IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

"Prevalence Of Mental Health Disorders In Chronic Pain Onditions: A Cross-Sectional Study"

Sanika Ani[1], Dhruthi Prasad[2]
[1]student, [2]Assistant professor
[1]Msc psychology department,[2] department of psychology
MSc psychology, Jain (deemed university), Bengaluru, Karnataka, India

Abstract
Chronic pain and mental health disorders often coexist, creating a complex interplay that significantly affects an individual's quality of life. This study investigates the prevalence of mental health disorders, specifically depression and anxiety, in individuals suffering from chronic pain conditions. The cross-sectional study involved 100 participants who completed surveys using the PHQ-9 for depression and the GAD-7 for anxiety. Findings from chi-square tests revealed a significant association between chronic pain conditions and the presence of mental health disorders, underscoring the importance of integrated care approaches for patients with chronic pain.
Keywords: chronic health conditions, mental health, depression, anxiety, prevalence, cross-sectional study

I.INTRODUCTION

Chronic pain, defined as pain persisting for at least three months, is a widespread issue affecting millions globally. It often leads to physical, psychological, and social consequences that diminish quality of life. The bidirectional relationship between chronic pain and mental health disorders—where each condition exacerbates the other—has been increasingly recognized. Depression, anxiety, and post-traumatic stress disorder (PTSD) are common in individuals with chronic pain, while these mental health issues, in turn, can heighten the perception of pain.

This article delves into the intricate relationship between chronic physical conditions and mental health, drawing from a recent survey study that highlights the prevalence of mental health disorders across various chronic illnesses. This study aims to explore the prevalence of mental health disorders in individuals with chronic pain and analyse the significance of the relationship between chronic pain and mental health using a cross-sectional study design.

II.BACK GROUND

The association between chronic illnesses and mental health has been well-documented in academic literature. The constant stress and discomfort of managing a long-term health condition often lead to significant emotional distress. Mental health disorders such as anxiety and depression are prevalent in individuals with chronic illnesses, influencing both the severity and perception of their physical symptoms.

Chronic diseases often exacerbate psychological symptoms, while pre-existing mental health conditions can heighten the experience of physical pain. This bi-directional relationship suggests that neither chronic illness nor mental health issues exist in isolation; rather, they form a feedback loop where each condition worsens the other, leading to a diminished quality of life.

II.REVIEW OF LITRETURE

The relationship between chronic pain and mental health disorders is bidirectional and complex. Chronic pain can lead to depression, anxiety, and other mental health issues, while these conditions can amplify pain perception. Biological factors, such as neurotransmitter imbalances and inflammation, along with psychological stress and negative coping mechanisms, further exacerbate this relationship. Social factors, including inadequate support systems and socioeconomic status, also play a role.

Research consistently shows a high prevalence of depression and anxiety among patients with conditions like migraines, arthritis, fibromyalgia, and diabetes. These mental health conditions, in turn, can worsen the physical experience of pain, decrease treatment adherence, and reduce quality of life. Although multidisciplinary care combining pharmacological, psychological, and lifestyle interventions is essential for improving outcomes, more research is needed to understand the long-term benefits of integrated approaches.

III.RESEARCH METHADOLOGY

3.1 Population and sample

This study utilized a cross-sectional design to collect data on the prevalence of mental health issues among individuals with chronic health conditions. A total of 100 participants were surveyed to gather relevant information regarding their mental health status, specifically focusing on depression and anxiety. Participants were sourced from outpatient clinics specializing in pain management and direct invitations to individuals known to have chronic conditions.

The study involved 100 adult participants (18+ years) experiencing chronic pain for at least three months. Individuals with acute pain, severe psychiatric disorders, or cognitive impairments were excluded.

3.2. Data and source data

Mental health data were collected using two surveys:

PHQ-9 to assess depressive symptoms.

GAD-7 to screen for generalized anxiety. Surveys were administered either in-person or online.

Descriptive statistics were used to summarize participant characteristics and mental health outcomes. Bivariate analyses were conducted to examine associations between chronic pain and mental health conditions. A chi-square test was used to assess the association between chronic pain conditions and depression and anxiety.

3.3 Theoretical Framework

The theoretical framework for this study is grounded in the interaction between chronic health conditions and mental health outcomes, informed by established psychological theories. This framework helps to understand the relationship between physical and mental health, guiding the research design and interpretation of findings.

3.3.1. Biopsychosocial Model

The study is primarily informed by the Biopsychosocial Model, which posits that health and illness are products of a
complex interplay between biological, psychological, and social factors. This model emphasizes:

Biological Factors: Chronic health conditions can lead to physiological changes that may contribute to psychological distress and anxiety.

Psychological Factors: Pre-existing mental health conditions can be exacerbated by chronic illness, leading to
increased anxiety and depression.

Social Factors: Social support and environmental influences can significantly affect an individual's ability to cope
with chronic health conditions and associated mental health challenges.

