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Original Research Article

Prevalence and correlates of relapse in adult male patients with alcohol dependence: a cross sectional study conducted in a tertiary care hospital in Northern India

Prashant Kumar[1]*, Anupriya Thadani[2]

[1]Department of Psychiatry, Ranchi Institute of Neuro Psychiatry and Allied Sciences, Ranchi, Jharkhand, India
[2]Department of Pharmacology, Era's Lucknow Medical College and Hospital, Lucknow, Uttar Pradesh, India

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***Correspondence:**
Dr. Prashant Kumar,
E-mail: pkhawk0004@gmail.com

ABSTRACT

Background: Relapse to alcohol dependence after successful detoxification and rehabilitation is a public health concern worldwide. Although the burden of alcohol dependence is massive in the Indian subcontinent, very little is known about the causes of relapse among patients treated for alcohol abuse. Hence, this study was designed to evaluate the prevalence and factors associated with relapse in patients of alcohol dependence disorder.
Methods: 50 male patients diagnosed with alcohol dependence (according to ICD-10 criteria) who attended both in-patient and out-patient outpatient department (OPD) of a tertiary care hospital were included in our study. Severity of Alcohol Dependence Questionnaire (SADQ) for severity of alcohol dependence, Presumptive Stressful Life Events Scales (PSLES) and relapse precipitant inventory were used for correlation of factors responsible for relapse amongst these alcohol abusers after informed consent and acquiring socio-demographic details.
Results: Out of 50 patients enrolled in the study as per the International Classification of Diseases 10th revision Diagnostic Criteria for Research (ICD-10 DCR), a majority (92%) were Hindus, 60% belonging to the rural background. Family history of alcohol dependence was found to be present among 46% patients, and a majority had moderate to severe alcohol dependence. Craving for alcohol was found to be the most common cause of relapse amongst these, and 72% patients showed moderate to severe stress on the PSLES scale.
Conclusions: Alcohol consumption is emerging as a major public health problem in India. Regular follow up with family, peer and social support are essential along with vocational rehabilitation to prevent relapse. Multi-centric scientific community-based research studies have to be conducted in various individual states to understand the problem better. There is a dire need for various policymakers, media, professionals and society to come together and create awareness about the consequences of chronic alcohol through sensitization programmes and health education campaigns.

Keywords: Alcoholism, Relapse, Alcohol dependence, Rehabilitation

INTRODUCTION

Alcohol use disorder is one of the most common psychiatric disorders, and a significant health and social problem seen all over the world. Over the past decade, the use of alcohol has decreased in high-income countries, whereas a rapid rise has been observed in several low and middle-income countries in Southeast Asia, including India, where research suggests that alcohol use has led to an estimated 3,40,000 deaths and 14.7 million disability-adjusted life years in 2019.[1,2]

Relapse has been variously understood, however, most agree that it amounts to a return to earlier (dependent)

pattern of use. In contrast, drug reuse is implied as 'lapse' i.e. a pattern ranging from single use to earlier use not amounting to dependent use.[3] Majority of treated substance abusers ultimately relapse which may be frequent and rapid. It has long been known that addictive disorders are chronic and relapsing in nature.[4,5]

Estimates from various clinical studies suggest that more than two thirds of individuals relapse within weeks to months of initiating treatment.[6] Reportedly, majority of patients undergoing treatment relapse within a year of starting treatment, with the first three months being the most vulnerable period.[7] Relapse can be a frustrating experience and usually has several adverse consequences for patients, caregivers and therapists.[8] Relapse is a multi-factorial phenomenon and most likely to result from a combination of various neurobiological, genetic and epigenetic, psychological, social, and environmental factors. The vulnerability to relapse following withdrawal is proposed to be the result of neuroadaptive processes within the central nervous system, leading to impairment in the mechanisms that mediate positive reinforcement and the emergence of affective changes.[9]

Various sociodemographic factors like young age, male sex, unemployment, singular status, peer group influence, family history of substance abuse, and poor family support, are well known to be associated with relapse. Two possible groups of factors would seem to be of likely importance. Firstly, the "internal state" of the patient, which may be manifested by such emotional states as anxiety and depression and secondly, the occurrence of events in the patient's life which disturbs his psychological homeostasis, obviously the group of factors interact.[10] Notwithstanding, different terms used for classification of determinant factors of relapse, it is important that both personal as well as environmental factors have an influencing role in determining the relapse rate and pattern.

