

ORIGINAL ARTICLE

Stress among caregivers of patients with substance use disorder (SUD).Nimra Mir¹, Farasat Ali², Faiqa Jannat³, Tehreem Khan⁴, Aqsa Shahbaz⁵, Momina Nasir⁶

ABSTRACT... Objective: To determine the frequency of stress among caregivers of patients with substance use disorder. **Study Design:** Cross-sectional Study. **Setting:** Punjab Institute of Mental Health, Lahore. **Period:** February to July 2024. **Methods:** 94 caregivers providing support for at least six months to SUD patients was selected. Data was collected through interviews using semi-structured questionnaires. Stress was measured in terms of anxiety and depression and was labelled if any of these were present. Anxiety defined as HAM-A ≥ 10 and depression as HDRS ≥ 8 . Data analyzed using SPSS 26. Quantitative variables were summarized as mean \pm SD, and qualitative as frequencies & %. Data was stratified for effect modifier and chi-square test was applied for stress incidence, $p \leq 0.05$ considered as significant. **Results:** Out of 94 caregivers, 46 (48.9%) experienced stress, depression was present in 41.5%, and anxiety in 24.5%. Stress incidence among caregivers found to be significantly related to job status and substance used nature, $p 0.01$ & 0.02 , respectively. **Conclusion:** This study finding suggests that nearly half caregivers of patients with SUD experienced stress, with depression being more prevalent than anxiety. These findings highlight substantial psychological burden on caregivers, emphasizing the need for mental health support and interventions to mitigate stress and improve their well-being.

Key words: Caregivers, Stress, Substance Use Disorder.

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INTRODUCTION

The global rise in substance use has become a major concern, and Pakistan is no exception to this growing issue.¹ In 2019, global prevalence of substance use disorders (SUDs) was 3,891 per 100,000 population.² SUDs are recognized as significant public health challenge, often referred to as “family disease” due to their extensive biopsychosocial impact. Most substance users are male, single, and have low levels of education.³

SUD and addiction have profound effects on family dynamics and caregivers.⁴ Caregivers provide support and assistance to individuals who face short or long-term challenges caused by illness, injury, or disability, and ensure that the needs and well-being of patients can be met. Dependency on caregivers increases significantly when patient is suffering from serious mental illness. Around 90% patients suffering from mental illness rely on family caregivers for practical and emotional support every day.⁵ Over the past two decades, mental healthcare has shifted from institutionalization to community-

based programs and shorter hospital stays.⁶ This transition has placed increasing burden on caregivers, primarily family members, in managing and supporting individuals with mental illnesses.⁷

Caregivers face challenges that can disrupt their biopsychosocial well-being. This includes managing symptoms of mental disorders of patients and potential violence, physical exhaustion, emotional stress, strained family relationships, and changes in family roles.⁸ Caregivers of individuals with substance use disorders are particularly vulnerable to anxiety and depression.⁹ While anxiety and depression are closely linked, they differ in their primary manifestations anxiety is characterized by fear and apprehension, whereas depression is marked by sadness and lack of energy.¹⁰

Providing long-term care to individuals with SUD places significant emotional and psychological burden on caregivers. By determining the frequency of stress among caregivers of patients with substance use disorder (SUD), this study aims to

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quantify the burden they experience. Understanding the prevalence of stress in this population can provide valuable insights that may inform future interventions to support caregivers and improve their well-being.

METHODS

This cross-sectional study was conducted at Punjab Institute of Mental Health, Lahore, over duration of six months (February to July 2024) after synopsis approval from CPSP and Institutional Review Board (REF.NO.01557/PIMH, Dated:14/1/2024) Sample size was calculated as 94 caregivers, using 95% confidence level, 10% margin of error, and expected percentage of stress among caregivers taken as 57.5%.¹¹ Non-probability consecutive sampling technique was used for patient enrolment. Caregivers (individual who provided physical, emotional, or financial support to person with substance use disorder for minimum duration of six months) of patients with substance use disorder, aged 18-60 years, both male and female, were included. For establishing diagnosis based on substance use, DSM-5 was used.¹² Per DSM-5, individual had to meet at least two criteria out of 11 criteria over 12-month period to have substance use disorder established for that substance. Exclusion criteria comprised individuals who did not agree to participate in study, caregivers with current diagnosis or history of substance use disorder, psychiatric illness or those using depression-inducing drugs, and medical problems such as diabetes, hypertension, that could mask depressive symptoms.

