Kathmandu University Medical Journal (2008), Vol. 6, No. 3, Issue 23, 340-345

Original Article

A prospective study of comorbidity of alcohol and depression

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Abstract

Objective: The aim of the work was to study the socio-demographic variables and their co-morbidity to alcohol consumption and presence of depressive symptomatology.

Design: This was a prospective cross-sectional study.

Materials and methods: The study was carried out in 53 patients, who were admitted in the wards of Kathmandu Medical College Teaching Hospital (KMCTH) with the diagnosis of mental and behavioural disorder due to the use of alcohol according to ICD-10. The patients were taken from 1st February 2006 to 30th December 2006. All patients were rated using Hamilton Depression Rating Scale (HDRS). Comparison of alcohol intake, depressive symptomatology and their associations with various socio-demographic variables were done using standard statistical procedures.

Results: The present study has shown that more than 94.3% of the patients were suffering from depressive episode. Among all the patients, 11.3% were suffering from severe depressive episode. Alcohol intake was more significantly correlated (p = .002) with Brahmin and Chhetri caste. The other significant correlation of alcohol intake and sociodemographic variable was Nuclear family (p=.001). Among these patients the severity of depression was significantly (p= .001) associated with duration of alcohol intake. Marital status was another important factor affecting comorbidity of alcohol intake and presence of depressive symptoms (p =.002). Students of 10th to 12th grades of school were found to be using alcohol more often (45.3%). Middle socio-economic status (60.4%) was using alcohol more frequently than other socio-economical classes. **Conclusion:** Severity of depression and alcohol intake was found to be significantly associated with various socio-demographic variables such as caste, family structure, marital status and educational status.

Key words: Co-morbidity, ICD-10, Depression, alcohol-related disorders

Alcohol use is associated with many health problems. Alcohol can cause physical damage for example toxic effect to liver and brain. It has been associated with many physical complications like alcoholic liver disease (ALD), hepatic encephalopathy, pancreatitis, malignancies of liver, oesophagus, intestine and pancreas. It also causes neurological complications like cerebellar syndromes, Wernicke-Korsakoff syndromes, persistent dementia, seizure disorders, and degenerative neurological disorders. Psychiatric problems like mood disorders, personality disorders, anxiety disorders and psychosis have also been implicated. Impairment in sexual functioning leading to pathological jealousy is one of the important causes of marital conflicts in these patients.

There has been a substantial evidence of co-morbidity between depression and alcohol as shown by large community based studies done in USA, like National Institute of Mental Health (NIMH) Epidemiologic Catchment Area (ECA) survey, the National Longitudinal Alcohol Epidemiologic Survey, and the National Comorbidity Survey[1,2,3,4]. These studies have demonstrated that the rate of comorbid depression and alcohol exceeds the rate expected by chance in the general population.

Studies have shown that depressed individuals are more prone to engage in alcohol consumption because of the euphoric effect it produces which helps alleviate some symptoms of depression[1]. Alcohol related disorders and depression frequently co-occur, but the origin of this co-morbidity still remains uncertain despite emerging evidences that individuals suffering from depressive illnesses are more prone to abuse alcohol[5]. Most studies consistently have been able to show that depression possesses as a risk factor for alcohol consumption[6,7,8]. Moreover, presence of depressive symptoms was found to aggravate drinking habit in women five times higher than in men[6].

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Although there have been controversies as to which leads to which, commonly, alcohol related disorders are attributed to self-medicating of "underlying" psychiatric disorders, thereby, resulting in a contingency status[7].

Co-morbid depressive disorders as well as anxiety disorders are repeatedly found in high proportions among treatment seeking subjects with alcohol related disorders. Major depression has been reported to be about 15-38%[7,8] of people suffering from alcohol-related disorders.

Our objective was to determine the relationship between various socio-demographic variables in patients with alcohol consumption and also having co-morbid depression.

