

# Factors influencing Relapse among Alcohol Dependence Syndrome Patients-A Cross-Sectional Study at Spandana Hospital Rehabilitation Center, Bangalore, Karnataka

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## Abstract

**Background of the study:** Alcohol Dependence Syndrome (ADS) is a chronic condition with a high tendency for relapse, influenced by various psychological, social, and environmental factors. Understanding these factors is essential for effective relapse prevention and long-term recovery. Therefore, this study focuses on identifying the key determinants contributing to relapse among ADS patients.

**Aim:** To assess the Factors influencing relapse among alcohol dependence syndrome patients.

**Methodology:** The factors influencing relapse were assessed using the Alcohol Relapse Risk Scale in a cross-sectional survey conducted at Spandana Hospital Rehabilitation Center, Bangalore. A total of 100 participants were selected through convenience sampling. The data were analyzed using both descriptive and inferential statistical methods.

**Results:** The results indicate that the majority of respondents (56.0%) were aged 20–40 years and married (56.0%). Most participants were graduates or above (23.0%), employed in the private sector (35.0%), belonged to the Hindu religion (71.0%), and resided in urban areas (65.0%). A higher proportion came from nuclear families (61.0%) and were below the poverty line (66.0%). The age at onset of alcoholism was predominantly between 15–25 years (66.0%). Family history of alcoholism was present in 38.0% of respondents, while 53.0% had a history of previous hospitalization for alcohol dependence. Duration of alcohol use exceeded 4 years in 42.0% of cases, and 57.0% reported a last abstinence period of less than 3 years. A large majority (90.0%) experienced life stressors, 53.0% reported peer pressure, and 55.0% perceived limited social support contributing to relapse.

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The majority of respondents (66.0%) were at high risk for relapse, while 34.0% were at moderate risk. A higher risk for relapse was most commonly associated with Compulsivity for Alcohol (CA) (71.0%), followed by Emotional Problems (EP) (70.0%), Stimulus-Induced Vulnerability (SV) (67.0%), and Lack of Negative Expectancy for Alcohol (NE) (62.0%). Additionally, equal proportions of respondents (60.0%) were observed for Positive Expectancy for Alcohol (PE) and Insight into Condition (IC).

A statistically significant positive correlation was found between the factors influencing relapse and selected sociodemographic variable such as Age ( $\chi^2 = 4.59$ ,  $P < 0.05$ ), area of residence ( $\chi^2 = 4.70^*$ ,  $P < 0.05$ ) and economic status ( $\chi^2 = 3.92^*$ ,  $P < 0.05$ ). A significant association was documented between the factors influencing relapse and clinical factors such as Age of onset of Alcoholism ( $\chi^2 = 3.92^*$ ,  $P < 0.05$ ), history of previous hospitalization for treatment for alcohol dependency ( $\chi^2 = 4.44^*$ ,  $P < 0.05$ ), peer pressure ( $\chi^2 = 4.44^*$ ,  $P < 0.05$ ) and the perceived social support on relapse ( $\chi^2 = 5.06^*$ ,  $P < 0.05$ ).

**Key words:** Factors influencing, Relapse, Alcohol dependence syndrome

## Introduction

Alcohol use is a major global public health concern, as it is highly addictive and associated with numerous physical, psychological, and social consequences. Long-term and excessive alcohol consumption affects almost all organ systems, particularly the brain, heart, liver, pancreas, and immune system. It can lead to severe health problems such as liver cirrhosis, irregular heartbeat, weakened immunity, increased cancer risk, sleep disturbances, and cognitive impairments including dementia and Wernicke-Korsakoff syndrome. These adverse effects significantly reduce life expectancy, often by up to 10 years.<sup>1</sup>

Alcohol also disrupts the brain's communication pathways, impairing balance, memory, speech, and judgment. This increases the likelihood of accidents, injuries, and poor decision-making. Beyond individual health, alcohol misuse creates significant stress within families, especially among spouses who are closely interdependent, thereby affecting overall family functioning and relationships.<sup>2</sup>

At the global level, alcohol consumption contributes to approximately 3 million deaths each year and accounts for 5.1% of the global burden of disease.<sup>3</sup>

One of the major challenges in managing alcohol dependence is relapse, which occurs when individuals return to alcohol use after a period of

abstinence or control. Relapse is common and is often triggered by multiple factors such as stress, exposure to people or environments associated with drinking, negative emotions, cues related to alcohol, and even celebratory situations.<sup>4</sup>

