

Comorbid Psychiatric Disorders in Alcohol Dependence: A Control Study

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Abstract

Background: Though anecdotal evidence of comorbid psychiatric disorders in alcohol dependent patient abound there is lack of systematic Indian studies in this area.

Aim: To determine the type and frequency of comorbid psychiatric disorders in alcohol dependent individuals as compared with matched normal population.

Methods: This cross-sectional, hospital based, utilized the Mini International Neuropsychiatric Interview to assess 88 alcohol-dependent patients consecutively admitted to de-addiction unit of two tertiary care hospitals, one in urban area and another in rural area. A matched control group of 88 subjects from the general population were also assessed. Psychiatric diagnoses were made as per DSM IV TR criteria.

Results: Among the alcohol-dependent patients 46.59% showed personality disorders compared to 6.82% of the normal control sample. The difference was statistically significant. Depression (10.23%), mixed anxiety and depression (7.95%) and Adjustment disorder (7.95%) were most prevalent, followed by dysthymia (4.55%) and panic disorders (4.55%) were the commonest co-morbid psychiatric disorders.

Conclusion: There is high prevalence of comorbid psychiatric disorders in patients with alcohol dependence

Keywords: Alcohol dependence; Comorbid psychiatric disorder; Depression; Mixed anxiety and depression

Introduction

Epidemiological studies indicate that out of two billion alcohol users worldwide 76.3 million (7.63%) have at least one disorder caused by their habit. Regular consumption of alcohol has numerous negative consequences. Physical adverse effects include hepatic cirrhosis, neoplasia, gastritis, esophageal varices, pancreatitis, and diabetes mellitus, among others. Psychiatric effects include elevated rates of mood and/or anxiety disorder co morbidities, which is associated with difficulty in adhering to treatment and worse prognoses [1-3]. Alcohol use disorders (AUDs) are responsible for 5 million deaths per year [4]. AUDs also produce a significant economic burden on society, with direct and indirect costs exceeding 2% of gross domestic product [5]. Despite these negative consequences it is estimated that 78% individuals with AUDs remain untreated [6]. In India the number of alcohol consumers is estimated at more than sixty million and this has further increased in recent times [7]. Alcohol use disorders (AUDs) are a major health problem in India and probably the commonest psychiatric disorder in the general population. The presence of co-morbid psychiatric disorder in individuals with AUDs compounds the problem by increasing the burden on the health care system. In addition, comorbid psychiatric disorders in patients with alcohol dependence is associated with prolonged hospital stay, poorer treatment outcomes, increased relapse rates, suicide, homelessness, and negative impact on family [8].

The high but widely differing prevalence of comorbid psychiatric disorders in individuals with AUDs is documented by a number of large epidemiological studies. A 44% prevalence of co-morbid psychiatric disorder in persons with AUDs was seen in the Epidemiologic Catchment Area Study [9]. On the other hand in the National Comorbidity Study (NCS) individuals with an AUD had 12-months prevalence of 29.2% for mood (affective) disorders which included major depressive disorder (27.9%) and bipolar disorder (1.9%), while that of anxiety disorders was 36.9% which included panic disorder (3.9%), and PTSD (7.7%) and generalized anxiety disorder (11.6%) [10].

Furthermore few studies have shown that co-morbid psychiatric disorders are more common in AUD who are admitted for treatment as compared to those in the general population [11], though some studies gave contradictory findings. A French hospital based study found that 42.12% out of 330 AUD patients met the diagnostic criteria for another psychiatric disorder. The comorbid psychiatric disorders included mood disorder 30.6%, anxiety disorder 5.5%, psychosis 4.6%, and dementia 1.5% [12]. Similarly in a Spanish study involving 2300 subjects with AUD, dual disorders (meeting DSM IVTR criteria) was found that 42.2% patients, most frequently mood and anxiety disorders [13]. However, in contrast to the above, a lower prevalence of 18.5% comorbid psychiatric disorders in patients with AUD was reported from Canada [14].

