

Prevalence of Psychiatric Co-Morbidities in Alcohol Dependent Patient in a Tertiary Care Hospital of Pondicherry

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Abstract

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Chronic alcohol consumption causes early atrophy of gray matter in frontal, parietal, limbic system and cerebellum. Hence, alcoholics are more prone to develop common psychiatric conditions such as major depressive disorders, bipolar disorders, anxiety disorders, psychosis and dissocial personality disorder. So this study is done to determine the prevalence of psychiatric co-morbidity occurring in alcohol dependent patients. The existence of co-morbidity seems to influence the pattern and severity of drinking thereby adversely affecting the prognosis and treatment outcomes. Identifying the co-morbid conditions helps to better outcome. *Methods:* 100 patients admitted as inpatients diagnosed with Alcohol Dependence Syndrome under the Department of Psychiatry from August 2014 to November 2015 were included in this study. Socio-demographic data were filled in a semi-structured proforma for all subjects meeting the inclusion criteria. They were administered the MINI PLUS and IPDE Questionnaires to elicit the presence of any Axis I and Axis II disorders respectively. *Results:* In this study consisting of 100 ADS patients, more than half (56%) of the patients were diagnosed with psychiatric co-morbidities. 92% of the alcohol dependent patients in the study were literate. 70% of the patients in the study started consuming alcohol at a very young age. 40% of the group was drinking for one to two decades. Among the psychiatric illnesses 27% suffered from affective spectrum disorders that are, 10% had bipolar mood disorder, 8% depressive illnesses, 8% hypomania, 8% dysthymia and 1% anxiety disorders, followed by 12% in the psychotic spectrum, that is, 6% had psychosis, 4% had delusional disorder and 2% had schizophrenia. Among all individual diagnosed with Axis II disorder (i.e., 38% of the ADS patients), 68.42% of them showed Dissocial personality disorder.

Keywords: Alcohol Dependence; Psychiatry Co-Morbidities.

Introduction

Alcohol is defined as a psychoactive substance with dependence producing properties.

Globally, the world health organization estimated in 2010 that 61.7% of people aged 15 and above have not drunk alcohol in the past 12 months whereas 16% of alcoholic drinkers aged 15+ engage in heavy drinking [1]. Alcohol use and problems related to

alcohol use such as alcohol dependence, cirrhosis, cancer and accidents are on the rise globally. As it is a psychoactive substance with a higher chance of dependence causing of more than 200 diseases.

In 2012, nearly 5.9% of global deaths were caused due to consumption of heavy alcohol drinking. Chronic alcohol consumption causes early atrophy of gray matter in frontal, parietal, limbic system and cerebellum [2]. Hence, alcoholics are more prone to develop common psychiatric conditions such as major depressive disorders, bipolar disorders, anxiety disorders, psychosis and dissocial personality disorder [3]. Alcohol use will also impair the productivity and interpersonal functioning which brings financial and psychological burden not only to alcoholic but also to their families, friends and co-workers. Alcohol consumption has become a pervasive problem with far reaching implications and consequences. The psychiatric manifestation among the alcoholics has become the main area of research in recent years because it is difficult to treat an alcoholic patient with multiple co-morbid conditions especially those with psychiatric comorbidity. There is paucity of studies identifying comorbid psychiatric conditions in patients with alcohol dependence syndrome (ADS). Hence this study aims to measure the proportion of psychiatric co-morbidities occurring in alcohol dependent patients admitted to psychiatric ward in a private medical college hospital of Puducherry.

Materials & Methods

A hospital based cross sectional study was conducted among all patients with a diagnosis of alcohol dependence syndrome made as per ICD-10 diagnostic guidelines treated as inpatient basis in the department of psychiatry were considered for the study. Sample size was calculated using open Epi software version 3.01, with two sided confidence interval of 95% and power 80%. The sample size was 100 based upon the prevalence of co-morbidity among alcoholics was 81.5% [4]. All study subjects were assessed in detail including a complete physical examination, detailed mental status examination along with relevant and appropriate investigations. All study participants were administered standardized structured psychological instruments such as the M.I.N.I. PLUS (Mini-International Neuropsychiatric Interview Plus) [5] was designed as a brief structured interview for the major Axis I psychiatric disorders in DSM-IV and ICD-10, The IPDE (International Personality Disorder

