Vol. 4 No. 4 (2025)

Pakistan Journal of Medical & Cardiological Review

https://pakjmcr.com/index.php/1/about

Online ISSN 3007-2387 Print ISSN 3007-2379

Depression in Chronic Illness Patients Attending OPD Clinics in Rawalpindi: A Mixed-Method Study

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Keywords: Depression, chronic illness, outpatient clinics, mental health, mixed-methods, PHQ-9, GAD-7, Pakistan.

Received on 05 Nov 2025
Accepted on 02 Dec 2025
Published on 12 Dec 2025

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Abstract

Mental health disorders, especially depression, are a critical concern among individuals with chronic illnesses, significantly affecting their quality of life and complicating disease management. Depression often goes undiagnosed in outpatient settings, particularly in countries like Pakistan, where healthcare resources are limited. This underdiagnosis exacerbates the burden on healthcare systems and impacts patients' physical health outcomes.

Objectives: The primary aim of this study was to assess the prevalence and impact of depression among chronic illness patients attending outpatient clinics in Rawalpindi, Pakistan, through a mixed-method approach, combining quantitative and qualitative data collection.

Methodology: This mixed-method study employed both quantitative and qualitative techniques. Quantitative data were collected using standardized tools, such as the Patient Health Questionnaire-9 (PHQ-9) and Generalized Anxiety Disorder-7 (GAD-7) scale, from 100 patients. Qualitative data were gathered through in-depth interviews with 15 participants, analyzed using thematic analysis. The statistical analysis of quantitative data involved

Spearman's Rank Correlation, descriptive statistics, and distribution of depression severity.
Results: The study found a high prevalence of moderate to severe depression among chronic illness patients, with a significant positive correlation between depression and anxiety ($\rho = 0.741$). Thematic analysis of qualitative data revealed that chronic illness exacerbates emotional distress, creating a vicious cycle that worsens both physical and psychological health. Social support from family, peers, and healthcare professionals was identified as a crucial coping mechanism.
Conclusion: The study highlights the high prevalence of depression among chronic illness patients attending OPD clinics and underscores the urgent need for integrated healthcare models that address both physical and mental health. It calls for routine mental health screenings, enhanced healthcare provider training, and personalized interventions to improve patient outcomes.

Introduction

Depression is a significant global health issue, particularly among patients with chronic illnesses, where it can exacerbate physical health complications and hinder effective disease management. It is often underdiagnosed in outpatient departments (OPD), especially in countries like Pakistan, where healthcare resources are limited. Chronic diseases, such as diabetes, hypertension, and cardiovascular disease, not only impose physical burdens but also lead to emotional distress, including depression and anxiety. Research indicates that individuals with chronic conditions are more susceptible to mental health disorders, creating a bidirectional relationship where physical symptoms worsen mental health and vice versa (1).

In Pakistan, the burden of chronic diseases is escalating, with the country facing the challenge of managing both communicable diseases and non-communicable diseases (NCDs). According to national surveys, the prevalence of hypertension and diabetes is significant, with hypertension affecting 38.7% of the population and diabetes 14.6% (2). Chronic illness often leads to increased physical limitations, disability, and dependence on healthcare services, creating emotional strain and increasing vulnerability to depression (3).

The correlation between chronic illness and depression is well-documented. Studies have shown that patients with chronic conditions, especially those enduring long-term treatments, experience higher rates of depression. In fact, chronic pain, a common feature of many chronic diseases, significantly contributes to the development of depressive symptoms (4). Despite this, mental health screening and management remain poorly integrated into chronic disease care in many OPD settings, particularly in Pakistan. Previous research has identified that over 50% of chronic illness patients attending OPD clinics in Rawalpindi exhibit depressive symptoms (5).

Mental health issues, particularly depression, are often overlooked due to limited mental health resources in OPDs. Moreover, healthcare professionals frequently fail to recognize the psychological aspects of chronic illnesses, focusing primarily on physical symptoms. The financial burden, coupled with a lack of social support, further exacerbates the mental health challenges faced by these patients (6). Socioeconomic factors such as income and education have been found to significantly influence the severity of depression among chronic illness patients, with lower-income patients showing higher levels of depression (7).