Relapse not only affects the individual's recovery process but also leads to repeated hospital admissions, increasing the burden on healthcare systems in terms of manpower and financial resources. Despite advancements in treatment, relapse rates remain high, indicating gaps in understanding the contributing factors.<sup>5</sup>

Most existing studies focus broadly on alcohol dependence and treatment outcomes, but there is limited emphasis on factors such as stressful life events, peer pressure, and perceived social support that may influence relapse.<sup>6</sup> Understanding how these factors contribute to relapse is essential for developing targeted and effective interventions.<sup>6</sup>

Therefore, this study was undertaken to examine the factors influencing relapse among Alcohol Dependence Syndrome patients in OPD at Spandana hospital Rehabilitation Center in Bangalore. The study specifically focuses on factors such as stressful life events, peer pressure, and perceived social support. By identifying the association between these factors and relapse, the study aims to address existing gaps in knowledge and contribute to the development of more comprehensive and effective relapse prevention strategies.

## Materials and Methods

### Study Design and Participants

Present study was a descriptive cross-sectional study conducted between Dec 2025 to Feb 2026. The sample size for the present study was calculated using the standard formula for descriptive cross-sectional studies. Assuming a prevalence of 50% due to lack of prior data, with 95% confidence level and 10% margin of error, the calculated sample size was 96.<sup>7</sup>This was rounded off to 100 participants using convenience sampling technique of alcohol dependence syndrome (ADS) patients in OPD at Spandana hospital Rehabilitation Center in Bangalore were selected for the study. Patients aged between 20-80 years with alcohol dependence as per the Diagnostic Criteria for ICD-10, Who are willing to participate in the study and Remained abstinence for 4 weeks to maximum 3 years with or without treatment were included in the study. Patients with alcohol use disorder who had severe physical illness were excluded because such conditions can interfere with accurate psychiatric evaluation and may confound the assessment of psychological variables related to relapse. Individuals with intellectual disability, organic brain syndrome, and cognitive impairment were also excluded as these conditions may affect comprehension, recall, and the ability to provide reliable responses to study instruments. Additionally, subjects with other substance abuse were excluded to avoid confounding effects, ensuring that the findings specifically reflect issues related to alcohol dependence alone. Ethical clearance was obtained from Institutional ethical committee of Acharya Institute of Health Sciences (Ref.No: AIHS/IEC/2025/311) on 18/08/2025 and permission to conduct the study were obtained from the Director of Spandana Hospital Rehabilitation Center, Bangalore.

### Tools

#### Socio-demographic Variables and Clinical Characteristics

It included Age, Gender, Religion, Area of Residence, Type of family, Marital status, Educational

status, Occupational status, Economic status, Age of onset of Alcoholism, Family history of alcoholism, previous hospitalization due to alcoholism, duration of alcoholism use, duration of last abstinence, life stressors, peer pressure and perceived social support on relapse.

### Alcohol Relapse Risk Scale

The Alcohol Relapse Risk Scale (ARRS; Ogai et al., 2009)<sup>8</sup> is a multidimensional self-rating scale based on 48 preliminary items drawn from the Stimulant Relapse Risk Scale (SRRS; Ogai et al., 2007)<sup>9</sup>. Responses are rated on a three-point Likert-type scale, each item score from 1 to 3. Minimum score 32 and Maximum score 96. Exploratory factor analysis highlighted five factors: stimulus-induced vulnerability (SV), emotionality problems (EP), compulsivity for alcohol (CA), lack of negative expectancy for alcohol (NE), and positive expectancy for alcohol (PE).

### Score Interpretations

Chance of risk relapse	Score
Greater risk for relapse	<50
Moderate risk for relapse	51-75
Less risk for relapse	>75

### Data Collection Procedures

Prior permissions were taken from relevant institutions before the beginning of data collection procedure. The study participants were identified during the study period in OPD at Spandana hospital Rehabilitation Center in Bangalore. Every (ADS) patients who will fulfil the inclusion criteria were approached for data collection. The purpose of the study was explained to the participants, and informed consent was obtained. The Socio-demographic Variables, Clinical characteristics and Alcohol Relapse Risk Scale was then administered by interviewers, taking about 15–20 minutes. Participants were interviewed in Kannada or a language they understood.

## Data Analysis

Descriptive univariate statistics such as frequencies and percentages were used for categorical variables. Dimension wise risk for relapse among ADS patients assessed with mean, SD. Association between the socio-demographic and clinical characteristics with risk level of relapse was found using Chi-Square test.

