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PSYCHOLOGICAL DISTRESS AMONG CAREGIVERS OF PATIENTS WITH MOOD DISORDERS IN PAKISTAN: A QUANTITATIVE STUDY

Original Research

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ABSTRACT

Background: Mood disorders, particularly Bipolar I and Bipolar II disorders, are chronic psychiatric conditions that not only impair the lives of affected individuals but also impose substantial psychological strain on their caregivers. Although caregiver burden is well-documented in psychiatric research, limited attention has been given to the differential distress experienced by caregivers of patients with Bipolar I versus Bipolar II, particularly within culturally specific, resource-constrained settings such as Pakistan.

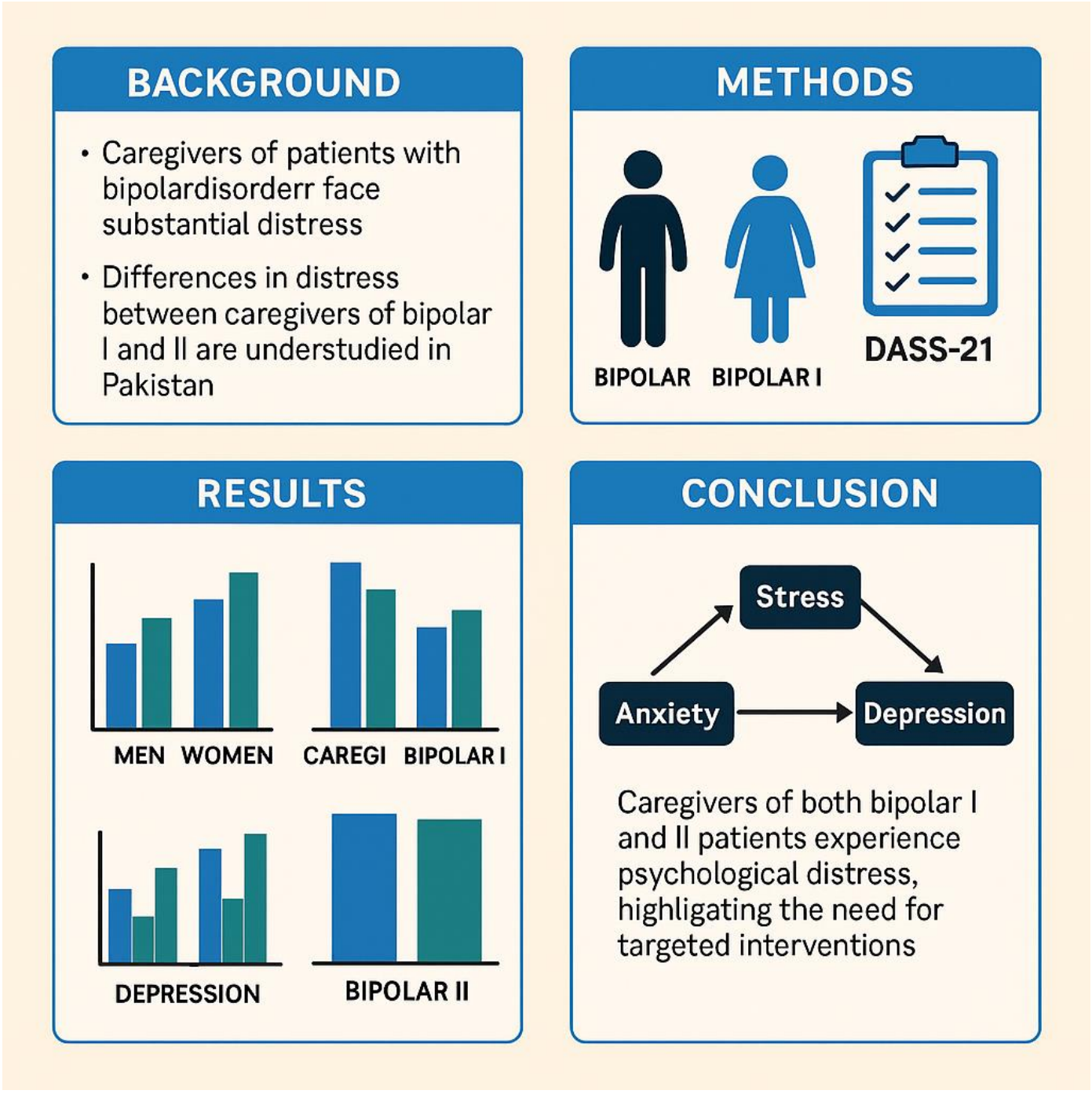
Objective: This study aimed to compare the levels of psychological distress—operationalized as depression, anxiety, and stress—between caregivers of patients with Bipolar I and Bipolar II disorders in Pakistan, and to explore the mediating role of anxiety in the relationship between stress and depression.

