Original Article

Assessment of Anxiety and Depression among Patients with Substance Use Disorder Attending at a selected Rehabilitation Center Kathmandu, Nepal

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ABSTRACT

Background: Anxiety and depression are two important contributors to the global burden of disease. Both conditions are frequently found as comorbidity among patients with substance use disorder and play a major role in its prognosis and relapse. If ignored such psychiatric illness by a mental health professional, can create a gap in the overall treatment outcome of substance use disorder.
Methods: A descriptive cross-sectional research design was adopted to assess the level of depression and anxiety among patients with substance use disorder attending a selected rehabilitation center, Kathmandu from March 2019 to May 2019. Data collection was done from 115 respondents using the purposive sampling technique. A Semi-structured interview scheduled and Hospital Anxiety and Depression Scale was used. Collected data were analyzed by using both descriptive as well as inferential statistics.
Results: The study findings showed that among 71.3% of respondents, 41.7% had boarder line anxiety and 29.6% of them had anxiety. Similarly, among 48.7 % of respondents, 29.6% had borderline depression and 19.1% of them had depression. The study concluded that there was a significant association between the level of anxiety and type of family (p=0.035). There was a significant positive relationship (p=0.001, r=.328) between anxiety and depression scores.
Conclusion: Most of the patients with substance use disorder had borderline anxiety and depression. Likewise, level of anxiety was significantly associated with type of family. It was also concluded that there was significant positive relationship between anxiety and depression scores. So early identification and management of such psychiatric co-morbid conditions is noteworthy. This action would help to reduce severity in future.

Keywords: Anxiety, Depression, Substance use disorder, Rehabilitation center

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INTRODUCTION

The hardship of substance use in developing countries is large and increasing day by day with negative consequences for physical and psychological health. More often it is reported as underdiagnosed and a greater part of patients go untreated.[1]

A psychoactive substance is such chemical substances (eg. alcohol, nicotine products, cannabis including drugs) when taken into the body that alters its function physically and psychologically. Dependence on psychoactive substances has become a subject of debate and research, because of its increasing trend on a global level.[2] A study conducted in the USA showed that 53% of drug abusers had a mental disorder and the prevalence of major depressive disorder had three times more in people with substance dependence than in the general population.[13,14] Many countries including Ethiopia recognized that substance abuse by young people is a serious health and social problem where students are more high-risk population.[6] However, the late adolescence onset of substances and the issue of cause and effect is often challenging to manage completely.[9]

A recently conducted study on Global Burden of Disease revealed that mental and substance use disorders collectively accounted for nearly one-fourth (21.2 %) of all years of life lost to disability (YLDs). The study also had been reflected that depression and anxiety were ranked second and ninth-highest specific causes of YLDs in both developed and developing countries.[12]A Hospital-based study showed that 73.8 %of respondents were found to be suffering from Depression. Out of which, 45.2% had mild to moderate depression and 128.6% had severe depression. Regarding different domains of psychosocial factors, the mean and standard deviation of psychiatric disorder was 56.83 ± 23.39 among substance users.[26]At the same time, there was a strong association between cannabis use and anxiety whereas on the other hand regular cannabis users had a higher prevalence of anxiety disorders.[20,21]

In the context of Nepal, depression and anxiety are two important mental health conditions and major contributors to the public ill-health and psychosocial burden.[10] Study findings evidences that there is more likely to develop psychiatric disorders among substance users than people who do not take any drugs. Likewise, one-third of the population exhibit psychiatric comorbidities which make it difficult to treat substance use disorder and leads to a negative prognosis in the future.[24, 25]

Hence, there is necessary to address the importance of early detection and intervention for anxiety and depression among substance use disorders in adult life with the involvement of multidisciplinary team.Most of the rehabilitation centers have been treating only for substance use disorders and co-occurring psychiatric disorder like anxiety and depression has been overshadowed because of undiagnosed in earlier days. Such a condition subsequently leads to the relapse affecting the family and societal harmony. So the researcher is interested to assess the level of depression and anxiety among patients with substance use disorder in a selected rehabilitation center.

