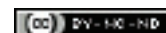**Original Article**

Occurrence and Motives Associated with Relapse after a De-addiction Treatment in Men with Alcohol Dependence Syndrome in a Tertiary Care Hospital- A Cross-sectional Study

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ABSTRACT

Introduction: Alcohol dependence is a chronic relapsing brain disorder. A combination of biological, psychological and social factors influences the outcome of de-addiction treatment. Understanding these factors help in formulation of effective relapse management strategies in alcohol dependence.

Aim: To understand the occurrence and motives of drinking behaviour after de-addiction in males with past diagnosis of alcohol dependence syndrome.

Materials and Methods: A cross-sectional design was employed for determining the prevalence of relapse after de-addiction treatment. A semi structured socio-demographic proforma, clinical data form and Drinking Motives Questionnaire-Revised (DMQR) were used to assess correlates of relapse and remission on men who underwent de-addiction for alcohol dependence (n=58) after obtaining informed consent. Comparisons were carried out on different variables between relapse and remission groups using Statistical Package for Social Sciences (SPSS) version 20 and were reported.

Results: The occurrence of relapse after de-addiction treatment was 51.7%. Patients who had relapsed were significantly more likely to have less than a year of abstinence in the past and have received less than two de-addiction treatments in the past. More patients who had received less than two weeks of in-patient treatment for de-addiction maintained remission when compared to patients who had relapsed. Presence of high scores on social, coping and conformity motives was positively associated with relapse in this study.

Conclusion: The occurrence of relapse after de-addiction treatment was found to be high. Multiple biological, psychosocial and treatment variables influence the outcomes of de-addiction treatment. This study added to the literature on treatment variables and individuals motive for drinking behaviour.

INTRODUCTION

World Health Organisation, report mentions that alcohol is consumed by around 2 billion people around the world out of which 76.3 million people are diagnosed with alcohol use disorders [1]. Global burden of disease study on the risk factors of death and disability stated drinking of alcohol as the third leading cause of death and cause of 5.5% of Disability-Adjusted Life Years (DALYs) all over the world. Alcohol drinking comes under 10 causative factors, leading to loss of 3% DALYs in India [2]. National survey of drug use in India reports that 27% of adult males use alcohol [3]. Alcohol consumption causes significant health and social problems worldwide [4].

Alcohol Dependence Syndrome is a chronic relapsing brain disease, characterised by an impaired ability to stop or control alcohol use, despite adverse social, occupational and health consequences. It is prevalent in people of all age and socioeconomic groups [5]. The development of alcohol dependence is determined by many neurobiological and environmental factors [6]. Studies have reported good remission rates in people treated for alcohol dependence on short term basis, but maintenance of abstinence on long term was a challenge [7,8]. Relapse is defined as restarting substance use on regular basis after a period of abstinence [4]. Relapse is determined by biological, psychological and social factors and the interaction among these [8]. Studies found that peer pressure, familial problems, individual and environmental factors were the main factors causing relapse [5,9,10]. Contradictory findings are present for association of relapse with marital status (living alone, i.e., separated/divorced/widow), monthly income, age of onset and history of polysubstance use [11-13]. The contradictory findings in the previous studies are probably due to interplay between neurobiological and psychosocial factors.

There is a substantial role of the treatment received for de-addiction and severity of the disorder [7]. Despite significant advances in neurobiology of addiction, psychological and social factors continue to influence relapses. There are only a few studies that had studied treatment variables like duration of treatment and individual factors like motives of drinking behaviour. The present study was aimed to understand the occurrence and motives of drinking behaviour associated with relapse in men with alcohol dependence syndrome who had underwent prior de-addiction treatment.

MATERIALS AND METHODS

This study was conducted in de-addiction clinic of Department of Psychiatry in a tertiary care hospital in Chennai, Tamil Nadu, India. The study was approved by the Institutional Ethics Committee of Sri Ramachandra Institute of Higher Education and Research, Chennai, Tamil Nadu, India. (Ref: CSP/MED/19/JUN/53/75). This study was conducted from July 2019 to October 2019. A cross-sectional design was employed to study the prevalence and correlates of relapse after de-addiction treatment in males with a prior diagnosis of alcohol dependence as per International Classification of Diseases (ICD) version-10.

All consecutive males in the age group of 18-65 years, who attended de-addiction clinic with history of de-addiction treatment in the past, were invited to participate in the study after obtaining a written informed consent. Patients who had co-morbid psychiatric illness, intellectual disability or any other substance use as mentioned in the medical records were excluded. A total of 58 patients met the inclusion criteria in four months study period. For the purpose of this study, relapse was defined as those who had restarted using alcohol after a month of abstinence and remission was defined as who had not used substance for at least three months.