Although research in the field of alcohol use disorder and relapse after successful detoxification and rehabilitation has gathered pace, little is known about the various factors most critical in causing such occurrences of relapse amongst patients. Gathering knowledge in this regard from patients, its implementation into clinical practice, and training of health care providers hence becomes essential for adequate treatment of individuals suffering from alcohol use disorder.[11]

METHODS

This cross-sectional study was conducted in the department of psychiatry, Era's Lucknow Medical College, Lucknow, over 6 months (from January 2019 to July 2019) after obtaining approval from the Institute's ethical committee.

50 male patients with a diagnosis of alcohol dependence syndrome according to the International Classification of Diseases 10th revision Diagnostic Criteria for Research (ICD-10 DCR) admitted in the ward were recruited in the study.

All consecutive patients who fulfilled the inclusion and exclusion criteria and giving informed consent were assigned to the study group. All subjects were taken from the inpatient ward of the hospital, after the period of detoxification was complete. They were subjected to a detailed psychiatric interview, clinical and biochemical examinations including blood glucose and liver enzymes and assessed on different scales. Sociodemographic and clinical data regarding alcohol consumption were recorded in a semi-structured proforma designed for this study. The severity of alcohol dependence was assessed using Severity of Alcohol Dependence Questionnaire (SADQ). The data so obtained was statistically analyzed using Statistical Package for Social Sciences (SPSS) version 21.0 statistical analysis software.

Inclusion criteria

Males between age group 18 to 50 years; subjects fulfilling ICD-10 DCR criteria for alcohol dependence; subjects previously treated for alcohol dependence; subjects having history of at least one history of relapse; subjects relapsed after 2 months of abstinence; and subjects giving the informed consent and with reliable informant were included in the study.

Exclusion criteria

Patients with multiple substance abuse/dependence; patients with chronic medical and surgical diseases; patients diagnosed with mental retardation; patients not confirming to substance use/dependence as laid down by diagnostic guidelines by ICD-10 DCR; and patients not giving informed consent were excluded.

Tools for assessment

Semi structured proforma containing sociodemographic and clinical variables associated with alcohol consumption.

ICD-10-DCR was used for diagnosing alcohol dependence syndrome (F10.2).[12]

SADQ was employed to assess the severity of alcohol dependence. A score of >31 indicates severe alcohol dependence, 16 to 30 – moderate dependence, and <16 indicates mild physical dependence.[13,14]

The standardized and statistically tested Presumptive Stressful Life Events Scales (PSLES) was designed by Indian scientist Gurmeet Singh. In this scale, 51 different variables (life events) were found to be experienced by the normal Indian population in the past one year. For each life event, a mean stress score was given.[10]

Relapse precipitant inventory is a 25-item inventory developed by Litman et al that analyzes the situational factors governing the alcohol relapse. The entire scale has been divided into three factors – representing negative mood states (factor I), positive mood states (factor II) and cognitive vigilance (factor III).[15,16]

RESULTS

A total of 50 patients were included in the study who fulfilled both the inclusion and exclusion criteria. Sociodemographic and clinical profile of the study subjects was determined (Table 1). The mean age of the patients was 35 years. Out of the 50 patients in our study sample, majority were Hindus (92.0%), educated up to 10th standard (60%). All of them were employed, and almost 54% had income between Rs 10000–30000 and belonged to the rural background (60%). The mean age of onset of alcohol dependence in study subjects was 30 years and the mean duration of alcohol dependence was 6 years. Family history of alcohol dependence was present in 46% of the subjects. Majority (42%) of the subjects had severe alcohol dependence on SADQ and 46% had alcohol consumption of more than 500 ml/day.

Table 1: Socio-demographic and clinical distribution of subjects.