MATERIAL AND METHODS

A descriptive cross-sectional research design was used to assess the depression and anxiety among patients with substance use disorder attending a rehabilitation center located at Kathmandu valley ie. Aasara Sudhar Kendra, Ranibari, Maharajgunj. The patients who fulfilled the diagnostic criteria of ICD-10 for substance use disorder, free from withdrawal

features, and age above 17 years were the sample for the study. A purposive sampling technique was used to select the respondents (n=115). A semi-structured interview scheduled was used for socio-demographic information and substance used related information. Hospital Anxiety and Depression Scale (HADS) was developed by Zigmond and Snaith in 1983 and validated among Nepalese people by Risal et al. in 2015 which was used to assess anxiety and depression.[26] It had 7 items related to anxiety and 7 items related to depression. Each item in the anxiety score ranges from 0 to 3 and total scores 21 which is the same in depression too. The level of anxiety and depression had been categorized as no depression if score between (0-7), borderline depression if score between (8-10) and depression caseness if score (≥11). Similarly, no anxiety if score between (0-7), borderline anxiety if score between (8-10), and anxiety caseness if score (≥11). After getting ethical approval from the Institutional review committee of the Nepalese Army Institute of Health Sciences, formal written permission was obtained from a selected rehabilitation center. Informed written consent was taken from respondents and authorized agency. Privacy was maintained by interviewing patients at one corner of the room and Confidentiality was maintained by using the research findings only for study purposes. SPSS version 20 has been used for data analysis. Collected data were analyzed by using both descriptive as well as inferential statistics. Descriptive statistics were used to describe the socio-economic and other information using frequency, percentage, mean and standard deviation. A Chi-square test was used to find the association of level of anxiety and depression with selected demographic variables. Spearman's correlation coefficient was used to assess the relationship between anxiety and depression scores.

RESULTS

In the present study, one hundred fifteen respondents were enrolled. Table 1 depicts the sociodemographic characteristics of the study population. More than half (52.2%) of the respondents belonged to the age group (18-25) years with Mean SD (28.30±9.015). The majority of respondents belong to Brahmin (76.5%). Most (89.6%) of them were related to Hinduism. The majority (42.6%) of respondents were students before starting any psychoactive substances. More than half (67.8%) of respondents were unmarried. Most (63.4%) of respondents had completed the basic level of education. The majority (88.7%) of respondents were residing in an urban area and nearly two-thirds (62%) of respondents' monthly family income was more than Rs 15000.

Table 1: Socio-demographic Information of Respondents'

Characteristics	Frequency	Percentage
Age (years)		
< 25	60	52.2
26-35	31	27.0
36- 45	18	15.7
46- 55	6	5.2
Mean 28.30, SD ±9.015 years		
Ethnicity		
Bramin/chhetri	88	76.5
Janajati	18	15.7
Dalit	9	7.8
Religion		
Hinduism	103	89.6
Buddhism	10	8.7
Christianism	2	1.7
Occupation (before substance use)		
Employed	39	33.9
Unemployed	27	23.5
Students	49	42.6
Marital status		
Married	33	28.7
Unmarried	78	67.8

Divorced	4	3.5
Educational level		
Basic level (1-8 class)	9	7.8
Secondary level (9-12)	74	64.3
Higher level	32	27.8
Types of family		
Nuclear	44	38.3
Joint	66	57.4
Extended	5	4.3
Monthly income of the family		
< NRS10000	14	12.2
NRS 10000-15000	26	22.6
> NRS 15000	75	62
Residential area		
Urban	102	88.7
Rural	13	11.3

Table 2: Information regarding the history of Substance use among family and respondents'

History of substance use in family	**Frequency**	**Percent**
No	83	72.2
Yes	32	27.8
Among the history of substance use disorder in the family		
Father	17	14.8
Mother	6	5.2
Brother/Sister	17	14.8
Maternal grandfather	9	7.8
Substance use-related physical problems		
Diabetes mellitus	3	2.6
Hepatitis C	3	2.6
Gastritis /Ulcer	27	23.5
Age of first substance use (in years)		
Below 15 years	40	34.8
15-19 years	50	43.5
20-24 years	11	9.6
Above 25 years	14	12.2
Times of admission in same rehabilitation center		
Once in a year	79	67.8
Twice in a year	27	23.5
Three or more times in a year	9	7.8

Table 2 illustrated that nearly three-fourths (72.2%) of respondents had a history of substance used in their family where father and brother/sister had 14.8% each, maternal grandfather had 7.8% and mother had 5.2 % consumed different types of substances that caused addiction. The majority (43.5%) of respondents initiated the use of substances at the age of 15-19 years. Similarly, due to the use of various substances in their lifetime, majority (23.5%) had gastritis and an equal percent (2.6%) of them had diabetes mellitus and Hepatitis C. Nearly two-thirds (67.8%) of respondents were admitted once a year whereas 7.8% of them admitted repeatedly for the treatment.

