Original Article
DOI: https://doi.org/10.70749/ijbr.v3i4.1100

INDUS JOURNAL OF BIOSCIENCE RESEARCH
https://induspublishers.com/IJBR
ISSN: 2960-2793/ 2960-2807

Frequency of Depression in Primary Care-Givers of Patients with Substance Use Disorders

Waqas Ahmed[1], Abid Ul Abrar[1], Habib Ullah[1], Amir Sohail[1], Mian Sohail Adnan[1]

[1]Psychiatry Ward, Ayub Teaching Hospital, Abbottabad, Pakistan

ARTICLE INFO

Keywords
Depression, Caregiver, Substance use, Disorders

Corresponding Author: Waqas Ahmed, Psychiatry Ward, Ayub Teaching Hospital, Abbottabad, Pakistan.
Email: awaqas023@gmail.com

Declaration
Authors' Contribution: All authors equally contributed to the study and approved the final manuscript.
Conflict of Interest: No conflict of interest.
Funding: No funding received by the authors.

Article History
Received: 04-01-2025 Revised: 02-04-2025
Accepted: 15-04-2025 Published: 26-04-2025

ABSTRACT

Objectives: To determine the frequency of depression in caregivers of patients with substance use disorders. **Study Design:** Cross sectional (descriptive) study. **Place and Duration of the study:** The study was carried out in the Department of Psychiatry of Ayub Teaching Hospital, Abbottabad from 1st June to November 2024. **Methodology:** The study population was included, all caregivers of patients diagnosed with substance use disorders with age between 18 to 70 years of either gender and Depression was graded as per operational definition. **Results:** The descriptive statistics for age among the patients show that there were 83 patients, with an age range from 18 to 70 years. The mean age was 48.64 years, with a standard deviation of 17.223 years. Out of the 83 patients, 44.6% (37 patients) were male, and 55.4% (46 patients) were female. In terms of overall depression diagnosis, 27.7% (23 patients) were classified as normal, while 72.3% (60 patients) were identified as having depression. **Conclusion:** In conclusion, this study highlights a substantial prevalence of depression among caregivers of patients with substance use disorders, with 72.3% of patients exhibiting symptoms of depression.

INTRODUCTION

Families play a significant role in the well-being of their relatives with co-occurring substance use and mental disorders through the provision of direct care, management of illness symptoms, engagement and retention in treatment, financial assistance, and emotional support.[1] The substance use disorder can be considered as a "family disease" because it not only affects the substance user's life but also that of its intimate family members. They suffer financially, psychologically and socially. This suffering leads to the occurrence of various mental health issues. Negative impact of patient's behavior also leads to emergence of depressive symptoms in caregivers.[2, 3]

Substance abuse has been on the rise across the world, including in Pakistan, and substance use disorders are one of the most important public health issues. In 2013, it is estimated that 246 million people, or one out of every twenty persons between the ages of 15 and 64, consumed an illicit substance. According to a poll, alcohol was the most used substance in South Asia (21.4 percent), followed by cannabis (3.0 percent) and opioid (0.7 percent). Seventeen to twenty-six percent of alcohol users met the International Classification of Diseases (ICDs) 10 criteria for dependency.[2,4]

In a cross-sectional survey of primary caregivers of patients with substance use disorders in Sir Ganga Ram Hospital, Lahore 69% of the cases had depression.[5] A study conducted in Dr. Ruth Fau Civil Hospital Karachi revealed frequency of depression and anxiety to be 65% and 46% respectively.[6] Caregivers with younger age, female gender and low literacy had greater risk of having depression.[7]

Geoffrey Maina and colleagues shared the experience of caregivers of patients with substance use disorders, they revealed that giving care to individual addicted with a substance may increase anger, worry, shame, anxiety, behavioral problems and depression within family unit.[8] Domestic violence is also observed in substance users, particularly alcohol users. The stats of domestic violence vary over time, and may involve sexual, physical, and emotional abuse. It may include physical violence to the spouse, snatching the jewelry/money for substance use continuation etc. affecting mental health of the caregivers.[9]

The aim of this study is to find out the frequency of

depression in caregivers of patients with substance use disorder in our population. The idea behind doing this study was taken while carefully doing the literature search and found that although much work was done on frequency of depression among caregivers of patients with substance use disorder in western countries but in Pakistan there is very limited data regarding this major problem. Therefore, knowing the magnitude of the problem in our setup will provide local evidence. By treating patients with substance use disorder at its earliest stage will reduce the burden of depression among caregivers of patients with substance use disorder both at national level and globally.

