ORIGINAL ARTICLE

Alcohol Induced Psychotic Disorder: Prevalence and Risk Factors

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Abstract

Introduction: *Alcohol is a potent drug that can produce serious psychiatric symptoms including psychosis. It is believed that approximately 3% of alcoholic persons experience auditory hallucinations or paranoid delusions in the context of heavy drinking or withdrawal. Across Nepal, alcohol use varies widely and alcohol dependence is an increasing problem. So this study aims to provide information regarding prevalence and risk factors of Alcohol Induced Psychotic Disorder in context of Nepal.*

Material And Method: *A hosiptal-based cross- sectional study was carried out among 37 patients admitted in psychiatric inpatient ward at Nepal Medical College Teaching Hospital, Kathmandu with the diagnosis of AIPD from the period of Magh 2075 to Poush 2076. Semi-structured proforma developed by department of Psychiatry was used to collect socio- demographic data. The consent was taken from the patients and caregivers and strict inclusion and exclusion criteria were applied. Diagnosis was based on ICD-10 DCR criteria and the collected data was analyzed with SPSS.*

Results: *There were total 37 patients (29 males and 8 females) admitted with the diagnosis of AIPD and the prevalence of AIPD in our study was 6.19%. Among them majority of the patients (35.1%) were of age group (41-50) years and more than half were from rural areas (64.9%). Nearly half of the patients were educated upto primary level (45.9%) and (35.1%) were farmer by occupation. Also Hindus (56.8%) were found to be more associated with AIPD than Buddhist or Christian.*

Conclusion*: The findings of this study concluded that alcohol is a substantial problem in Nepal. The efforts should be used to increase public awareness about the problems associated with alcohol.*

Keywords: Alcohol Induced Psychosis, Prevalence, Risk Factors

INTRODUCTION

Alcohol is remarkable both for its long history and ubiquity of use and for the diverse range of nervous system disorders that it can produce.[1] It has been estimated that approximately 2 billion people or one half of the world's adult population consume alcoholic beverages. Throughout the population, generally consumption rates are greater among men (~55%) than among women (~34%). Excess alcohol consumption results in medical and social problems around the world. It accounts for 3% of global deaths.[2] It is also considered as the 7th leading risk factor for both mortality and morbidity.[3] A systematic analysis of the Global Burden of Disease 2016 suggested that no amount of alcohol consumption is safe.[4]

Alcohol dependence is considered the most severe form of alcohol abuse. Approximately, 10% of alcohol dependent patients can experience episodes of alcohol withdrawal complicated by delirium or seizure. Delirium tremens is seen in approximately 5% cases.[5] Psychosis associated with alcohol can occur with

acute intoxication, alcohol withdrawal, as well as in chronic alcoholics. The specific diagnosis of alcohol-related psychosis is also known as alcohol hallucinosis.

Alcohol induced psychotic disorder (AIPD) has been defined as mental and behavioral symptoms which manifest within 2 weeks of alcohol use and persist for more than 48 hours, which should not arise as part of alcohol intoxication or an alcohol withdrawal state and clouding of consciousness should not be present to more than to a minor degree.[6] A wide variety of symptoms can occur, including delusions, hallucinations, thought disorder, psychomotor disturbances, and abnormal affect. Approximately 3% of alcoholic persons experience auditory hallucinations or paranoid delusions in context of heavy drinking or withdrawal.[7]

Alcohol has a central role in substance use disorders, and constitute a burden to the already weakened health system of the country .[8-10] AIPD has included a lifetime prevalence of 0.41% in the general population, 4.0% in an alcohol-dependent population and a point prevalence of 0.4-0.6% in patients with alcohol-related disorders.[11] AIPD is associated with high co-morbidity with other psychiatric disorders, high re-hospitalization and mortality rates and suicidal behavior leading to a less favorable prognosis.[12]

Across Nepal, alcohol use varies widely and was estimated that between 15% and 57% of adults had ever consumed alcohol and between 1.5% and 25% of adults have behaviors consistent with alcohol use disorders (AUD).[13] Alcohol dependence is an increasing problem. There is dearth of study in alcohol induced psychotic disorder in the literature. Hence it is necessary to carry out study of prevalence and risk factor of AIPD in context of our country.

MATERIAL AND METHOD

A hospital- based cross- sectional study was carried out among 37 patients admitted in psychiatric inpatient ward at Nepal Medical College Teaching Hospital, Kathmandu with the diagnosis of AIPD from the period of Magh 2075 to Poush 2076. Semi-structured proforma developed by department of Psychiatry was used to collect socio- demographic data after obtaining approval from NMC Institutional Review Committee (IRC).The consent was taken from the patients and caregivers and strict inclusion and exclusion criteria were applied. Inclusion criteria were the presence of at least one psychotic symptom during admission and use of alcohol within last 30 days. The patients with a head injury, organic psychotic disorder, other functional disorders and psychosis due to other substances were excluded. Diagnosis was based on ICD-10 DCR[6] criteria and the collected data was analyzed with SPSS and descriptive, chi-square test was used.

