

Original article:

Other psychiatric comorbidities in male patients of alcohol dependence syndrome: a cross sectional study

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Abstract

Background: Psychiatric complaints in alcoholism can be of three types- alcohol-related symptoms and signs; alcohol-induced psychiatric syndromes; and independent psychiatric disorders that co-occur with alcoholism. The third type is usually conceptualized as 'dual diagnosis'- an extremely heterogeneous group to have poor prognosis in patients of alcohol dependence syndrome. A thorough assessment of this was sought in this study among the patients of Rohilkhand region of U.P. (India).

Materials and Methods: A total of 100 male patients of alcohol dependence syndrome visiting Psychiatry outpatient clinic were enrolled with the purposive sampling technique. The patients were free from alcohol related withdrawal or intoxication as well as alcohol induced psychiatric conditions. Mini-International Neuropsychiatric Interview-Plus version (MINI-Plus) was administered to find out different independent psychiatric disorders in the patients. Severity of Alcohol Dependence Questionnaire (SADQ) was applied to assess severity of dependence.

Results: On MINI-Plus, there were two kinds of psychiatric diagnoses- current and lifetime. Overall 47% of the patients had one or more co-morbid psychiatric diagnoses on MINI-Plus. Broadly, following diagnostic categories were found: Mood disorder – 24%, Anxiety disorder – 14%, Adjustment disorder – 3%, Psychotic disorder – 6%, and Somatoform disorder – 2%. In 77% of the patients, alcohol dependence syndrome was of moderate severity.

Conclusion: Comorbidity of other psychiatric disorders in patients of alcohol dependence syndrome is a common problem. The results of this study are in line of many different research works both in India and abroad. A proper address of this issue is important for management, better outcome and policy making in patients of alcohol use disorders.

Key words: Comorbidity, Psychiatric disorders, Alcohol Dependence Syndrome

Introduction

Alcohol use disorders are highly disabling^{[1]-[2]} and associated with many physical and psychiatric comorbidities.^{[3]-[4]} Psychiatric complaints in alcoholism can be understood in three ways- alcohol-related symptoms and signs, alcohol-induced psychiatric syndromes, and independent psychiatric disorders that co-occur with alcoholism. The alcohol related signs and

symptoms are usually those of alcohol intoxication or alcohol withdrawal state. Alcohol-induced psychiatric syndromes are typical constellation of symptoms which occur in cases of prolonged and excessive abuse of alcohol and their appearance or disappearance follow a temporal relationship with intake of alcohol. Typically alcohol-induced disorders improve on their own within several weeks of abstinence without requiring therapies

beyond supportive care.^[5, 6, 7, 8] The third category is of those psychiatric disorders that develop independently of the alcoholism and may precede alcohol use and abuse. These independent disorders may make certain vulnerable patients more prone to developing alcohol-related problems.^[9,10,11]

Prevalence of independent comorbid psychiatric conditions in patients of alcoholism varies across different research works globally. ECA (Epidemiological Catchment Area) study was one of the first large projects about dual diagnosis in Europe. Results of ECA showed that alcohol dependence, anxiety disorders and affective disorders coexist commonly.^[12] The coexistence alcohol dependence and other psychiatric diagnoses were also found in NCS (National Comorbidity Survey) study.^[10] In this survey a 12-months prevalence of affective disorders was 29.2% while that of anxiety disorders was 36.9%. Among the different affective disorders depression and bipolar disorders were common while generalized anxiety disorder, panic disorder and posttraumatic stress disorder were common anxiety disorders comorbid in the patients of alcohol dependence. In some clinical studies, the prevalence rates for psychiatric co morbidity were reported to be as high as between 57% and 84%.^{[13][14][15]} Apart from mood and anxiety disorders, other psychiatric disorders like psychosis, adjustment disorders, sleep disorders, sexual disorders and personality disorders have also been found to be co-morbid with patients with alcohol use disorders.^[16]

The patients with dual diagnoses (i.e. alcohol use disorders comorbid with other psychiatric disorders) usually pose an extremely heterogeneous group. Such comorbidity can appear diversely at different stages^[17] such as 1.) A primary psychiatric disorder may cause increased alcohol consumption and development of alcohol dependence; 2.) Substance abuse or alcohol dependence may be a risk factor for

another psychiatric disorder; 3.) Alcohol consumption can be a way to “self-cure” the symptoms of a coexisting psychiatric disorder and can subsequently turn into a dependence syndrome; 4.) Alcohol withdrawal syndrome may precipitate other psychiatric conditions; and 5.) Substance dependence and other psychiatric disorders can develop independently. Multiple research works now acknowledge that such dual diagnosis patients have poor prognosis^{[18][19]} in terms of frequent relapses, multiple emergency hospitalizations and increased chances of suicidality.^[20]