Methods: A cross-sectional correlational design was employed, using purposive sampling to recruit 384 caregivers—192 of patients diagnosed with Bipolar I and 192 with Bipolar II. Participants were assessed using the Depression, Anxiety, and Stress Scale (DASS-21). Independent samples t-tests, Pearson's correlation, and mediation analysis through Hayes' Process Macro version 4.1 (Model 4) were applied using SPSS.

Results: The mean age of participants was 38.23 years (SD = 10.40). Strong positive correlations were observed among depression, anxiety, and stress in both groups. Women caregivers reported higher depression (M = 12.75, SD = 6.53) and anxiety (M = 8.68, SD = 6.64), while men had higher stress (M = 7.95, SD = 5.51). Caregivers of Bipolar II patients showed significantly higher anxiety (M = 8.29, SD = 6.43), whereas those of Bipolar I scored higher on depression (M = 10.30, SD = 5.08) and stress (M = 8.92, SD = 5.51). Mediation analysis confirmed that anxiety significantly mediated the relationship between stress and depression in both groups ($p < .05$).

Conclusion: This study underscores the necessity of targeted psychosocial interventions for caregivers based on bipolar subtype and gender. These findings highlight the urgent need for caregiver-focused mental health strategies in the Pakistani context.

Keywords: Anxiety, Bipolar Disorder, Caregivers, Depression, Mental Health, Psychological Distress, Stress.



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INTRODUCTION

Bipolar affective disorder (BPAD) is a chronic, episodic mental illness marked by extreme mood fluctuations ranging from manic or hypomanic episodes to depressive states. While clinical management focuses predominantly on the affected individual, there is growing recognition of the significant impact this condition has on caregivers—often family members—who play a critical role in long-term patient support (1). Despite their pivotal involvement, caregivers frequently remain underacknowledged in treatment frameworks and mental health policy planning. In countries such as India, numerous studies have highlighted the psychological burden, emotional distress, and systemic challenges faced by caregivers of individuals with BPAD, especially during periods of heightened public health crises like the COVID-19 pandemic (2,3). A descriptive study conducted at a tertiary care center in Dharwad, India, assessed levels of stress and burden among 50 caregivers using standardized instruments, including the Burden Assessment Scale and the Perceived Stress Scale (PSS). Findings revealed a high mean burden score (31.82) and elevated stress levels (mean PSS score of 21.44), with the well-being subscale showing the greatest impact (mean score of 11.34), emphasizing the intense emotional and psychosocial toll experienced by caregivers during the pandemic (4,5). These results underscore the urgent need for caregiver-centered mental health strategies, especially in times of societal disruption, where healthcare systems are strained, and informal care becomes even more indispensable.

Interventional approaches, such as brief psychoeducational programs, have demonstrated potential in alleviating caregiver burden and improving self-efficacy and illness-related knowledge. One study reported significant reductions in perceived burden after a two-session psychoeducation intervention, although no significant improvements were seen in depression, anxiety, or stress levels (6,7). Complementary qualitative findings from Iran further illustrate the multifaceted difficulties caregivers endure—including anxiety, isolation, financial challenges, and lack of institutional support—highlighting the necessity for comprehensive and culturally sensitive nursing interventions (8,9). Moreover, evidence suggests that caregiver distress directly correlates with increased use of mental health and primary care services, reinforcing the value of psychosocial interventions in not only enhancing caregiver well-being but also potentially reducing systemic healthcare costs (10,11). Despite the breadth of literature exploring caregiver distress in BPAD, a notable research gap exists in differentiating the experiences of caregivers based on the subtype of bipolar disorder—Bipolar I versus Bipolar II. This distinction is clinically relevant, as the severity, symptom profile, and functional outcomes differ between the two types, potentially influencing caregiver burden in unique ways. Importantly, no study to date has addressed this comparison within the sociocultural context of Pakistan, where mental health infrastructure is still developing, and family caregiving remains the primary support system. In light of this gap, the current study aims to assess and compare levels of psychological distress—including depression, anxiety, and stress—among caregivers of patients with Bipolar I and Bipolar II disorder in Pakistan. By doing so, it seeks to inform the development of targeted, evidence-based interventions tailored to the specific challenges faced by different caregiver groups.

