaluated using validated screening instruments such as the Patient Health Questionnaire-9 (PHQ-9) and Generalized Anxiety Disorder-7 (GAD-7), followed by clinical assessment where indicated.^[11,12]

Psychiatric diagnoses were categorized according to

standard diagnostic criteria. The principal categories evaluated included depressive disorders, anxiety disorders, mixed anxiety-depressive presentations, substance-related disorders, and other clinically significant psychiatric conditions.

Screening questionnaire scores alone were not regarded as equivalent to definitive psychiatric diagnoses. Positive screens were clinically evaluated by an appropriately trained professional.

Ethical Considerations

Prior approval from the Institutional Ethics Committee was required before commencement of the study. Written informed consent was obtained from every participant. Confidentiality and anonymity were maintained. Patients identified with clinically significant psychiatric symptoms were offered appropriate counseling, psychiatric consultation, and treatment or referral.

Statistical Analysis

Data were entered into a spreadsheet and analyzed using appropriate statistical software. Continuous variables were summarized as mean $\pm$ standard deviation or median and interquartile range, depending on distribution. Categorical variables were expressed as frequencies and percentages. The chi-square test or Fisher's exact test was used to evaluate associations between categorical variables. Continuous variables were compared using the independent-samples *t* test or appropriate non-parametric tests. Variables demonstrating clinically relevant or statistically significant associations were entered into multivariable binary logistic regression.

RESULTS

A total of 200 patients with chronic pain were included. The mean age was 46.8 ± 12.7 years. Of these, 112 (56.0%) were female and 88 (44.0%) were male. Musculoskeletal pain represented the most frequent pain category. Overall psychiatric morbidity was identified in 94 patients, corresponding to a prevalence of **47.0%**.

Table 1. Sociodemographic Characteristics of Study Participants (n=200)

Characteristic	Category	Number (n)	Percentage (%)
Age	18–30 years	25	12.5
	31–45 years	61	30.5
	46–60 years	76	38.0
	>60 years	38	19.0
Sex	Male	88	44.0
	Female	112	56.0
Marital status	Married	148	74.0
	Unmarried/widowed/divorced	52	26.0
Residence	Urban	118	59.0
	Rural	82	41.0
Employment	Employed	126	63.0
	Unemployed/not working	74	37.0

Most patients were aged between 46 and 60 years, and females constituted 56.0% of the study population. Nearly three-fourths were married, while 37.0% were unemployed or not currently working.

Table 2. Clinical Characteristics of Chronic Pain

Variable	Category	Number (n)	Percentage (%)
Pain duration	3–12 months	61	30.5
	1–2 years	59	29.5
	>2 years	80	40.0
Pain intensity	Mild	28	14.0
	Moderate	104	52.0
	Severe	68	34.0
Pain category	Musculoskeletal	92	46.0
	Neuropathic	42	21.0
	Headache/facial pain	28	14.0
	Visceral pain	18	9.0
	Other	20	10.0
Sleep disturbance	Present	108	54.0
	Absent	92	46.0
Functional impairment	Present	121	60.5
	Absent	79	39.5

Forty percent of participants had experienced chronic pain for more than two years. Moderate pain was most frequent (52.0%), while 34.0% experienced severe pain. Sleep disturbance and functional impairment were reported by 54.0% and 60.5%, respectively.

Table 3. Pattern of Psychiatric Morbidity Among Chronic Pain Patients

Psychiatric status/disorder	Number (n)	Percentage (%)
No identified psychiatric morbidity	106	53.0
Depressive disorders	48	24.0
Anxiety disorders	26	13.0
Mixed anxiety-depressive presentation	12	6.0
Other psychiatric disorders	8	4.0
Any psychiatric morbidity	94	47.0

Psychiatric morbidity was observed in 47.0% of participants. Depressive disorders were the most frequent psychiatric condition, affecting 24.0%, followed by anxiety disorders (13.0%) and mixed anxiety-depressive presentations (6.0%).

Table 4. Association Between Clinical Variables and Psychiatric Morbidity

Variable	Psychiatric morbidity n/N (%)	No morbidity n/N (%)	p value
Male	32/88 (36.4)	56/88 (63.6)	0.008
Female	62/112 (55.4)	50/112 (44.6)	
Pain duration ≤2 years	45/120 (37.5)	75/120 (62.5)	<0.001
Pain duration >2 years	49/80 (61.3)	31/80 (38.8)	
Mild/moderate pain	51/132 (38.6)	81/132 (61.4)	<0.001
Severe pain	43/68 (63.2)	25/68 (36.8)	
Sleep disturbance present	66/108 (61.1)	42/108 (38.9)	<0.001
Sleep disturbance absent	28/92 (30.4)	64/92 (69.6)	
Functional impairment present	69/121 (57.0)	52/121 (43.0)	<0.001
Functional impairment absent	25/79 (31.6)	54/79 (68.4)	
Unemployed/not working	44/74 (59.5)	30/74 (40.5)	0.008
Employed	50/126 (39.7)	76/126 (60.3)	

Psychiatric morbidity was significantly more frequent among females, patients with pain lasting more than two years, those with severe pain, patients reporting sleep disturbance and functional impairment, and those who were unemployed/not working.

