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FREQUENCY AND SEVERITY OF DEPRESSION AMONG PATIENTS OF SUBSTANCE USE DISORDER IN DHQ HOSPITAL FAISALABAD-PAKISTAN

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Abstract

Objective: *To determine the frequency and severity of depression among patients with substance use disorder and to assess its association with demographic variables and duration of substance abuse.*

Study Design: *Cross-sectional study, at Department of Psychiatry and Behavioral Sciences, DHQ Hospital Faisalabad*

Study Duration: *Ten Months (June 24 to April,25)*

Methodology: *This cross-sectional study was conducted at the Department of Psychiatry, DHQ Hospital, Faisalabad, over a period of ten months. A total of 190 patients diagnosed with SUD according to DSM-5 criteria were enrolled using non-probability consecutive sampling. Depression was assessed using Beck's Depression Inventory. Data were analyzed using SPSS version 25. Frequencies and percentages were calculated for categorical variables, while mean and standard deviation were computed for age. Chi-square test and independent t-test were applied for comparison. Binary and ordinal logistic regression analyses were performed to identify predictors of depression and its severity.*

Results: *The mean age of participants was 32.8 ± 8.6 years. Depression was present in 30% of patients, while 70% exhibited some degree of depressive symptoms. Mild and moderate depression were most common (30% each), followed by severe depression (10%). No significant association was observe*

Conclusion: *Depression is highly prevalent among patients with SUD, and duration of substance abuse is a significant predictor of both its occurrence and severity.*

INTRODUCTION

Depression is an emotional state which is experienced by most people sometime in life and can manifest as blues or sadness, grief, mourning, no pathologic or neurotic or in form of hyperactivity and manic behavior. According to world health organization estimate, averagely 15% of global populations experience depression once or more in their stay of life1. Depression has many possible causes, including mood disturbance, genetic vulnerability, chronic stressful life, use of psychoactive substances, and medical problems. It is believed that several of these forces interact to bring depression[2].

Reports suggest that 50% of individuals with severe mental disorders are affected by substance abuse, 37% of alcohol abusers, and 53% of drug abusers who also have at least one serious mental illness, and of all

people diagnosed as mentally ill, 29% abuse either alcohol or drugs2. Substance use disorders, mood, and anxiety disorders are widespread among general population and are associated with substantial social, economic, and health loss3.

Depression and anxiety symptoms are among most common problems reported by persons seeking treatment for drug addiction. Drug addiction, anxiety, and depression account for three-quarters of disability attributed to mental disorders. Depression and drug addiction are critical, not only because of their high prevalence but also because of their negative consequences. Individuals with co-morbid mental health and drug addiction often experience severe illness, disability, and poor treatment outcomes[4].

A Mossie determine prevalence and severity of depression and its association with substance use in a cross-sectional study was conducted on a sample of 650 respondents in Jimma town in March 2016. Structured questionnaire and Beck's Depression Inventory (BDI-II) scale were used for data collection. prevalence of depression was 29.0%. Based on BDI-II grading of severity of depression, 59.6% had mild, 32.7% had moderate, 7.6% had severe depression. 5 rationale is inspite of cited studies no study is available in local setting, hence to fill in gap in it is planned in patients of substance use disorder. study will be conducted on local population which will help us to find frequency and severity of depression of in substance used disorder. It will also help in comprehensive treatment of patients suffering from substance used disorder. Earlier depression recognized, better will be prognosis.

METHODOLOGY:

The objective of study was to determine frequency of depression among patients with substance use disorder. Substance use disorder was diagnosed according to DSM-5 criteria, which are based on 11 diagnostic points. Severity of substance use disorder was categorized as mild when two to three symptoms were present, moderate when four to five symptoms were present, and severe when six or more symptoms were identified. Depression was operationally defined as symptoms meeting diagnostic and research criteria assessed through clinical interview, and its severity was determined using Beck's Depression Inventory. scoring system was interpreted as follows: scores of 1–10 were considered normal, 11–16 indicated mild mood disturbance, 17–20 represented borderline clinical depression, 21–30 corresponded to moderate depression, 31–40 indicated severe depression, and scores above 40 were categorized as extreme depression.

This was a cross-sectional study conducted in Department of Psychiatry, DHQ Hospital, Faisalabad, over a period of ten months following approval of research synopsis. sample size was calculated using WHO sample size calculator, taking a percentage of severe depression in substance use disorder patients as 7.6%, a confidence level of 95%, and an absolute precision of 3.5%, resulting in a required sample size of 190 participants. A non-probability consecutive sampling technique was employed.