METHODS

The present study employed a cross-sectional correlational research design to examine the relationship between depression, anxiety, and stress among caregivers of individuals diagnosed with Bipolar I and Bipolar II disorders. A purposive sampling technique was utilized to recruit a total of 384 caregivers, with an equal distribution of 192 participants caring for patients with Bipolar I and 192 for those with Bipolar II. Participants were included based on predefined eligibility criteria: they had to be at least 18 years of age, possess a minimum educational qualification of intermediate (equivalent to high school), and be the primary caregiver of a person clinically diagnosed with either Bipolar I or Bipolar II disorder by a reputable public or private healthcare facility. Individuals with self-diagnosed cases or caring for patients with comorbid psychiatric conditions were excluded to maintain diagnostic consistency. To assess psychological distress, the study utilized the Depression, Anxiety, and Stress Scale—short form (DASS-21), developed by Lovibond and Lovibond (1995). This instrument comprises 21 items divided equally among three subscales measuring depression, anxiety, and stress, with each item rated on a 4-point Likert scale ranging from 0 (“Did not apply to me at all”) to 3 (“Applied to me very much or most of the time”). The DASS-21 has demonstrated high internal consistency, with Cronbach’s alpha coefficients of 0.88 for depression, 0.82 for anxiety, and 0.90 for stress, indicating robust reliability in measuring the intended constructs (12). Participants completed the scale in approximately 20 minutes under supervised conditions to ensure completeness and accuracy of responses.

Data collection was conducted in accordance with ethical standards outlined by the American Psychological Association’s Code of Ethics (APA 7). Informed consent was obtained from all participants, with clear communication regarding the voluntary nature of participation, the right to withdraw at any point without penalty, and the assurance of confidentiality and anonymity of their responses. Necessary ethical clearance was obtained from the institutional review board (IRB), and formal permission was secured for the use of

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the DASS-21 questionnaire. Data were analyzed using Statistical Package for the Social Sciences (SPSS version 25). Descriptive statistics were used to report demographic data and mean scores, while inferential statistics such as correlation and group comparison tests were applied to explore the relationships among depression, anxiety, and stress between the two caregiver groups.

RESULTS

The sample comprised 384 caregivers of individuals diagnosed with Bipolar I and Bipolar II disorders, with an equal distribution of 192 caregivers in each group. The mean age of participants was 38.23 years (SD = 10.40). In terms of gender, 214 (56%) were men and 170 (44%) were women. Descriptive statistics showed a balanced representation of caregivers from both bipolar subtypes. Correlation analysis for caregivers of individuals with Bipolar I disorder revealed a statistically significant and positive relationship between depression and anxiety ($r = .32$, $p < .01$), depression and stress ($r = .75$, $p < .01$), and anxiety and stress ($r = .30$, $p < .01$). The mean scores for this group were 10.30 (SD = 5.08) for depression, 5.64 (SD = 4.09) for anxiety, and 8.92 (SD = 5.51) for stress. Among caregivers of individuals with Bipolar II disorder, stronger associations were observed, with depression correlating significantly with anxiety ($r = .42$, $p < .01$) and stress ($r = .28$, $p < .01$), and anxiety significantly correlating with stress ($r = .53$, $p < .01$). Mean scores in this group were higher for depression ($M = 11.78$, $SD = 7.09$) and anxiety ($M = 8.29$, $SD = 6.43$), while stress was comparatively lower ($M = 5.53$, $SD = 4.73$). Gender-based analysis showed that female caregivers had significantly higher scores in depression ($M = 12.75$, $SD = 6.53$) and anxiety ($M = 8.68$, $SD = 6.64$) compared to males (depression $M = 9.68$, $SD = 5.59$; anxiety $M = 5.60$, $SD = 4.01$), with t-values of -4.87 and -5.32 respectively ($p < .001$). Interestingly, male caregivers had significantly higher levels of stress ($M = 7.95$, $SD = 5.51$) compared to females ($M = 6.31$, $SD = 5.13$), $t(382) = 3.00$, $p < .01$. Effect sizes ranged from moderate to large (Cohen's $d = 0.31$ to 0.57).