RESULT

In the our study there were total 37 patients admitted with the diagnosis of AIPD and the total number of patients diagnosed as alcohol dependence during the study period was 183. All together 597 patients seek medical attention for alcohol related problems in the study period. The prevalence of AIPD in our study was 6.19%. There were total 29 male and 8 female patients diagnosed of AIPD. More than one third (35.1%) belonged to age group (41-50) years and more than half were from rural areas 64.9%. Almost half of them had achieved education of primary level (45.9%) whereas (35.1%) had not attended formal education. More than one third of them were farmer by occupation (35.1%) whereas (32.1%) were unemployed. More than half of them were Hindu by religion 56.8% followed by Buddhist 37.8% and Christian 5.4% respectively. Almost half of them (48.6%) had alcohol use for last 10-20 years and usually consumed mixed type of alcohol (45.9%) that is distilled as well as undistilled alcohol for majority of the time. Nearly half of them had consumed alcohol more than one liter per day on daily basis (56.8%) and (43.2%) had fulfilled the criteria for alcohol dependence since more than ten years. More than half of them had abrupt onset of psychotic symptoms (59.5%) and duration of those symptoms lasted for 2-7 days (56.8%). In our study almost half of the patients had developed psychotic symptoms during intoxication of alcohol 48.6%. Nearly two third of them had previous history of similar symptoms (64.9%) and two third of them had never attempted abstinence from alcohol in past (70.3%). Almost two third of them had positive family history of psychiatric illness (67.6%) and majority of them had impaired liver function test (75.7%).

Table 1: Socio-demographic characteristic of patients

Variables	Frequency (n)	Percentage (%)
Sex		
Male	29	78.4
Female	8	21.6
Age group (in years)		
20-30	4	10.8
31-40	12	32.4
41-50	13	35.1
51-60	8	21.6
Address		
Rural	24	64.9
Urban	13	35.1
Education		
Illiterate	13	35.1
Primary	17	45.9
Secondary	5	13.5
Undergraduate and above	2	5.4
Occupation		
Unemployed	12	32.4
Service	5	13.5
Business	5	13.5
Student	2	5.4
Farmer	13	35.1
Religion		
Hindu	21	56.8
Buddhist	14	37.8
Christian	2	5.4

In our study out of total 12 patients who were unemployed, nearly half of them had duration of psychotic symptoms persisted for more than seven days (40%) and there were statistically significant association between duration of psychotic symptoms and employment status of the patient ($p< 0.05$). Out of total 9 patients who had used alcohol for total duration less than 5 years majority had developed gradual onset of psychotic symptoms (83.3%) and there were statistically significant association between onset of psychotic symptoms and total duration of alcohol use ($p<0.05$). Among total 21 patients who had consumed more than a liter of alcohol in amount per day on daily basis, nearly one third of them had developed acute onset of psychotic symptoms (63.6%) and was statistically significant. ($p<0.05$).

Table 2: Characteristisc of alcohol use among Patients

Characteristic of alcohol use	Frequency	Percentage
Duration of alcohol use		
<5 years	9	24.3
5-10 years	8	21.6
10-20 years	18	48.6
20 years	2	5.4
Type of alcohol		
Undistilled	4	37.8
Distilled	6	16.2
Mixed	17	45.9
Amount of alcohol		
>500 ml	5	13.5
500-1,000 ml	11	29.7
>1,000 ml	21	56.8
Duration of alcohol dependence		
2 years	7	18.9
2-5 years	5	13.5
5-10 years	9	24.3
>10 years	16	43.2

Table: Characteristic Of Alcohol Induced Psychosis

Characteristics of AIPD	Frequency	Percentage
Onset of symptoms		
Abrupt (<24hr)	22	59.5
Acute (24-48 hr)	9	24.3
Gradual (>48 hr)	6	16.2
Duration of symptoms		
<1 day	11	29.7
2-7 days	21	56.8
>7 days	5	13.5
Development of psychotic symptoms and last alcohol intake		
Intoxication	18	48.6
Withdrawal	12	32.4
Sober	7	18.9
Past history		
Yes	24	64.9
No	13	35.1
Past abstinent attempt		
Yes	11	29.7
No	26	70.3
Family history		
Present	25	67.6
Absent	12	32.4
Liver function test		
Normal	9	24.3
Impaired	28	75.7