Patients of both genders, aged between 18 and 60 years, and diagnosed with substance use disorder were included in study. Patients were excluded if they had a known psychiatric diagnosis prior to diagnosis of substance use disorder, had intellectual disability, or had medical conditions that could mask depressive symptoms, including anemia, hypothyroidism, chronic liver or kidney disease, autoimmune disorders, or a recent history of fever or head injury.

After obtaining approval from hospital ethical review committee, patients presenting with substance use disorder at Department of Psychiatry and Behavioral Sciences, DHQ Hospital Faisalabad, were enrolled according to inclusion and exclusion criteria. Written informed consent was obtained from all participants or their guardians. Demographic data, including age, gender, place of residence, educational status, and marital status, were recorded. researcher conducted interviews using DSM-5 criteria for assessment and evaluated severity of depression using Beck's Depression Inventory. All information was recorded on a specially designed proforma. Patients diagnosed with depression were managed according to standard hospital protocols.

All collected data were entered and analyzed using SPSS version 25. Mean and standard deviation were calculated for quantitative variables such as age, duration of depression, duration of substance use, and Beck Depression Inventory scores. Frequencies

and percentages were computed for qualitative variables including gender, employment status, educational level, residence status, severity of substance use disorder, and severity of depression. chi-square test was applied to assess associations between variables. Effect modifiers such as age, gender, educational status, residence, income, and severity of substance use disorder were controlled through stratification. Post-stratification chi-square tests were applied, and a p-value of ≤0.05 was considered statistically significant.

Results:

The study included 190 patients who had been diagnosed with substance use disorder. The participants' average age was 32.8 ± 8.6 years, with ages ranging from 18 to 58 years. 70% of the people who took part were men, and 30% were women. The majority of participants were aged 30 to 44 years (46.8%), followed by those aged 18 to 29 years (32.6%) and those aged 45 years or older (20.5%). Sixty percent of the people were married, thirty percent were single, and ten percent were separated, divorced, or widowed. Fifty percent of the people who took part were low-income, forty percent were middle-income, and ten percent were high-income.

The majority (58%) lived in cities, while 42% lived in the country.

30% of the people in the study (n = 57) were depressed. Using Beck's Depression Inventory to measure severity, 30% of participants had mild depression, 30% had moderate depression, and 10% had severe depression. 30% of participants did not have depression. In total, 70% of the people who took part showed some signs of depression.

A comparison of the mean age between participants with depression and those without revealed no statistically significant difference (33.9 ± 8.2 years vs. 32.3 ± 8.7 years; p = 0.28). Stratified analysis of age groups also did not show a significant link to depression (p = 0.41), but there was a slightly higher prevalence in the 30–44 years age group.

There was no statistically significant link between depression and gender (p = 0.62), marital status (p = 0.77), education level (p = 0.97), employment status (p = 0.63), income (p = 0.29), or residence (p = 0.21). While males, urban residents, and individuals from low-income groups exhibited relatively higher rates of depression, these differences lacked statistical significance.

The duration of substance abuse exhibited a statistically significant correlation with depression (p = 0.03). The prevalence of depression rose from 21.2% in patients with a duration of less than 1 year to 37.1% in those with a duration of 1–5 years and exceeding 5 years.

Binary logistic regression analysis indicated that the duration of substance abuse was an independent predictor of depression. Patients with a duration of 1–5 years exhibited over twice the odds of depression (AOR 2.18, 95% CI: 1.06–4.45, p = 0.03), whereas those with a duration exceeding 5 years demonstrated similarly elevated odds (AOR 2.25, 95% CI: 1.01–5.01, p = 0.04). Other factors, such as age, gender, and place of residence, did not statistically predict outcomes.

Ordinal logistic regression analysis indicated a more robust correlation between the duration of substance abuse and the severity of depression. Patients with a duration of 1–5 years exhibited 2.45 times higher odds (95% CI: 1.22–4.91, p = 0.01), while those with a duration exceeding 5 years demonstrated 3.25 times higher odds (95% CI: 1.45–7.29, p = 0.004) of advancing to more severe categories of depression. Age did not exhibit a significant correlation with severity (p = 0.12).