Comparative analysis between caregivers of Bipolar I and Bipolar II patients revealed significant differences across all three psychological distress variables. Depression ($t = -2.34$, $p < .01$, $d = 0.23$) and anxiety ($t = -4.81$, $p < .001$, $d = 0.49$) were higher among caregivers of Bipolar II patients, whereas stress levels were significantly higher among caregivers of Bipolar I patients ($t = 6.47$, $p < .001$, $d = 0.66$), indicating a substantial effect. Mediation analysis for caregivers of Bipolar I patients demonstrated that stress had a significant direct effect on anxiety ($\beta = .22$, $SE = .05$, $p < .001$) and on depression ($\beta = .67$, $SE = .04$, $p < .001$). Anxiety also had a significant mediating effect on the relationship between stress and depression ($\beta = .13$, $SE = .06$, $p < .05$), with a small yet statistically significant indirect effect (standardized $\beta = .03$, 95% CI [.007, .06]). For caregivers of Bipolar II patients, stress significantly predicted anxiety ($\beta = .72$, $SE = .08$, $p < .001$) but did not have a direct effect on depression ($\beta = .12$, $SE = .11$, $p = .29$). However, anxiety significantly mediated the relationship between stress and depression ($\beta = .42$, $SE = .08$, $p < .001$), with a substantial indirect effect (standardized $\beta = .20$, 95% CI [.12, .29]).

Table 1 Characteristics of the Participants

Characteristics	Frequency	Percentage	Mean	Standard Deviation
Age			38.23	10.40
Gender				
Men	214	56		
Women	170	44		
Caregiver of BID & BIID				
COBID	192	50		
COBIID	192	50		

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Table 2 Correlational Analysis of Caregivers of Patients with Bipolar I disorder (192)

Variables	Depression	Anxiety	Stress	Mean	SD
Depression	-	.32**	.75**	10.30	5.08
Anxiety		-	.30**	5.64	4.09
Stress			-	8.92	5.51

Note. SD= Standard Deviation

Table 3 Correlational Analysis of Caregivers of Patients with Bipolar II disorder (192)

Variables	Depression	Anxiety	Stress	Mean	SD
Depression	-	.42**	.28**	11.78	7.09
Anxiety		-	.53**	8.29	6.43
Stress			-	5.53	4.73

Note. SD= Standard Deviation

Table 4 Mean Differences between Caregivers' Gender (Men and women) of Patients with Bipolar Disorder (384)

	Men(n=214)		**Women (n=170)**				
	M	SD	M	SD	t(382)	P	Cohen's d
Depression	9.68	5.59	12.75	6.53	-4.87	<.001	.51
Anxiety	5.60	4.01	8.68	6.64	-5.32	<.001	.57
Stress	7.95	5.51	6.31	5.13	3	<.01	.31

Note. **p<.01, ***p<.001

Mean Differences between Caregivers of Patients with Bipolar Disorder (N = 384)

	COPWBID(n=192)		COPWBIID (n=192)				
	M	SD	M	SD	t(382)	P	Cohen's d
Depression	10.30	5.08	11.78	7.09	-2.34	<.01	.23
Anxiety	5.64	4.09	8.29	6.43	-4.81	<.001	.49
Stress	8.92	5.51	5.53	4.73	6.47	<.001	.66

Note. COPWBID= Caregivers of Patients with Bipolar I disorder, COPWBIID= Caregivers of Patients with Bipolar II disorder.

Table 5 Mediation analysis of caregivers of patients with Bipolar I (N=384)

	Consequences					
	Anxiety (M)			Depression (Y)		
Antecedents	B	SE	P	β	SE	P

	Consequences							
Stress (X)	A	.22	.05	<.001	c’	.67	.04	<.001
Anxiety (M)	-				b	.13	.06	<.05
Constant	I	3.65	.53	<.001	I	3.56	.50	<.001
	R^2=.08 F=18.77 P<.001				R^2=.58 F=133.45 P<.001			
Note. *p<.05, ***p<.001,								
Indirect Effect								
Indirect Path	Effect		Standardized Effect		LLCI		ULCI	
Anxiety	.02		.03		.007		.06	

Table 6 Mediation Analysis of Caregivers of Patients with Bipolar II (N = 192)