3.3.2 Stress-Coping Theory

The Stress-Coping Theory also underpins this research. It suggests that individuals' responses to stressors, such as
chronic illnesses, can significantly impact their mental health. Key components include:

Stressors: Chronic conditions act as stressors that can trigger psychological distress.

Coping Mechanisms: The strategies individuals employ to manage stress influence their mental health outcomes.

Effective coping can mitigate the impact of chronic conditions on mental health.

3.3.3. Health-Related Quality of Life

The study incorporates the concept of Health-Related Quality of Life, which focuses on how chronic health conditions affect overall well-being, including mental health measures provide insights into the subjective experiences of individuals, highlighting the significance of mental health in the context of chronic illnesses.

3.3.4 Hypotheses:

Null Hypothesis (H0): There is no association between chronic health conditions and mental health disorders.
Alternative Hypothesis (H1): There is a significant association between chronic health conditions and mental health
disorders.

3.4 Statistical tools

3.4.1Descriptive Statistics

Initial analyses included contingency table to summarize the data, providing measures of mental health status according to the GAD questionnaire and PHQ-9 Questionnaire.

3.4.2 Chi-Square Test

The Chi-Square test was utilized to examine the association between categorical variables, specifically assessing the relationship between chronic health conditions and levels of anxiety and depression. This test helps determine if there is a statistically significant difference between observed and expected frequencies in the data

IV.RESULT AND DISCUSSION

4.1 Calculation of chi square test

Table 4.1 contingency table

Chi-Square Calculation- Expected frequency= (raw total) × (column total)/Grand total	
Expected frequencies depression-60×50÷100=30	30
Expected frequencies no- depression-40×50÷100=20	20
Expected frequencies anxiety-60×50÷100=30	30
Expected frequencies no anxiety-40×50÷100=20	20

The chi-square test for association between chronic pain conditions and mental health disorders yielded the following results:
Observed Frequencies:
Participants with depression and anxiety: 40
Participants with anxiety but no depression: 10
Participants with depression but no anxiety: 20
Participants with neither anxiety nor depression: 30
Total 100 participants
Using a statistical software or a calculator,

$$X^2=\sum (Oi-Ei)^2/Ei$$

(Where \(O_i\)-observed frequencies and\(E_i\)-expected frequencies under the null hypothesis.)
Null Hypothesis (H0): There is no association between chronic health conditions and mental health disorders.
Alternative Hypothesis (H1): There is a significant association between chronic health conditions and mental health

disorders.

4.2 Chi-square statistics calculation

4.2 Table of chi-square statistics

Chi-Square Calculation- Expected frequency= (raw total) × (column total)/Grand total	
Expected frequencies depression-60×50÷100=30	30
Expected frequencies no- depression-40×50÷100=20	20
Expected frequencies anxiety-60×50÷100=30	30
Expected frequencies no anxiety-40×50÷100=20	20

4.2.1 Chi-square statistics –

Chi-Square Calculation: Using the formula, where are the observed frequencies and are the expected frequencies, the chi-square value was calculated as 16.67.

$$X2= 16.7$$

4.2.2 Degrees of Freedom: The degrees of freedom were calculated as, where r is the number of rows and c is the number of columns, yielding a value of 1.

$$df = 1$$

4.2.3 P-value: The p-value was approximately 0.00004, indicating highly significant association between chronic pain conditions and mental health disorders ($p < 0.05$).

$$p\sim.00004$$

V.CONCLUSION

The study confirms the significant association between chronic pain conditions and mental health disorders, emphasizing the importance of early identification and integrated treatment. Multidisciplinary interventions combining pharmacological, psychological, and lifestyle modifications are essential for improving the quality of life and treatment adherence in individuals with chronic pain. Additionally, policy-level changes are needed to prioritize mental health services for individuals with chronic illnesses to optimize healthcare resources and prevent further mental health deterioration.

Toward Integrated Care Approaches

The findings from this survey highlight the need for integrated care that addresses both physical and mental health aspects of chronic illnesses. Such an approach would involve multidisciplinary teams consisting of physicians, psychologists, and other healthcare professionals collaborating to create holistic treatment plans. Cognitive-behavioural therapy, mindfulness, and stress-reduction techniques, when combined with traditional medical treatments, have shown promise in alleviating the emotional distress associated with chronic illness. Additionally, patient education on mental health self-management, early screening for depression and anxiety in patients with chronic conditions, and access to affordable mental health care are vital for improving outcomes.