Overall, the results show that demographic and socioeconomic factors were not strongly linked to depression. However, the length of time a person has been abusing drugs was a major factor that affected both the presence and severity of depression.

Table 1: Baseline demographic and socioeconomic characteristics of patients with substance use disorder (n = 190)

Variable	Category	Depression Yes n (%)	Depression No n (%)	p-value
Gender	Male	40 (29.6%)	95 (70.4%)	0.62
	Female	17 (30.9%)	38 (69.1%)	
Age Group	18–29	27.4%	72.6%	0.41
	30–44	32.6%	67.4%	
	≥45	28.2%	71.8%	
Residence	Urban	34.5%	65.5%	0.21
	Rural	23.8%	76.2%	
Income	Low	33.7%	66.3%	0.29
	Middle	26.7%	73.3%	
	High	25.0%	75.0%	

Table 2: Frequency and severity distribution of depression among patients with substance use disorder

Duration	Depression Yes n (%)	Depression No n (%)	p-value
<1 year	21.2%	78.8%	0.03
1–5 years	37.1%	62.9%	
>5 years	37.1%	62.9%	

Chi-square p = 0.03 (SIGNIFICANT)

Table 3: Association of demographic and socioeconomic variables with depression (Chi-square test)

Variable	Category	AOR	95% CI	p-value
Duration	1–5 years	2.18	1.06–4.45	0.03
	>5 years	2.25	1.01–5.01	0.04
Age (continuous)	per year increase	1.02	0.98–1.05	0.30
Residence	Urban	1.69	0.93–3.07	0.08
Gender	Male	0.97	0.51–1.84	0.91

Table 4: Association between duration of substance abuse and depression (Chi-square test)

Variable	Category	AOR	95% CI	p-value
Duration	1–5 years	2.45	1.22–4.91	0.01
	>5 years	3.25	1.45–7.29	0.004
Age	continuous	1.03	0.99–1.06	0.12

DISCUSSION:

People with substance use disorders often also have depression. It increases the likelihood of illness, relapse, and poor therapeutic response. The study found that 30% of people had depression, and when severity was measured, 70% of people showed different levels of depressed symptoms. These findings align with existing literature, which consistently demonstrates a heightened prevalence of depressive disorders among substance-abusing populations.

Regier et al.6 executed a study demonstrating that approximately 37% of individuals with substance use disorders also presented with a concurrent mood disorder. A meta-analysis by Lai et al. indicated that the prevalence of depression among substance-dependent individuals ranges from 25% to 50%7. The findings of this study correspond with this range, highlighting a strong correlation between substance addiction and depressive disorders.

The severity distribution in this study showed that mild and moderate depression were equally common (30% each), while severe depression was present in 10% of individuals. This trend is clinically significant, as mild to moderate depression often remains undiagnosed, yet it significantly impacts quality of life and increases the likelihood of progression to severe forms. Previous studies have demonstrated that subthreshold depressive symptoms are prevalent among substance users and may impede recovery outcomes.8

There has been a lot of talk in literature about how men and women get depressed at different times. Women generally experience higher rates of depression compared to men. In substance abuse cohorts, this disparity tends to diminish. In this study, males showed a slightly higher rate of depression (31.6%) compared to females (26.3%); however, this difference was not statistically significant. This is consistent with the findings of Conway et al., who demonstrated that gender differences are less pronounced in groups with substance dependence.9

The age-related trends identified in this study show that depression becomes more common as people get older. Individuals aged 40 and above exhibited a higher propensity for depression compared to their younger counterparts. This is consistent with research indicating that older individuals experiencing chronic substance use, cumulative psychosocial stressors, and deteriorating physical health exhibit poorer mental health outcomes.10

Marital status revealed increased depression rates among separated, divorced, or bereaved individuals, consistent with prior research linking social isolation and inadequate support to intensified depressive symptoms.11 However, the lack of statistical significance in this study may be attributed to the smaller sizes of the subgroups.

Socioeconomic factors, particularly income, are acknowledged as critical indicators of mental health. In this study, individuals with low income exhibited a higher prevalence of depression (32.6%), supporting findings by Sareen et al.,12 which highlighted significant correlations between low socioeconomic status and mood disorders. Financial instability may heighten stress and limit access to healthcare resources, thereby worsening depressive symptoms.

People who lived in cities were more likely to be depressed and more likely to be very depressed. This study is in line with what is happening around the

world, which shows that people living in cities have more mental health problems because of things like social fragmentation, environmental stress, and changes in lifestyle. Even though it wasn't statistically significant, the tendency suggests a possible area for further research.