Evaluation)[6] is a semi-structured diagnostic interview designed to assess Personality Disorders and The SAD-Q (Severity Of Alcohol Disorder Questionnaire) [7] is designed to cover the central features of the alcohol dependence most amenable to measurement with the view of validating scores against a clinician's independent ratings of degree meant for the purpose of the study, after 2 weeks of detoxification and experiencing minimal or no alcohol withdrawal symptoms at the time of the assessment. Information obtained from the patient was corroborated with a reliable informant (parent/guardian/anyone who has been staying with the patient for the past 2 years). All patients were recruited after obtaining informed consent. A total number of 100 participants were included in this study. Data collected and analyzed using

SPSS version 21.0. Chi-square test was used to verify the statistical significance of associations. P value less than 0.5 was considered as statistically significant. Institute Ethics Committee clearance was obtained before starting the study.

Results

In our study, majority of the study population belong to age groups between 31-45 years and 50% of the study population had undergone primary education and 18% were graduates. Among our study population, 44% of the participants were grouped under employees to differentiate from manual laborers and 8% of the participants were unemployed. Almost 70% of the study population initiated in drinking at an early age of adult life by ages 15-25 years and majority of the study population have a history of drinking for 11-20 years and 16% of the participants have been drinking for 21-30 years. Maximum study participants (78%) scored 16-30 on the severity of alcohol dependence questionnaire scale having moderate severity of dependence. The prevalence of Bi-polar disorder II was the highest observed psychiatric co-morbidity among the study population followed by hypomania, major depression and dysthymia which were observed in 8% of the study population each. 38% of the study population is diagnosed with one or the other personality disorder. Of the 38 individuals presenting with personality disorders, 68.42% of them were diagnosed with dissocial personality disorder. The psychiatric co-morbidity was greater in the patients whose educational status is above 10th standard which was statistically significant. There is no significant correlation between the number of attempts to made to abstain and duration of abstinence

Table 1: Distribution of socio-demographic patterns among study participants

Sl. No.	Demographic Variables	Frequency
Age (in years)		
1	20-25	2
2	26-30	4
3	31-35	26
4	36-40	22
5	41-45	28
6	46-50	8
7	51-55	6
8	> 56	4
Education status		
1	Illiterate	8
2	1 st -10 th std	50
3	Pre University	10
4	Graduate	18
5	Post Graduate	14
Occupation		
1	Unemployed	8
2	Agriculturists	12
3	Manual labor	20
4	Trade	8
5	Employee	44
Age of initiation of drinking		
1	15-20	44
2	21-25	26
3	26-30	24
4	31-35	6
Duration of drinking		
1	≤ 10 years	32
2	11-20	42
3	21-30 years	16
4	31-35 years	10

Table 2: Distribution of study participants based upon the severity of drinking

Sl. No	Scores	
1	Mild (<16)	12
2	Moderate (16-30)	78
3	Severe (>30)	10

Table 3: Association between demographic factors and psychiatric co-morbidities

Risk factors	Psychiatry co-morbidities		Total	p-value
	Yes	No		
Education				
< 10 th std	24	30	54	0.001
>= 10 th std	38	8	46	
	62	38	100	
Income				
<30,000	12	8	20	0.02
>30000	50	30	80	
	62	38	100	
Frequency of attempts to abstain				
< 2 times	48	32	80	0.34
>2 times	14	6	20	
	62	38	100	
Total duration of abstinence				
<12 months	50	32	82	0.1
>12 months	12	6	18	
	62	38	100	