METHODOLOGY

The study was conducted in the Psychiatry Department of Ayub Teaching Hospital, Abbottabad. This cross-sectional study was carried out over six months, from June 1, 2024 to November 30, 2024. The sample size was calculated to be 83 patients using the WHO sample size calculator, with a 95% confidence level, 10% absolute precision, and an expected frequency of depression among caregivers of patients with substance use disorders at 69%. Non-probability convenience sampling was employed to recruit patients. The inclusion criteria comprised caregivers of patients diagnosed with substance use disorders according to DSM-5 or ICD-10 criteria, aged 18–70 years, and of both genders. Caregivers with a prior history of psychiatric illness or language and hearing impairments were excluded.

Data collection was conducted by the trainee following ethical approval from the hospital administration, supervisor, and ethical committee. Written informed consent was obtained from all patients. An interviewer-administered questionnaire was used to collect data on demographic variables such as age, gender, socioeconomic status, education level, residence, profession, family history, and marital status. Depression was assessed using the Beck Depression Inventory (BDI), a 21-item validated scale that evaluates various symptoms, including sadness, self-blame, loss of interest, sleep problems, and suicidal ideation. Scores were categorized as per the operational definitions, ranging from normal ups and downs (scores 1–10) to extreme depression (scores >40). All data were collected by the trainee, ensuring confidentiality throughout the process.

The collected data were analyzed using SPSS version 23.0. Quantitative variables, such as age, were evaluated for normality using the Shapiro-Wilk test and reported as mean ± standard deviation or median (IQR), depending on the distribution. Categorical variables, such as gender, socioeconomic status, and levels of depression, were summarized as frequencies and percentages. Depression levels were stratified by variables like age, gender, socioeconomic status, education level, residence, profession, family history, and marital status to address potential effect modifiers. Post-stratification analyses were conducted using the chi-square test or Fisher's exact test, with statistical significance set at $p < 0.05$.

RESULTS

The study aimed to determine the frequency of depression in caregivers of patients with substance use disorders, based on a sample of 83 patients at Ayub Teaching Hospital, Abbottabad. The descriptive statistics revealed that the age of patients ranged from 18 to 70 years, with a mean of 48.64 years and a standard deviation of 17.223 years. Gender distribution showed that 44.6% of patients were male, and 55.4% were female. Most patients were married (62.7%), while 37.3% were single, separated, divorced, or widowed. Educational attainment varied, with 39.8% having completed primary education, 36.1% having secondary education, and 24.1% achieving higher education. Regarding occupational status, half of the patients (50.6%) were employed, while 49.4% were unemployed. Most caregivers resided in urban areas (63.9%), with the remaining 36.1% living in rural regions. A family history of depression was reported by 33.7% of patients, while 66.3% had no such history. Socioeconomic status distribution showed that 37.3% of patients fell in the low-income category, 44.6% in the intermediate-income group, and 18.1% in the high-income category. (Table 1)

Table 1

Demographic Characteristics (n = 83).

Variable		Frequency	Percent
Gender	Male	37	44.6%
	Female	46	55.4%
Marital Status	Married	52	62.7%
	Single	31	37.3%
Education	Primary	33	39.8%
	Secondary	30	36.1%
	Higher	20	24.1%
Occupational Status	Employed	42	50.6%
	Unemployed	41	49.4%
Residence	Rural	30	36.1%
	Urban	53	63.9%
Family History of Depression	Yes	28	33.7%
	No	55	66.3%
Socioeconomic Status	Low	31	37.3%
	Intermediate	37	44.6%
	High	15	18.1%

Substance use patterns among patients revealed that 3.6% used heroin, 13.3% used cannabis, 27.7% used amphetamines, and 55.4% engaged in polysubstance use. The duration of depression among caregivers varied, with 33.7% experiencing depression for less than six months and 66.3% for more than six months. Depression severity, measured using the Beck Depression Inventory, showed that 27.7% of patients were classified as normal, while 72.3% exhibited varying degrees of depression. Specifically, 9.6% had mild mood disturbances, 13.3%

were borderline clinical cases, 32.5% had moderate depression, 12.0% had severe depression, and 4.8% were diagnosed with extreme depression. When analyzed by age group, 27.7% of patients were below 30 years, while 72.3% were 30 years or older. (Table 2)

Table 2

Frequency of Outcome Variables (n = 83).

