INSIGHTS-JOURNAL OF
LIFE AND SOCIAL SCIENCES

INSIGHTS-JLSS
Insights-Journal of Life and
Social Sciences

MENTAL HEALTH OUTCOMES AMONG CAREGIVERS OF INDIVIDUALS WITH MOOD DISORDERS AND NEUROCOGNITIVE DISORDERS: A COMPARATIVE STUDY

Original Article

Mahnoor Hafeez[1]*, Attia Rani[2], Sarah Nadeem[3], Muhammad Imran[4], Khadija Aslam[5], Rubab Munawar John[6], Ayesha Arshad[7], Taiba Akhtar[8]
[1]Medical Officer, Dua Rehabilitation Center, Lahore, Pakistan.
[2]Lecturer of Psychology & In-charge, Counselling Center, Faculty of Humanities and Social Sciences, University of South Asia, Lahore, Pakistan.
[3]Consultant Clinical Psychologist, Educationist & Owner, Allied Schools, Lahore, Pakistan.
[4]MS Scholar, Lahore School of Behavioral Sciences, The University of Lahore, Lahore Campus, Pakistan.
[5]Clinical Psychologist, Lahore, Pakistan.
[6]Counseling Psychologist, Immanuel Kant Baltic Federal University, Kaliningrad, Russia.
[7]Alumni (MPhil), National Institute of Psychology, Quaid-e-Azam University, Islamabad, Pakistan.
[8]Scholar of BS Psychology, Faculty of Humanities and Social Sciences, University of South Asia, Lahore, Pakistan.
Corresponding Author: Mahnoor Hafeez, Medical Officer, Dua Rehabilitation Center, Lahore, Pakistan, mahhafeez.001@gmail.com

Conflict of Interest: None
Grant Support & Financial Support: None
Acknowledgment: The authors gratefully acknowledge the participants for their time and cooperation in this study.

ABSTRACT

Background: Caregivers of individuals with psychiatric illnesses frequently experience psychological distress, particularly depression, anxiety, and stress. Globally, literature affirms the emotional burden faced by caregivers of patients with mood disorders and neurocognitive disorders. However, there is limited comparative research evaluating these mental health outcomes between caregiver groups within the Pakistani context. Given the lack of tailored support systems and prevailing stigma in low-resource settings, it is crucial to assess and address caregiver well-being in such environments.

Objective: To compare depression, anxiety, and stress among caregivers of individuals with mood disorders versus those caring for individuals with neurocognitive disorders in Pakistan.

Methods: A cross-sectional correlational study was conducted using stratified sampling to recruit 240 caregivers: 120 caring for individuals diagnosed with mood disorders and 120 for those with neurocognitive disorders. Inclusion criteria required a caregiving duration of at least one year and a minimum education level of intermediate qualification. Data were collected using the 21-item Depression Anxiety Stress Scale (DASS-21), which utilizes a four-point Likert scale. Ethical clearance was obtained, and informed consent was secured from all participants. Data analysis was performed using SPSS version 26.

Results: The mean age of participants was 37.55 ± 9.70 years. Caregivers of individuals with mood disorders scored significantly higher on depression (M = 7.65, SD = 5.23), anxiety (M = 7.78, SD = 5.16), and stress (M = 7.67, SD = 5.21) compared to caregivers of individuals with neurocognitive disorders: depression (M = 5.75, SD = 5.00), anxiety (M = 5.58, SD = 3.36), and stress (M = 5.68, SD = 4.96). These differences were statistically significant ($p < .01$), with moderate effect sizes.

Conclusion: This study highlights the heightened psychological distress among caregivers of individuals with mood disorders and underscores the urgent need for structured support systems, mental health education, and policy reforms to promote caregiver well-being.

Keywords: Anxiety, Caregivers, Depression, Mental Health, Mood Disorders, Neurocognitive Disorders, Stress.