In OPD settings, addressing depression is crucial, as untreated depression negatively affects patient adherence to treatment regimens and worsens health outcomes. There is a pressing need for a comprehensive approach to healthcare that integrates both physical and mental health management. This study aims to assess the prevalence and impact of depression among chronic illness patients attending OPD clinics in

Rawalpindi, Pakistan, using both quantitative and qualitative methods. The quantitative phase will utilize standardized tools such as the PHQ-9 and GAD-7 to assess depression and anxiety, while the qualitative phase will explore the experiences and perceptions of patients through in-depth interviews.

By addressing the mental health needs of chronic illness patients, this research seeks to inform healthcare providers and policymakers about the importance of integrating mental health care into routine chronic disease management, thus improving the overall quality of care and patient outcomes (8).

Material and Methods

This study utilized a mixed-method design, combining both quantitative and qualitative approaches to assess the prevalence and impact of depression among chronic illness patients attending outpatient clinics in Rawalpindi, Pakistan. The quantitative component aimed to measure the severity of depression and anxiety, while the qualitative component sought to understand the patients' experiences and perceptions of living with chronic illnesses and depression.

The study was conducted in two outpatient clinics located in the Satellite Town area of Rawalpindi, a region that represents a mix of socioeconomic backgrounds. A total of 100 patients suffering from chronic illnesses, including diabetes, hypertension, cardiovascular diseases, and chronic respiratory diseases, participated in the quantitative phase of the study. The inclusion criteria for this group included patients aged 18 years or older who had been diagnosed with at least one chronic illness and were attending regular OPD visits. Patients with acute illnesses or severe mental health disorders that could interfere with their ability to respond to questionnaires were excluded from the study. The study was approved by the Institutional Review Board (IRB) of the Health Services Academy, Islamabad, and informed consent was obtained from all participants.

For the quantitative data collection, two validated scales were employed: the Patient Health Questionnaire-9 (PHQ-9) to assess depression levels and the Generalized Anxiety Disorder-7 (GAD-7) scale to measure anxiety. These standardized tools are widely used in clinical settings and have been validated in various populations, including those in Pakistan (1). Both scales are self-administered, with questions designed to capture the frequency of depressive and anxiety symptoms over the past two weeks. Data were collected through face-to-face interviews, where trained interviewers guided participants through the scales, ensuring accurate responses. The data collected were then analyzed using descriptive statistics to summarize depression severity, and Spearman’s Rank Correlation test was used to explore the relationship between depression and anxiety.

The qualitative phase of the study focused on exploring the personal experiences of 15 patients who were selected from the original 100 participants. Purposive sampling was used to ensure a diverse range of patients based on gender, age, and the severity of their chronic illness. Semi-structured in-depth interviews were conducted with these patients, using an interview guide that included open-ended questions regarding their emotional well-being, coping strategies, and the support they received from family and healthcare providers. The interviews were audio-recorded with consent, transcribed verbatim, and analyzed using thematic analysis. Thematic analysis allowed for the identification of key themes and sub-themes that illustrated the emotional and psychological toll of chronic illnesses and the barriers to mental health care.

Data from the quantitative phase were analyzed using SPSS software (version 25), and qualitative data were analyzed using NVivo software (version 12) for coding and theme development. Ethical considerations were maintained throughout the study,

ensuring the confidentiality of patient information and the voluntary nature of participation. No identifying information was included in the study outputs, and participants were informed of their right to withdraw at any point without consequences.