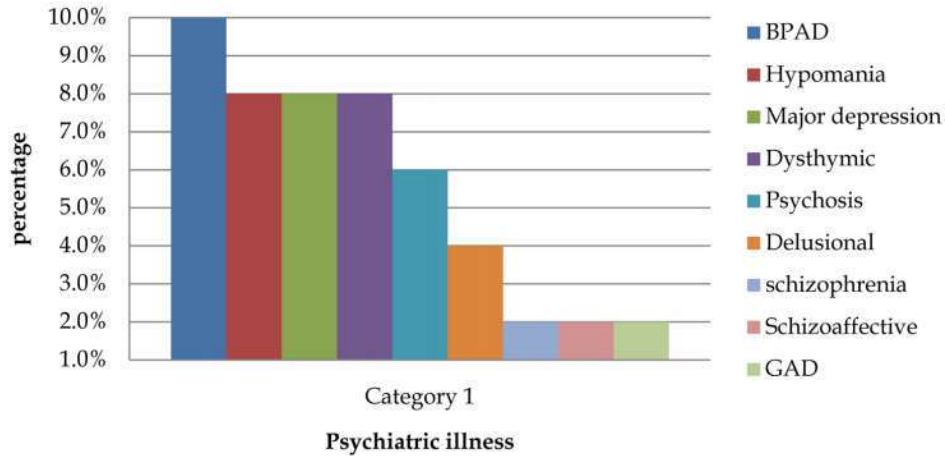


Fig. 1: Distribution of psychiatric co-morbidities among the alcohol dependents

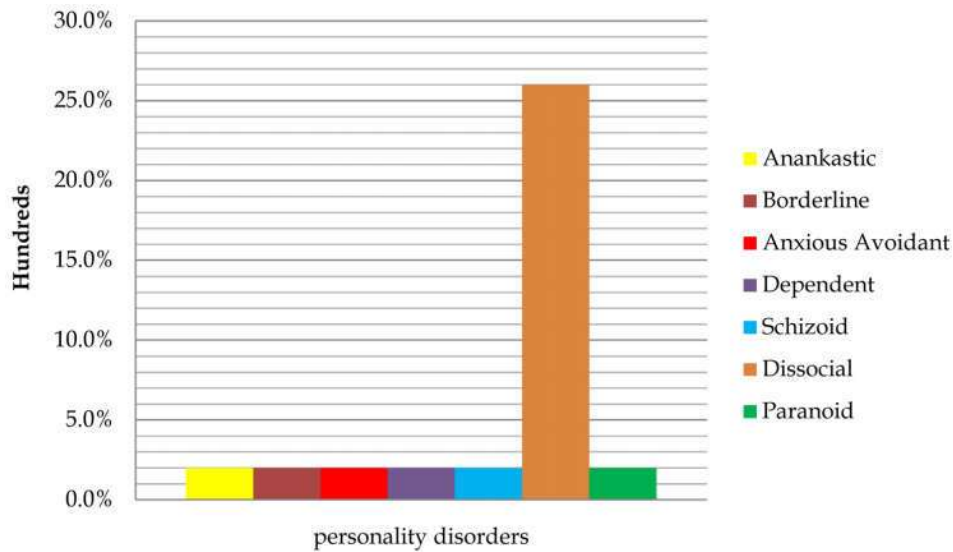


Fig. 2: Prevalence of personality disorders among alcohol dependence patients

dimension.

Discussion

The psychiatric co-morbidities were detected using the M.I.N.I. Plus. The severity of alcohol dependence was assessed using the SADQ Scale. The presence of personality disorder was assessed by using the International Personality Disorder Evaluation.

Age

The mean age of the ADS patients was 35 years, which is depicted in Table 1. This is in accordance with the Epidemiological Catchment Area (ECA) Study [13] which showed that lifetime prevalence rates for alcoholism tended to peak between ages of

30-44 years. whereas a study conducted by Clarke W reported heavy drinking most frequently among those between 18-30 years of age.

Educational Status

In the current sample there were 8% illiterates and 92% were literate. Conversely in a preliminary study conducted by Phillip & Sumana on alcoholics in Sakalawara sub center found that 91% were illiterates. Another study conducted in the rural areas of Tamil Nadu by Chandrashekar, 26%-50% of the males in that rural area were illiterates. This result maybe due to the fact that the above two mentioned studies were conducted in a rural area, whereas the current study has been conducted in the outskirts of Pondicherry. Literate alcohol dependent individuals are more likely to be Knowledgeable about alcohol related

problems and seek treatment. They are more likely to have easier access to treatment facilities.

Occupation

In the current sample, 52% were employees, 20% were manual laborers, 12% were agriculturists, 8% were entrepreneurs and 8% were unemployed. Phillip & Sumana [9] in their Sakalawara study found that 75% were laborers.

- Allamani et al in their studies found alcoholism in agricultural workers was more than factory employees as the per capita per day alcohol consumption was double among agricultural workers. The relationship between problem drinking and unemployment of 6 months or more in total was significantly associated with heavy drinking in men. The unemployed may be drinking due to boredom or stress.