Materials and methods

The aim of the work was to study the socio-demographic characteristics and the co-morbidity of alcohol and depression. The study was carried out in the patients, who were consequently admitted in the psychiatric ward of KMCTH with the diagnosis of mental and behavioural disorder due to the use of alcohol according to ICD-10[9]. The study was carried out from 1st February 2006 to 30th December 2006. All patients were rated using Hamilton Depression Rating Scale (HDRS)[10]. The duration of alcohol intake as well as other variables was collected using a self designed semi-structured proforma. Informed consent of all the cases was taken. All the collected data was entered in the SPSS 10.0 for Windows.

Result

Total numbers of patients were 53. As shown in Table 1 maximum patients were in the age range 41-50 years (47.2%), closely followed by the age group 31-40 years (32.1%). Among all alcohol taking cases 94.3% were found to be suffering from depression.

Preponderance of depression was seen in male subjects (94.3%), where as in females it was 5.7%. Among male patients mild depression was seen in 58.8%, moderate depression in 20.8% and severe depression in (9.4%). Among the female cases, mild depression was present in 3.8% whereas 1.9% were suffering from severe depression.

Majority of cases were seen coming from within Kathmandu valley (52.8%), and patients coming from outside Kathmandu valley were 47.2%. More patients coming from within the valley were having depression (52.8%).

Most of the cases were married (88.7%) followed by separated (9.4%) and widowed (1.9%). Although as seen in Table 1, separated and widowed were suffering from depression. Among all married, mild depression was seen in 58.5%, moderate depression in 17.0%, and severe depression in 7.5%. Among all separated, severe depressive episode was seen in 40%, moderate depression in 40%, and mild depression in 20%.

Considering occupation, maximum patients were in service group (45.3%) followed by business group (22.6%), unemployed were 20.8%, farmers (9.4%) and house wives (1.9%). Severe depression was more common in unemployed patients (5.7%).

Patients who completed 12 years of school had maximum numbers of alcohol use and co-morbid depression (45.3%). In Higher Secondary School, mild depression was found to be highest (53.3%), followed by severe depression (20.0%), moderate depression (13.3%) and no depression (13.3%).

Kshatriya caste had shown maximum co-morbidity between alcohol and depression, (41.5%), followed by Brahmin (20.8%), and Newars (15.1%). Similarly Magars (11.3%), Tamang (5.7%), Rai (3.8%) and Gurung (1.9%) were suffering from depression. Severe depression was seen highest in Kshatriya group (5.7%). Depression was most prevalent in individuals belonging to nuclear family (71.7%) followed by joint family (24.5%) and broken family (3.8%). Among nuclear family, severe depression was seen in 7.5%, moderate depression in 13.2% and mild depression seen in 45.3%)

Patients with middle socio-economic status were found to have more co-morbid alcohol use with depression (60.4%), as compared to upper socio-economic status (30.2%) and lower socio-economic status (9.4%). Severe depression was seen in middle socio-economic status (7.5%)

As shown in Table 3 the variables which were most significantly associated with comorbidity of alcohol and depression were caste (p=0.001), marital status (p=0.002), education (0.001) and type of family (0.001). This was calculated using ANOVA taking duration of alcohol as independent variable.

Table 1: Comparisons of HDRS with age, sex, place, marital status, occupation and education of patients who consumed alcohol