INTRODUCTION

Mood disorders are complex psychiatric conditions marked by pervasive disturbances in an individual's emotional regulation, typically manifesting as persistent sadness, excessive elation, or both (1). These include a spectrum of disorders such as bipolar disorder, major depressive disorder, hypomania, cyclothymia, disruptive mood dysregulation disorder, persistent depressive disorder, and premenstrual dysphoric disorder. They remain highly prevalent across the globe, contributing significantly to increased morbidity and mortality. Among them, bipolar affective disorder (BPAD) is particularly debilitating—not only for those diagnosed but also for the individuals providing their care (2). While the focus of psychiatric treatment often lies on the patients themselves, caregivers, who play an indispensable role in the day-to-day support and management of these individuals, frequently remain neglected in terms of psychosocial support and mental health services. Emerging literature increasingly draws attention to the psychological burden experienced by caregivers of individuals with bipolar disorder, particularly during times of heightened societal stress such as the COVID-19 pandemic (3). Many report elevated levels of stress, emotional exhaustion, and limited institutional support. A recent intervention study reported that even a brief, two-session psychoeducational program for caregivers significantly enhanced their understanding of the disorder and reduced their perceived burden, although no meaningful impact was observed on depression, anxiety, or stress scores (4). Moreover, the generalizability of these findings remains uncertain due to variability in caregiver populations and cultural contexts. A qualitative inquiry conducted in Iran echoed similar themes—revealing feelings of anxiety, social isolation, and financial strain among caregivers, alongside a profound sense of being unsupported by healthcare systems (5). The psychosocial burden not only affects caregivers' quality of life but also correlates with increased healthcare utilization, suggesting broader implications for public health systems (6).

In parallel, neurocognitive disorders (NCDs), including conditions such as delirium, mild cognitive impairment, and major neurocognitive disorder (commonly referred to as dementia), represent another category of chronic illnesses with far-reaching consequences for caregivers (7-9). These disorders are characterized by progressive cognitive decline, often leading to full dependency for daily functioning. The burden of care in such scenarios is well-documented, with caregivers frequently experiencing mental health issues such as depression, anxiety, and sleep disturbances. For instance, a large-scale study in China found elevated prevalence of anxiety (46.9%) and depression (36.3%) among caregivers, particularly among women and those with pre-existing mental health conditions (10,11). Similarly, research from Greece underscored the significant influence of patient-related neuropsychiatric symptoms—such as memory impairment and behavioral disturbances—on caregiver distress levels (12,13). Despite the considerable body of research exploring the psychological outcomes among caregivers of individuals with mood and neurocognitive disorders separately, there remains a striking absence of comparative studies—especially within the South Asian context. In Pakistan, where mental health services are limited and cultural expectations often place caregiving responsibilities on immediate family members, understanding these dynamics is of paramount importance. To date, no study has comprehensively compared the psychological well-being of caregivers looking after individuals with mood disorders versus those with neurocognitive disorders in terms of depression, anxiety, and stress. Therefore, the current study aims to bridge this research gap by exploring and comparing the mental health outcomes—specifically depression, anxiety, and stress—among caregivers of individuals with mood versus neurocognitive disorders in Pakistan. This inquiry seeks not only to quantify caregiver distress but also to generate culturally relevant insights that can inform future mental health policies and psychosocial support programs for caregivers in resource-constrained settings.

