ANXIETY AND DEPRESSION AMONG CLIENTS WITH SUBSTANCE USE DISORDER IN DIFFERENT TREATMENT CENTERS OF DHARAN, NEPAL

[1]RUPAK BHANDARI, [2]UPASANA DHAKAL, [3]RABIN BHANDARI, [4]PRAMENDRA PRASAD GUPTA, [5]SURAJ NEPAL, [6]DHANRATNA SHAKYA

[1,3,4]Department of General Practice and Emergency Medicine, BPKIHS
[2]Department of Psychiatric Nursing, BPKIHS
[5,6]Department of Psychiatry, BPKIHS
E-mail: [1]rupakbhandari@gmail.com

Abstract: -
Introduction: Substance use disorder has become a global concern, Nepal being no exception. Various literatures show psychiatric co-morbidity in clients with SUDs, mostly depression and anxiety. Objectives: To study the comorbidity of anxiety and depression among the clients with substance use disorders in different treatment centres of Dharan.
Methods: This is an observational cross-sectional study conducted in different treatment centres of Dharan municipality among the clients with substance use disorders. Each client was provided to fill a set of questionnaires containing demographic profiles and self-rating tools for anxiety and depression. Beck's Anxiety Inventory (BAI) and Beck's Depression Inventory (BDI) were used to assess anxiety and depression respectively.
Results: All the 104 cases were males with median age of 30 years (IQR 23.00 – 40.00 years). Median duration of substance use was 11 years (IQR 6.00 – 17.00 years). Per-capita income was 1.25 dollars (IQR 0.67 – 2.00 dollars). Median BDI score was 22 (15.25 – 28.00) and median BAI score was 16.50 (9.00 – 26.00). Educational level was significantly associated with depression (p= 0.029) in clients with substance use disorder.
Conclusion: There was high levels of anxiety and depression among the clients with SUDs admitted at various treatment centres of Dharan. So, psychiatric co-morbidity must be addressed in clients seeking treatment for SUDs.

Keywords: Anxiety, Depression, Substance use disorder

I. INTRODUCTION

Substance use disorder (SUD) is a maladaptive pattern of substance use leading to clinically significant impairment or distress [1].

Substance use is a global health concern. Around 162-324 million people worldwide had used an illicit drug — mainly a substance belonging to the cannabis, opioid, cocaine or amphetamine-type stimulants group at least once in the previous year as estimated by WHO in 2011 [2].

Substance use is one of the greatest problems of youngsters in Nepal. According to the survey done by Central Bureau of Statistics Government of Nepal in 2012 over 26 municipalities, 91,534 people (2.82%) were drug users, which is nearly double to that of survey of 2006. Out of them, 56.6% were IV drug users. Many people are involved in this habit at the very early age. Mean age of first drug intake is 17.2years [3]. With the alarming rate of increase in drug use, there is huge economic burden as well as the loss of potential human resources to strengthen the nation. On the other hand, harmful use of alcohol is a major global contributing factor to death, disease and injury. The harmful use of alcohol results in approximately 2.5 million deaths each year globally [2].Alcohol has been widely consumed since ages in Nepal. It is culturally acceptable drink among various ethnic group such as Newars and Mongols. They consume various forms ofhome-made alcohol such as Jaand, Rakshi, Chhyang, Tongba etc. in most rituals and festivals. Alcohol consumption per capita (15 years and older) per year in Nepal is 2.2 litres in 2010 [2]. Alcohol abuse is found in 8% & dependence in 32.3% of the hospital based samples in eastern Nepal [4].

Psychiatric co-morbidity is high among those with alcohol and substance use disorder. Twelve month prevalence of any mood and anxiety disorder was 40.7% and 33.4% respectively among those with any alcohol use disorder, and 60.3% and 42.6% respectively among those with any drug use disorder [5].

Although there exists various hypotheses for comorbid substance use disorders and mood/ anxiety disorders, the prime concern is the routine evaluation of mood and anxiety disorders in substance users. The optimal combination of evidence based

treatments must be balanced, considering the advantages and disadvantages of a sequential, parallel and integrated approaches [6].Our objective was to study the co-morbid anxiety and depression among the clients with substance use disorders.

II. METHODS

It was an observational cross-sectional study done at two centers of Dharan, Eastern Nepal over a period of six months:i) KiratYakhthungChumlungPunarjiwan Kendra (KYC-PJK) and ii) Sanjeewani Treatment and Rehabilitation Center (STRC). These drug treatment and rehabilitation centers enroll clients with substance use disorders for a period of 3-4 months per session. Each center can accommodate 30-40 clients per session.

Clients with substance use disorder who were abstinent from any substance use for at least six weeks from the interview period were included in the study. Clients who had history of any psychiatric illness prior to initiation of substance use or those not willing to participate in the study were excluded. Each eligible client was interviewed using the semi-structured questionnaire. The Pro forma consisted of demographic profile, and self-rating tools for anxiety and depression using Beck's Anxiety Inventory (BAI) and Beck's Depression Inventory (BDI). The Nepali validated versions of BAI and BDI were available from Kohrt BA (2003) [7] andKohrt BA (2002) [8]. Ethical clearance was taken from the Institutional review committee at B.P.Koirala Institute of Health Sciences. Written informed consent was taken from each participant as well as the authorities of each center.