Alcohol Dependence Characteristics

Age of Initiation

In the current study, 70% of the subjects started consuming alcohol between the ages of 15- 25 years. Orford & Hawker [8] studied 59 alcoholics in whom the mean age was 45 years and the mean age of drinking is invariably between 15-25 years. The Sakalawara study [9] supports the fact that alcohol use starts in the formative years of early adult life, with the factors involved in initiation being peer group pressure and the social desire for exploring new stimulation and novelty.

Frequency of Attempts to Abstain

In the current study, as depicted in Table 3, 20% of the sample made more than two attempts to abstain indicating good motivation. 54% of the sample made up to two attempts to abstain from drinking. Only 26% of the group had made no attempts to abstain at all. This means that three fourth of the alcohol dependent individuals made an effort to give up alcohol. Rehabilitative services must concentrate on those who want to give up, and facilitate their abstinence. The factors influencing the alcoholic to abstain were mainly religious. On interviewing the patients, they reported that abstinence was due to health reasons and also as they had socially "lost their self respect" among relatives and friends. The other factor for the success of abstinence was reinforcing. All of the above reasons imply that alcoholics are sensitive to and aware of the problems caused by alcohol. They are able to discriminate between their experiences while drinking and while

being abstinent, indicating insight. Majority of the sample came by their own choice due to acute physical complication due to heavy alcohol drinking while a small number were brought by others.

Total Duration of Abstinence This is depicted in Table 8 where, 20% of the sample of the current study abstained for more than a total period of 12 months. More than half of the group, i.e., 54% abstained for less than twelve months, while 26% of the group did not abstain at all. Three fourth of the sample i.e., 74% of the sample had made some attempt to abstain for varying periods of time. The total duration of abstinence indicates degree of motivation and effort that alcohol dependent individuals exercise. 20% of the sample who abstained for more than a year had displayed maximum motivation to remain abstinent. About half the group, had what can hypothetically be called moderate motivation to give up drinking, was abstinent for less than a year. This indicates that their motivation was insufficient to make an effort to give up drinking.

Prevalence of Specific Co-morbid Psychiatric Disorders

Among the affective spectrum, the commonest was a bipolar affective disorder (8%) which is similar to the study by Weissmann et al. [10], which showed 6%. Patients suffering from major depressive disorders and dysthymic disorders were 8%. Hesselbrock [11] study showed 38% depression and 2% schizophrenia and 4% mania in the alcohol dependent patients. It can be speculated that bipolar mood state affects the drinking patterns which was seen in the study so the treatment of the mood state should also be beneficial in controlling alcohol dependence.

Many of the individuals during the interview attributed their drinking with their mood state. Clinical and epidemiological studies have revealed that alcohol and depression are linked stated Regier et al. [12]. The reverse also applies that in withdrawal states also have a prominent affective component, Hershon HI [13]. Individuals with bipolar illness tend to use alcohol to reduce agitation both during depression and manic phases Merikangas & Gelernter [14].

- This was followed by the psychotic spectrum which included psychosis in 6% of the study sample. Delusional disorders were found in 4% patients. Schizophrenia was found in 2% and schizo-affective disorder was found in 2%, this is comparably low to the studies done by Hesselbrock et al. [11],

- o Ross et al. [15] showed major depressive disorder (22.6%), dysthymia in 13.4%, schizophrenia (8.2%), generalized anxiety disorder (50%) and anti-social-personality-disorder (46.2%), It can be speculated that the anxiety disorders was less prevalent in the current study and this may be due to the fact that anxious people abuse alcohol but do not become dependent.

Among the Axis-II personality disorders, antisocial personality disorders was the most prevalent reaching across (26%), almost similar to the study by Powell (16) showing 22%. Obsessive compulsive personality disorder was most prevalent (12%), followed by antisocial, paranoid and dependent personality disorders (7% each). Most of them showed only one personality disorder as studied by Enrique Echeburua et al. [17] Grant BF et al. [18] reported that among individuals with a current alcohol use disorder, 28.6 percent had at least one personality disorder.

This study concludes that there is a high incidence of coexisting mental health problems associated with alcohol dependence. Hence the treatment of alcohol dependence should not be limited to de-addiction, but should also include the treatment of coexisting psychopathology. Understanding this pattern will help us in framing guidelines for educating the public and in prevention at a primary stage. Intervention strategies for the families of alcoholics can be designed.