Variable	N (%)
Religion	
Hindu	46 (92.0)
Muslim	3 (6.0)
Sikh	1 (2.0)
Residence	
Urban	20 (40.0)
Rural	30 (60.0)
Education	
Illiterate	3 (6.0)
High school	27 (54.0)
Graduate	14 (28.0)
Post graduate	1 (2.0)
Total family income (Rs.)	
<10000	18 (36.0)
10000–30000	27 (54.0)
>30000	5 (10.0)
Age (mean±SD) = 35.26±7.87 years	
Family history of alcohol dependence=23(46.0)	
Clinical distribution (years)	
Mean age of onset of dependence	29.54±6.328
Mean duration of alcohol dependence	5.78±3.106
SADQ scores	
Mild alcohol dependence	11 (22.0)
Moderate alcohol dependence	18 (36.0)
Severe alcohol dependence	21 (42.0)
Alcohol consumption (ml/day)	
<500	27 (54)
>500	23 (46)

Patients enrolled in the study were questioned about the reasons for relapse inspite of complete detoxification and rehabilitation. It was found that the cases in the study sample had multiple reasons for relapse, majority of them being due to craving (n=49; 98%), followed by poor motivation (n=42; 84%) and (n=38; 76%) had one or more stressful events in the past one year (Table 2 and Figure 1).

Table 2: Reasons for relapse amongst patients with alcohol dependence.

S. no.	Characteristic	No. of patients	Percentage
1.	Craving	49	98
2.	Peer pressure	27	54
3.	Poor motivation	42	84
4.	Stressful events	38	76
5.	Withdrawal	12	24

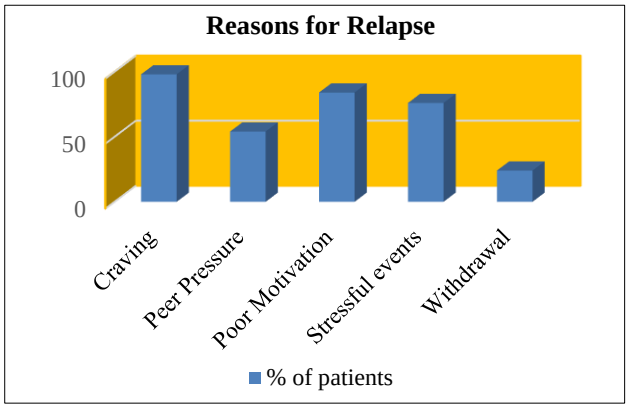

Figure 1: Reasons for relapse amongst patients with alcohol dependence.

Relapse Precipitant Inventory (RPI) was utilized to explore common relapse precipitants amongst alcohol abusers. Table 3 and Figure 2 illustrate the study group on the RPI, which had mean negative mood states 5.85+1.77, positive mood states 4.42+0.52, and cognitive vigilance 2.15+0.37.

Table 3: Factors affecting RPI.

S. no.	Scale	Mean±SD
1.	Negative mood states (factor I)	5.85±1.77
2.	Positive mood states (factor II)	4.42±0.52
3.	Cognitive vigilance (factor III)	2.15±0.37

PSLES was utilized to determine the amount of stress the patients had undergone in the past one year, which may have led to relapse amongst alcohol dependent individuals. The findings (Table 4 and Figure 3) showed the mean presumptive stress score in past 1 year is 187.9+54.82, out of which the (n=36; 72%) had moderate level of stress, whereas rest had severe degree of stress, out of these (n=31; 62%) had ambiguous amount of stress whereas the

others accounted for desirable (n=16; 32%) and undesirable (n=3; 6%) amount of stress.

Table 4: Presumptive stressful events in the past one year as measured on the PSLES.

S. no.	Scale	Mean±SD (range)	
A	PSLES	187.9±54.82 (87-347)	
B	PSLES stress category	N	%
	Moderate stress	36	72.0
	Severe stress	14	28.0
C	Level of stress		
	Desirable	16	32.0
	Ambiguous	31	62.0
	Undesirable	3	6.0

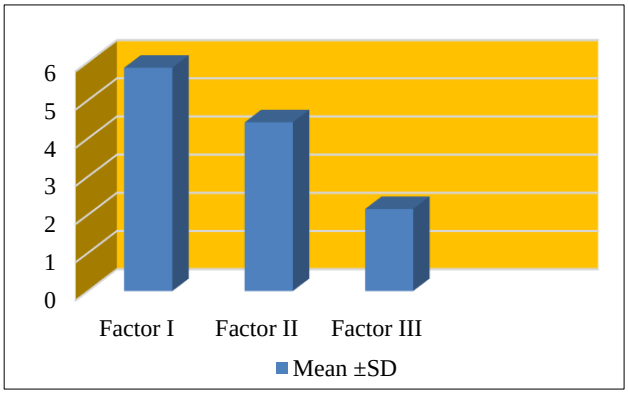

Figure 2: Factors affecting relapse on the RPI.