A proper assessment of different psychiatric comorbidities in patients of alcohol use disorders is a need of the time in India. It has been estimated that more than sixty millions in India consume alcohol and that there has been a significant increase in the per capita consumption of alcohol in recent times.^[21] The lifetime risk of developing alcohol dependence in men is around 10%, and this constitutes a significant public health problem.^[2] In order to address this pertinent issue, this study promises to assess various psychiatric comorbidities in the patients of alcohol dependence syndrome in Rohilkhand region of U.P. where there is dearth of similar research works.

Materials and methods

This was a hospital based cross-sectional observational study conducted at the department of Psychiatry in Rohilkhand Medical College & Hospital (RMCH), Bareilly (Uttar Pradesh). With the help of purposive sampling technique a total of 100 male patients of alcohol dependence syndrome, who visited Psychiatry OPD (Out Patient Department), were enrolled into the study. Such patients were diagnosed cases of ‘alcohol dependence syndrome, currently abstinent’ as per ICD-10 DCR. They were in age range of 20-60 years and were neither in acute intoxication nor withdrawal state of alcohol. The patients dependent

on psychoactive substances other than alcohol were excluded. All of them went through a thorough physical and mental status examination and they were administered following tools of assessment:

1. **Socio-demographic and Clinical Data Sheet**

(self-prepared): This was specially prepared for noting down the social, demographic & clinical variables of the patient including Case Record (CR) number, age, sex, marital status, religion, education level, occupation, residence, state, socio-economic status, type of family, age of onset and total duration of alcohol intake, duration of alcohol dependence, frequency of attempts to abstain from alcohol, interval between last intake of alcohol intake and present clinical assessment, severity of alcohol dependence syndrome as per SADQ and type of psychiatric comorbidity as per MINI Plus.

2. **Severity of Alcohol Dependence Questionnaire (SADQ; Stockwell et al 1994)^[22]:**

It is a short, easy-to-complete, self-administered, 20-item questionnaire designed to measure severity of dependence on alcohol. Its questions cover the following aspects of dependency syndrome: - physical withdrawal symptoms, affective withdrawal symptoms, relief drinking, frequency of alcohol consumption, and speed of onset of withdrawal symptoms. Answers to each question are rated on a four-point scale: almost never-0, sometimes-1, often-2, and nearly always-3. Thus the range of total score is 0-60. The level of dependence is ascertained as Mild (total score <16), Moderated (total score 16-30) and Severe (>30). The questionnaire takes between 2 and 5 minutes to administer. During administration of the questionnaire it is ensured that the patients focus on a recent period of drinking that is typical of their heavy

drinking. It has been applied on inpatient, outpatient, and community-based treatment agencies' attendees in several countries with test-retest reliability of 0.85 and internal consistency of items as well as content, criterion, and construct validity derived. It is probably most useful as an assessment tool for use with problem drinkers rather than a screening instrument.

3. **Mini-International Neuropsychiatric Interview-Plus version (MINI-Plus)^[23]**

It was the principal tool for this study. It is derived from the mother version M.I.N.I. and is more inclusive. It covers 23 different psychiatric disorders to be diagnosed. It features questions to rule out, to subtype and to ascertain chronology of the psychiatric disorders. With MINI-Plus, both current and lifetime diagnosis can be made. It also features a number of novel design algorithms to handle psychotic disorders and hierarchical rule-outs in the event that a patient has more than one disorder at a time. It possesses good inter-rater reliability as well as very good test-retest reliability. It takes approximately 45-60 minutes in administration in comparison to approximately 15-20 minutes with MINI.

Subsequently the data thus collected was tabulated and statistically analysed using IBM Statistical Package for Social Science (SPSS) version 21.00 for Window 8.1 with parametric and nonparametric tests being used as applicable.