In India also the results of few studies gave highly variable results of comorbidity ranging from 81% to 47%. In a study of one hundred inpatients of a tertiary care psychiatric institute at Ranchi 81% of AUD patients had at least one comorbid psychiatric disorder as per ICD 10 [15]. Another hospital based study from Rohtak included 30 consecutive patients meeting the DSM-IV criteria for alcohol dependence. These patients were interviewed on structured clinical interview for DSM-IV (SCID) comorbid psychiatric disorder were diagnosed in 76.6% patients including major depression (52.1%), dysthymia (13.0%), brief psychotic disorder (13.0%) and alcohol induced psychotic disorder

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(21.7%) [16]. In a study at a general hospital psychiatric unit in Imphal 100 subjects who fulfilled the DSM-IV criteria for alcohol dependence syndrome were administered the Present State Examination (PSE) for a DSM-IV diagnosis. Comorbid psychiatric disorders were present in 71% individuals including depression (26%), phobia (16%) GAD (8%), other substance abuse (8%) sexual dysfunction (4%), schizophrenia (2%) and OCD (2%) [17]. A hospital based study from Thiruvalla, included 88 AUD patients out of which 66.59% met ICD 10 criteria for a comorbid psychiatric disorder including BPAD (n=18), Depression (n=15), Phobia (n=8), GAD (n=6), Schiz (n=3), OCD (n=1) and Delusional disorder (n=1) [18]. Similarly, a hospital based study from Lucknow revealed that out of 37 patients meeting DSM-IV-TR criteria for alcohol dependence, 64.8% had a co-morbid psychiatric disorders including mood disorder (50.0%), psychotic disorder (25.0%), anxiety disorder (45.8%), and substance use disorder 13 (54.2%) [19]. Lastly, a study from Bareilly included 100 male patients of alcohol dependence syndrome evaluated with the Mini-International Neuropsychiatric Interview-Plus version (MINI-Plus). Overall 47% of the patients had one or more co-morbid psychiatric diagnoses including mood disorder 24%, anxiety disorder 14%, adjustment disorder 3%, Psychotic disorder 6%, and somatoform disorder 2% [20].

It is evident from the foregoing that Indian studies in this area have given highly variable results. Various reasons have been suggested to explain the lack of consistent findings in the literature including differences in diagnostic criteria (ICD or DSM), different types of AUD in the sample (abuse or dependence, during active use or remission), setting of the study (hospital or community based), and diagnostic method (clinical interview, screening test or a structured interview schedule). All the studies were at a single center, all were located in urban areas and no study was done in rural area. Structured interviews were also used by a few studies only. In view of the lack of consistent findings and the paucity of Indian literature in this area the present study was undertaken to assess the type and frequency of co-morbid psychiatric disorders in patients with DSM IV TR alcohol dependence.

Material and Methods

This was a cross-sectional, hospital based study carried out in the de-addiction units of two tertiary care teaching hospitals attached to medical college. One center was located in a metropolitan city while the other was located in a rural area, with the nearest town at a distance of 60 km. Sample was selected by purposive sampling method. Approval for the study was obtained from the institutional ethical committee. All patients admitted for de-addiction treatment with diagnosis of alcohol dependence included in the study after obtaining their written informed consent. For the purpose of the study patients were evaluated two weeks after hospitalization.

Inclusion criteria for patients

- Alcohol dependence diagnosed as per criteria in DSM IV TR [21].
- Consenting for the study.

Exclusion criteria for patients

- Patients with serious medical illnesses like cirrhosis of liver, hypertension and diabetes mellitus.
- Clinical evidence of dehydration and obvious malnutrition.
- Past history of psychiatric disorders or other substance use (apart from nicotine).

An equal number male control subjects matching the patients in age and sex without any physical or psychiatric disorders or substance use disorders were also studied after obtaining their written informed consent.

Tools

Socio demographic and clinical characteristics including age, marital status, education, occupation, family income, age at onset and duration of alcohol consumption were recorded on a specially designed proforma. Detailed history about the alcohol habit was obtained from the patient and from family members.

Mini international neuropsychiatric interview (MINI): MINI is a brief structured interview for arriving at a diagnosis of the major Axis I psychiatric disorders in DSM IV TR and ICD 10. In the present study it was utilized to confirm the diagnosis of AD and also other psychiatric comorbidities and rule out other substance dependence/abuse apart from nicotine. The MINI has acceptable validity and reliability as compared to the structured clinical interview for DSM-III-R. The major advantage of the MINI is that it can be administered in a much shorter period of time than the above referred instruments [22,23].

Statistical analysis

Statistical analysis were carried out using the students 't' test, chi-square test with Yates correction and Fishers exact test as appropriate.