METHODS

The study employed a cross-sectional correlational research design to investigate the mental health outcomes of caregivers of individuals with mood and neurocognitive disorders. Data were collected from a total of 240 participants selected through purposive sampling. The sample comprised both male and female caregivers, with two defined groups: caregivers of children diagnosed with mood disorders under the age of 18 and caregivers of elderly individuals aged 65 years or above with a neurocognitive disorder. To ensure appropriate comprehension and response reliability, inclusion criteria required that all participants had a minimum educational qualification of intermediate level (equivalent to high school). Furthermore, participants were eligible only if they had been providing care for at least one year, ensuring the stability of caregiving experiences. Individuals who had recently started caregiving, were professionally trained caregivers (e.g., nurses), or who had personal histories of diagnosed psychiatric illnesses were excluded to minimize potential confounding variables. For data collection, the Depression Anxiety Stress Scale-21 (DASS-21) was administered. This psychometric tool, developed by Dr. Sydney Lovibond and Dr. Peter F. Lovibond in 1995, is a validated and widely used self-report instrument designed to assess the severity of symptoms related to depression, anxiety, and stress. It consists of 21 items rated on a four-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 strong internal consistency, with Cronbach's alpha values reported as 0.88 for depression, 0.82 for anxiety, and 0.90 for stress, indicating high reliability (1). Higher scores on the scale reflect greater severity of emotional distress in each respective domain.

Ethical protocols were rigorously followed in accordance with the APA 7 ethical guidelines. Approval for the study was obtained from the relevant institutional review board. Permission for the use of the DASS-21 instrument was also formally obtained from its original author prior to deployment. After obtaining ethical clearance, the standardized scale was merged with a demographic questionnaire and an informed consent form. Participants were approached through various special needs education centers and care facilities that catered to children with mood disorders and elderly individuals with neurocognitive decline. Each participant was briefed on the nature and purpose of the study, and written informed consent was obtained before participation. Confidentiality and anonymity were ensured throughout the study. Respondents were informed of their right to withdraw at any point without consequence. On average, completion of the survey required approximately 20 minutes. Data were analyzed using IBM SPSS Statistics version 26. Descriptive statistics were used to summarize demographic characteristics, while inferential analyses—such as correlation tests and independent samples t-tests—were employed to evaluate the stated hypotheses. These analyses were selected based on the study's objective of examining associations and mean differences in mental health outcomes across caregiver groups.

RESULTS

The study sample comprised 240 caregivers, evenly divided between those caring for individuals with mood disorders and those caring for individuals with neurocognitive disorders. The mean age of participants was 37.55 years (SD = 9.70). A majority of caregivers were female (80%), while males constituted 20% of the sample. In terms of educational attainment, 48% had completed intermediate-level education, 31% held a bachelor's degree, 11% had a master's degree, and 10% possessed a PhD. Correlational analysis revealed statistically significant positive associations among depression, anxiety, and stress levels. Depression was positively correlated with anxiety (r = .30, p < .01) and showed a very strong correlation with stress (r = .99, p < .01). Additionally, anxiety and stress were significantly correlated (r = .30, p < .01), indicating that higher levels of any one psychological outcome were associated with increased levels of the others. Independent samples t-tests were conducted to examine differences in mental health outcomes between caregivers of individuals with mood disorders and those caring for individuals with neurocognitive disorders. Caregivers of individuals with mood disorders scored significantly higher on depression (M = 7.65, SD = 5.23) compared to caregivers of individuals with neurocognitive disorders (M = 5.75, SD = 5.00), t(238) = 2.87, p = .004, with a small to moderate effect size (Cohen's d = 0.37). Anxiety scores were also significantly higher among caregivers of individuals with mood disorders (M = 7.78, SD = 5.16) than their counterparts (M = 5.58, SD = 3.36), t(238) = 3.01, p = .001, with a moderate effect size (Cohen's d = 0.50). Similarly, stress scores were significantly elevated in caregivers of individuals with mood disorders (M = 7.67, SD = 5.21) compared to those caring for individuals with neurocognitive disorders (M = 5.68, SD = 4.96), t(238) = 3.03, p = .003, with a small to moderate effect size (Cohen's d = 0.39).

