

Original research article**The socio-demographic variables with severity of delirium in patients with alcohol related disorders****¹Dr. Vijay Raj N, ²Dr. Vajipeyajula Anupama, ³Dr. Sadananjali**¹Professor, Department of Psychiatry, Karwar institute of medical sciences, Karnataka, India²Assistant Professor, Department of Psychiatry, CDSIMER, Bengaluru, Karnataka, India³Assistant Professor, Department of Biochemistry, Gadag Institute of Medical sciences, Karnataka, India**Corresponding Author:**

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Abstract

Alcohol dependence is a chronic and relapsing condition and due to its relapsing nature leads to multiple withdrawal states. Withdrawal syndrome is an important and characteristic feature of alcohol dependence and needs clinical attention and management. Consecutively referred patients with alcohol related problems to the Department of Psychiatry, who fulfilled the inclusion criteria were included in the study. A total of 150 cases were assessed and 142 cases were included for the final analysis. All the patients were assessed on the day of referral or admission and appropriate scales were used to collect the data. Mean age of DT group being 43.8 (sd= 6.8) and in Non-DT group being 41.9 (sd=8.7). There was no statistical difference in the mean age, in both the groups. 15 (48.4%) patients were males while 16(58.6%) were female in DT group while 66 (59.5%) were male and 46 (44.2%) female in Non-DT group. Cases with DT were similar in terms of domicile (urban and rural), occupation (unskilled, semiskilled, skilled) and there was no statistical significance in DT and Non-DT group.

Keywords: Socio-demographic variables, Severity of delirium, Alcohol related disorders

Introduction

The prevalence of alcohol use related problems vary across the population. The rates elicited indicate that the largest proportion of alcohol users do not develop those clinical disorders. Screening questionnaires such as CAGE, a four-item instrument which rates the probability of alcoholism have identified around 20% of the adult population as probable alcohol misusers ^[1]. More stringent procedures, which apply full diagnostic criteria, yield point prevalence rates ranging from 5.4 to 7.4 percent, depending on whether the clinical disorder surveyed is strictly alcohol dependence or any form of harmful drinking (i.e. dependence plus alcohol abuse). The rates for men are about double those for women. In India a study conducted by revealed overall substance use prevalence of 6.9/1000 with urban and rural rates of 5.8 and 7.3/1000 respectively. Rates among men and women were 11.9% and 1.7% respectively. A study in southern rural India showed that 14.2% of population surveyed had hazardous alcohol use on the AUDIT. A similar study in the tertiary hospital revealed that 17.6% admitted patients had hazardous alcohol use ^[2, 3].

Alcohol dependence is a chronic and relapsing condition and due to its relapsing nature leads to multiple withdrawal states. Withdrawal syndrome is an important and characteristic feature of alcohol dependence and needs clinical attention and management. Alcohol has a general central nervous system depressant effect and in view of adapting to this there is increased excitability of nerve cells through different mechanisms. When alcohol is eliminated from body during abstinence this compensatory increased excitability remains for several days and may present clinically in different forms ranging from mild tremors to delirium tremens and death ^[4].

Methodology**Source of data**

142 out of 150 patients with alcohol related problems were recruited as per ICD-10, those who had attended or referred to the department of psychiatry.

Type of study

A prospective cross sectional study design.

Sampling procedure

Consecutive sampling was done to select the study subjects. All patients who attended or referred to the department of psychiatry with alcohol related disorders as per ICD-10 were included in the study.

Inclusion criteria

Adult patients more than 18yrs of age who had attended or referred to the Department of Psychiatry for alcohol related problems as per ICD-10.

Exclusion criteria

- Clinical evidence of other significant primary psychiatric illness other than alcohol related disorders were excluded. These include dementia due to any cause, schizophrenia, bipolar affective disorders and major depressive disorders.
- Other substance use disorders like benzodiazepine dependence syndrome, opioid dependence syndrome and cannabis dependence syndrome, except for nicotine dependence syndrome Delirium primarily due to other causes like neuro-infections, head injury (head injury resulting in intracranial bleed or significant oedema), hepatic encephalopathy, metabolic causes like hyponatremia, hypoglycemia and systemic causes like septicemia.

Methods of collection of data

Consecutively referred patients with alcohol related problems to the Department of Psychiatry, who fulfilled the inclusion criteria were included in the study. A total of 150 cases were assessed and 142 cases were included for the final analysis. All the patients were assessed on the day of referral or admission and appropriate scales were used to collect the data.