		HDRS				Total
		No Depression	Mild Depression	Moderate Depression	Severe Depression	
Age	21-30	2 (3.8%)	3 (5.7%)	-	2 (3.8%)	7 (13.2%)
	31-40	1 (1.9%)	10 (18.9%)	3 (5.7%)	3 (5.7%)	17 (32.1%)
	41-50	-	16(18.9%)	8(15.1%)	1 (1.9%)	25(47.2%)
	51-60	-	3 (5.7%)	-	-	3 (5.7%)
	61-70	-	1 (1.9%)	-	-	1 (1.9%)
Total		3 (5.7%)	33 (62.3%)	11(20.8%)	6(11.3%)	53(100%)
Sex	Male	-	31(58.5%)	11(20.8%)	5 (9.4%)	50 (94.3%)
	Female	3 (5.7%)	2 (3.8%)	-	1 (1.9%)	3 (5.7%)
Total		3 (5.7%)	33 (62.3%)	11(20.8%)	6 (11.3%)	53 (100%)
Place	Within Valley	-	16(18.9%)	9(17.0%)	3 (5.7%)	28(52.8%)
	Outside the valley	3 (5.7%)	17 (32.1%)	2 (3.8%)	3 (5.7%)	25 (47.2%)
Total		3 (5.7%)	33 (62.3%)	11(20.8%)	6(11.3%)	53(100%)
Marital Status	Married	3 (5.7%)	31(58.5%)	9(17.0%)	4 (7.5%)	47(88.7%)
	Separated	-	1 (1.9%)	2 (3.8%)	2 (3.8%)	5 (9.4%)
	Widow	-	1 (1.9%)	-	-	1 (1.9%)
Total		3 (5.7%)	33 (62.3%)	11(20.8%)	6(11.3%)	53(100%)
Occupation	Business	3 (5.7%)	8(15.1%)	1 (1.9%)	-	12 (22.6%)
	Farmer	-	4 (7.5%)	-	1 (1.9%)	5 (9.4%)
	Service	-	18(34.0%)	5 (9.4%)	1 (1.9%)	24(45.3%)
	House wife	-	-	-	1 (1.9%)	1 (1.9%)
	Unemployed	-	3 (5.7%)	5 (9.4%)	3 (5.7%)	11 (20.8%)
Total		3 (5.7%)	33 (62.3%)	11(20.8%)	6(11.3%)	53(100%)
Education	Illiterate	-	3 (5.7%)	-	1 (1.9%)	4 (7.5%)
	Primary	-	6(11.3%)	2 (3.8%)	1 (1.9%)	9(17.0%)
	Middle Secondary	1 (1.9%)	4 (7.5%)	1 (1.9%)	-	6(11.3%)
	SLC	2 (3.8%)	8(15.1%)	2 (3.8%)	3 (5.7%)	15(28.3%)
	HSS 12	-	6(11.3%)	2 (3.8%)	1 (1.9%)	9(17.0%)
	Graduate	-	5 (9.4%)	4 (7.5%)	-	9(17.0%)
	Post Graduate	-	1 (1.9%)	-	-	1 (1.9%)
Total		3 (5.7%)	33 (62.3%)	11(20.8%)	6(11.3%)	53(100%)

Table 2: Comparison of HDRS with caste, type of family and SES of patients who consumed alcohol

		HDRS				Total
		No Depression	Mild Depression	Moderate Depression	Severe Depression	
Caste	Brahmin	-	4 (7.5%)	7 (13.2%)	-	11(20.8%)
	Kashatriya	-	17(32.1%)	2 (3.8%)	3 (5.7%)	22(41.5%)
	Newar	3 (5.7%)	3 (5.7%)	-	2 (3.8%)	8(15.1%)
	Gurung	-	-	1 (1.9%)	-	1 (1.9%)
	Rai	-	1 (1.9%)	-	1 (1.9%)	2 (3.8%)
	Magar	-	5 (9.4%)	1 (1.9%)	-	6(11.3%)
	Tamang	-	3 (5.7%)	-	-	3 (5.7%)
Total		3 (5.7%)	33 (62.3%)	11(20.8%)	6(11.3%)	53(100%)
Type of family	Nuclear	3 (5.7%)	24(45.3%)	7(13.2%)	4 (7.5%)	38(71.7%)
	Joint	-	9(17.0%)	2 (3.8%)	2 (3.8%)	13 (24.5%)
	Broken	-	-	2 (3.8%)	-	2 (3.8%)
Total		3 (5.7%)	33 (62.3%)	11(20.8%)	6(11.3%)	53(100%)
Socio-Economic Status	Lower	-	4 (7.5%)	-	1 (1.9%)	5 (9.4%)
	Middle	3 (5.7%)	17(32.1%)	8(15.1%)	4 (7.5%)	32(60.4%)
	Upper	-	12(22.6%)	3 (5.7%)	1 (1.9%)	16 (30.2%)
Total		3 (5.7%)	33 (62.3%)	11(20.8%)	6(11.3%)	53(100%)

Table 3: ANOVA comparison of duration of intake of alcohol and co-morbid depression compared with other variables

Variables	F value	p value
HDRS	3.317	.001
Caste	4.278	.001
Marital Status	3.243	.002
Education	4.770	.001
Type of family	5.370	.001

Discussion

The present study have showed that 50 patients (94.3%) were suffering from some severity of depression (mild, moderate or severe), whereas 5.7% had no features of a depressive episode. Alcohol problem was found to be highest in age group of 41-50 (47.2%), which is consistent with the finding of a study conducted in the western part of Nepal[11]. This age group had always been vulnerable in developing dependence on alcohol and depression due to the higher level of stressful life events. Whereas, in studies done in western society has shown that alcohol consumption and depressive symptoms had been present in young people from a variety of cultural background[1].