	Consequences							
	Anxiety (M)				Depression (Y)			
Antecedents		B	SE	P		β	SE	P
Stress (X)	A	.72	.08	<.001	c’	.12	.11	.29
Anxiety (M)	-				b	.42	.08	<.001
Constant	I	4.27	.60	<.001	I	7.61	.80	<.001
	R^2=0.28 F= 75.82 P<.001				R^2=.18 F=21.58 P<.001			
Note. ***p<.001,								
Indirect Effect								
Indirect Path	Effect		B		LLCI		ULCI	
Anxiety	.30		.20		.12		.29	

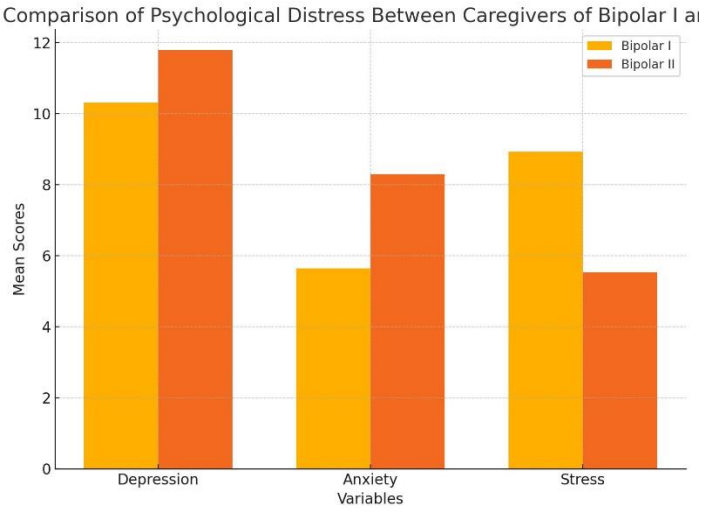

Figure 1 Comparison of Psychological Distress Between Caregivers of Bipolar

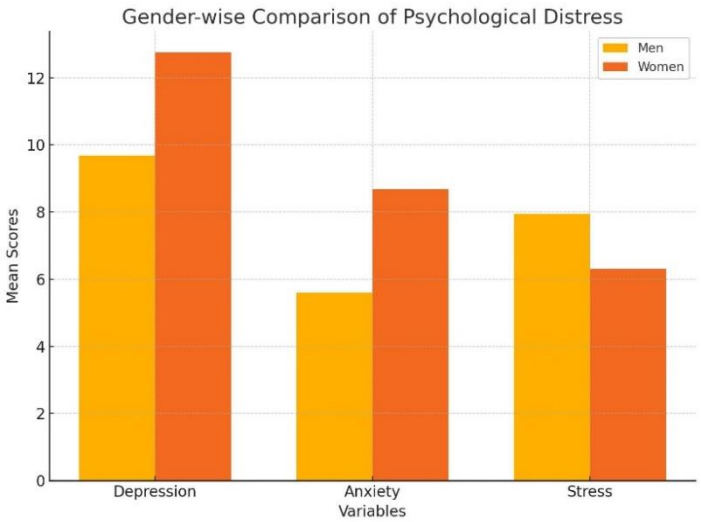

Figure 2 Gender-wise Comparison of Psychological Distress

DISCUSSION

The study's findings confirmed a significant positive association between depression, anxiety, and stress among caregivers of patients with Bipolar I and Bipolar II disorders in Pakistan. This correlation aligns with existing literature, which has consistently reported that psychological distress is common among caregivers of individuals with psychiatric conditions. The association may reflect the cumulative psychological toll that caregiving exerts, particularly in the presence of challenging behaviors and emotional instability inherent in bipolar disorders (13,14). Such findings reinforce the broader understanding that caregiving, particularly in mental health contexts, represents a sustained psychosocial burden. A notable gender-based difference was observed in the study, with female caregivers exhibiting significantly higher levels of depression and anxiety, while male caregivers demonstrated elevated stress levels (15). This pattern mirrors prior findings in mental health caregiving research and may be attributed to sociocultural expectations and caregiving roles. In traditional caregiving settings, especially in Pakistan, women are more often engaged in hands-on emotional and physical care, which can lead to greater emotional fatigue and internalized distress. Conversely, men are frequently the primary financial providers, and the dual pressure of economic responsibility and caregiving duties may intensify their experience of stress (16,17). Moreover, societal norms may inhibit men from seeking emotional support, thereby exacerbating their psychological strain.