Results

During the period of the study 88 male patients with alcohol dependence syndrome were hospitalized and were included in the study. An equal number of age and sex matched individuals with no physical or psychiatric disorder formed the control group. Socio-demographic details of the patients with alcohol dependence and control subjects are given in Table 1. It is evident that the patients and control subjects were well matched on socio-demographic variables like age, sex, education, marital status, and socioeconomic status. Table 2 gives the details regarding the age at initiation of alcohol consumption and period of alcohol consumption of the patients. Table 3 gives the prevalence of comorbid psychiatric disorders in patients with alcohol dependence in the present study along with prevalence of psychiatric disorders in the control group.

Discussion

The past two decades has seen an increased awareness of dual diagnosis i.e., a psychiatric disorder accompanying substance use disorder that may result in diagnostic uncertainty and difficulties in management. Dual diagnosis is a topic of growing interest due to its clear impact on clinical severity. Many authors opine that "chronicity" and "treatment resistance" are the hallmarks of dual diagnoses and most sufferers are more vulnerable to experience disabilities of varying dimensions than in those with a single diagnosis [24]. It has been postulated that AUD can mimic or potentiate almost all psychopathological symptoms [25].

The present study attempted to make few methodological improvements over earlier studies. The control subjects were well matched to the alcohol dependent subjects and known patients with psychiatric disorders were excluded. A standardized diagnostic tool was used for making the psychiatric diagnosis using DSM IV TR criteria. Another strength of the present study was that a large number of individuals from rural agrarian population belonging to lower socioeconomic class were included which is similar to the general

Variable		ADS Patients	Controls	T /χ ²	df	p
Age in years	Mean (± S.D.)	40.86 (± 10.72)	40.64(± 10.56)	0.134	174	0.893 NS
Age distribution (in years)	21-30	11	11	0	160	1.00 NS
	31-40	36	36			
	41-50	29	29			
	51-60	6	7			
	61-70	3	3			
Marital Status	Married	78	80	5.56	160	0.062 NS
	Unmarried	3	5			
	Separated	5	0			
	Widower	2	3			
Education	Illiterate	14	12	1.18	160	0.758 NS
	1-5 class	22	20			
	6-12class	48	49			
	Graduates	4	7			
Occupation	Farmer	29	30	2.586	160	0.629 NS
	Unskilled	32	31			
	Skilled	9	11			
	Service	7	9			
	Unemployed	11	7			
Family income (in Rupees)	<5000	37	34	1.38	160	0.501 NS
	5001-10000	42	41			
	>10000	9	13			

Table 1: Demographic characteristics of alcohol dependence patients (n=88) and control subjects (n=88).

Variable	Alcohol dependence patients		
	Control	Number	Percent
Age at onset of alcohol consumption (in years)	<20	33	37.50
	21-30	51	57.95
	31-40	4	4.54
Duration of alcohol consumption (in years)	1-5 years	2	2.27
	6-10	14	15.91
	11-15	29	32.95
	16-20	22	25.00
	>20	21	23.86

Table 2: Characteristics of alcohol use in patients with alcohol dependence.

Comorbid Psychiatric disorders	Alcohol dependent Patients(n=88) N (%)	Normal Controls (n=88) N (%)	Fishers exact test/chi square test P	P
Dementia	2(2.27)	0	0.497	NS
Schizophrenia	2(2.27)	0	0.497	NS
Psychosis NOS	2(2.27)	0	0.497	NS
Mania	3(3.41)	0	0.246	NS
Depression	9(10.23)	0	0.003	<0.05
Dysthymia	4(4.55)	1(1.14)	0.367	NS
Panic disorder	4(4.55)	1(1.14)	0.367	NS
Social Anxiety disorder	1(1.14)	1(1.14)	1	NS
GAD	2(2.27)	1(1.14)	1	NS
Mixed anxiety and depression	7(7.95)	1(1.14)	0.64	NS
Adjustment disorder	7(7.95)	1(1.14)	0.64	NS
Adult attention deficit hyperactivity disorder	1(1.14)	0	1	NS
Total	41(46.59)*	6(6.82)		0.0001

Table 3: Comorbid psychiatric disorders in alcohol dependence syndrome patients.

population of India. This group of persons is usually underrepresented in hospital based studies.