Table 1: Demographic Characteristics of the Participants (N=240)

Characteristics	***F***	***%***	***M***	***SD***
Age			37.55	9.70
Caregivers				
Caregivers of Individuals with MD	120	50		
Caregivers of Individuals with NCD	120	50		
Gender				
Male	47	20		
Female	193	80		
Educational Qualification				
Intermediate	115	48		
Bachelor	75	31		
Master	27	11		
PhD	23	10		

Note. *f*= Frequency, *%*= Percentage, *M*= Mean, *SD*= Standard Deviation, MD= Mood Disorders, NCD= Neurocognitive Disorders

Table 2: Correlational Analysis between Study Variables (N=240)

Variables	1	2	3
1.Depression	-	.30**	.99**
2.Anxiety		-	.30**
3.Stress			-

Note. ***p<.01*

Table 3: Mean differences between Caregivers of Individuals with Mood Disorders, and Caregivers of Individuals with Neurocognitive disorder (N=240)

	COIWMD(n=120)		COIWNCD (n=120)				
	M	*SD*	*M*	*SD*	*t(238)*	*P*	Cohen's d
Depression	7.65**	5.23	5.75	5	2.87	.004	0.37
Anxiety	7.78***	5.16	5.58	3.36	3.01	.001	0.50
Stress	7.67**	5.21	5.68	4.96	3.03	.003	0.39

Note. ***p<.01, M*= Mean, *SD*= Standard Deviation, COIWMD= Caregivers of Individuals with Mood Disorders, COIWNCD= Caregivers of Individuals with Neurocognitive Disorder