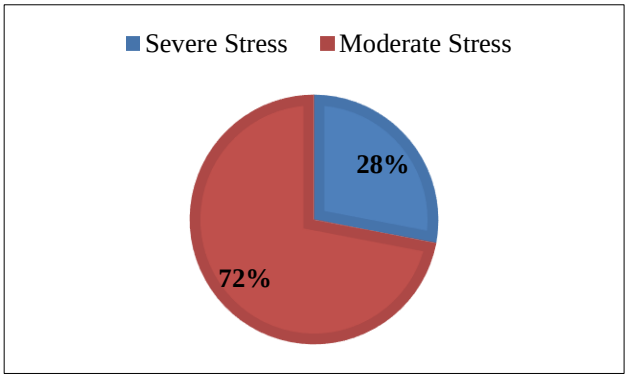

Figure 3: Presumptive stressful events in the past one year as measured on the PSLES.

DISCUSSION

Relapse to alcohol dependence is one of the most frustrating and challenging situation in the rehabilitation of a patient. Despite concerted efforts, the relapse rates could be as high as 90% within six months of quitting.[17] Studies have suggested that patients who received treatment within 30 days of completing detoxification were ten times less likely to relapse, while those completing detoxification alone are getting relapsed at the rate of 65–80%.[18] However, considerable variation in relapse rates has been seen depending upon the type of dependence, demographic profile of patient and a host of other personal, environmental and socioeconomic reasons. Considering the relevance of understanding the relapse rates and factors governing them for formulation and upgradation of rehabilitation strategies, the present study was carried out with an aim to assess various factors associated with relapse in patients of alcohol dependence.

General demographic profile

In present study, age of patients ranged from 18 to 50 years. Mean age of patients was 35 years. Compared to this, Mattoo et al, Kumar et al and Sharma et al mean age of relapse patients to be about 30 years.[8,19,20] On the other hand, Nagaich et al in their study had all the patients >35 years of age.[21] The findings in fact showed that there is extreme variability in age of patients showing relapse and it might be dependent on the profile of patients attempting to quit.

As far as sociodemographic profile of the relapse patients in the present study was concerned, it was dominated by Hindus (92%), educated up to the 10th standard, belonging to the rural background (60%), employed and had monthly income >Rs, 10,000 (64%). It has to be noted that India is a diverse nation with cultural variations among ethnic, religious and linguistic groups, and there are major differences between the urban and rural areas. One cannot accurately generalize the drinking patterns of all Indian ethnic and cultural groups based on the findings from just one of these groups.[22]

As far as high prevalence of Hindus in present study is concerned, drug abuse in the Muslim religion is considered as a taboo. Moreover it is also a reflection of current population proportion, which is Hindu majority state. This proportion is similar to the population proportion.

Clinical profile of the patients

In the present study mean duration of substance use was 5.78±3.106 in years. The values of the duration were ranging from 1 year of use to maximum of 34 years of use of the substance. In a study by Kumar et al in 66 patients, they found that in the relapsed group the mean duration of use of substance was 11.63 years.[19] The most possible explanation for this is that more mean duration of the substance use was their early age of onset of the substance, whereas in our study there is later age of onset of the substance i.e. about 30 years.

Family history

In this study, family history of substance abuse was positive in (n=23), 43% cases. Family history of substance abuse is a well-known risk factor for relapse. Moreover in view of the nuclear family status of the most of the patients, the level of family support could also be

perceived to be poor and this could have been the driving force behind the relapse[20,21,23]

Severity of substance abuse

The present study used certain tools and scales to quantify the extent of dependence among patients. In categorical terms, 22% of alcohol dependent patients had mild dependence, 36% having moderate and a majority (42%) had severe dependence. A notable 46% had alcohol consumption of more than 500 ml/day.