## Results

### A: Samples Characteristics

The sample distribution showed that the highest proportion of respondents (56.0%) belonged to the 20–40 years age group. A majority were married (56.0%). Regarding educational status, 23.0% were graduates or above. The largest occupational group comprised private employees (35.0%). Most respondents were Hindu (71.0%), resided in urban areas (65.0%), and belonged to nuclear families (61.0%).

In terms of economic status, 66.0% were below the poverty line (BPL). The age at onset of alcoholism was most commonly between 15–25 years (66.0%). A family history of alcoholism was reported by 38.0% of respondents. More than half (53.0%) had a history of previous hospitalization for alcohol dependence. The duration of alcohol use exceeded four years in 42.0% of respondents, while 57.0% reported a period of last abstinence of less than three years.

Life stressors were reported by a large majority (90.0%) of respondents, and 53.0% identified peer pressure as a contributing factor. Perceived lack of social support related to relapse was reported by 55.0% of respondents.

### B: Assessment of Risk level of relapse among Alcohol Dependence Syndrome patients

The result indicates that majority (66.0%) of the respondents had greater risk for relapse, 34.0% has moderate risk for relapse. Further, none of the respondents were subject to lower risk for relapse. (Table 1)

**Table 1. Risk Level of relapse among alcohol Dependence Syndrome patients**

Chance of Risk Level	Scores	Respondents	
		Number	Percent
Greater risk for relapse	≤ 50 %	66	66.0
Moderate risk for relapse	51-75 %	34	34.0
Lower risk for relapse	> 75 %	0	0.0
<b>Total</b>		100	100.0

### C: Dimension wise Risk Level of Relapse among Alcohol Dependency Syndrome patients

The findings revealed that a higher risk for relapse was most strongly associated with Compulsivity for Alcohol (CA) (71.0%), followed by Emotional Problems (EP) (70.0%), Stimulus-Induced

Vulnerability (SV) (67.0%), and Lack of Negative Expectancy for Alcohol (NE) (62.0%). Additionally, equal proportions of respondents (60.0%) were observed for Positive Expectancy for Alcohol (PE) and Insight into Condition (IC).

**Table 2. Dimension wise Risk Level of Relapse among Alcohol dependency syndrome patients**

N=100

No.	Dimensions	Statements	Chance of Risk Level (%)		
			Greater risk for relapse	Moderate risk for relapse	Less risk for relapse
I	Stimulus-induced Vulnerability (SV)	9	67.0	33.0	0.0
II	Emotional problems (EP)	8	70.0	30.0	0.0
III	Compulsivity for Alcohol (CA)	3	71.0	29.0	0.0
IV	Lack of negative expectancy for Alcohol (NE)	4	62.0	38.0	0.0
V	Positive expectancy for alcohol (PE)	3	60.0	40.0	0.0
VI	Insight into conditions (IC)	5	60.0	40.0	0.0

**D: Dimension wise Mean Risk level of Relapse among Alcohol Dependency Syndrome patients**

The results revealed that the mean risk level of relapse was highest for Lack of Negative Expectancy for Alcohol (NE) (50.9%), followed by

Emotional Problems (EP) (48.9%), Stimulus-Induced Vulnerability (SV) (48.6%), Insight into Condition (IC) (48.5%), Positive Expectancy for Alcohol (PE) (47.2%), and Compulsivity for Alcohol (CA) (45.1%).

**Table 3. Dimension wise Mean Risk level of Relapse among Alcohol Dependency Syndrome patients**

No.	Dimensions	Statements	Max. Score	Chance of Risk Scores			
				Mean	SD	Mean (%)	SD (%)
I	Stimulus-induced Vulnerability (SV)	9	27	13.12	2.56	48.6	9.5
II	Emotional problems (EP)	8	24	11.73	2.12	48.9	8.8
III	Compulsivity for Alcohol (CA)	3	9	4.06	1.03	45.1	11.5
IV	Lack of negative expectancy for Alcohol (NE)	4	12	6.11	1.61	50.9	13.4
V	Positive expectancy for alcohol (PE)	3	9	4.25	1.26	47.2	14.0
VI	Insight into conditions (IC)	5	15	7.28	1.74	48.5	11.6
	<b>Combined</b>	<b>32</b>	<b>96</b>	<b>46.55</b>	<b>6.09</b>	<b>48.5</b>	<b>6.3</b>

### E. Association between Socio-demographic variables and clinical variables and Risk Level of Relapse and among Alcohol Dependency Syndrome patients

Findings related to association between socio demographic variables and risk level of relapse

among Alcohol Dependency Syndrome patients revealed that there was a significant association between risk level of relapse with variables - age, area of residence and economic status, age of onset of alcoholism, history of previous hospitalization for treatment for alcohol dependency, peer pressure and perceived social support.