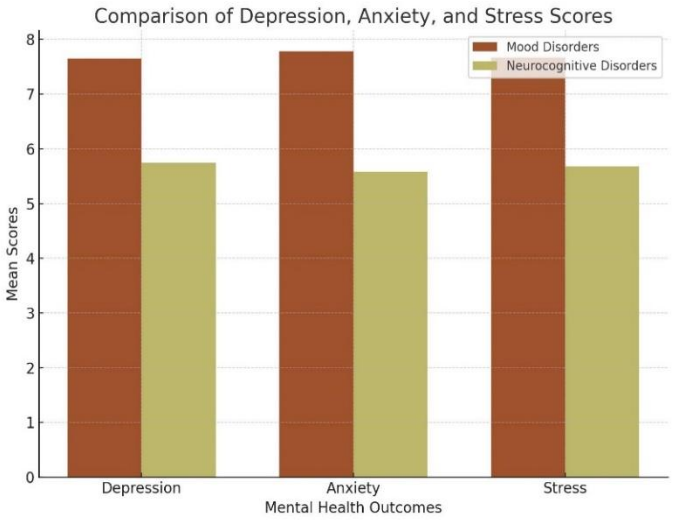

Figure 1 Comparison of Depression, Anxiety, and Stress Scores

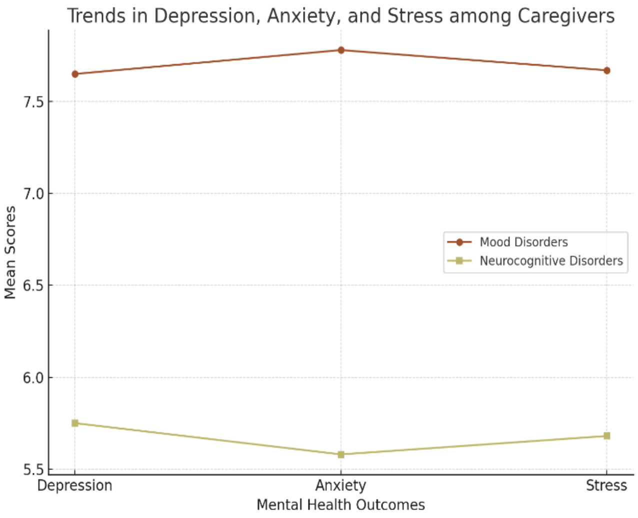

Figure 2 Trends in Depression, Anxiety, and Stress Among Caregivers

DISCUSSION

The present study contributes to the growing body of literature on caregiver mental health by addressing a relatively underexplored area—comparing psychological outcomes between caregivers of individuals with mood disorders and those caring for individuals with neurocognitive disorders. Although both groups are widely documented as vulnerable to emotional distress, few studies have directly contrasted them in terms of depression, anxiety, and stress. The findings reaffirmed the first hypothesis, revealing significant positive associations among depression, anxiety, and stress across the entire caregiver sample. These outcomes align with established psychological models that suggest emotional disturbances tend to cluster, particularly under chronic caregiving burdens. This pattern has been previously noted in studies on caregivers of individuals with neurocognitive disorders, further substantiating the interconnectedness of these mental health dimensions (14-16). These psychological challenges appear to stem from overlapping yet distinct stressors, including prolonged emotional labor, financial strain, and the scarcity of structured support systems. In resource-limited settings like Pakistan, these challenges are compounded by pervasive social stigma, insufficient institutional support, and limited awareness of mental health services. These contextual factors intensify the emotional and psychological toll on caregivers, regardless of the specific nature of the disorder they are managing (17,18). The second hypothesis, suggesting that caregivers of individuals with mood disorders would experience significantly higher levels of depression, anxiety, and stress compared to those caring for individuals with neurocognitive disorders, was also supported. These findings point to the unique burden associated with managing mood disorders, which are often marked by episodic unpredictability, emotional dysregulation, and stigma, particularly when they occur in children or adolescents (19,20). In contrast, caregiving for neurocognitive disorders—predominantly affecting the elderly—may be perceived as a more socially normative role within Pakistani culture, where elder care is often seen as a familial obligation. This cultural lens potentially buffers psychological strain through shared responsibilities, greater familial understanding, and reduced stigma.

The results also highlight the situational complexity faced by caregivers of individuals with mood disorders, who are often younger and less equipped—both emotionally and experientially—to manage such roles. The unpredictability of mood fluctuations, along with societal expectations around youth functionality and success, may lead to heightened distress. Conversely, caregivers of individuals with neurocognitive disorders may be older and more experienced, possessing better emotional regulation strategies and support systems within the community (21-23). Such contextual nuances are essential in understanding the differential psychological outcomes across caregiving populations. One of the key strengths of this study lies in its comparative design, which provides valuable insights into the variability of psychological outcomes based on caregiving context. It also highlights an important area of public health concern by focusing on caregivers—a population often overlooked in mental health discourse. Additionally, the use of a standardized and validated instrument (DASS-21) to assess depression, anxiety, and stress enhances the reliability of the results. Nevertheless, the study is not without limitations. The use of a cross-sectional correlational design restricts the ability to infer causality or track changes in caregiver mental health over time. Longitudinal approaches are warranted to understand the evolving nature of caregiver burden. The sampling strategy, although purposive and contextually appropriate, may have introduced selection bias and limits generalizability beyond the study's geographic and socio-demographic scope. A more diverse and statistically powered sample, calculated using methods such as G*Power analysis, would strengthen future research. Furthermore, the inclusion criterion requiring intermediate-level education may have unintentionally excluded a substantial portion of informal caregivers with limited literacy, who may experience even greater psychological burden.

The implications of these findings are both clinical and policy-relevant. They underscore the urgent need for integrated mental health support systems targeting caregivers, particularly those responsible for individuals with mood disorders. Mental health professionals should spearhead educational and therapeutic initiatives tailored to the needs of caregivers through structured programs such as workshops, psychoeducational seminars, and community-based interventions. Public awareness campaigns should be designed to reduce stigma and promote help-seeking behaviors. Additionally, the development of national guidelines for caregiver support and the expansion of affordable mental health services are crucial policy directions. Investments in specialized centers that cater to both the care recipients and their caregivers would promote resilience and reduce long-term societal costs associated with untreated caregiver distress. Overall, this study provides foundational evidence for the psychological disparities experienced by caregivers of individuals with different psychiatric conditions. It serves as a call to action for both researchers and policymakers to recognize caregivers as central stakeholders in mental health care and to prioritize interventions that preserve their emotional well-being.