Reasons for relapse

In present study, we found craving (n=49, 98%), poor motivation (n=48, 68.6%) and stressful events (n=42, 84%) as the major reasons for relapse, other reasons were peer pressure (n=27, 54%) and withdrawal from the substance (n=12, 24%).

Craving is one of the most commonly cited reasons for relapse of alcohol abuse.[25,26] Studies have suggested that according to the cognitive processing model, alcohol use becomes a habit that requires little conscious effort or attention and craving is a non-automatic process. Alcohol dependence is a chronic disease, characterized by craving, tolerance, a preoccupation with alcohol, and continued drinking in spite of harmful consequences.[31,32]

Dissatisfaction with treatment in the OPD or during the course of hospitalization is another factor that influences the craving and coping strategies against relapse.[27]

Lack of poor motivation might be associated with the absence of proper social support, the predominant reason being majority of families being nuclear. The social support is limited and this eventually results in a lack of motivation.

Relapse precipitants inventory

During the course of the study, we made an in-depth inquiry regarding the mood states and cognition resulting into the relapse. This was done by using RPI.

In present study, negative mood states were seen to be the most dominant followed by positive mood states and then cognitive vigilance. These findings thus showed that mood states were important determinants of relapse.

As the patients (n=50, 100%) with negative mood state, complained of being depressed, whereas (n=23, 46%) said that they started using substance as they were irritable and (n=34, 68%) when they felt themselves getting very angry.

On RPI the positive mood state patients relapsed, when they thought of the good times when they were drinking or when they were at a party (n=50, 100%), whereas (n=49, 98%) had money to spend, or there was a special occasion like Christmas, and birthdays'. In cognitive vigilance, the most cited reason were, they thought that just one drink would cause no harm, they have already taken some drink or when they started thinking that he/she is not really hooked on substance.

Number of researchers have studied the relevance of mood states on relapse. Similar to our study, Ducray et al and Tiliao also highlighted that mood disorders particularly low moods are contributory towards relapse.[28,29]

Presumptive stressful life events

In present study, we used PSLES to determine the stressful events during the last one year and found that all the patients enrolled had some type of stress. Out of 50 patients enrolled in the study, (n=36, 72%) had moderate degree of stress while rest (n=14, 28%) had severe degree of stress. In present study, we also made an attempt to enquire into the possible factors responsible for relapse in general and mood changes in particular.

Relationship between stress and mood disorders is explained as neuronal plasticity.[30]

The present study showed a dominance of ambiguous and undesirable events, however, a dominant proportion of patients (n=16, 32%) were affected by desirable life events too.

There were certain limitations of this study. The study was carried out on a small number of alcohol dependent patients attending drug de-addiction and medical services in a tertiary care centre, hence results cannot be generalized to patients with mild alcohol dependence or use in the community. Chronic alcoholism is known to cause deleterious effect on marital functioning and various partnership conflicts thereby, adding to the factors precipitating relapse. This area was not assessed in the present study. Hence, future studies should focus on larger sample size and community based sample along with assessment of marital functioning.

CONCLUSION

This study highlights the wide spread prevalence of relapse in almost all sectors of society, and the factors leading to it. Earlier age of onset, longer duration of alcohol dependence, higher amount of alcohol consumed per day, and severity of alcohol dependence appeared to be significantly associated with relapse.

The prevalence of relapse after successful detoxification and rehabilitation was high and the risk factors identified included family conflicts, psychological stress, peer influence and socio-economic status such as availability and accessibility of drugs, peer group influences and lack of assertiveness.

Thus, the substance use management should not be limited to detoxification only but emphasis should be given on

longer follow up in order to prevent relapse. The Ministry of Health should recommend the evaluation of the effectiveness of existing relapse prevention strategies and their successful implementation.

Organization of several sensitization campaigns for awareness of the burden of alcohol abuse, relapse after treatment and its impacts to the people's health and to the community at large, should be done to adequately raise awareness among the general population. Further studies should be carried out on the prevalence of relapse and factors associated to substance use disorders at the national and international level and this information gathered should be utilized by clinicians in raising awareness, as well as among alcohol abusers to bring about necessary change.

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