The study also revealed that caregivers of Bipolar II patients had significantly higher levels of anxiety, whereas caregivers of Bipolar I patients experienced greater depression and stress. This divergence may be explained by the nature of symptomatology in the two subtypes (18). Caregivers of individuals with Bipolar I are more frequently exposed to acute manic episodes characterized by impulsivity, aggression, and high-risk behavior, leading to heightened emotional exhaustion and reactive depression. In contrast, the chronic depressive episodes and emotional withdrawal common in Bipolar II may contribute to sustained caregiver anxiety, driven by constant concern for the patient's safety and future well-being (19,20). These dynamics illustrate the complexity of caregiver experiences, shaped not only by the illness itself but also by the frequency and intensity of its manifestations. Mediation analysis further demonstrated that anxiety plays a significant and positive mediating role in the relationship between stress and depression in both caregiver groups. This pathway suggests that prolonged caregiving stress may first manifest as anxiety, which then predisposes caregivers to depressive symptoms. Such a mechanism underscores the cumulative nature of psychological distress, wherein unresolved stress gradually evolves into more entrenched emotional dysfunction (21,22). In settings like Pakistan, where mental health literacy is limited and institutional support for caregivers is scarce, the lack of coping resources may further accelerate this trajectory from stress to anxiety and ultimately to depression.

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The study offers several strengths, including its large sample size, balanced representation of both Bipolar I and II caregiver groups, and the use of psychometrically validated tools. It also provides valuable insights specific to the Pakistani sociocultural context, where caregiver roles are deeply influenced by familial expectations and limited mental health infrastructure. However, certain limitations merit consideration. The cross-sectional design precludes any conclusions about causality, and the exclusive use of self-report measures introduces potential biases related to social desirability or underreporting of distress. Furthermore, the study did not control for potentially confounding variables such as socioeconomic status, educational background, caregiving duration, or severity of patient illness—all of which may independently influence psychological distress levels. Future research would benefit from longitudinal designs that can better capture the evolving nature of caregiver distress and help determine causative pathways. Incorporating qualitative data through interviews or focus groups could offer a more nuanced understanding of caregiver experiences, particularly the subjective emotional challenges they face. Expanding the sample to include caregivers from diverse socioeconomic and cultural backgrounds would enhance the generalizability of findings. Additionally, the development and empirical assessment of structured support interventions tailored to the needs of caregivers of bipolar patients in Pakistan should be prioritized. These findings have important clinical and policy implications. Clinicians should be attuned to the elevated psychological vulnerability among caregivers, particularly female caregivers and those managing Bipolar II-related challenges. Policymakers must consider strategies to improve caregiver well-being, including the integration of mental health services, educational initiatives to reduce stigma, and financial support mechanisms. Broader public health campaigns are also needed to raise awareness of the caregiver's burden and promote early intervention. Lastly, the allocation of targeted resources, such as caregiver counseling and stress management programs, could play a pivotal role in alleviating the long-term mental health consequences of caregiving in bipolar disorder.

CONCLUSION

This study concluded that psychological distress among caregivers of individuals with bipolar disorder varies notably based on the subtype of the condition and the caregiver's gender. Caregivers of patients with Bipolar II disorder were more prone to anxiety, while those caring for individuals with Bipolar I disorder experienced greater stress and depression. Gender differences further underscored the emotional burden, with women facing heightened levels of depression and anxiety, and men experiencing more stress. The study also established that anxiety plays a significant mediating role in the link between stress and depression. These findings emphasize the urgent need for caregiver-specific mental health interventions, tailored support systems, and awareness programs, particularly within the context of Pakistan's healthcare landscape. By identifying distinct psychological patterns, the research offers a foundation for developing informed, targeted strategies to support caregiver well-being and improve the overall mental healthcare framework.

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Author Contribution

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Samia Latif Khan*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Pulwasha Anwar	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Syed Shaheer Jawaid	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published
Aurang Zaib Ashraf Shami	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Zunaira Aslam	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Rashida Sadaqat	Substantial Contribution to study design and Data Analysis Has given Final Approval of the version to be published
Shah Jahan Ashraf	Contributed to study concept and Data collection Has given Final Approval of the version to be published
Ahmed Javed	Writing - Review & Editing, Assistance with Data Curation

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