CONCLUSION

The present study highlights the significant psychological toll experienced by caregivers of individuals with mood and neurocognitive disorders, with a particular emphasis on the heightened levels of depression, anxiety, and stress among those caring for individuals with mood disorders. By directly comparing these two caregiving groups, the research addresses a critical gap in the literature and underscores the need for differentiated mental health interventions. The findings carry important implications for clinical practice and public health policy, advocating for targeted support systems, increased awareness, and culturally sensitive caregiver resources. Ultimately, the study reinforces the essential role of caregiver well-being in the broader mental health care landscape and calls for urgent, sustained action to support this often-overlooked population.

AUTHOR CONTRIBUTION

Author	Contribution
Mahnoor Hafeez*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Attia Rani	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
Sarah Nadeem	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published
Muhammad Imran	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Khadija Aslam	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Rubab Munawar John	Substantial Contribution to study design and Data Analysis Has given Final Approval of the version to be published
Ayesha Arshad	Contributed to study concept and Data collection Has given Final Approval of the version to be published
Taiba Akhtar	Writing - Review & Editing, Assistance with Data Curation

REFERENCES

1. Alexopoulos, P., Soldatos, R., Kontogianni, E., Frouda, M., Loanna Aligianni, S., Skondra, M., ... & Politis, A. (2021). COVID-19 crisis effects on caregiver distress in neurocognitive disorder. Journal of Alzheimer's Disease, 79(1), 459-466.
2. Devita, M., Ruffino, E., Anselmi, P., Mapelli, D., Sarlo, M., Sergi, G., & Coin, A. (2022). Coping Strategies and Distress in Patients and Caregivers Dealing with Neurocognitive Disorders. Acta Scientific MEDICAL SCIENCES, 6, 189-197.
3. Veronese N, Smith L, Koyanagi A, Soysal P, Mueller C, Errera CM, et al. Association between depression and incident dementia: Longitudinal findings from the share study. Int J Geriatr Psychiatry. 2024;39(7):e6121.
4. Durrani S, Ahmed S. Case report: a unique presentation of memantine overdose causing echolalia and hypertension. BMC Geriatr. 2024;24(1):123.
5. Medbøen IT, Persson K, Nåvik M, Totland TH, Bergh S, Treviño CS, et al. Cohort profile: the Norwegian Registry of Persons Assessed for Cognitive Symptoms (NorCog) - a national research and quality registry with a biomaterial collection. BMJ Open. 2022;12(9):e058810.
6. Svedin F, Blomberg O, Farrand P, Brantnell A, von Essen L, Åberg AC, et al. Effectiveness, acceptability, and completeness and quality of intervention reporting of psychological interventions for people with dementia or mild cognitive impairment: protocol for a mixed-methods systematic review. BMJ Open. 2023;13(12):e077180.
7. Fan LP, Quijano-Ruiz A, Wang C, Zhao HW, Wang DN, Wu HM, et al. Effects of personalized music listening on post-stroke cognitive impairment: A randomized controlled trial. Complement Ther Clin Pract. 2024;57:101885.
8. Leung DKY, Wong KKY, Spector A, Wong GHY. Exploring dementia family carers' self-initiated strategies in managing behavioural and psychological symptoms in dementia: a qualitative study. BMJ Open. 2021;11(8):e048761.
9. Nakanishi M, Perry M, Bejjani R, Yamaguchi S, Usami S, van der Steen JT. Longitudinal associations between subjective cognitive impairment, pain and depressive symptoms in home-dwelling older adults: Modelling within-person effects. Int J Geriatr Psychiatry. 2024;39(5):e6103.
10. Carlsson CM. Management of Dementia. Continuum (Minneap Minn). 2022;28(3):885-900.
11. Huo Z, Yip BH, Lee AT, Cheng ST, Chan WC, Fung AW, et al. Moderating role of positive aspects of caregiving in the relationship between caring burden and suicidal ideation in family caregivers of community-dwelling older adults with neurocognitive disorders. BMC Geriatr. 2025;25(1):524.