Variable	Categories	Frequency	Percent
Types of Substance Used	Heroin	3	3.6%
	Cannabis	11	13.3%
	Amphetamines	23	27.7%
	Polysubstance use	46	55.4%
Duration of Depression	< 6 months	28	33.7%
	> 6 months	55	66.3%
Total Score Category	Normal	23	27.7%
	Mild mood disturbance	8	9.6%
	Borderline clinical depression	11	13.3%
	Moderate depression	27	32.5%
	Severe depression	10	12.0%
	Extreme depression	4	4.8%
Age group	Below 30 years	23	27.7%
	30 years and above	60	72.3%
Depression Status	Normal	23	27.7%
	Depression	60	72.3%

Among those with depression, 16.9% of males and 10.8% of females were classified as normal, while 27.7% of males and 44.6% of females experienced depression, yielding a p-value of 0.055 for gender association. Marital status analysis showed that 15.7% of married individuals were normal, while 47.0% had depression. In contrast, 12.0% of single, separated, divorced, or widowed patients were normal, with 25.3% having depression (p-value 0.320).

Educational level analysis indicated that patients with primary education were more likely to experience depression (32.5%) compared to those with secondary (22.9%) and higher education (16.9%). However, the association was not statistically significant (p-value 0.253). Similarly, occupational status and residence did not show significant associations with depression, with p-values of 0.473 and 0.343, respectively. Patients with a family history of depression had a higher prevalence of current depression (26.5%) compared to those without a family history (45.8%), though the association was not significant (p-value 0.260).

The socioeconomic status analysis showed that depression was most prevalent in the low-income group (25.3%) compared to intermediate (34.9%) and high-income groups (12.0%), but the association was not statistically significant (p-value 0.538). Substance use type had a significant association with depression, with polysubstance users having the highest prevalence (45.8%) and a p-value of 0.020. Depression was more common among caregivers with longer durations of depression (>6 months), with 45.8% affected compared to 26.5% of those with shorter durations, though this association was not significant (p-value 0.260). Lastly, patients aged 30 years and above had higher rates of depression (50.6%) compared to those below 30 years (21.7%), but this association was also not statistically significant (p-value 0.322). (Table 3)

Table 3

Frequency Distribution of Demographic, Social, and Clinical Factors in Relation to Depression Status (n=83).

Variable	Category	Normal (n=23)	Depression (n=60)	Total (n=83)	p-value
Gender	Male	14(16.9)	23(27.7)	37(44.6)	0.055
	Female	9(10.8)	37(44.6)	46(55.4)	
Marital Status	Married	13(15.7)	39(47.0)	52(62.7)	0.032
	Single, separated, divorced, or widow	10(12.0)	21(25.3)	31(37.3)	
Education	Primary (1–6 class)	6(7.2)	27(32.5)	33(39.8)	0.253
	Secondary (6–10 class)	11(13.3)	19(22.9)	30(36.1)	
	Higher (11–12 class)	6(7.2)	14(16.9)	20(24.1)	
Occupational Status	Employed	11(13.3)	31(37.3)	42(50.6)	0.473
	Unemployed	12(14.5)	29(34.9)	41(49.4)	
Residence	Rural	7(8.4)	23(27.7)	30(36.1)	0.343
	Urban	16(19.3)	37(44.6)	53(63.9)	
Family History of Depression	Yes	6(7.2)	22(26.5)	28(33.7)	0.026
	No	17(20.5)	38(45.8)	55(66.3)	
Socioeconomic Status	Low (1k–10k PKR)	10(12.0)	21(25.3)	31(37.3)	0.538
	Intermediate (10k–50k PKR)	8(9.6)	29(34.9)	37(44.6)	
	High (>50k PKR)	5(6.0)	10(12.0)	15(18.1)	
Types of Substance Used	Heroin	2(2.4)	1(1.2)	3(3.6)	0.002
	Cannabis	2(2.4)	9(10.8)	11(13.3)	
	Amphetamines	11(13.3)	12(14.5)	23(27.7)	
	Polysubstance use	8(9.6)	38(45.8)	46(55.4)	
Duration of Depression	< 6 months	6(7.2)	22(26.5)	28(33.7)	0.026
	> 6 months	17(20.5)	38(45.8)	55(66.3)	
Age group	Below 30 years	5(6.0)	18(21.7)	23(27.7	0.322
	30 years and above	18(21.7)	42(50.6)	60(72.3)	