94 cases of substance use disorder meeting the selection criteria were enrolled in study after informed consent. Data was collected using semi-structured questionnaire guide to an interview. Details regarding substance use, including alcohol, heroin, cannabis, and cocaine, were recorded. Demographic characteristics of caregivers, including age, gender, residence, marital status, literacy, occupation, and monthly income, were noted. The relationship with patient and duration of caregiver responsibilities were also recorded. Hamilton Rating Scale for Anxiety and Hamilton Rating Scale for Depression were used to determine the incidence of anxiety and depression among caregivers. Depression

was determined if caregiver scored 8 or more on Hamilton Depression Rating Scale. Anxiety was identified if caregiver scored 10 or more on Hamilton Anxiety Rating Scale. Stress was measured in terms of anxiety and depression and was labelled if any of these were present. All information was recorded in questionnaire. Data entered and analyzed using SPSS 26. Quantitative variables such as caregivers' age, HAM-A, and HDRS scores were measured in terms of mean and standard deviation. Qualitative variables, including the presence of stress (anxiety and depression), gender, residence, marital status, literacy, occupation, monthly income, relationship, and substance use (alcohol, heroin, cannabis, cocaine), were measured in terms of frequency and percentages. Data were stratified for age, gender, marital status, duration of care provided, and monthly income as effect modifiers and stress incidence was compared using chi-square test, with p-value of <0.05 taken as significant.

RESULTS

Out of 94 caregivers of patients with substance use disorder, 46 (48.9%) experienced stress, while 48 (51.1%) did not. Depression was present in 39 (41.5%) caregivers, and anxiety was identified in 23 (24.5%) caregivers as shown in Table-I.

TABLE-I		
Frequency distribution of stress and its components anxiety & depression among caregivers of substance abuse (N=94)		
Variables	Yes Frequency (%)	No Frequency (%)
Stress	46 (48.9%)	48 (51.1%)
Depression	39 (41.5%)	55 (58.5%)
Anxiety	23 (24.5%)	71 (75.5%)

The most common substance used among patients was heroin (50%), followed by alcohol (29.8%), cocaine (13.8%), and cannabis (6.4%). Among caregivers, stress was more prevalent in those caring for patients with alcohol use (37%), followed by heroin (34.8%), cannabis (10.9%), and cocaine (17.4%) ($p=0.02$). Stress was slightly more frequent in younger group (upto 40 years) (58.7%) compared to >40 years old age group (41.3%), but this difference was not statistically significant ($p=0.398$). Males constituted 58.5% of the caregivers, and females made up 41.5%. Stress prevalence was nearly equal among males (58.7%)

and females (41.3%) ($p=0.972$). Among caregiver relationships, siblings were most common (35.1%), followed by spouses (29.8%), parents (24.5%), and children (10.6%). Stress was highest among siblings (32.6%) and spouses (30.4%), followed by parents (19.6%) and children (17.4%) ($p=0.178$). Most caregivers were from rural areas (64.9%), while 35.1% were from urban settings. Stress was slightly higher among rural caregivers (67.4%) compared to urban caregivers (32.6%) ($p=0.619$). In terms of caregiving duration, 63.8% of caregivers had been providing care for less than 12 months, while 36.2% had been doing so for more than year. Stress was reported in 65.2% of those caregiving for less than 12 months and 34.8% of those caregiving for more than 12 months ($p=0.784$). 73.4% caregivers had

monthly income of $\geq 30,000$, while 26.9% earned less than 30,000. Stress was more common in caregivers earning $\geq 30,000$ (76.1%) than those earning $< 30,000$ (23.9%), though this was not statistically significant ($p=0.564$). Educational status showed that 74.5% of caregivers were illiterate, and 25.5% were literate. Stress prevalence was similar among both groups (73.9% vs. 75%) ($p=0.904$). Most common job category of caregivers found was self-employment (35.1%), followed by labor work (33%), unemployment (27.7%), and government jobs (4.3%). Stress was most frequent among self-employed caregivers (45.7%), followed by laborers (26.1%), unemployed individuals (19.6%), and those in government jobs (8.7%) ($p=0.015$).