Results

Table 1: Comparison of Socio-demographic profile in Delirium Tremens (DT) patients when compared with Non-DT patients:

Variable	Delirium Tremens N=31	Non- Delirium Tremens N=111	p value
Age in years(mean/sd)	43.8 (6.8)	41.9 (8.7)	0.279
Gender n (%)			
Male	15 (48.4%)	66 (59.5%)	
Female	16 (58.6%)	45 (40.5%)	
Domicile n (%)			
Urban	17 (54.8%)	65 (55.8%)	
Rural	14 (45.2%)	46 (44.2%)	
Occupation n (%)			
Unskilled	6 (19.4%)	10 (9%)	
Semiskilled	16 (51.6%)	63 (56.8%)	
Skilled	9 (29%)	38 (34.2%)	

Mean age of DT group being 43.8 (sd= 6.8) and in Non-DT group being 41.9 (sd=8.7). There was no statistical difference in the mean age, in both the groups. 15 (48.4%) patients were males while 16 (58.6%) were female in DT group while 66 (59.5%) were male and 46 (44.2%) female in Non-DT group. Cases with DT were similar in terms of domicile (urban and rural), occupation (unskilled, semiskilled, skilled) and there was no statistical significance in DT and Non-DT group

Table 2: Family History using FIGS in patients with Delirium Tremens (DT) when compared with Non-DT patients

Any one adopted in family	0 (0)	2 (1.80)	0.45
Family history of problem with nerves or emotions	2 (6.45)	2 (1.80)	0.17
Family history of Depression	1 (3.22)	3 (2.70)	0.09
Family history of Suicide	2 (6.45)	5 (4.50)	0.66
Family history of Mania	0 (0)	2 (1.80)	0.45
Family history of Psychosis	2 (6.45)	0 (0)	0.007
Family history of alcohol or drug use problems (health, family, job or police).	18 (58.06)	54 (48.65)	0.35
Family history of any one hospitalized for psychiatric or drug or alcohol problems	4 (12.90)	24 (21.62)	0.28
Family history of CNS Disorder	1 (3.22)	5 (4.50)	0.76

Family history was evaluated in detail using the Family interview for genetic studies (FIGS) in all the cases. There was family history of alcoholism in half of the total sample, which was not different among the DT and non DT cases. There were higher rates of problems due to alcohol use, presence of family history of psychosis in the DT group when compared to that of non DT.

Discussion

Alcohol dependence leads to various physical, psychological and social problems. Since many centuries studies about the alcohol dependence and its complications like DT were reported [5]. DT is characterized by short lived, but occasionally life threatening toxic confusional state with accompanying somatic disturbances. It is usually a consequence of absolute or relative withdrawal of alcohol in severely

dependent users with a long history of use. There is a great variation in occurrence of DT between studies ranging from 1% up to 33%. Previous studies showed that DT is preceded by withdrawal seizures and also associated with significant changes in the laboratory parameters such as AST, ALP, GGT, platelets, serum electrolytes etc. Historically mortality rate from delirium tremens has been reported as high as 20%. However, with appropriate detection and prompt treatment, mortality has reduced and currently the mortality from DT ranges from 1 to 5% [6].

In view of the above findings, DT is one of the common presentation of severe alcohol withdrawal state and a cause of morbidity and mortality. The studies have shown varying prevalence rates and the associated clinical correlates with DT. There has been very few studies on the prevalence of DT from the Indian subcontinent and which have been retrospective in nature [7]. Also the clinical characteristics and profile of withdrawal symptoms from our set of population may be varying compared to the western literature. Hence our study is aimed at evaluating the prevalence and clinical correlates of DT in patients with alcohol dependence syndrome from a general hospital setup. With long-term alcohol consumption, receptors in the brain undergo adaptive changes in an attempt to maintain homeostasis. The important neurotransmitter system involved in AWS are gamma-aminobutyric acid (GABA) and glutamate [8]. The symptoms of withdrawal represent a phase in the alcohol-induced cycle of neuronal inhibition and excitation. Research has demonstrated that short-term (i.e., acute) administration of alcohol can alter the release of chemical messengers (i.e., neurotransmitters) from neurons and can disrupt the function of proteins in neuronal membranes, including receptor proteins which bind to neurotransmitters and ion channels through which ions (e.g., sodium or calcium) enter the cell.

Following repeated intake of alcohol, the brain attempts to restore normal functioning through adaptations (i.e., tolerance) that reduce alcohol's initial perturbing effects. Long-term exposure to alcohol can lead to physical dependence, in which neuronal adaptations to alcohol become sufficiently pronounced in that the brain requires the continued presence of alcohol to function normally. When a person stops a prolonged drinking session, the adaptations that developed to offset alcohol's initial inhibitory actions are unopposed, resulting in a rebound hyper- excitability or withdrawal syndrome [9, 10].

Conclusion

There was no statistical difference in the mean age, in both the groups. 15(48.4%) patients were males while 16(58.6%) were female in DT group while 66 (59.5%) were male and 46(44.2%) female in Non-DT group. Cases with DT were similar in terms of domicile (urban and rural), occupation (unskilled, semiskilled, skilled) and there was no statistical significance in DT and Non-DT group.

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