It had been consistently found from different studies that individuals suffering from depressive disorder had higher temptation to drink combined with lower self efficacy to abstain from drinking[1].

The current study had revealed domination of male population (94.3%) as compared to females (5.7%) who were suffering from comorbid alcohol related problems and depression. The predominance of male sex could be explained on the basis of male dominating culture. The fact that more men as compared to females were turning up in the treatment centres because of social barrier of 'identification' could be another factor for this male dominance. One study conducted in Nepal[12] revealed that men were more in those work places where alcohol was easily allowed or the intake was tolerated.

The present study has shown that all female subjects consuming alcohol were suffering from depression. This reflected that female genders suffering from depressive features in Nepalese culture were more likely to have co-existing alcohol abuse. This finding correlates very well with the findings of a study[16] where the authors recommended that female patients must be carefully assessed for depressive features whenever there has been associated heavy alcohol use.

The study has shown that majority of cases were married (88.7%) followed by separated (9.4%) and widow (1.9%). Subjects like separated and widow showed depression in all cases. Among all separated, severe depression was seen 40%, moderate depression 40% and mild depression 20%. Our findings had documented that man and woman who consumed greater amounts of alcohol are at elevated risk for symptoms of depression[13].

The current study has shown that depression is seen in all occupation groups like farmer, service holders, house-wives and unemployed. Severe depression was seen in house-wife and unemployed. It had clearly depicted that co-morbidity of depression and alcohol is seen in unemployed and house-wife people, indicating the importance of employment in the country. The findings of the current study are consistent with the findings of other previous study done in developed countries[14].

The current study has shown that educational status did not make any difference in developing depression and alcohol consuming state. Depression was diagnosed in educated group like post graduate, graduate and higher secondary school level, as well as illiterate individuals. However, the study done by Upadhayaya[11] had shown that alcohol abuse was lowest rate in graduate people. The inconsistency of finding might had been due to the local setting difference in Nepal. Caste distribution had explained that Kshatriya predominated the others in the consumption of alcohol and co-morbid depression. Depression had been anyhow seen in all types of caste, which was different in the findings of Upadhayaya[11], where alcohol abuse was found to be higher among Sarkis, Gurungs and lower on Brahmins and Newars. These inconsistent findings were because the study was done in Pokhara valley, where these Sarkis, Gurung predominate not Brahmins, Kshatriyas and Newars.

The current study has shown a predominance of depressive symptomatology in both joint and broken families. In nuclear family severe depression was seen in 7.5% of the patients, which indicates every individual in nuclear family is at risk for developing depression along with consumption of alcohol. Among middle-socio-economic status, severe depression was found 97.5%, which depicted that depression had been commonly found in middle and upper socio-economic status. As depression co-exist, where the purchasing capacity enable to buy alcohol. The study[18,19] found the adjustment for health and socio-economic factors, frequency of depressive symptoms were similar among modernist drinkers, lifetime and long-term abstainers, but remained significantly higher among heavy drinkers. The limitation of study is that it had focused on the alcohol consumption only and detail research is needed to explore the cause of taking alcohol and development of depressive symptomatology.

Conclusion

The study depicts that the development of depression is higher in alcohol dependence syndrome. Depression is seen in all occupation group like farmer, service holders, house-wife and unemployed. It clearly depicts that co-morbidity of depression and alcohol is seen in unemployed and house-wife people, indicating the importance of employment in the country. The individuality in nuclear family is a risk factor for developing depression and consuming alcohol. Alcohol dependence preventive strategies should focus on the restriction of loose alcohol availability in the country from the government level and awareness programme like enhancement of coping skills to control temptation of alcohol.

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