Assessment Tools

Data was collected using the following instruments:

1. **Socio demographic proforma:** A semi-structured proforma was used to get information on with socio demographic details like age, education, marital status, occupation, income, debt, habitat etc.

2. **Clinical data sheet:** This was developed by the authors to capture information on variables like age of onset of drinking, age of dependence, past treatment of de-addiction, duration of de-addiction, maximum period of abstinence, and family history of substance use disorder.

3. **Drinking Motives Questionnaire-Revised (DMQR) [14]:** This questionnaire has four domains; each domain has five different kinds of motives for drinking. Each Domain or sub-scale comprise drinking for different reasons, 1st sub-scale has 5 items for coping motives, 2nd 5 items for conformity motives, 3rd sub-scale has five items for social motives, and the 4th sub-scale or domain has five items for enhancement motives. The respondents were required to answer what were the reasons behind their drinking in a five point scale ranging from one (never) to five (always). Calculating the mean of the scores of each sub-scale items revealed what motivated them for drinking. The reliability and validity of this instrument was well established.

STATISTICAL ANALYSIS

Statistical analysis was done using computer software SPSS Version 20. The categorical variables and continuous variables were described in percentages and Mean (SD) respectively. The chi-square test and t-test were used to assess significance of association between categorical and continuous variables, respectively. The p-value ≤0.05 was considered statistically significant.

RESULTS

Demographic and clinical variables were collected from the patients who were included in the study. The primary outcome variable of this study was occurrence of relapse. A total of 58 participants were included in the final analysis, out of which 28 (48.3%) participants belonged to remission group and the remaining 30 (51.7%) were in the relapse group. The results were compared between the alcohol relapse and remission groups.

Socio-demographic variables like age, education, habitat, marital status, occupation, presence of debt and clinical variables like positive family history, age at onset of dependence, duration of dependence, duration of de-addiction treatment received, co-morbid medical condition were compared in these two groups. Drinking motives across various domains were compared in these two groups. There was no significant difference between socio demographic characteristics between relapse and remission groups [Table/Fig-1].

More persons in remission group had past experience of more than a year of abstinence, but less than two numbers of de-addiction treatments as compared to replase group [Table/Fig-2]. More persons were in remission with less than two weeks of de-addiction treatment. Significantly higher social, coping, conformity motives and total

Variable		Current status of the patient		
		Remission Mean (Range)	Relapse Mean (Range)	p-value
Age of the patient (years)		42 (25-64)	40.6 (28-58)	0.539
Income of the patient per month (rupees)		15535 (5000-30000)	20316 (0-100000)	0.179
Debt (rupees)		299642 (0-600000)	309100 (0-2500000)	0.967
		Remission N (%)	Relapse N (%)	
Educational status of patient	High school or more (n=17)	13 (76.5%)	4 (23.5%)	0.06
	Below high school (n=41)	15 (36.6%)	26 (63.4%)	
Employment status of patient	Employed (n=47)	23 (48.9%)	24 (51.1%)	0.835
	Unemployed (n=11)	5 (45.5%)	6 (54.5%)	
Type of family of patient	Nuclear (n=32)	16 (50%)	16 (50%)	0.771
	Joint (n=26)	12 (46.2%)	14 (53.8%)	
Marital status of patient	Married (n=49)	24 (49%)	25 (51%)	0.802
	Single (n=9)	4 (44.4%)	5 (55.6%)	
Whether patient had any debts	Yes (n=31)	14 (45.2%)	17 (54.8%)	0.611
	No (n=27)	14 (51.9%)	13 (48.1%)	
Background of patient	Urban (n=43)	21 (48.8%)	22 (51.2%)	0.885
	Rural (n=15)	7 (46.7%)	8 (53.3%)	

[Table/Fig-1]: Socio-demographic factors associated with abstinence and relapse.