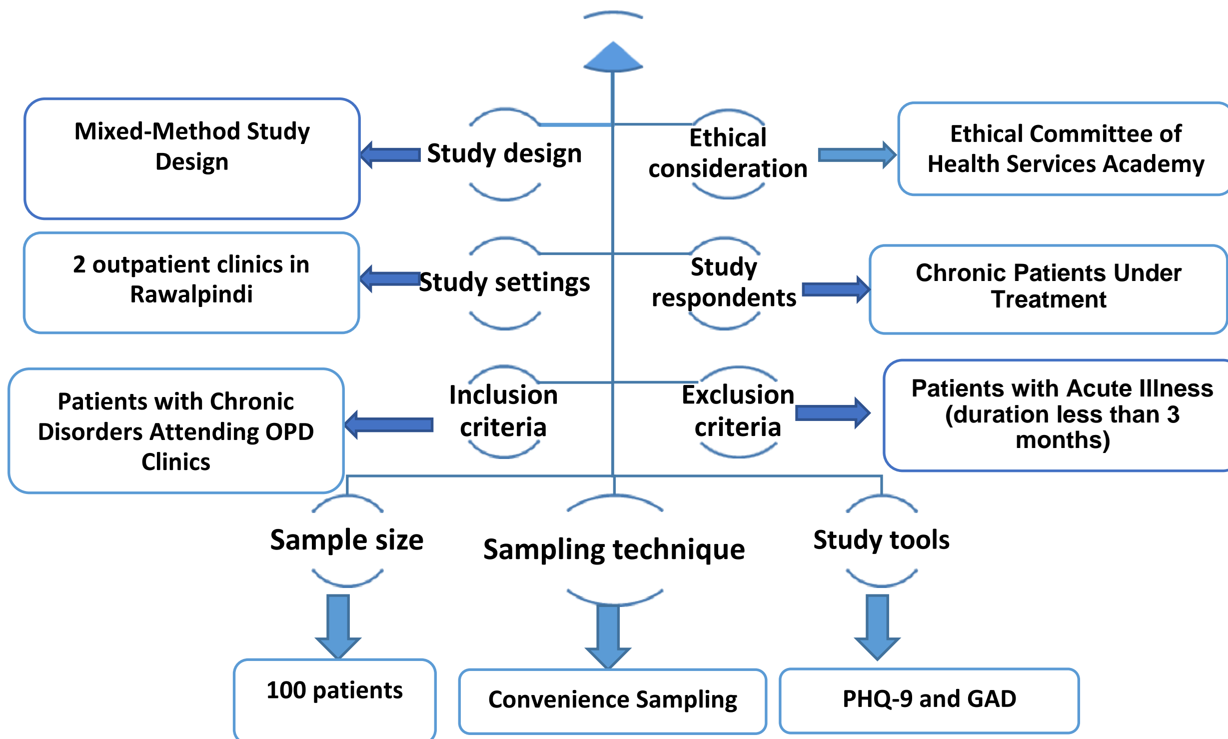

Figure 1: Methodology

Ethical approval was obtained from the Institutional Review Board of Health Services Academy, Islamabad and the IRB approval letter (F.No: 000880/HSA/MSPH-2023) was issued on 24 March 2025 and data collection started on 01 April 2025 and was completed on 10 May 2025 making its duration of total 40 days.

Thematic analysis was conducted using NVivo software following Braun and Clarke's (2006) framework. A structured codebook guided the process, ensuring systematic and transparent coding. Inter-coder reliability was assessed using Cohen's Kappa, and discrepancies were resolved through discussion. Triangulation and an audit trail were maintained to enhance validity and reproducibility. Reflexivity discussions minimized bias, ensuring a rigorous and credible analysis.

Results

Table 1: Results Spearman's Rank Correlation Test

Correlations

			PHQ Total	GAD Total
Spearman's rho	PHQ Total	Correlation Coefficient	1.000	.741**
		Sig. (2-tailed)	.	.000
		N	100	100
	GAD Total	Correlation Coefficient	.741**	1.000
		Sig. (2-tailed)	.000	.
		N	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

Spearman's Rank Correlation revealed a strong positive relationship between depression (PHQ-9) and anxiety (GAD-7) scores, with a correlation coefficient of 0.741, indicating that higher depression scores are associated with higher anxiety levels. This correlation was statistically significant ($p < 0.001$), supporting the robustness of the findings. The perfect correlation within the PHQ-9 and GAD-7 scales with themselves ($\rho = 1.000$) further validates the consistency of the data.