Table 3: Types of substances used by respondents'

Types of substances	**Frequency**	**Percen**
Home Made /Wine /Beer	67	8.3
Bhang */Charus/Gaja*	80	69.6
Opium/Heroin/Brown sugar/Pain Killer /Cough Syrup	33	28.7
Diazepam/Campose/ Nitrazepam	41	35.7
Dendrite/ Thinner /Petrol	9	25.2
Cocaine/Amphetamine	27	23.5
Smoking, Chewing Tobacco	60	52.2

Table 3 showed that the most commonly used substances among respondents were *Bhang /Gaja* (69.6%) followed by alcohol (58.3%), tobacco (52.2%), diazepam (35.75%), and opioids (28.7%) respectively.

Table 4: Level of anxiety and depression among respondents

Characteristics	**Frequency**	**Percentage**
Level of anxiety		
No anxiety (0-7)	33	28.7
Boderline anxiety (8-10)	48	41.7
Anxiety caseness (>11)	34	29.6
Level of depression		
No depression (0-7)	59	51.3
Borderline depression (8-10)	34	29.6
Depression caseness (>11)	22	19.1

Level of anxiety mean and standard deviation 9.23±3.6

Level of depression mean and standard deviation 7.37±3.21

Table 4 illustrated the level of anxiety and level of depression which has been categorized into three-level as no, borderline, and caseness for both anxiety and depression. Based on this categorization level of anxiety showed that 28.7% had no anxiety, 41.7% had borderline anxiety where as 29.6% of them had anxiety caseness. Similarly, regarding the level of depression, the highest proportion (51.3%) of respondents had no depression, 29.6% had borderline depression and least (19.1%) of them had depression caseness.

Table 5: Association between the level of Anxiety with selected Socio-demographic Variables

Characteristics	Anxiety		χ^2-value	*p*-value
	No anxiety	Anxiety		
Age				
Up to 35 years	64(70.3)	27(29.7)		0.962
36 years and more	17 (70.8)	7(29.2)	0.002	
Ethnicity				
Brahmin/Chhetri	62(70.5)	26(29.5)	.	0.993
Janajati/Dalit	19(70.4)	8(29.6)	000	
Religion				
Hinduism	73(70.9)	30(29.1)		0.747**
Other than Hinduism	8(66.7)	4(33.3)		
Educational level				
Below secondary	4(44.4)	5(55.6)		0.122**
Secondary level and above	77(72.6)	29(27.4)		
Types of family				
Nuclear family	36(81.8)	8(18.2)		0.035*
Joint **family**	45(63.4)	26(36.6)	4.435	
Family income				
Less than Rs 15000	27(67.5)	13(32.5)		0.614
Rs. 15000 and more	54(72)	21(28)	0.254	
Occupation				
Employed	28(71.8)	11(28.2)		
Unemployed	19(70.4)	8(29.6)		0.970
Students	34(69.4)	15(30.6)	0.060	
Marital status				
Married	25(67.6)	12(32.4)		
Unmarried	56(71.8)	22(28.2)		0.643
			0.215	
Residential area				
Urban	76(74.5)	26(25.5)		
Rural	5(38.5)	8(61.5)		0.019**

*P< 0.05 is statistically significant at =5%

**=Fisher exact test

Table 5 depicts that is a significant association between the anxiety and types of the family. The proportion of depression in nuclear family was 81.8% whereas, in joint family the proportion (63.4%) was significantly lower (p=0.035). However, there is no significant association between the depression with socio-demographic variables like age, ethnicity, religion, education, marital status, occupational status, and residential area.

Table 7: Association between the level of Depression with selected socio-demographic variables

Characteristics	Status of depression		χ^2-value	*p*-value
	No depression	Depression		
Age				
Upto 35 years	73 (80.2%)	18(19.8%)		
≥ 36 years	19 (79.2%)	5(20.8%)	1.000	0.962
Ethnicity				
Brahmin/Chhetri	7 0	18 (20.5%)	0.048	0.826
Janajati/Dalit	(79.5%)	5(18.5%)		
	22 (81.5%)			
Religion				
Hinduism	83 (80.6%)	20(19.4%)		0.704**
Other than Hinduism	9 (75%)	3(25%)		
Educational level				
Below secondary	9 (100%)	0(0%)		0.201**
Secondary level and above	83 (78.3%)	23(21.7%)		
Types of family				
Nuclear	35 (79.5%)	9(20.5%)	0..009	0..924
Joint	57 (75.0%)	14 (25.0%)		
Family income				
≤ Rs 15000	31 (77.5%)	9(22.5%)	0.240	
> Rs. 15000	61 (66.7%)	14(61.8%)		0.625
Occupation				
Employed	34 (87.2%)	5(12.8%)	0.114	4.388
Unemployed	18 (66.7%)	9(33.3%)		
Students	40 (81.6%)	9(18.4%)		
Marital status				
Married	28 (75.7%)	9(24.3%)	0.638	0.425
Unmarried	64 (82.1%)	14(17.9%)		

