



FACTORS AFFECTING RELAPSE OF ALCOHOL CONSUMPTION AFTER REMISSION IN PATIENTS WITH ALCOHOL USE DISORDER: A CROSS-SECTIONAL STUDY

Psychiatry

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ABSTRACT

Introduction: Alcohol use disorder is characterized by increased alcohol consumption with a persistent vulnerability to relapse. It is associated with craving, tolerance, withdrawal, preoccupation with alcohol, and continued drinking in spite of harmful consequences. Therefore, this study has been conducted to evaluate the factors affecting relapse to alcohol drinking after remission in patients of alcohol use disorder. **Methodology:** It was a cross-sectional study conducted in a single tertiary care centre from October 2019-October 2021. With reference to previous similar research, sample size of 267 subjects were enrolled and screened for Alcohol use disorder (AUD) and reasons for relapse using relapse prevention inventory (Hindi) scale. The Statistical analysis was done using SPSS version 20. **Result:** Mean duration between previous relapse and help seeking was 5.46 months. Mean period of abstinence before relapse were 7.36 months. Mean duration from last discharge to current relapse was 7.19 months. Mean duration from relapse to help seeking was 6.41 months. Major reason for relapse was unpleasant mood states. **Conclusion:** Alcohol use disorder can hamper social functioning of the patient. There are multiple factors that affect relapse in patients with alcohol use disorder needs to be appropriately assessed which can be utilized in treatment and preventing relapse in future.

KEYWORDS

Alcohol use disorder, Alcohol remission, Alcohol relapse

Introduction:

Alcohol consumption is a serious social problem which affects not only the alcohol dependent individual, but also their family and the entire society.^[1] Alcohol Use disorder (AUD) is characterized by craving, tolerance, withdrawal, preoccupation with alcohol, and continued drinking in spite of harmful consequences.^[2] Relapse is defined as the return to the previous pattern of use or dependent use following a period of abstinence which is a common phenomenon in patients with AUD undergoing de-addiction treatment.^[3] A study from rural areas in India suggests that the twelve-month relapse rates following alcohol or tobacco cessation generally range from 40-50%. External factors such as older age, religion, marriage, poor literacy, unemployment, nuclear family, family history, early initiation, longer duration of abuse, and undesirable events are often implied as causes of relapse. Predictive factors for relapse in alcohol dependence include treatment drop out, anxiety symptoms, depressive symptoms and high craving for alcohol.^[4]

Physiological and psychological relapse are often related to the increase urge or craving for alcohol. Several antecedents like stressful life events and negative mood states, drug expectancies, self-efficacy, coping behaviours, and social support resources are associated with relapse.^[5] With such high range of diseases simply being attributed to alcohol use and relapse being such a dominant pattern among people undergoing deaddiction, it becomes imperative to study the factors that are associated with relapse and alcohol dependence, to further our treatment approach and support for the patient to decrease this never-ending cycle of dependence and remission.^[4] The primary objective was to identify the factors contributing to relapse of alcohol dependence among individuals after remission. Second was to find the association between factors contributing to relapse with selected socio-demographic variables.

Subjects and Methods:

Study design: It is a cross-sectional, observational study conducted in a tertiary care hospital in Maharashtra. All the IPD and OPD patients from October 2019 – October 2021 was screened for eligibility to participate in the study. The prevalence rate of relapse of alcohol consumption is 46.8%^[4] and using the formula, $N = Z_c P(1-P)/d^2$, the sample size calculated was 267 with error of 6%. All the patients between age of 18 and 60 years, who were willing to participate in the study, who had the ability to understand verbal/written Hindi, Marathi and English language, patients of alcohol use disorder who fulfilled the criteria of remission and relapse (according to DSM-V) were included in the study. Patients suffering from any other physical / psychiatric

disorder or intellectual disabilities affecting ability to recall/report all required information, patients with any other substance abuse apart from alcohol and nicotine were excluded from the study. As per the institution's policy, approval from the Scientific Advisory Committee (SAC) followed by approval from the Ethics Committee for Research on Human Subjects (ECRHS) of the institute were obtained. Written informed consent was obtained from all the participants. No additional financial burden was put on the subjects by participation in the study.