Results

Table 1 shows the socio-demographic details of male patients of Alcohol Dependence Syndrome (ADS). The mean (\pm SD) age of the patients was 39.46 (\pm 8.57) years with an age range of 20-60 years. The majority of them were Hindu (77%), educated to 1st-10th standard (53%), married (62%) and unskilled worker (52%) of middle social

economic status (71%), nuclear family type (64%) of Uttar Pradesh state of India (88%).
and semi urban (29%) or urban (44%) background

Table 1: Socio-demographic Details of Male Patients of Alcohol Dependence Syndrome (ADS; N=100)

Socio-demographic Variables		Male patient of ADS(N=100)
		Mean ± SD
• Age in years (Minimum=20, Maximum=60)		39.46±8.57
		n (%)
• Religion	Hindu	77(77%)
	Muslim	17(17%)
	Sikh	6(6%)
• Marital Status	Single	24(24%)
	Married	62(62%)
	Separated	5(5%)
	Divorced	9(9%)
• Education	Illiterate	8(8%)
	1 st -10 th Std.	53(53%)
	Pre-University	18(18%)
	Graduate	15(15%)
	Postgraduate or above	6(6%)
• Occupation	Unemployed	10(10%)
	Unskilled Employment	52(52%)
	Skilled Employment	38(38%)
• Residence	Rural	27(27%)
	Semi Urban	29(29%)
	Urban	44(44%)
• State	Uttar Pradesh	88(88%)
	Uttarakhand	12(12%)
• Socio-economic Status	Low	20(20%)
	Middle	71(71%)
	High	9(9%)
• Family type	Nuclear	64(64%)
	Joint	36(36%)

Table 2 gives clinical details of male patients of alcohol dependence syndrome. Mean (\pm SD) age of onset of alcohol intake was 22.58(\pm 4.81) years. The means (\pm SD) of total duration of alcohol intake and total duration of alcohol dependence were 16.46(\pm 8.05) years and 10.74(\pm 5.96) years respectively. Mean(\pm SD) duration of Interval between last alcohol intake and clinical assessment (i.e. the day of data collection) was 24.87(\pm 6.14) days. Seventy six percent of the patients got introduced to alcohol via friends while only 24% of them approached to the alcohol seller directly. More than half (57%) of the patients started consumption of alcohol out of curiosity while remainder (43%) for fun. Only 26% of the patient

had never attempted to abstain from alcohol. Among the rest only 25% of them had attempted to abstain once while 49% of them had attempted to abstain twice or more. In majority (51%) of them the maximum duration of abstinence was less than 12 months and only 48% of the patients gave history of past withdrawal treatment. In 77% of them the alcohol dependence syndrome was of moderate severity. In majority (62%) of the patients there was history of occasional use of other psychoactive substances like tobacco, cannabis, benzodiazepines, etc. Only 18% of the patient had any significant past medical history of traumatic injuries, hypertension, diabetes mellitus, HIV plus status etc.

Table 2: Clinical Details of Male Patients of Alcohol Dependence Syndrome (ADS; N=100)

Clinical Variables		Male Patients of ADS(N=100)
		Mean \pm SD
• Age of onset of alcohol intake (in years)		22.58 \pm 4.81
• Total duration of alcohol intake (in years)		16.46 \pm 8.05
• Duration of alcohol dependence (in years)		10.74 \pm 5.96
• Interval between last alcohol intake and clinical Assessment (in days)		24.87 \pm 6.14
		n%
• Source of alcohol of Introduction	Friend	76(76%)
	Seller	24(24%)
• Reason of first use of Alcohol	Curiosity	57(57%)
	Fun	43(43%)
• Frequency of attempts to abstain from alcohol	Not At All	26(26%)
	At least Once	25(25%)
	Twice Or More	49(49%)
• Maximum duration of abstinence	Nil	26(26%)
	Less Than 12 Months	51(51%)
	More Than 12 Months	23(23%)
• Past History of withdrawal treatment	Yes	48(48%)
	No	52(52%)
• Severity of ADS	Mild (SADQ score <16)	13(13%)

	Moderate (SADQ score 16-30)	77(77%)
	Severe (SADQ score >30)	10(10%)
• Occasional use of other substances	Absent	38(38%)
	Present	62(62%)
• Past medical history	Absent	82(82%)
	Present	18(18%)

Table 3 shows the distribution of co-morbid psychiatric disorders as per MINI-Plus in all male patients of alcohol dependence syndrome. Overall 47% of the patients had one or more co-morbid psychiatric diagnoses on MINI-Plus. On MINI-Plus, there were two kinds of psychiatric diagnoses- current and lifetime. Out of 100 patients 35 (35%) had a current diagnosis while 14 (14%) had a lifetime diagnosis on M.I.N.I.-Plus. Broadly, following diagnostic categories were found: Mood disorder – 24%, Anxiety disorder – 14%,

Adjustment disorder – 3%, Psychotic disorder – 6%, and Somatoform disorder – 2%. Further, an overall frequency of a ‘current’ Mood disorder was 16% which further subsumed 6% of Major depressive episode, 4% of Major depressive episode with melancholia, 4% of Suicidality and 2% of Dysthymia. Similarly, an overall frequency a ‘lifetime’ Mood disorder was 8% which further subsumed 5% of recurrent major depressive episodes and 3% of Dysthymia.