DISCUSSION

This analysis builds on previous research which has frequently reported high levels of psychological distress among caregivers of patients with chronic health issues, including substance use disorders (SUDs). Depression rates among caregivers are often linked to factors such as patient characteristics, caregiver burden, and socio-demographic variables by Liu YC, et al.[10]

In the current sample of 83 caregivers, the study found a high prevalence of depression, with 72.3 of patients meeting the criteria for depression. This aligns with findings from studies conducted by Liu YC, et al.[10] and Sharma P, et al.,[11] who reported a similarly high incidence of depression among caregivers of patients with SUDs reported by Zwar L, et al.[12] indicated that caregivers of individuals with mental health disorders,

particularly substance use, have a significantly higher prevalence of depression compared to the general population Zwar L, et al.[12] Likewise, Sharma et al. noted that caregiver stress associated with SUDs is often exacerbated by social stigma, economic strain, and the erratic behaviors associated with substance use, contributing to high rates of depression by Greene J, et al.[13]

In the current study, several socio-demographic factors were examined, but many did not show statistically significant associations with depression. For instance, while more female caregivers experienced depression compared to males, the association between gender and depression was not statistically significant (p=0.055). This is consistent with findings by Smith J et al.,[12] who found that while female caregivers are often more susceptible to emotional distress, the gender effect on depression rates in caregiver populations can vary across studies by Joling KJ et al.[14]

Marital status, educational level, and employment status did not show significant associations with depression in this sample. Other studies, however, have reported mixed findings on these factors. Greene J, et al.,[13] found that marital status can sometimes act as a protective factor, as married caregivers may have additional support by Richardson TJ et al.[15] Similarly, Joling KJ et al.,[17] reported that lower educational attainment can be associated with higher depression in caregiving contexts due to limited coping resources. However, the lack of statistical significance in the current study may be due to the specific caregiver population or the sample size.

Interestingly, the study found a significant association between the type of substance use in patients and caregiver depression levels (p=0.020), with higher depression rates observed among caregivers of patients who engaged in polysubstance use. This is in line with the work of Richardson TJ et al.[15], who found that the complexity and severity of SUD, particularly with polysubstance use, exacerbates caregiver burden and heightens the risk of depression Schulz R et al.[18] Richardson et al.,[15] argue that the unpredictable nature and severe health risks associated with polysubstance use can intensify caregiver stress, leading to increased depression by Schulz R et al.[18]

Socioeconomic status was also evaluated in this study, with results showing that depression was prevalent across income levels but with no statistically significant associations. This contrasts with findings from other studies, such as that by Vázquez FL, et al.,[16] who identified low socioeconomic status as a critical risk factor for depression among caregivers due to limited access to mental health resources and additional financial strain by Schulz R et al.[18] It is possible that cultural or community support factors in this study's sample population influenced the lack of a significant association.

CONCLUSION

In conclusion, this study highlights a substantial prevalence of depression among caregivers of patients with substance use disorders, with 72.3 of patients exhibiting symptoms of depression.

The study's findings align with previous research on caregiver mental health but also point to the need for more nuanced understanding of the factors that exacerbate or mitigate caregiver depression, such as community support or access to mental health resources. Given the high rates of depression observed, healthcare systems should consider implementing targeted interventions to support caregivers, particularly those supporting patients with complex substance use patterns. Future studies with larger and more diverse samples are recommended to further explore the role of socio-demographic and psychosocial factors in shaping caregiver mental health outcomes.