Assessment tools: A pre-designed proforma was administered for socio-demographic profile and to know patients' drinking behaviour. The Alcohol Use Disorders Identification Test (AUDIT)^[6], a 10-item screening tool with a score range from 0 to 4 developed by the World Health Organization (WHO) to assess alcohol consumption, drinking behaviours, and alcohol-related problems. All patients with an AUDIT score of more than or equal to 8 were assessed if they have alcohol use disorder according to DSM-V criteria.^[7] If they fulfil the criteria of alcohol use disorder, they were assessed for relapse and remission using Relapse Precipitant Inventory (Hindi)^[8], a 25-item questionnaire that has following features decreased cognitive vigilance, unpleasant mood states and, euphoric states and external situations to bring out situations which may lead to relapse in patients of AUD. The 3 factors of RPI-Hindi explained a variance of 54%, had Cronbach's alpha reliability ranging from 0.59 to 0.87, split half reliability of 0.71 and test-retest reliability ranging from 0.70 to 0.81.^[9,10]

Statistical Analysis:

The collected data was analysed using SPSS (Statistical Software for social Sciences) software version 20.0. Qualitative data was represented in form of values & percentages. Also, the Quantitative data was represented in form of mean & SD etc. To check for associations between two attributes chi-square test was applied, and for quantitative data the Z-Test was used.

Results:

The minimum and maximum age of the subjects were 22 years and 60 years respectively with mean age of 38.12 years. Divorced study subjects were 0.7%, married 91.8%, single 6.4% and widowed 1.1%. 21.3% of subjects had graduate degree, 28.1% had high school certificate, 20.2% had high secondary certificate, 0.7% were illiterate, 12% were literate, 14.6% had middle school certificate, and 3% were postgraduate. 33.3% were arithmetic, 6.4% were professional, 8.6% were semi-professional, 19.1% were semi-skilled, 16.5% were skilled workers, 4.5% were unemployed, and 11.6 % study subjects were unskilled workers. 51.3% belongs to lower middle class, 36.3% to

upper lower class and 12.4% to upper middle class. 93.6% were Hindus and 6.3% were Muslim.

Table 1 shows descriptive statistics associated with alcohol use and relapse among the participants. It is clear that mean age onset of alcohol use and dependence is 23.51 (5.1) and 29.57 (6.4) respectively. Mean period of abstinence before relapse was 7.36 months.

Table 1: Descriptive Statistics Associated To Alcohol Use And Relapse Among Study Subjects

	Minimum	Maximum	Mean	Std. Deviation
Age at onset of Alcohol use (years)	10	43	23.51	5.100
Age at Alcohol dependence (years)	19	56	29.57	6.430
Number of hospitalizations for deaddiction in past	0	6	1.83	.991
Avg. duration between previous relapse and help seeking (Months)	0	24	5.46	3.890
Duration of stay during last admission (Days)	0	60	13.50	6.009
Max period of abstinence before relapse (Months)	1	16	7.36	2.873
Duration from last discharge to first drink lapse (Months)	1	16	6.85	2.598
Duration from last discharge to current relapse (Months)	3	16	7.19	2.746
Duration from relapse to help seeking (Months)	0	29	6.41	3.160
Duration from lapse to relapse (days)	0	150	9.80	18.388

Table 2 describes the sources of various factors and complete RPI indicating that unpleasant mood states is the most common cause of relapse with a mean of 2.57 (1.59) followed by external events and euphoria and reduced cognitive vigilance with total RPI mean of 5.02 (1.69).

Table 2: Descriptive Statistics Related To Scores Of Various Factors And Complete RPI Among Study Subjects

	Maximum scores	Minimum	Maximum	Mean	Std. Deviation
Unpleasant mood states	14	0	10	2.57	1.59
External events and euphoria	8	0	6	1.80	1.09
Reduced cognitive vigilance	3	0	3	0.65	0.76
Total RPI	25	0	19	5.02	1.69

Table 3 describes mean RPI with the occupation status. It is evident from the table that p value for unpleasant mood states ($p=0.001$) and total RPI ($p=0.006$) was highly significant with the occupational status of the subjects.