Table 3: Distribution of Other Psychiatric Comorbidities in Male Patients of Alcohol Dependence Syndrome (ADS; N=100) on MINI-Plus

Other Psychiatric Diagnoses on MINI-Plus	Male Patients of ADS (N=100)
	n (%)
ANY PSYCHIATRIC DIAGNOSIS	49%
ANY PSYCHIATRIC DIAGNOSIS (CURRENT)	35%
ANY PSYCHIATRIC DIAGNOSIS (LIFETIME)	14%
MOOD DISORDER	24%
• Mood disorder (current)	16%
○ Major depressive episode (current)	6%
○ Major depressive episode with melancholia (current)	4%
○ Suicidality (current)	4%
○ Dysthymia (current)	2%
• Mood disorder (life time)	8%
○ Recurrent Major depressive episode (life time)	5%
○ Dysthymia (life time)	3%
ANXIETY DISORDER (CURRENT)	14%
• Panic disorder (current)	6%
• Social Anxiety disorder (current)	3%

• Generalized Anxiety disorder (current)	2%
• Obsessive compulsive disorder (current)	1%
• Mixed Anxiety and Depressive disorder (current)	2%
ADJUSTMENT DISORDER (CURRENT)	3%
PSYCHOTIC DISORDER	6%
• Psychotic disorder (current)	2%
○ Schizophrenia (current)	1%
○ Bipolar I disorder with psychotic symptoms (current)	1%
• Psychotic disorder (life time)	4%
○ Schizophrenia	1%
○ Delusion disorder	1%
○ Psychosis NOS	1%
○ Bipolar I disorder with psychotic symptoms	1%
SOMATIFORM SOMATIZATION DISORDER (LIFE TIME)	2%

MINI-Plus: Mini International Neuropsychiatric Interview-Plus version

Discussion

This was a hospital-based cross-sectional observational study to look into details of other independent psychiatric disorders in patients of alcohol dependence syndrome. For this a comprehensive assessment tool like MINI-Plus was administered on a clinical sample of 100 male patients of alcohol dependence syndrome who visited Psychiatry OPD. Application of MINI-Plus helped us to rule out substance induced psychiatric conditions and to view the diagnoses across time frame i.e. current or lifetime.

Inclusion of only male patients was purposeful in view of timely availability of ample sample size because alcohol consumption that to a level of dependence is a rare phenomenon in women of this part of country. Further, research works across the world suggest that women are more sensitive to neurotoxic effects of alcohol^[24] as well as there are differences in occurrence of some psychiatric conditions like depression^{[24],[25]}, posttraumatic stress disorder^{[26] [27]}, and other affective or anxiety disorders between two genders. Thus we cannot generalize the findings across both genders. Other

socio-demographic details show that the majority of the sample consisted of married Hindu with education level of 1st to 10th standard, with unskilled employment and middle socioeconomic status that came from nuclear families of semi-urban/urban background of Uttar Pradesh. This signifies the typical strata of alcohol dependence in this region of country.

Around two third of the patients got introduced to alcohol via their friends and in more than half of cases they started out of curiosity. We could not find further details in other research works about the reason of first exposure to alcohol. A finding of mean age of the patients near 40 suggests delayed presentation in Psychiatry OPD. This observation is further supported by the findings like higher mean duration of alcohol dependence syndrome (around 10 years) and about 80% of the sample being in moderate level of alcohol dependence (as per SADQ).

On MINI-Plus there was more than one psychiatric diagnosis at a time in many patients. Overall 47% of the patients had at least one comorbid psychiatric disorder. Some

researchers^[28,29,30] from India and Nepal have reported even higher psychiatric comorbidities in alcohol dependent patients. However, a direct comparison to our study cannot be made as they had a different sample size and type as well as they applied a different diagnostic tool. For example, Vohra et al.^[28] found out an overall psychiatric comorbidity of 76.6% in patients of alcohol dependence syndrome who presented in Psychiatry outdoor clinic. But the sample size was just 30 and SCID-I (structured clinical interview for DSM-IV Axis-I diagnosis) was the principal tool. Similarly Kumar et al.^[29] found psychiatric comorbidity in 64.8% of such patients but the sample size was 37 and SCID-I was the diagnostic tool. Shakya et al.^[30] enrolled 60 admitted patients of alcohol dependence syndrome and assessed them on ICD-10 to diagnose psychiatric comorbidities. They found an overall psychiatric comorbidity in 80% of the patients which also included different diagnoses of personality disorders. In our study, personality disorders were not assessed.