These findings suggest that depression and anxiety often co-occur in chronic illness patients, emphasizing the need for integrated treatment strategies. Clinical interventions, such as cognitive-behavioral therapy (CBT), should address both conditions simultaneously to improve patient outcomes. The high statistical significance reinforces the reliability of the results and provides a foundation for further research and therapeutic developments.

Table 2: Descriptive Statistics of PHQ-9 Scores

Statistics
PHQ Total

N	**Valid**	**100**
	Missing	**0**
Mean		**13.03**
Std. Deviation		**6.762**

The analysis of PHQ-9 scores in 100 participants showed a mean score of 13.03, indicating moderate depression, with a standard deviation of 6.762, reflecting significant variability in depressive symptoms. This variability highlights the diverse experiences of depression within the sample, underscoring the need for personalized treatment strategies. The findings suggest that tailored mental health interventions are necessary, with clinical attention required for individuals experiencing moderate depression. Comprehensive assessments are essential for accurately categorizing depression severity and ensuring appropriate interventions.

Table 3: Mean and SD of Depression Severity in PHQ-9 Scores

Statistics
DS

N	**Valid**	**100**
	Missing	**0**
Mean		**3.1700**
Std. Deviation		**1.31852**

The analysis of depression severity in 100 participants revealed a mean severity score of 3.17, placing the average participant between moderate and moderately severe depression. The standard deviation of 1.31852 indicates considerable variability in depression levels, highlighting the diverse nature of depressive symptoms within the sample.

Table 4: Distribution of Depression Severity Scores

Statistics
DS

N	Valid	100
	Missing	0
Mean		3.1700
Std. Deviation		1.31852

The frequency distribution of depression severity showed that 71% of participants experienced moderate to severe depression, indicating a significant psychological burden. Only 29% of the sample fell into the minimal or mild depression categories, underscoring the seriousness of the depressive symptoms within this group. These findings emphasize the need for targeted mental health interventions for individuals with more severe symptoms.

The variability in depression severity calls for diverse treatment approaches, combining both pharmacological and therapeutic interventions. Routine depression screenings should be integrated into primary care settings to effectively monitor and address varying levels of depressive symptoms. Policymakers should allocate resources for comprehensive mental health programs tailored to individuals across the depression severity spectrum.

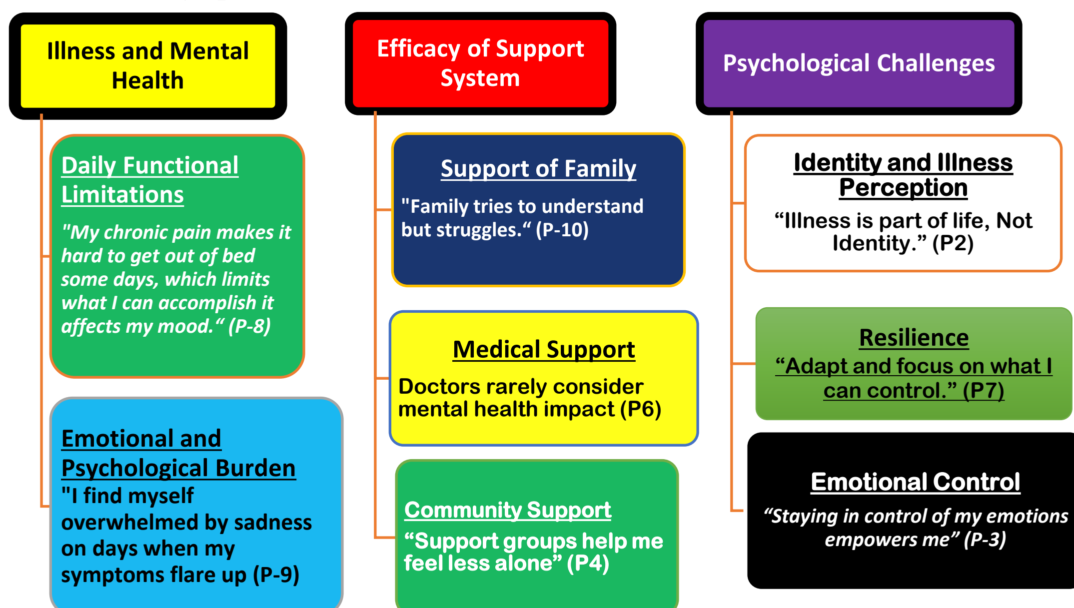

Figure 2: Thematic Analysis of In-depth Interviews

This analysis identifies three key themes influencing the impact of chronic illness on patients: daily life limitations, support systems, and personal resilience, each with distinct sub-themes.