The mean (±SD) age of our patients (40.86 ±10.72) and was similar to few previous Indian studies [17-20] The age of onset of alcohol use was similar to few earlier studies [17,20] but less than in other studies [18,19]. In agreement with earlier Indian studies all the subjects were male [15-20].

The most important finding of the present study was that 46.59% (n=41) of the alcohol dependent patients met the diagnostic criteria for at least one comorbid psychiatric disorder compared to 6.82% of the normative controls. The difference was highly statistically significant. This finding is congruent with a recent Indian study in a similar setting, [20] though other studies reported higher comorbidity [15-19]. These differences could be due to differences in sample size and methods of diagnosis. Evaluation of thirty alcohol dependence patients who presented in Psychiatry outdoor clinic with SCID-I (structured clinical interview for DSM-IV Axis-I diagnosis) revealed an overall psychiatric comorbidity of 76.6% [16]. Similarly another study on 37 alcohol dependence patients also found a psychiatric comorbidity of 64.8% using the SCID-I [19]. Another study of 100 alcohol dependence patients using the present state examination also found a high prevalence of 71% [17] probably because in the absence of a mental hospital nearby this center catered to all types of psychiatric patients. The high prevalence of 81% was due to the fact that it was done at a mental hospital which mainly caters to patients with psychoses and severe mood disorders [15].

Out of 41 alcoholics with comorbid disorders in the present study, 38 had one comorbid disorder while 3 had two comorbid disorders. This finding is also in agreement with earlier Indian studies [19,20]. The prevalence of bipolar disorder in our study was 3.41%. This finding is in agreement with a number of earlier Indian studies that reported a very low prevalence (0% to 16%) of bipolar disorder in alcohol dependence patients [15-17,20]. However contrary to our findings one study found bipolar disorder to be the commonest comorbidity (20.4%) [18]. The authors mentioned that the age onset of alcohol dependence in their sample was later than the usual age of onset for bipolar disorder. Therefore it is possible that the patients with alcohol dependence-bipolar comorbidity developed bipolar disorder first and then only developed alcohol dependence. However, they had not looked at the temporal association of the two disorders in their study.

Unipolar depression was diagnosed in 10.23% of our patients with alcohol dependence and was the commonest comorbid psychiatric disorder. This finding is in agreement with a few Indian studies [15,18,20] though some other studies have documented higher prevalence of 26% and 33% [17,19]. The prevalence of anxiety disorders in our study was 15.9% which is in agreement with few earlier studies [17,18,20] though one study reported high prevalence of 45% for anxiety disorders [19].

In the largest study to date the 2001-2002 National Epidemiologic Survey on Alcohol and Related Conditions, 43,093 participants aged 18 years or older from United States were evaluated with face-to-face interview. The study found that major mood and anxiety disorders that develop independently of acute intoxication and withdrawal are fairly common. Comorbid psychiatric disorders among subjects having AUD included anxiety disorders (36.9%) and major mood disorder (29.2%), clearly indicating that along with treatment of alcohol dependence these individuals would benefit from treatment of comorbid anxiety or mood disorder [16]. The prevalence of schizophrenia (2.27%) and other psychoses (2.27) in our study was rather low. This finding is in agreement with few earlier studies [17,18,20] but others reported much higher prevalence ranging from 11% to 25% [15,16,19]. However, the prevalence was much less than in the ECA study in which the lifetime

rate of comorbid schizophrenia in subjects with alcohol dependence was 24% [10]. The reasons for this could be that from our area patients with serious mental illness are usually taken to the state mental hospital, and only patients with minor disorders and substance use report to our center. The presence comorbid psychiatric disorders in alcohol dependent patients is associated increased utilization of hospital facilities, [26] reduced treatment for alcohol dependence, [27] and worse prognosis as compared to alcohol-dependent patients without dual diagnosis [28]. For successful management of these patients equal attention must be paid to treatment of alcohol dependence and the comorbid psychiatric disorder.

Limitations

This study had certain limitations. The sample size was modest and it was done at only two sites. Further being a hospital based study the results may not be generalized to the population. Future studies should also include psychometric tools to characterize alcohol use.

Conclusion

Individual with alcohol dependence have a high prevalence of comorbid psychiatric disorders. Correct assessment and evaluation of co-morbid Psychiatric Disorders in alcohol dependent individuals would be useful in planning comprehensive management of these conditions.

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