Table 4: Association between duration of psychotic symptoms and employment status of the patients

Duration of symptoms	Total number of patients	Unemployed	(%)	P value
<1 days	11	3	27.2	0.018
2-7 days	21	7	33.3	
>7 days	5	2	40	
Total	37	12	32.4	

Table 5: Association between onset of psychotic symptoms and duration of alcohol use

	Duration of alcohol use			
Onset of symptoms	Total	<5 years	(%)	P value
Abrupt	9	3	33.3	0.006
Acute	22	1	4.5	
Gradual	6	5	83.3	
Total	37	9	24.3	

Table 6: Association between onset of psychotic symptoms and amount of alcohol use

	Amount of alcohol use			
Onset of symptoms	Total	>1 liter	(%)	P value
Abrupt	9	6	66.7	0.04
Acute	22	14	63.6	
Gradual	6	1	16.6	
Total	37	21	56.6	

Table 7: Association between duration of alcohol dependence and development of psychotic symptoms along with last alcohol intake

	Duration of alcohol dependence			
Development of psychotic symptoms and last alcohol intake	Total	>10 years	(%)	P value
Intoxication	18	10	55.6	0.026
Withdrawal	12	5	41.7	
Sober state	7	1	14.3	
Total	37	16	43.2	

Among a total of 16 patients who fulfilled the criteria for alcohol dependence for more than ten years, more than half of them had developed psychotic symptoms during alcohol intoxication (55.6%) and had statistically significant association. ($p<0.05$)

DISCUSSION:

The prevalence of Alcohol Induced Psychotic Disorder (AIPD) in the study was 6.19%. A study conducted by Tsuang et al, in characteristics of men with alcoholic hallucinosis had reported similar prevalence of AIPD (7.5%).[14] However prevalence rate of AIPD among patients who were hospitalized in Germany was (0.4-0.6%) and study conducted in Finlad reported prevalence of AIPD to be 4%.[15, 16] The reason for high prevalence of AIPD in our study might be due to small sample size.

Study showed that (78.4%) of Nepali males were frequent drinkers in comparison to females which showed similarity to a study conducted in India.[17] This could be because of the transition of mind-set prevailing in Nepalese society that drinking is for males and is not a sinful act. Also, more than one third (35.1%) were of age group (41-50) years which was in accordance to other studies published abroad.[18, 19] Total (64.9%) of patients were from rural areas and majority were farmers (35.1%) in this study and similar studies done in several countries such as the United States, Poland, Kenya, China and Nepal also showed that alcohol related problems are more in rural areas farmers.[20] This alarming finding could be because of strenuous working conditions on their farms and some farm workers were provided food and alcohol instead of wages as partial payment for labor.

Other demographic factors that have been linked with alcohol use include Hinduism (56.8%), primary level education (45.9%).

Out of total 37 patients nearly two third of them had previous history of alcohol induced psychosis (64.9%) and almost two third of them had positive family history of psychiatric illness (67.6%). These findings were in accordance to study done in India where 67.2% had alcoholic hallucinosis in the past and 42.6% had a family history of psychosis.[19] In the same study (86.9%) patients had hallucinations exclusively during alcohol withdrawal, while (13.1%) had them

during withdrawal as well as while consuming alcohol. However in our study almost half of the patients (48.6%) had developed psychotic symptoms during intoxication of alcohol. Majority of patients who were diagnosed of AIPD had impaired liver function test (75.7%) and was similar to study conducted in Kuala Lumpur.[19] It is well known alcohol being toxic to liver, it is expected to find such result.

This study also tried to find out the association between AIPD with other variables. The study revealed that 12 patients out of a total of 37 who were unemployed had duration of psychotic symptoms that persisted for more than seven days. This suggested that there was a statistically significant association between duration of psychotic symptoms and employment status of the patients ($p< 0.05$). A study done by Popovici and French also suggest that unemployment/job loss leads to a correspondence increase in average daily alcohol consumption causing psychotic effect to last longer possibly due to the factors such as mental strain, financial pressure and shame.[21]

Limitations:

It was hospital based study with small sample size. So this result cannot be extrapolated to general population.

CONCLUSION:

The findings of this study concluded that alcohol is a substantial problem in Nepal. The prevalence of AIPD in our study was found to be 6.19% which is quite alarming. Hence this calls for the efforts to be used to increase public awareness about the problems associated with alcohol. Further research is needed in this area because it is vitally important that the patient receives the most appropriate treatment Also intervention programs need to be tailored to reduce the alcohol consumption at the community level.

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CONFLICT OF INTEREST: None

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