The logistic regression analysis did not identify any independent variables capable of predicting depression or its severity. This suggests that depression among individuals with substance abuse may be intricate and not solely determined by individual demographic factors. Biological processes, including neurotransmitter dysregulation, genetic predisposition, and neuroadaptive changes induced by substance use, likely play a critical role.13

Another possible reason could be low statistical power. The study, with a sample size of 190, may not have enough power to find weak to moderate relationships. More comprehensive multicenter studies may be required to ascertain pertinent predictors.

Results show that depression is common in people who are addicted to drugs and should be seen as an important part of their clinical assessment. Routine screening and integrated management measures are essential for improved outcomes.

CONCLUSION:

Depression is a prevalent comorbidity in individuals with substance use disorder, impacting nearly one-third of the study cohort, with a significant percentage exhibiting mild to moderate severity. The study shows that how long someone has been abusing drugs is a major factor in whether or not they get depression and how bad it is. Demographic and socioeconomic factors, on the other hand, do not have a major independent effect. These results show how long-term drug use can slowly affect mental health.

RECOMMENDATIONS:

Routine depression screening should be integrated into the clinical evaluation of all patients with substance use disorder, especially those with prolonged substance use. Early detection and prompt intervention may assist in averting the escalation to more severe manifestations of depression. To get better results for patients, integrated management strategies that combine mental health and addiction services should be used. Subsequent research with more substantial sample sizes and the incorporation of clinical variables, including the type and severity of substance use, is advised to further investigate these associations.

REFERENCE:

1. Duko B, Erdado M, Ebrahim J. Prevalence and factors associated with depression among hospital admitted patients in South Ethiopia: cross sectional study. BMC Res Notes. 2019;12(1):1–4.
2. Ross JL, Jiamsakul A, Avihingsanon A, Lee MP, Ditangco R, Choi JY, et al. Prevalence and risks of depression and substance use among adults living with HIV in Asia–Pacific region. AIDS Behav. 2022;26:3862–77.
3. Sfendla A, Zouini B, Lemrani D, Berman AH, Senhaji M, Kerekes N. Psychometric properties of Arabic version of Drug Use Disorders Identification Test (DUDIT) in clinical, prison inmate, and student samples. Int J Behav Med. 2017;24(2):280–7.
4. Mohamed II, Ahmad HE, Hassaan SH, Hassan SM. Assessment of anxiety and depression among substance use disorder patients: a case-control study. Middle East Curr Psychiatry. 2020;27(1):1–8.
5. Mossie A, Kindu D, Negash A. Prevalence and severity of depression and its association with substance use in Jimma Town, Southwest Ethiopia. Depress Res Treat. 2016;2016:1–6.
6. Regier DA, Farmer ME, Rae DS, Locke BZ, Keith SJ, Judd LL, et al. Comorbidity of mental disorders with alcohol and other drug abuse. JAMA. 1990;264(19):2511–8.
7. Lai HM, Cleary M, Sitharthan T, Hunt GE. Prevalence of comorbid substance use and depression. Drug Alcohol Depend. 2015;154:1–13.
8. Hasin DS, Goodwin RD, Stinson FS, Grant BF. Epidemiology of major depressive disorder. Arch Gen Psychiatry. 2005;62(10):1097–106.

9. Conway KP, Compton W, Stinson FS, Grant BF. Gender differences in substance use and depression. Addiction. 2006;101(6):879–89.
10. Grant BF, Stinson FS, Dawson DA, Chou SP, Dufour MC, Compton W, et al. Age-related differences in psychiatric comorbidity. Psychol Med. 2004;34(7):1285–97.
11. Lorant V, Deliège D, Eaton W, Robert A, Philippot P, Ansseau M. Socioeconomic inequalities in depression. Br J Psychiatry. 2003;182:111–7.
12. Sareen J, Afifi TO, McMillan KA, Asmundson GJG. Relationship between poverty and mental disorders. Arch Gen Psychiatry. 2011;68(4):419–27.
13. Peen J, Schoevers RA, Beekman ATF, Dekker J. Urban–rural differences in psychiatric disorders. Acta Psychiatr Scand. 2010;121(2):84–93.
14. Volkow ND, Koob GF, McLellan AT. Neurobiologic advances in addiction. N Engl J Med. 2016;374(4):363–71.