Keywords: chronic pain, depression, anxiety, PHQ-9, GAD-7, integrated care

VI.ACKNOWLEDGEMENT

I would like to express my heartfelt gratitude to my supervisor, Ms. Dhruthi Prasad, for their insightful guidance and encouragement throughout this research. I also extend my thanks to Jain (Deemed-to-be university)for providing the necessary resources and facilities for this study. My sincere appreciation goes to all who offered invaluable support in data collection and analysis. I am grateful to all the participants whose contributions were crucial to the completion of this work. Finally, I thank my family and friends for their constant encouragement and understanding

VII.REFERENCE

1. Gatchel, R. J., Peng, Y. B., Peters, M. L., Fuchs, P. N., & Turk, D. C. (2007). The biopsychosocial approach to chronic pain: Scientific advances and future directions. Psychological Bulletin, 133(4), 581.
2. Bair, M. J., Wu, J., Damush, T. M., Sutherland, J. M., & Kroenke, K. (2008). Association of depression and anxiety alone and in combination with chronic musculoskeletal pain in primary care patients. Psychosomatic Medicine, 70(8), 890–897.
3. Dersh, J., Polatin, P. B., & Gatchel, R. J. (2002). Chronic pain and psychopathology: Research findings and theoretical considerations. Psychosomatic Medicine, 64(6), 773–786.
4. Pincus, T., & Morley, S. (2001). Cognitive-processing bias in chronic pain: A review and integration. Psychological Bulletin, 127(5), 599.
5. Eccleston, C., Williams, A. C., & Morley, S. (2009). Psychological therapies for the management of chronic pain (excluding headache) in adults. The Cochrane Database of Systematic Reviews (2), CD007407.
6. Hasenbring, M. I., Hallner, D., & Rusu, A. C. (2009). Fear-avoidance- and endurance-related responses to pain: Development and validation of the Avoidance-Endurance Questionnaire (AEQ). European Journal of Pain, 13(6), 620–628.
7. Turk, D. C., & Okifuji, A. (2002). Psychological factors in chronic pain: Evolution and revolution. Journal of Consulting and Clinical Psychology, 70(3), 678.
8. Sullivan, M. J., Thorn, B., Haythornthwaite, J. A., Keefe, F., Martin, M., Bradley, L. A., & Lefebvre, J. C. (2001). Theoretical perspectives on the relation between catastrophizing and pain. The Clinical Journal of Pain, 17(1), 52–64.
9. Morley, S., Eccleston, C., & Williams, A. (1999). Systematic review and meta-analysis of randomized controlled trials of cognitive behaviour therapy and behaviour therapy for chronic pain in adults, excluding headache. Pain, 80(1–2), 1–13.
10. Schütze, R., Rees, C., Preece, M., & Schütze, M. (2010). Low mindfulness predicts pain catastrophizing in a fear-avoidance model of chronic pain. Pain, 148(1), 120–127.
11. Turner, J. A., Jensen, M. P., & Romano, J. M. (2000). Do beliefs, coping, and catastrophizing independently predict functioning in patients with chronic pain? Pain, 85(1–2), 115–125.
12. Thorn, B. E., Pence, L. B., Ward, L. C., Kilgo, G., Clements, K. L., Cross, T. H., Davis, A. M., & Tsui, P. W. (2007). A randomized clinical trial of targeted cognitive behavioural treatment to reduce catastrophizing in chronic headache sufferers. The Journal of Pain, 8(5), 938–949.
13. Morley, S., Williams, A. C., & Eccleston, C. (2013). Examining the evidence about psychological treatments for chronic pain: Time for a paradigm shift? Pain, 154(10), 1929–1931.
14. Roy, T., & Lloyd, C. E. (2012). Epidemiology of depression and diabetes: A systematic review. Journal of Affective Disorders, 142(1–3), S8–S21. https://doi.org/10.1016/j.jad.2012.03.025
15. Katon, W. J., Lin, E. H. B., & Kroenke, K. (2007). The association of depression and anxiety with medical symptom burden in patients with chronic medical illness. General Hospital Psychiatry, 29(2), 147–155. https://doi.org/10.1016/j.genhosppsych.2006.11.005
16. Egede, L. E. (2007). Major depression in individuals with chronic medical disorders: Prevalence, correlates, and association with health resource utilization, lost productivity, and functional disability. General Hospital Psychiatry, 29(5), 409–416. https://doi.org/10.1016/j.genhosppsych.2007.06.002
17. Gonzalez, J. S., Peyrot, M., McCarl, L. A., Collins, E. M., Serpa, L., & Rubin, R. R. (2008). Depression and diabetes treatment nonadherence: A meta-analysis. Diabetes Care, 31(12), 2398–2403. https://doi.org/10.2337/dc08-1341
18. Dantzer, R., O'Connor, J. C., Freund, G. G., Johnson, R. W., & Kelley, K. W. (2008). From inflammation to sickness and depression: When the immune system subjugates the brain. Nature Reviews Neuroscience, 9(1), 46–56. https://doi.org/10.1038/nrn2297
19. Katon, W. J., Lin, E. H., & Kroenke, K. (2010). Depression and chronic medical illness. Dialogues in Clinical Neuroscience, 12(1), 7–23.
20. Simon, G. E., & Von Korff, M. (2005). Medical co-morbidity and validity of DSM-IV depression criteria. Psychological Medicine, 35(6), 896–905. https://doi.org/10.1017/S0033291705004992