Table 3: Comparison Of Mean RPI And Individual Factors Based On Occupation

Occupation category		Unpleasant mood states	external events and euphoria	reduced cognitive vigilance	Total RPI
Professional	Mean	4.12	1.41	.94	6.47
	Std. Deviation	1.900	1.004	.966	2.267
Semi professional	Mean	1.91	2.00	.78	4.70
	Std. Deviation	1.240	1.000	.736	.822
Semi-skilled	Mean	2.45	1.98	.63	5.06
	Std. Deviation	1.419	.812	.720	1.287

Skilled	Mean	2.57	1.48	.59	4.64
	Std. Deviation	1.437	1.023	.726	.990
Unemployed	Mean	2.17	1.67	.50	4.33
	Std. Deviation	1.403	1.073	.798	.651
Unskilled	Mean	2.77	1.81	.48	5.06
	Std. Deviation	1.309	1.108	.626	1.459
F value		3.87	1.54	.92	3.094
p value		0.001*	0.165	.385	0.006*

Correlation between Mean RPI and socioeconomic status has been described in Table 4. It shows that p-value for unpleasant mood scores ($p=0.02$) was significant. For external events and euphoria ($p=0.50$), reduced cognitive vigilance ($p=0.46$), total RPI ($p=0.051$) was non-significant.

Table 4: Comparison Of Mean RPI And Individual Factors On The Basis Of Socio-economic Status

Socio Economic Status		Unpleasant mood states	external events and euphoria	reduced cognitive vigilance	Total RPI
Lower middle	Mean	2.34	1.88	0.65	4.87
	Std. Deviation	1.406	1.108	0.763	1.464
Upper lower	Mean	2.71	1.71	0.60	5.02
	Std. Deviation	1.671	1.080	0.745	1.882
Upper middle	Mean	3.12	1.76	0.79	5.67
	Std. Deviation	1.900	1.032	0.820	1.882
F value		3.85	0.68	0.76	3.00
P value		0.023*	0.508	0.468	0.051

Discussion:

The total study subjects included in the study were 267 with an age range of 22 to 60 years amounting to a mean age of 38.12 years. According to York, alcohol consumption peaks near the age of 40 years, which was close to the average calculated in our study.^[11] However, according to the World Health Organization (WHO) and the International Society for Biomedical Research on Alcoholism (ISBRA), alcohol consumption increases with age.^[13] Few other studies from India found similar age group (between 26-45 years) among the alcohol users.^[13,14]

Suzuki *et al*^[15] in a cohort study from Japan studied factors that promote adolescent drinking, and it was observed that lower age at the first drink, not refusing friends' temptations to drink and less communication with parents were the three significant factors that led to adolescents developing early alcohol dependence syndrome. While in our study mean age of alcohol onset was 23.51 years, which is in contrast with this study as legal age for alcohol consumption in India is 25 years. In a study by Ganesh Kumar *et al*^[16] showed that most people were in 15-44 years of age, mean age at first drink was 25.3 years with standard deviation of 9.0 and it was comparable to our study.

Markose A *et al*^[17] conducted a study, which states that according to relapse precipitating inventory, 88.8% from the 18 subjects who had relapsed had done so due to pleasurable events in their life [marriage, birthdays, festivals, positive mood state], 72.2% were due to craving factors, 55.5% had relapsed due to internal conflicts [negative mood state]. These findings are in contrast with our study as we find unpleasant mood states to be the most common reason for relapse. Another study by Dixit *et al*^[18] on social support concluded that alcohol dependent subjects have dysfunctional relationships in workplace as well as family. They stated that abstinent group had better support than those who had relapsed. These finding also suggest that unpleasant events such as dysfunctional relationship led to relapse.

Six factors, namely - bitterness/anger, domestic conflicts, disappointments over unfulfilled expectations, tension, unjustified punishments, and professional difficulties. This leads to the conclusion that negative mood states precipitated relapse, which is in consonance with other studies in the existing literature where they reported that unpleasant affect and external events appear to be the most dangerous situations so that individual weighing heavily on either of the two components is likely to be the most vulnerable.^[21] The strength of the study was prevalence of unpleasant mood states was the most significant reason behind relapse amongst subjects which can prevent future relapse appropriate intervention can be done. The major limitation of the study being a single center study.

Conclusion:

Alcohol use disorder is a chronic relapsing and remitting disorder.

There are multiple factors like unpleasant or negative mood states that affect relapse in patients with alcohol use disorder. Therefore it is essential to assess mood states in all patients of AUD, which can be utilized in further treatment and preventing relapse in future and also improve the social functioning of the person and their family.

Strength and Limitations:

Major strength of the study was it helped recognizing the relapsing factor for alcohol consumption which can help in de-addiction therapies for future patients. Major limitation of the study being a single center study. Another limitation was our study was not able to assess the mood states of the patients which could have been the cause for relapse.

Source of Funding: None

Conflict of Interest: There was no conflict of interest

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