Table 5. Multivariable Logistic Regression for Factors Associated with Psychiatric Morbidity

Predictor	Adjusted Odds Ratio (AOR)	95% CI	p value
Female sex	1.67	0.91–3.08	0.098
Pain duration >2 years	2.05	1.08–3.89	0.028
Severe pain	2.32	1.17–4.59	0.016
Sleep disturbance	2.74	1.45–5.18	0.002
Functional impairment	1.71	0.87–3.36	0.119
Unemployment/not working	1.49	0.76–2.92	0.244

After adjustment for potential confounding variables, pain duration greater than two years, severe pain, and sleep disturbance remained independently associated with psychiatric morbidity. Sleep disturbance demonstrated the strongest association in the model.

DISCUSSION

The present study examined psychiatric morbidity among patients experiencing chronic pain at a tertiary care centre. In the illustrative dataset, almost half (47.0%) of participants had an identifiable psychiatric morbidity, highlighting the substantial psychological burden accompanying persistent pain. Depressive disorders constituted the most common psychiatric morbidity, followed by anxiety disorders.

The high occurrence of psychiatric symptoms among patients with chronic pain is consistent with the biopsychosocial model of pain. Chronic pain is not determined solely by nociceptive or neuropathic mechanisms; cognitive, emotional, behavioral, interpersonal, and socioeconomic factors contribute to the persistence and impact of painful experiences.[4] Gatchel et al. emphasized the importance of understanding chronic pain through this integrated framework rather than considering physical and psychological factors independently.[4]

Depressive disorders were identified in 24.0% of participants in the present model. The association between chronic pain and depression is well established. Bair et al., in a systematic review, reported that pain is common among patients with depression and that depression is also highly prevalent among patients presenting with painful conditions.[5] Patients with coexisting pain and depression tend to experience greater pain severity, functional limitation, and poorer treatment outcomes. The relationship may be reciprocal: persistent pain contributes to emotional distress, while depressive symptoms may amplify the subjective experience of pain and reduce adaptive coping.

Anxiety disorders represented another important component of psychiatric morbidity. Chronic pain can create uncertainty about health, employment, disability, and future functioning. Anxiety may subsequently increase attention to pain-related sensations and promote avoidance of activities perceived as potentially painful. The fear-avoidance model proposes that catastrophic interpretations and pain-related fear may lead to avoidance, reduced physical activity, disability, and persistence of pain.[7]

Longer duration of pain was significantly associated with psychiatric morbidity. Patients experiencing pain for more than two years had approximately twice the adjusted odds of psychiatric morbidity compared with patients with shorter pain duration. Persistent symptoms may result in cumulative disruption of social, occupational, recreational, and family activities. Repeated unsuccessful treatments and uncertainty regarding recovery may further contribute to

psychological distress.

Pain severity was also independently associated with psychiatric morbidity. Participants with severe pain had more than twice the adjusted odds of psychiatric morbidity. This relationship may also be bidirectional. Greater pain can generate emotional distress and disability, whereas depression and anxiety may influence attention, interpretation, and tolerance of painful stimuli.[5,6]

One of the strongest associations observed was between sleep disturbance and psychiatric morbidity. Sleep and pain have a complex reciprocal relationship. Finan et al. reviewed evidence indicating that sleep disturbance may contribute to increased pain sensitivity and may play an important role in the development and maintenance of chronic pain.[8] Sleep disruption is also closely associated with depression and anxiety. Consequently, assessment of sleep should form part of comprehensive psychiatric and pain evaluation.

Functional impairment was significantly associated with psychiatric morbidity on unadjusted analysis. Chronic pain may interfere with mobility, household responsibilities, occupational functioning, interpersonal relationships, and recreational activities. Reduced participation in meaningful activities can further contribute to social isolation and depressive symptoms. Similarly, unemployment was associated with psychiatric morbidity in univariate analysis, potentially reflecting the combined effects of financial difficulties, loss of occupational identity, and pain-related disability.

These findings reinforce the importance of multidisciplinary management. Psychological interventions, particularly cognitive behavioral approaches, can be useful components of chronic pain treatment.[9,13] Psychiatric assessment should therefore not be reserved only for patients presenting with overt severe psychiatric symptoms. Screening for depression, anxiety, sleep disturbances, maladaptive coping, and suicide risk can be integrated into routine chronic pain services.

CONCLUSION

Psychiatric morbidity represents an important and frequently encountered comorbidity among patients with chronic pain. In the present illustrative analysis, 47.0% of chronic pain patients had psychiatric morbidity, with depressive and anxiety disorders constituting the predominant conditions. Longer duration of pain, severe pain, sleep disturbance, functional impairment, female sex, and unemployment were associated with greater psychiatric morbidity on initial analyses, while prolonged pain, severe pain, and sleep disturbance remained significant in the multivariable model. These

findings support the incorporation of routine mental health assessment into chronic pain services. Early identification and appropriate treatment of depression, anxiety, sleep problems, and other psychiatric conditions, together with medical, rehabilitative, and psychological pain management, may provide a more comprehensive approach to patients with chronic pain.

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