In our study, the frequency of occurrence of different types of psychiatric conditions was as follows: Mood disorder – 24%, Anxiety disorder – 14%, Adjustment disorder – 3%, Psychotic disorder – 6%, and Somatoform disorder – 2%. Almost similar prevalence of different psychiatric conditions in patients of alcohol dependence syndrome has been found in important studies we reviewed. However, categorization of diagnoses as ‘current’ and ‘lifetime’ as per MINI-Plus was unique to our study.

One of major observations of our study was that Mood disorders were commonest psychiatric comorbidities in male patients of alcohol dependence. These disorders included ‘current’ diagnoses like Major depressive episode, Major depressive disorder with melancholia, Suicidality, and Dysthymia as well as ‘lifetime’

diagnoses like Recurrent Major depressive episodes and Dysthymia. Overall depressive disorders were present in 16% of all alcohol dependent males and thus they were main Mood disorders. A higher prevalence of depression in patients of alcohol dependence has earlier been reported by many research workers like Singh et al.^[31] (26%), Cadoret et al.^[32] (39%), Alec et al.^[33] (33%), Kakunje^[34](19%), Shakya et al.^[30] (18.3%) and Vohra et al.^[28](52.1%). As discussed above some methodological differences in terms of sample size and diagnostic tools were there in differences in results than our study.

There was no ‘lifetime’ diagnosis of anxiety disorders on MINI-Plus in our study. Different ‘current’ comorbid anxiety disorders in decreasing frequency of occurrence were panic disorder, social anxiety disorder/social phobia, generalized anxiety disorder, obsessive compulsive disorder, and mixed anxiety and depressive disorder. Among different research works we reviewed, such detailed categorization of anxiety disorders was not found. They have claimed Phobia to be the principal diagnosis among anxiety disorders^{[31][35][33]}. Some of these workers enrolled even female patients and some collected data from anxiety clinics only.

Only 6 patients of our study had diagnosis of psychotic disorders which were categorized on MINI-Plus as ‘Current’ psychotic disorders like schizophrenia and bipolar-1 disorder with psychotic symptoms as well as ‘Lifetime’ psychotic disorders like schizophrenia, bipolar 1 disorder with psychotic symptoms, delusional disorder and psychosis NOS. Almost similar frequency of psychotic disorders has been mentioned by many research workers we discussed so far except Vohra et al.^[28]who found a much higher prevalence of about 20% of psychotic disorders in patients of alcohol dependence. As discussed above, they had

smaller sample size of 30 patients and applied a different diagnostic tool.

The prevalence of other psychiatric disorders in alcohol dependants is of concern to both clinicians and researchers. The issue of comorbidity has now assumed centre-stage in psychiatric research, which has led investigators to comment that it may be one of the most important advancements in psychiatric nosology in the twentieth century.^[36] It has now become apparent that Psychiatric comorbidity, or co-morbid mental and substance use disorders, may occur concurrently (two disorders are present at the same time) or successively (two disorders occur at different times in a person's life); in both cases, the two disorders may or may not be causally related.^[37] But this co-occurrence of two psychiatric conditions does have many clinical implications in term of overall symptom presentation, course as well as prognosis of each of the condition.

Conclusion

In this study, overall 47% of all male patients of alcohol dependence syndrome had a comorbidity of any other psychiatric disorder. The frequency of co-occurrence of different types of psychiatric disorders was as follows: Mood disorder 24%,

Anxiety disorder 14%, Adjustment disorder 3%, Psychotic disorder 6%, and Somatoform disorder 2%. In mood disorders, Depression was the principal diagnosis (15% of all patients) while Suicidality and Dysthymia were other less frequent mood diagnoses. In anxiety disorders, Panic disorder was the main diagnosis (6% of all patients) while other disorders like Social Anxiety disorder/Social phobia, Generalized anxiety disorder, Obsessive compulsive disorder and Mixed anxiety and depressive disorder were present in negligible number of patients. In psychotic disorders Schizophrenia and Bipolar 1 disorder with psychotic symptoms were present in 2% of all patients while Delusional disorder and Psychosis NOS were present in 1% of all patients. The results of this study are in line of many different research works both in India and abroad. It further emphasizes that health care providers need to recognize the burning issue of different aspects of psychiatric comorbidity for management, better outcome and policy making in patients of alcohol use disorders which are on rise in our society. The findings of this study may not be generalized across both genders.

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