III. RESULTS

One hundred and four clients with substance use disorder were interviewed in two treatment centres of Dharan, all of whom were males. Median age was 30 years (IQR 23.00 – 40.00 years). Median duration of substance use was 11 years (IQR 6.00 – 17.00 years). Per-capita income was 1.25 dollars (IQR 0.67 – 2.00 dollars). Median BDI score was 22 (15.25 – 28.00) and median BAI score was 16.50 (9.00 – 26.00).

Various socio-demographic characteristics are shown in table 1. Educational level is significantly associated with depression among the clients with substance use disorder (p= 0.029) as shown in table 2. Significance testing was done with socio-demographic variables and presence of any of the psychiatric disorders (anxiety or depression or both), and educational level was significantly associated as shown in table 3.

		Frequency	Percentage
Age Group	<19	10	9.6
	20-34	53	51.0
	35-59	40	38.5
	>=60	1	1.0
Education	No formal education	4	3.8
	Basic	41	39.4
	Higher Secondary	49	47.1
	University	10	9.6
Occupation	Unemployed	58	55.8
	Employed	29	27.9
	Student	17	16.3
Religion	Hindu	72	69.2
	Muslim	1	1.0
	Christian	10	9.6
	Buddhist	9	8.7
	Kirat	12	11.5
Ethnicity	Bramin/chhetri	23	22.1
	Janajati	68	65.4
	Dalit	13	12.5

Table 1: Socio-demographic Characteristics of the clients with substance use disorder

Socio-Demographic variables		Depression		p-value	Anxiety		p-valu
		Yes	No		Yes	No	
Education	Basic	22	19	*0.029*	17	24	0.450
	Higher Sec	32	17		19	30	
	University	2	8		2	8	
Employment	Unemployed	15	14	0.522	7	22	0.080
	Employed	44	31		32	43	
Religion	Hindu	16	16	0.356	14	18	0.380
	Others	43	29		25	47	
Ethnicity	Janajati	19	17	0.554	13	23	0.831
	Others	40	28		26	42	
Marital Status	Single	30	17	0.185	17	30	0.799
	Married	29	28		22	35	
Family type	Nuclear	40	24	0.133	28	36	0.096
	Non-nuclear	19	21		11	29	
Family Members	≤ 5	36	25	0.575	27	34	0.090
	>5	23	20		12	31	
Status in Family	Head of family	12	13	0.312	6	19	0.110
	Dependent	47	32		33	46	
Poverty	Yes	42	34	0.619	28	48	0.819
	No	17	11		11	17	
Family H/O	Yes	29	18	0.353	20	27	0.334
	No	30	27		19	38	
Type of substance	Alcohol	17	21	0.061	14	24	0.916
	Others	42	24		25	41	
Route	Injection	33	30	0.267	21	42	0.277
	Oral/Inhalation	26	15		18	23	

Table 2: Association of Anxiety and Depression with different socio-demographic variables among substance users

Socio-Demographic variables		Depression/ Anxiety/ Both		p-value
		Yes	No	
Education	Basic	28	13	*0.028*
	Secondary	36	13	
	University	3	7	
Employment	Unemployed	53	22	0.240
	Employed	17	12	
Religion	Hindu	50	22	0.486
	Others	20	12	
Ethnicity	Janajati	46	22	0.919
	Others	24	12	
Marital Status	Single	33	14	0.566
	Married	37	20	
Family type	Nuclear	45	19	0.409
	Non-nuclear	25	15	
Family Members	≤ 5	44	17	0.212
	>5	26	17	
Status in Family	Head of family	16	9	0.686
	Dependent	54	25	
Poverty	Yes	52	24	0.690
	No	18	10	
Family H/O	Yes	33	14	0.566
	No	37	20	
Type of substance	Alcohol	24	14	0.494
	Others	46	20	
Route	Injection	28	13	0.863
	Oral/Inhalation	42	21	

Table 3: Association of any of the psychiatric co-morbidity with different socio-demographic variables among substance users

IV .DISCUSSION

The major findings of this study was the high prevalence of anxiety (38%) and depression (57%) among the substance users, which is in line with various other literatures [9]-[11].

In this study, educational level was significant among the substance users with depression. The result is similar to [11]. The other factors, which are associated with substance use disorder, are employment status, having a somatic disorder, family history of psychiatric disorder and childhood trauma [11]

There are different assumptions about co-morbidity of mood and anxiety disorders with substance use disorders. One of them is "self-medication hypothesis" which suggests that the pharmacological and/or psychological effects of alcohol and some drugs serve to decrease aversive anxiety symptoms, thereby promoting persistent and escalating use via negative reinforcement [12],[13].

Another possible hypothesis is that the mood and anxiety symptoms are a bio-psycho-social consequence of chronic substance use and /or the withdrawal syndrome [14].