TABLE-II

Comparison of caregiver's characteristics according to presence/absence of stress

	Variables Yes	Stress		Total	P-Value
		No			
Substance Abuse	Alcohol	17(37%)	11(22.9%)	28(29.8%)	0.02
	Heroin	16(34.8%)	31(64.6%)	47(50%)	
	Cannabis	5(10.9%)	1(2.1%)	6(6.4%)	
	Cocaine	89(17.4%)	5(10.4%)	13(13.8%)	
Age	Upto 40 years	27(58.7%)	24(50%)	51(54.3%)	0.398
	>40 years	19(41.3%)	24(50%)	43(45.7%)	
Gender	Male	27(58.7%)	28(58.3%)	55(58.5%)	0.972
	Female	19(41.3%)	20(41.7%)	39(41.5%)	
Relation	Parent	9(19.6%)	14(29.2%)	23(24.5%)	0.178
	Sibling	15(32.6%)	18(37.5%)	33(35.1%)	
	Spouse	14(30.4%)	14(29.2%)	28(29.8%)	
	Son/daughter	8(17.4%)	2(4.2%)	10(10.6%)	
Residence	Rural	31(67.4%)	30(62.5%)	61(64.9%)	0.619
	Urban	15(32.6%)	18(37.5%)	33(35.1%)	
Duration of care	<12months	30(65.2%)	30(62.5%)	60(63.8%)	0.784
	>12months	16(34.8%)	18(37.5%)	34(36.2%)	
Monthly income	<30 thousand	11(23.9%)	14(29.2%)	25(26.9%)	0.564
	≥ 30 thousand	35(76.1%)	34(70.8%)	69(73.4%)	
Literacy	Illiterate	34(73.9%)	36(75%)	70(74.5%)	0.904
	Literate	12(26.1%)	12(25%)	24(25.5%)	
Job status	None	9(19.6%)	17(35.4%)	26(27.7%)	0.015
	Self employed	21(45.7%)	12(25%)	33(35.1%)	
	Govt Job	4(8.7%)	0(0%)	4(4.3%)	
	Labor	12(26.1%)	19(39.6%)	31(33%)	

DISCUSSION

This current study found most common substance used among patients was heroin (50%), followed by alcohol (29.8%), cocaine (13.8%), and cannabis (6.4%). These findings align with previous research highlighting high prevalence of opiate use across various regions in Pakistan, as found in study conducted in KPK where 84% patients used opiates.¹³ Other studies have reported variations in substance use across different regions, with alcohol, heroin, and ice drugs being prevalent in Hyderabad.¹⁴ Among caregiver relationships, siblings were most common (35.1%), followed by spouses (29.8%), parents (24.5%), and children (10.6%). However, Uddin et al reported that majority of caregivers were mothers (40%), followed by spouse (34%), siblings (20%), and others (6%).⁹

In current study 46 (48.9%) have experienced stress, among them anxiety was present in 23 (24.5%) caregivers, and depression was identified in 39 (41.5%) caregivers. And stress incidence among caregivers found to be significantly related to job status and substance used nature, $p < 0.05$. However, gender, age, literacy, duration of caregiving and residence have found no significant impact. In contrast study reported that female gender suffered more from caregiver burden.¹⁵ Marri et al, observed depression in 68.33%, and anxiety in 44.17% of caregivers.¹⁶ Ali et al, found frequency of depression 57.5% among caregivers of SUD, with significant difference found for gender, age and marital status.¹¹ Caregivers frequently face stigma, which intensifies their stress. Many parents experience shame and fear of judgment, resulting in social isolation and hesitation to seek support.¹⁷ Marcon et al, examined individuals with clinical substance abuse and found depression only in 23.8% caregivers.¹⁸ Contrary to current findings, by Vadher et al frequency of depression and anxiety reported was relatively low by 5.3% and 4.3%, respectively.¹⁹ It was revealed further by Kahya et al, that mean Zarit Caregiver Burden Scale score was significantly higher among caregivers of individuals with substance use disorder compared to bipolar disorder and schizophrenia ($p = .001$), suggests that substance use disorder impose greater burden on families than other chronic mental health conditions.²⁰ Recently Sadia et al, found high proportion of varying degree of depression (90%),

anxiety (88%), and stress (86%) among caregivers of substance use disorder.²¹ Overall, caregivers of individuals with substance use disorder face greater psychological distress.

This study has several limitations, it did not quantify stress severity, which could have provided more detailed understanding of the burden experienced. Secondly, the study did not include psychoeducation component to support caregivers, which may have influenced their coping mechanisms and overall well-being. Lastly, lack of follow-up prevented evaluation of changes in stress levels over time and effectiveness of potential interventions. Future research should address these gaps by incorporating stress severity measures, psychoeducational support, and longitudinal follow-up.

CONCLUSION

This study finding suggests that nearly half caregivers of patients with SUD experienced stress, with depression being more prevalent than anxiety. These findings highlight substantial psychological burden on caregivers, emphasizing the need for mental health support and interventions to mitigate stress and improve their well-being.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

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2	Farasat Ali: Discussion writing.
3	Faiqa Jannat: Data collection.
4	Tehreem Khan: Literature review.
5	Aqsa Shahbaz: Data analysis.
6	Momina Nasir: Data entry.