Residential area			
Urban	84 (82.4%)	18(17.6%)	0.019**
Rural	8 (61.5%)	5(38.5%)	

P< 0.05 is statistically significant at =5%
**=Fisher exact test

Table 6 illustrated that there is no significant association between depression and selected socio-demographic variables like age, ethnicity, religion, and educational level, types of family, marital status, occupational status, and residential area (P>0.05).

A Spearman rank correlation was used to establish the association between anxiety and depression. There was a significant positive relationship between anxiety and depression (r = 0.328, p =0.001)

DISCUSSION

In this study, more than half (52.2%) of the respondents belonged to the age group of 18-25 years with Mean SD (28.30±9.015) which shows that younger people are more vulnerable to develop substance abuse due to higher level of frustration, stressful life, keen competition among youngsters, which is consistent with the findings of a study conducted earlier in patients with alcohol abuse.[23] The study conducted at Assiut University Neuropsychiatry Hospital, Upper Egypt had also similar mean age Mean SD (28.1 ± 6.5 years) with the present study that is mean SD (28.30±9.015).[24] Majority of respondents belongs to Brahmin (76.5%) ethnicity which is also consistent with the study findings conducted by Pradhan SN, Adhikary SR, and Sharma SC.[23]

The majority of respondents were using *Bhang /Gaja* (69.6%) followed by alcohol (58.3%), tobacco (52.2%), diazepam (35.75%), and opioids (28.7%) respectively which is inconsistent with the findings conducted by Mustafa AB and Zafar U revealed that 91% of respondents were using opioids followed by alcohol. Male were the respondents in both of these study.[25]

The study findings showed that the first intake of substances before the age of 15 years was 32% of respondents which is consistent with the survey findings conducted in Nepal i.e. 34.4%. At the same time, present study results (43.5%) in contrast with the same study findings where more than 81.2% of drug users have experience of first-time drug intake before they reach 20 years.[12]

In a study out of total respondents, 48.7 % had suffered from some level of depression where 29.6% had borderline depression and 19.1% of them had depression caseness. These result findings are in contrast with the study conducted in Kathmandu Medical College Teaching Hospital and Punarjeevan Hospital by Pradhan et.al., which showed that 73.8 % were found to be suffering from Depression. Out of which, 45.2% had mild to moderate depression and 28.6% had severe depression. This high rate may be due to the small sample size, different settings and included only Alcohol use disorder treated patients.[1]

In the present study, 71.3% of respondents had any level of anxiety. Among them, 41.7% had boarder line anxiety and 29.6% of them had anxiety caseness. These findings are similar to the study conducted by Armstrong et. al., in Delhi, India reported that 71 % of them with anxiety symptoms measured by the PHQ-9. Meanwhile, finding regarding depressive symptoms is the contrast with the present findings which showed that extremely high rates (84 %) of participants were with depressive symptoms. In this research, the study population was considerably more socially disadvantaged, with high proportions of illiterate respondents homeless and living with small family income than the present study.[26]A study conducted in Jimma town Southwest Ethiopia based on grading of the

severity of depression showed that 32.7% of them had a moderate level of depression which is similar to the present study findings.[27]

In the present study, there is a significant association between the level of anxiety and type of family (p=0.035). This also showed that there is a positive significant correlation (p=0.001, r=0.328) between anxiety score and depression score among respondents. These findings are supported by the study conducted by Mohamed II et.al., which showed that anxiety and depression are positively correlated with each other (r = 0.630 and p = 0.001).[24]

CONCLUSION

Most of the patients with substance use disorder had borderline anxiety and depression. The level of anxiety was significantly associated with type of family and there was significant positive relationship between anxiety and depression scores. So early identification and management of such psychiatric co-morbid conditions is noteworthy. This action would help to reduce severity in future. Hospital Anxiety and Depression Scale would be helpful to screen the risk patient with anxiety and depression in clinical setting.

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