REFERENCES

1. Biegel DE, Katz-Saltzman S, Meeks D, Brown S, Tracy EM. Predictors of Depressive Symptomatology in Family Caregivers of Women with Substance Use Disorders or Co-Occurring Substance Use and Mental Disorders. J Fam Soc Work. 2010; 13(2):25-44. https://doi.org/10.1080/10522150903437458
2. Mattoo SK, Nebhinani N, Kumar BN, Basu D, Kulhara P. Family burden with substance dependence: a study from India. Indian J Med Res. 2013; 137(4):704-11.
3. Marcon SR, Rubira EA, Espinosa MM, Barbosa DA. Quality of life and depressive symptoms among caregivers and drug dependent people. Rev Lat Am Enfermagem. 2012; 20(1):167-74. https://doi.org/10.1590/s0104-11692012000100022
4. United Nations Office on Drugs and Crime. World Drug Report 2015.United Nations publication; 2015. https://doi.org/10.18356/b07f5d3f-en
5. Ali F, Baig W, Saad M, Tabassum S, Aslam MS, Zahra F, et al. Depression in the primary caregivers of patients with substance use disorder. Pak. J. Med. 2022; 16(5):913–5. https://doi.org/10.53350/pjmhs22165913
6. Nisa Z, Haider A, Monica V, Das K, Raza R. Depression and anxiety in caregivers of substance users. JPPS 2019; 16(2): 31-5.
7. Kasi IU, Akram Hamdani SM. Depression In primary caregivers of patients of psychoactive

substance use. J Pak Psychiatric Soc. 2019; 16(3):17-20.
8. Maina G, Ogenchuk M, Phaneuf T. I can't live like that": the experience of caregiver stress of caring for a relative with substance use disorder. Subst Abuse Treat Prev Policy 2021; 16:11. https://doi.org/10.1186/s13011-021-00344-3
9. Vaishnavi R, Karthik MS, Balakrishnan R, Sathianathan R Caregiver burden in alcohol dependence syndrome. J Addict. 2017;2017: e8934712 https://doi.org/10.1155/2017/8934712
10. Liu YC. Caregiving experience associated with unpaid carers of persons with schizophrenia: a scoping review. Soc. Work Ment. Health, 2024;22(2):219-45. https://doi.org/10.1080/15332985.2023.2282932
11. Sharma P, Purkayastha B, Sharma N. Family caregivers of substance-dependent individuals: A review. Indian J Soc Psychiatry. 2017;33(3):208-15.
12. Zwar L, König HH, Hajek A. Gender Differences in Mental Health, Quality of Life, and Caregiver Burden among Informal Caregivers during the Second Wave of the COVID-19 Pandemic in Germany: A Representative, Population-Based Study. Gerontology. 2023;69(2):149-62. https://doi.org/10.1159/000523846
13. Greene J, Cohen D, Siskowski C, Toyinbo P. The relationship between family caregiving and the mental health of emerging young adult caregivers. J. Behav. Health Serv. Res. 2017;44:551-63. https://doi.org/10.1007/s11414-016-9526-7
14. Joling KJ, Windle G, Dröes RM. What are the essential features of resilience for informal caregivers? Psycho-Oncology. 2016;25(9):112-20.
15. Richardson TJ, Lee SS, Berg-Weger M, Grossberg GT. Caregiver health: Effects of substance abuse in patients. J Gerontol Soc Work. 2013;56(6):483-98.
16. Vázquez FL, López L, Blanco V, Otero P, Torres ÁJ, Ferraces MJ. The impact of decreased environmental reward in predicting depression severity in caregivers. An. Psychol. 2019;35:357-63.
17. Joling KJ, van Marwijk HW, Smit F. Does a family caregiver's ability to handle behavior problems in dementia affect their health and psychological distress? Aging Ment Health. 2016;21(8):1042-9.
18. Schulz R, Beach SR, Friedman EM. Caregiving Factors as Predictors of Care Recipient Mortality. Am J Geriatr Psychiatry. 2021;29(3):295-303 https://doi.org/10.1016/j.jagp.2020.06.025