Impact on Daily Life

Functional Limitations – Patients report that chronic illness severely limits their ability to perform daily tasks, leading to frustration and dependency.

Emotional Toll – The ongoing physical symptoms of chronic illness often exacerbate mental health issues like depression and anxiety, creating a vicious cycle.

Coping Mechanisms – Patients utilize strategies such as mindfulness and therapy to cope with emotional challenges, highlighting the importance of addressing both physical and emotional health.

Support Systems

Family and Social Support – Many patients struggle with a lack of understanding from their family members, emphasizing the need for better education on chronic illness care.

Professional Healthcare Support – There is a gap in mental health support within healthcare, as many professionals fail to consider the psychological aspects of chronic illness.

Community Support – Peer groups and community networks provide essential emotional support, helping patients feel less isolated and more empowered in managing their condition.

Personal Resilience

Identity and Illness Perception – Some patients refuse to let their illness define them, maintaining a sense of self-empowerment despite the challenges.

Psychological Resilience – Resilience strategies such as adaptability and optimism help patients cope with chronic illness, enhancing their mental well-being.

Emotional Autonomy – Patients emphasize the importance of managing emotional responses to their condition, advocating for self-management programs that encourage emotional regulation and personal control.

Multi-dimensional factors influencing chronic illness management have been highlighted in this analysis. Patients with chronic illnesses often experience a mix of physical, emotional, and psychological challenges, and the interplay of support systems and personal resilience is crucial in managing these challenges effectively.

"Managing my illness is tough, but I don't let it define who I am," - Patient 12.

Lifestyle adjustments and coping mechanisms vary among patients, with emotional support from caregivers and community-based programs playing an essential role in fostering resilience and improving overall well-being.

Table 5: Detailed Codebook of Themes and Sub-themes

Theme	Sub-theme	Code	Description
Impact of Chronic Illness on Daily Life and Mental Health	**1.1: Daily Functional Limitations**	**FNC-LMT**	Patients express how chronic illness limits their physical abilities, leading to challenges in performing daily tasks and maintaining normal routines. The reduction in functional capacity often triggers feelings of frustration and dependency. **"My chronic pain makes it hard to get out of bed some days, which limits what I can accomplish and deeply affects my mood."**
	1.2: Emotional and Psychological Toll	**EMO-PSY**	Participants detail the emotional repercussions of living with a chronic condition, including stress, depression, and anxiety. They describe a cyclical relationship where physical symptoms exacerbate mental health issues, which in

			turn aggravate their physical health. **"I find myself overwhelmed by sadness on days when my symptoms flare up, feeling trapped in a cycle of pain and despair."**
	1.3: Coping Mechanisms and Resilience	**COP-RSL**	This sub-theme captures the strategies employed by patients to cope with the challenges posed by their chronic conditions. It includes adaptive behaviors, psychological resilience, and acceptance. **"I've started practicing mindfulness and attending therapy, which help me manage the emotional ups and downs."**
Support Systems and Their Efficacy	**2.1: Family and Social Support**	**SUP-FAM**	Discusses the support (or lack thereof) received from family and friends, emphasizing the crucial role of personal relationships in managing chronic illness. **"My family tries to understand and help, but there are times when they just can't grasp what I'm going through."**
	2.2: Professional Healthcare Support	**SUP-PRO**	Evaluates the interactions with healthcare professionals, focusing on the adequacy of support specifically targeted at mental health concerns in the context of chronic illness. **"It's rare to find doctors who consider the mental health ramifications of chronic physical illness."**
	2.3: Community and Peer Support	**SUP-COM**	Reflects on the support received from peer groups and community organizations, which often provide a platform for shared experiences and mutual understanding. **"Joining a support group for people with similar illnesses has been invaluable; it's comforting to know I'm not alone."**
Recommendations for Healthcare Improvement	**3.1: Integration of Mental and Physical Health Services**	**INT-SER**	Advocates for the integration of mental health services into the routine care protocols for chronic illness management. **"Mental health should be treated as part of our regular health check-ups, not something separate."**
	3.2: Enhanced Communication and Patient Education	**COM-EDU**	Stresses the importance of effective communication between healthcare providers and patients, including better patient education on the interplay between mental and physical health. **"Doctors need to communicate better, not just about what I'm experiencing physically but also about how it affects my mental state."**
	3.3: Accessibility and Continuity of Care	**ACC-CARE**	Focuses on improving the accessibility and continuity of mental health services, suggesting more frequent follow-ups and easier access to mental health