**Table 4. Association between Socio-demographic variables and Risk Level of Relapse among Alcohol Dependency Syndrome patients**

NO	Demographic Variables	Category	Sample (n)	Chance of Risk Level				$\chi^2$ Value	P Value
				Greater risk for relapse		Moderate risk for relapse			
				N	%	N	%		
1.	Age group (years)	20-40	56	42	75.0	14	25.0	4.59*	P<0.05 (3.841)
		40-60	44	24	54.5	20	45.5		
2.	Marital status	Married	56	34	60.7	22	39.3	2.04 NS	P>0.05 (5.991)
		Unmarried	36	27	75.0	9	25.0		
		Divorced/Widow	8	5	62.5	3	37.5		
3.	Educational Status	Illiterate	19	13	68.4	6	31.6	0.87 NS	P>0.05 (9.488)
		Primary	18	13	72.2	5	27.8		
		Secondary	22	15	68.2	7	31.8		
		Higher secondary	18	11	61.1	7	38.9		
		Graduate & above	23	14	60.9	9	39.1		
4.	Occupational Status	Unemployed	32	20	62.5	12	37.5	0.45 NS	P>0.05 (7.815)
		Coolie	21	15	71.4	6	28.6		
		Private employee	35	23	65.7	12	34.3		
		Business/Self employed	12	8	66.7	4	33.3		
5.	Religion	Hindu	71	47	66.2	24	33.8	0.17 NS	P>0.05 (5.991)
		Christian	13	8	61.5	5	38.5		
		Muslim	16	11	68.8	5	31.2		
6.	Area of Residence	Urban	65	38	58.5	27	41.5	4.70*	P<0.05 (3.841)
		Rural	35	28	80.0	7	20.0		

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7.	Type of Family	Nuclear	61	40	65.6	21	34.4	0.66 NS	P>0.05 (5.991)
		Joint	30	21	70.0	9	30.0		
		Extended	9	5	55.6	4	44.4		
8.	Economic Status	APL	34	18	52.9	16	47.1	3.92*	P<0.05 (3.841)
		BPL	66	48	72.7	18	27.3		
9.	Age of onset of Alcoholism (years)	15-25	66	48	72.7	18	27.3	3.92*	P<0.05 (3.841)
		26-45	34	18	52.9	16	47.1		
10.	Family history of Alcoholism	Yes	38	25	65.8	13	34.2	0.01 NS	P>0.05 (3.841)
		No	62	41	66.1	21	33.9		
11.	History of Previous hospitalization for treatment for Alcohol dependency	Yes	53	30	56.6	23	43.4	4.44*	P<0.05 (3.841)
		No	47	36	76.6	11	23.4		
12.	Duration of Alcohol abuse (years)	1-4	58	40	69.0	18	31.0	0.71 NS	P>0.05 (5.991)
		4-8	30	18	60.0	12	40.0		
		> 8	12	8	66.7	4	33.3		
13.	Period of last abstinence	<3 months	57	37	64.9	20	35.1	0.07 NS	P>0.05 (3.841)
		>3 months	43	29	67.4	14	32.6		
14.	Stressful life events	Yes	90	57	63.3	33	36.7	2.85 NS	P>0.05 (3.841)
		No	10	9	90.0	1	10.0		
15.	Peer Pressure	Yes	53	30	56.6	23	43.4	4.44*	P<0.05 (3.841)
		No	47	36	76.6	11	23.4		
16.	Perceived social support on relapse	Yes	55	31	56.4	24	43.6	5.06*	P<0.05 (3.841)
		No	45	35	77.8	10	22.2		

Regarding the age group of 20-40 years, higher respondents (75.0%) had greater risk for relapse compared to 40-60 years with 54.5 percent- Age was found to have statistically significant association with risk level of relapse ( $\chi^2 = 4.59^*$ ,  $P < 0.05$ ).