12. Carcavilla N, Pozo AS, González B, Moral-Cuesta D, Roldán JJ, Erice V, et al. Needs of Dementia Family Caregivers in Spain During the COVID-19 Pandemic. J Alzheimers Dis. 2021;80(2):533-7.

13. Lim JM, Barlas J, Kaur D. Protocol for scoping review study to map out the existing research in relation to post-traumatic stress symptoms among caregivers of individuals with neurodevelopmental, psychiatric and neurocognitive disorders. BMJ Open. 2022;12(11):e058118.

14. Pressman PS, Molden J, Wortzel HS, Plys E, Woodcock JH, Filley CM, et al. Psychiatric Screening Measures in Behavioral Variant Frontotemporal Dementia. J Neuropsychiatry Clin Neurosci. 2024;36(2):160-5.

15. Kor PPK, Chou KL, Zarit SH, Gallagher D, Galante J, Wong SYS, et al. Sequential multiple assignment randomised controlled trial protocol for developing an adaptive intervention to improve depressive symptoms among family caregivers of people with dementia. BMJ Open. 2023;13(9):e072410.

16. Goldstein JM, Langer A, Lesser JA. Sex Differences in Disorders of the Brain and Heart-A Global Crisis of Multimorbidity and Novel Opportunity. JAMA Psychiatry. 2021;78(1):7-8.

17. Svedin F, Brantnell A, Farrand P, Blomberg O, Coumoundouros C, von Essen L, et al. Adapting a guided low-intensity behavioural activation intervention for people with dementia and depression in the Swedish healthcare context (INVOLVERA): a study protocol using codesign and participatory action research. BMJ Open. 2021;11(7):e048097.

18. Gong Z, Deng W, Li Z, Tang J, Zhang M. Association between apathy and caregiver burden in patients with amyotrophic lateral sclerosis: a cross-sectional study. BMJ Open. 2024;14(9):e080803.

19. Khan, S. L., Anwar, P., Jawaid, S. S., Shami, A. Z. A., Aslam, Z., Sadaqat, R., ... & Javed, A. (2025). PSYCHOLOGICAL DISTRESS AMONG CAREGIVERS OF PATIENTS WITH MOOD DISORDERS IN PAKISTAN: A QUANTITATIVE STUDY. Insights-Journal of Health and Rehabilitation, 3(3 (Health & Rehabilitation)), 534-543.

20. Li, Q., Zhang, H., Zhang, M., Li, T., Ma, W., An, C., ... & Wang, H. (2021). Prevalence and risk factors of anxiety, depression, and sleep problems among caregivers of people living with neurocognitive disorders during the COVID-19 pandemic. Frontiers in psychiatry, 11, 590343.

21. Sandya, P. D., Shetty, K. V., Jaise, J., Manikappa, S. K., & Pai, N. B. (2022). Stress and burden among caregivers of persons with bipolar affective disorder during the COVID-19 pandemic in India. Asian Journal of Social Health and Behavior, 5(2), 51-56.

22. Serretti, A. (2025). Understanding mood disorder treatments. International Clinical Psychopharmacology, 40(1), 1-2.

23. Tabassum, R., Khan, S., Munir, H., Izzah, Z., Naz, F., Liaqat, S., & Malik, A. P. (2025). MENTAL HEALTH PROBLEMS AMONG CAREGIVERS OF INDIVIDUALS WITH NEUROCOGNITIVE, NEURODEVELOPMENTAL AND MOOD DISORDERS: A QUANTITATIVE COMPARATIVE STUDY OF PAKISTANI ADULTS. Insights-Journal of Life and Social Sciences, 3(3 (Life)), 33-39.