Variable	Category	Current status of the patient		
		Remission Mean (SD)	Relapse Mean (SD)	p-value
Family history of psychiatric illness	Yes (n=49)	22 (44.9%)	27 (55.1%)	0.230
	No (n=9)	6 (66.7%)	3 (33.3%)	
Age of first drink	≤20 years (n=36)	16 (44.4%)	20 (55.6%)	0.455
	>20 years (n=22)	12 (54.5%)	10 (45.5%)	
Age of dependence	≤20 years (n=8)	3 (37.5%)	5 (62.5%)	0.511
	>20 years (n=50)	25 (50%)	25 (50%)	
Duration of dependence	≤10 years (n=31)	17 (54.8%)	14 (45.2%)	0.284
	>10 years (n=27)	11 (40.7%)	16 (59.3%)	
Maximum duration of abstinence in past	≤1 year (n=33)	11 (33.3%)	22 (66.7%)	0.009*
	>1 year (n=25)	17 (68%)	8 (32%)	
Duration of in-patient treatment	≤2 weeks (n=31)	20 (64.5%)	11 (35.5%)	0.008*
	>2 weeks (n=27)	8 (29.6%)	19 (70.4%)	
Number of de-addiction treatments in the past	≤2 (n=46)	18 (39.1%)	28 (60.9%)	0.006*
	>2 (n=12)	10 (83.3%)	2 (16.7%)	
Medical co-morbidities	Yes (n=39)	19 (48.7%)	20 (51.3%)	0.923
	No (n=19)	9 (47.4%)	10 (52.6%)	
Liver disease	Yes (n=27)	10 (37%)	17 (63%)	0.11
	No (n=31)	18 (58.1%)	13 (41.9%)	

[Table/Fig-2]: Clinical factors associated with remission and relapse.

Variable	Remission Mean (SD)	Relapse Mean (SD)	Lower	Upper	df	p-value
Social score	11.14 (1.48)	12 (1.31)	-1.59	-1.21	54.0	0.02*
Coping score	11.35 (1.37)	17.2 (1.74)	-6.67	-5.01	54.3	<0.001*
Enhancement score	13.07 (1.24)	12.8 (2.01)	-0.61	1.15	48.9	0.542
Conformity score	12.75 (1.75)	13.8 (1.61)	-1.93	-0.16	54.6	0.021*
Total score	48.32 (2.73)	55.8 (3.69)	-9.19	-5.77	53.3	<0.001*

[Table/Fig-3]: Comparison of drinking motives between relapse and remission groups.

motive scores were found in the relapse group [Table/Fig-3].

DISCUSSION

In this study, the mean age of patients was 41.28 years with slightly higher mean age in remission group. This study didn't reveal any association with age of the patient, marital status, education, employment status, income or presence of debt. This could be because of inadequate sample size and sample being drawn from hospital as opposed to community. Positive family history of alcohol use is associated with increased risk for relapse in studies done in past and the present study found no such association [8,15]. However, statistically significant association was found with treatment variables like duration of inpatient de-addiction treatment and number of de-addiction treatments in past. This was not widely reported in the past. As opposed to popular belief contrast to popular notion of longer de-addiction treatment yielding better result, this study revealed that remission rate was higher in patients who had received less than two weeks of in-patient stay for de-addiction [16]. This could be probably because of better patient autonomy in treatment related decisions leading to better therapeutic alliance and better follow-up as an outpatient. More than two de-addiction treatments and more time of abstinence in the past is associated with positive outcome of relapse similar to previous studies [17,18].

This study shows that occurrence of relapse was 51.7% which is similar to previous study done in the same part of India [17]. A 12 month follow-up study done in Istanbul in 2010 reported much relapse rates of 61.3% after treatment in patient basis [16]. Relapse rates of 68% were reported even after anti-craving medications for one year [19]. A large multisite study done in United States reported a relapse rate of 75% after one year of treatment completion [20]. Another study that followed-up patients who received outpatient treatment reported that 32% relapsed after an intensive psychological intervention due to high craving [21].

This study looked into motives behind drinking in relapse and remission groups and found high scores in coping, social and conformity scores in relapse group when compared to remission group. Most of the studies in past have looked into relapse coping behaviour, self-efficacy and stressful life events and found that they have significant role in relapse, present study has explored a new dimension of motives and found that poor coping, more social desirability and conformity were associated with relapse behaviours [17,22].

This study illustrates that it is difficult to determine the outcome after de-addiction on basis of demographic or clinical factors. Relapse is a complex entity and interplay of neurobiological and psychosocial variables determine the outcome. Further studies are needed to explore the neurobiological and psychosocial factors holistically.

Limitation(s)

This was a non-blinded study done in hospital setting with sample size which limits the generalisability of the study findings. The study design was cross-sectional, and there was no longitudinal course. Personality factors of the study population were not assessed which could have potential impact on treatment outcome. The role of the anti-craving medications and psychotherapies in maintaining remission were not assessed due to inadequate sample size. Thus, there is need for further studies which may assess all possible bio-psycho-social factors in detail, with the proper research design.

CONCLUSION(S)

Shorter and multiple de-addiction treatments may have better outcomes of remission in persons with alcohol dependence syndrome as compared to traditional long inpatient de-addiction treatments. This study adds to existing literature on motives for drinking behaviour among persons with alcohol dependence. It reiterates that alcohol dependence is a complex bio-psycho-social-problem and no specific socio-demographic or clinical variable could predict relapse.

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