Limitations of the Study

The study was limited to male inpatient population (hospital based study) in a tertiary care hospital, hence results cannot be generalized.

References

1. World Health Organisation. Global Status Report on Alcohol and Health [Internet]. http://www.who.int/substance_abuse/publications/global_alcohol_report/msb_gsr_2014_1.pdf. 2014 [cited 2017 Sep 28]. Available from: http://apps.who.int/iris/bitstream/10665/112736/1/9789240692763_eng.pdf.
2. Brion M, D'Hondt F, Pitel A-L, Lecomte B, Ferauge M, de Timary P, et al. Executive functions in alcohol-dependence: A theoretically grounded and integrative exploration. *Drug Alcohol Depend*. 2017 Aug 1;177:39-47.
3. Kessler RC. The epidemiology of dual diagnosis. *Biol Psychiatry*. 2004;56:730-7.
4. Roy A, DeJong J, Lamparski D, Adinoff B, George T, Moore V, et al. Mental Disorders Among Alcoholics: Relationship to Age of Onset and Cerebrospinal Fluid Neuropeptides. *Arch Gen Psychiatry*. 1991 May 1;48(5):423-7.
5. Sheehan D, Lecrubier Y, Harnett-Sheehan K, A. Amorim P, Janavs J, Weiller E, et al. The Mini-International Neuropsychiatric Interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. 1998;59 (Suppl 20):22.
6. International Personality Disorder Examination (IPDE) | Hogrefe [Internet]. [cited 2017 Sep 28]. Available from: <http://www.hogrefe.co.uk/international-personality-disorder-examination-ipde.html>.
7. Stockwell T, Murphy D, Hodgson R. The Severity of Alcohol Dependence Questionnaire: Its Use, Reliability and Validity. *Br J Addict*. 1983 Jun 1;78(2): 145-55.
8. An investigation of an alcoholism rehabilitation halfway house: II the complex question of client motivation. [Internet]. [cited 2017 Sep 28]. Available from: <http://www.pubpdf.com/pub/4532046/An-investigation-of-an-alcoholism-rehabilitation-halfway-house-II-the-complex-question-of-client-mot>.
9. Sumana, K P. An evaluation study on alcoholics in Sakalawara sub centre area. *Community Ment Health Publ NIMHANS Bangalore*. 1991;
10. Weissman MM, Myers JK, Harding PS. Prevalence and psychiatric heterogeneity of alcoholism in a United States urban community. *J Stud Alcohol*. 1980 Jul 1;41(7):672-81.
11. Hesselbrock MN, Meyer RE, Keener JJ. Psychopathology in Hospitalized Alcoholics. *Arch Gen Psychiatry*. 1985 Nov 1;42(11):1050-5.
12. Regier DA, Farmer ME, Rae DS, Locke BZ, Keith SJ, Judd LL, et al. Comorbidity of mental disorders with alcohol and other drug abuse. Results from the Epidemiologic Catchment Area (ECA) Study. *JAMA*. 1990 Nov 21;264(19):2511-8.
13. Hershon HI. Alcohol withdrawal symptoms and drinking behavior. *J Stud Alcohol*. 1977 May 1;38(5): 953-71.
14. Merikangas KR, Gelernter CS. Comorbidity for alcoholism and depression. *Psychiatr Clin North Am*. 1990 Dec;13(4):613-32.
15. Ross HE, Glaser FB, Germanson T. The Prevalence of Psychiatric Disorders in Patients With Alcohol and Other Drug Problems. *Arch Gen Psychiatry*. 1988 Nov 1;45(11):1023-31.
16. Powell BJ, Penick EC, Othmer E, Bingham SF, Rice AS. Prevalence of additional psychiatric syndromes among male alcoholics. *J Clin Psychiatry*. 1982 Oct;43(10):404-7.
17. Echeburúa E, Medina D, Bravo R, Aizpiri J. Comorbidity of alcohol dependence and personality disorders: A comparative study. *Alcohol Alcohol*.

- 2007 Nov 1;42(6):618-22.
18. Grant BF, Stinson FS, Dawson DA, Chou SP, Ruan WJ, Pickering RP. Co-occurrence of 12-Month Alcohol and Drug Use Disorders and Personality Disorders in the United States: Results From the National Epidemiologic Survey on Alcohol and Related Conditions. Arch Gen Psychiatry. 2004 Apr 1;61(4):361-8.
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