Further, the area of residence was significantly associated with the risk level of relapse. A higher

proportion of rural respondents (80.0%) exhibited a greater risk for relapse compared to urban respondents (58.5%). This association was found to be statistically significant ( $\chi^2 = 4.70$ ,  $p < 0.05$ ).

Economic status indicated that BPL respondents had a greater risk for relapse (72.7%) compared with APL respondents (52.9%) statistically significant

association was noted between economic status and Risk level of relapse ( $\chi^2 = 3.92^*$ ,  $P < 0.05$ ).

There was a statistically significant association between selected clinical factors and the risk level of relapse. Significant associations were observed for age at onset of alcoholism ( $\chi^2 = 3.92$ ,  $p < 0.05$ ), history of previous hospitalization for alcohol dependence ( $\chi^2 = 4.44$ ,  $p < 0.05$ ), peer pressure ( $\chi^2 = 4.44$ ,  $p < 0.05$ ), and perceived social support related to relapse ( $\chi^2 = 5.06$ ,  $p < 0.05$ ).

### Discussion

The main objective of the present study was to assess the factors influencing relapse among Alcohol Dependence Syndrome patients. This was a descriptive cross-sectional study included a sample of 100 alcohol dependence syndrome (ADS) patients in OPD at Spandana hospital Rehabilitation Center in Bangalore. Findings revealed that majority (66.0%) of the respondents had greater risk for relapse, 34.0% with moderate risk for relapse. Further, none of the respondents had a lower risk for relapse. The findings indicate that a majority of Alcohol Dependence Syndrome patients are at a high risk of relapse, highlighting the need for targeted relapse prevention strategies.

A significant association was found between risk level of relapse and variable Age, Area of residence and Economic status, Age of onset of Alcoholism, History of Previous hospitalization for treatment for Alcohol dependency, Peer Pressure and Perceived social support on relapse. These findings are consistent with recent evidence. A systematic review by Sliedrecht et al. (2021) identified key relapse predictors in Alcohol Use Disorder (AUD), including negative emotional states, social influences such as peer pressure, and reduced social support, all of which significantly increase relapse vulnerability.<sup>5</sup> Similarly, Heilig et al. (2021) emphasized that neurobiological and psychosocial factors, including stress, craving, and impaired decision-making, play a critical role in relapse risk.<sup>6</sup> Furthermore, in research summarized by Witkiewitz et al. (2020) highlighted that craving, compulsivity, and

exposure to alcohol-related cues remain strong predictors of relapse, along with cognitive factors such as alcohol expectancies and poor awareness of adverse consequences.<sup>4</sup>

Further, the study highlighted that socio-demographic variables such as age, socioeconomic status, and social support, along with early onset of alcohol use and prior treatment history, are significantly associated with relapse outcomes.<sup>5</sup> This directly supports the present study findings, where compulsivity for alcohol, emotional problems, stimulus-induced vulnerability, and lack of negative expectancy emerged as major contributing factors, along with significant associations with age, economic status, peer pressure, and perceived social support.<sup>4,6</sup>

### Limitations

Although the present study was able to explain to some extent the factors influencing relapse among Alcohol Dependence Syndrome, certain limitations need to be considered. The sample size was limited to 100 participants, which restricts the generalizability of the findings to a wider population. Additionally, only selected variables were included; other important factors such as psychiatric comorbidities, severity of dependence, medication adherence, coping mechanisms, and environmental influences were not explored, which may also have a significant association with relapse. Hence further researches may consider these limitations to provide a more comprehensive understanding of relapse among Alcohol Dependence Syndrome patients.

### Recommendations

It is recommended to implement relapse prevention strategies focusing on managing risk for relapse focus on managing compulsivity, emotional issues, and other triggers. Psychological interventions, coping skills training, and psychoeducation should be strengthened. Additionally, enhancing family support, addressing co-morbid conditions, and ensuring regular follow-up can help to reduce risk for relapse.

## Conclusions

The study concludes that a majority of Alcohol Dependence Syndrome patients are at greater risk for relapse, with factors such as compulsivity, emotional problems, stimulus induced vulnerability and lack of negative expectancy playing a significant role. These findings emphasize the need for comprehensive, targeted interventions focusing on psychological, behavioral, and social aspects to effectively prevent relapse among Alcohol Dependence Syndrome patients.

## Ethical Clearance

Ethical clearance was obtained from the institutional ethical committee of Acharya Institute of Health Sciences, Bangalore.

**Source of Finding:** Self

**Conflict of Interest:** Nil

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