	professionals. **"We need more frequent mental health check-ins, especially for those of us dealing with chronic conditions."**

Discussion

This study underscores the complex relationship between chronic illness and mental health, particularly depression and anxiety. Our findings align with previous studies highlighting the high prevalence of these co-occurring disorders in chronic disease populations (1, 2). The significant correlation between depression (measured by PHQ-9) and anxiety (measured by GAD-7) emphasizes the need for integrated care that addresses both physical and psychological aspects of health (3). Treating one condition in isolation may not yield optimal outcomes, as individuals suffering from both depression and anxiety face compounded challenges in managing their chronic illness (14).

The study reveals a concerning prevalence of moderate to severe depression, with 71% of participants in these categories. This corroborates existing research indicating that chronic conditions exacerbate depressive symptoms (5, 7). Chronic illnesses, such as diabetes and heart disease, often result in functional limitations, leading to feelings of helplessness and worsening depression (10). These findings highlight the necessity for mental health interventions tailored to individuals with chronic diseases, addressing both the physical symptoms and the psychological toll. The variability in depression severity, with a standard deviation of 6.762, indicates that the impact of chronic illness on mental health is diverse, requiring personalized care strategies (12).

Qualitative data further deepen the understanding of how chronic illness and mental health are intertwined. Participants described the cyclical nature of their physical symptoms and emotional distress, aligning with the biopsychosocial model of health, which highlights the interconnectedness of physical and mental health (15, 16). Physical symptoms, such as chronic pain, often worsened emotional well-being, creating a feedback loop that exacerbated distress. These findings underscore the importance of integrating mental health care into routine chronic disease management, as emphasized by prior studies (8, 9).

Social support played a critical role in helping patients manage both physical and mental health challenges. Participants who received strong support from family or peer groups were better able to cope with their chronic illness and related mental health issues (20, 21). However, the lack of understanding from family members was identified as a barrier to mental well-being, suggesting the need for caregiver education (7). Socio-economic factors also emerged as significant determinants of mental health, with lower-income participants reporting higher levels of depression. This aligns with existing research that links poverty and financial stress to poorer mental health outcomes (13, 17). Addressing these socio-economic disparities in healthcare policies is crucial to ensuring equitable access to mental health services for all chronic illness patients (7).

The study suggests that integrating mental health services into chronic disease management should be prioritized in healthcare policy. Previous studies have demonstrated that incorporating mental health screenings into routine chronic illness care can improve outcomes by addressing both psychological and physical health needs (15, 16). This holistic approach can enhance patient compliance and overall health outcomes (18).

While this study provides valuable insights, it is limited by the sample consisting only of outpatient clinic patients, which may not represent individuals with more severe conditions or those unable to access healthcare. Future research should incorporate a

more diverse sample from various healthcare settings to capture a broader perspective on the relationship between chronic illness and mental health.

Conclusion

This study emphasizes the critical link between chronic illness and mental health, particularly the co-occurrence of depression and anxiety, highlighting the need for integrated care models. It underscores the importance of addressing both psychological and physical aspects of health, considering socio-economic factors, and the role of social support in managing chronic conditions. The findings advocate for holistic healthcare approaches with routine mental health screenings to improve patient outcomes.

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