Alternative view suggests that there exists a common aetiology that promotes both substance use disorder and mood and anxiety disorders. The shared aetiology might be genetic predisposition, biological and environmental risk factors (such as disruptive family environment, domestic violence, parental abuse or neglect and maternal alcohol or drug use) [15],[16].

There is a strong relationship between substance use and psychiatric comorbidity. Substance use can be the "cause" of anxiety or depression in one hand whereas it can be the "effect" in other hand [17].

One of the limitations of this study is that it could not be evaluated which precedes what. Another limitation is that the true prevalence could not be estimated, as the study samples were limited to the rehabilitation centers. Substance withdrawal might confound with the anxiety symptoms, but having excluded the cases who have substance use within six weeks period from the interview date would minimize bias.

In conclusion, there is higher proportion of comorbid anxiety and depression among the clients with substance use disorder. We recommend the physicians and psychiatrists to address the comorbid anxiety and depression among the clients with substance use disorder.

ACKNOWLEDGEMENT

The authors gratefully acknowledge Mr. Kamal Prasad Limbu, Program Director, Mr. Parbat Rai and Mr. Anish at KYC- Punarjiwan Kendra; and Mr. Soyan Shrestha at Sanjeewani Treatment and Rehabilitation Center for their support during the case enrolment.

Funding: None
Ethical Approval: Institutional Review Board of the hospital approved the study.
Conflicts of Interest: None declared.
Contributors: Rupak Bhandari proposed the study and wrote the first draft. Rupak Bhandari, UpasanaDhakal and Suraj Nepal did client interview and collected samples. All authors read and approved the final version of the paper.

REFERENCES

[1] Sadock BJ. Sadock VA. Substance Related Disorders. Kaplan and Sadock Synopsis of Psychiatry. Wolter Kluwer, Lippincott William and Wilkins. 10th Edition, p382-90
[2] WHO. A Study On Drug Abuse Among Youths And The Final Report (Final version). 2011;(February):1–344.
[3] Ministry of Home affairs.Survey Report on Current Hard Drug Users in Nepal. 2069.[Internet] Available from:
[4] www.moha.gov.np/uploads/documentFiles/drug%20survey_20140202035708.pdf
[5] Shakya DR. Alcohol abuse in eastern Nepal: a review of studies. Heal Renaiss. 2013;11(1):74–82
[6] Grant BF et al. Prevalence and Co-occurrence of Substance Use Disorders and Independent Mood and Anxiety Disorders. Results from the National Epidemiologic Survey on Alcohol and Related Conditions Arch Gen Psychiatry. 2004; 61: 807-816

[7] Smith JP, Randall CL. Anxiety and Alcohol Use Disorders-Comorbidity and Treatment Considerations. Alcohol Research Current Reviews 2012; 34(4): 414–431
[8] Kohrt BA, Kunz RD, Koirala NR, SharmaVD, Nepal MK. Validation of the Nepali Version of the Beck Anxiety Inventory. Journal of the Institute of Medicine;2003, 25(1): 1-4.
[9] Kohrt BA, Kunz RD, Koirala NR, SharmaVD, Nepal MK. Validation of a Nepali version of the Beck Depression Inventory. Nepalese Journal of Psychiatry; 2002, 2(4), 123-130.
[10] Brook JS, Cohen P, Brook DW. Longitudinal Study of Co-occurring Psychiatric Disorders and Substance Use.] . Am Aacd Child Adoles. Psychiatry; 1998, 37 (3): 322-330
[11] Burns L, Teesson M. Alcohol use disorders comorbid with anxiety, depression and drug use disorders. Findings from the Australian National Survey of Mental Health and Well Being. Drug and Alcohol Dependence. 2002; 68: 299-307
[12] de Graff R, Bijl RV, Smit F, et al. Risk Factors for 12-Month Comorbidity of Mood, Anxiety, and Substance Use Disorders: Findings From the Netherlands Mental Health Survey and Incidence Study. Am J Psychiatry. 2002; 159:620–629
[13] Kushner MG, Abrams K, Borchardt C. The relationship between anxiety disorders and alcohol use disorders: A review of major perspectives and findings. Clinical Psychology Review. 2000; 20 (2): 149-71
[14] Raimo EB, Schuckit MA. Alcohol dependence and mood disorders. Addictive Behaviors; 1998, 23(6): 933–946
[15] George DT, Nutt DJ, Dwyer BA, Linnoila M, Alcoholism and panic disorder: Is the comorbidity more than coincidence? ActaPsychiatrica Scandinavia. 1990;81(2): 97-107
[16] Brady KT, Haynes LF, Hartwell KJ, Killeen TK. Substance Use Disorders and Anxiety: A Treatment Challenge for Social Workers. Soc Work Public Health. 2013; 28(0): 407–423
[17] Strakowski SM, DelBello MP. The co-occurrence of biplar and substance use disorders. Clinical Psychology Review. 2000; 20(2): 191-206
[18] Quello SB, Brady KT, Sonne SC. Mood disorders and substance use disorder: a complex comorbidity. Science and Practice Perspective.Dec 2005: 13-21

★★★