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PSYCHOSOCIAL FACTORS AND TREATMENT BARRIERS ASSOCIATED WITH RELAPSE IN ALCOHOL DEPENDENCE: A CROSS-SECTIONAL STUDY

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ABSTRACT
Alcohol dependence is a chronic and relapsing disorder marked by compulsive alcohol consumption and significant impairment in psychosocial functioning. Despite the availability of treatment modalities, relapse and delayed treatment-seeking behavior remain critical challenges. This study explores the multifaceted determinants of relapse and treatment delay, emphasizing psychological, social, biological, and systemic factors. A synthesis of existing literature reveals that psychological distress, social stigma, and limited healthcare access are primary contributors to poor treatment outcomes. Implementing comprehensive, integrative care models tailored to these challenges may enhance recovery trajectories and mitigate relapse rates.

Keywords: Alcohol Dependence, Relapse, Treatment Delay, Psychosocial Determinants, Addiction Recovery

INTRODUCTION
Alcohol dependence is a global public health issue with both mental and physical components. Its impact extends beyond the individual, affecting families, communities, and economies. Alcohol use is often linked to other mental health disorders, contributing to conditions such as alcohol use disorder, intoxication, withdrawal syndromes, alcohol-induced psychotic and mood disorders, anxiety, sleep disturbances, sexual dysfunction, and neurocognitive impairments. Additionally, alcohol consumption is associated with liver and nervous system disorders, as well as cancers of the head, neck, esophagus, stomach, liver, colon, lungs, breast, and cardiovascular diseases [1-3].
Alcohol consumption is a leading cause of mortality and disability among adults, responsible for 2.8 million deaths globally in 2016, with 13.5% of fatalities occurring in those aged 20–39. It accounted for 4.2% of the global disability burden, affecting 8.6% of men and 1.7% of women. In India, alcohol contributed to 3.7% of deaths and 3.1% of disabilities. The alcohol industry sees developing nations as emerging markets, leading to increased consumption in low- and middle-income countries. In India, recorded per capita alcohol consumption rose from 1.6 liters (2003–2005) to 5.5 liters (2016–2018), with projections reaching 6.21 billion liters by 2024. Indian-made foreign liquor (IMFL) and Indian-made Indian liquor (IMIL) dominate the market, alongside beer, wine, and imported spirits, with spirits being the most consumed category [4-6].

A 2006 NIMHANS study in Bangalore, sponsored by WHO-SEARO, reported that 33% of adult males and 2% of females consumed alcohol regularly. The study highlighted an increase in consumption due to rising disposable income and urbanization. Women face greater challenges related to alcohol use, including a higher likelihood of injuries, road traffic accidents, suicides, and violence—occurring at rates two to eight times higher than in non-users. Alcohol abuse contributes to absenteeism, financial distress, reduced productivity, and loss of social standing [7,8].

Alcohol consumption patterns and related harm are influenced by economic growth, cultural norms, accessibility, and alcohol regulations. Individual risk factors include socioeconomic status, family dynamics, age, and gender. Those with multiple vulnerabilities are at higher risk for alcohol-related issues [9].

Alcohol relapse, defined as a return to heavy drinking after abstinence or reduction, results from complex interactions between biological, psychological, environmental, and social factors. Stable risk factors interact with immediate triggers, increasing relapse susceptibility. Cravings and exposure to environmental cues associated with past alcohol use are primary drivers of relapse. Understanding these mechanisms is essential for designing effective relapse prevention interventions [10,11].

A significant challenge in assessing treatment outcomes and relapse rates is the lack of a standardized definition. Clinicians, researchers, and patients often interpret relapse differently, complicating efforts to develop consistent treatment plans. Research indicates that up to 75% of individuals relapse within 3–6 months post-treatment. Addressing this issue requires tailored interventions that consider both treatment-related and person-related barriers.

Studies suggest that individuals with alcohol-related problems frequently delay or avoid seeking treatment due to personal and systemic barriers. Person-related obstacles include negative attitudes toward treatment, denial of the severity of alcohol use, and emotional factors. Therapy-related barriers involve accessibility, cost, and the treatment format itself. These factors contribute to underutilization of available resources and warrant further investigation [12,13].

Despite extensive global research, regional variations in cultural, socioeconomic, and healthcare access factors necessitate localized studies. Identifying psychosocial factors contributing to relapse can help healthcare providers and policymakers develop more effective interventions. Family and community support, attitudes toward drinking, and educational efforts can play a crucial role in preventing relapse and promoting long-term recovery. Addressing these aspects will help create sustainable strategies to mitigate alcohol dependence and its widespread consequences [14].

The study aims to examine the factors contributing to relapse in individuals with alcohol dependence and the reasons behind delays in seeking treatment after relapse. It seeks to identify the psychosocial determinants influencing relapse and explore the factors that contribute to treatment-seeking delays among relapsed patients.

MATERIAL AND METHODS

This prospective observational study was conducted at the Sri Venkateswara Medical College, Tirupati. Ethical approval has been obtained from the Ethical Approval Committee of Sri Venkateswara Medical College, Tirupati.

Study Population

The study population consists of adults diagnosed with alcohol dependence syndrome based on ICD-10 criteria who have relapsed after undergoing de-addiction treatment and are seeking care at the Department of Psychiatry, SVRRGGH, Tirupati. A total of 100 relapsed individuals were selected using consecutive sampling in a hospital-based cross-sectional study. Ethical approval was obtained, and informed consent was secured. Data collection involved demographic details, addiction severity (SADQ), relapse risk (ARRS), and social support (DUSOCS).

Data Analysis

Data analysis involved descriptive statistics, with mean and standard deviation for quantitative data and frequency and proportion for categorical variables, supplemented by graphical representation. Comparisons between categorical outcomes were conducted using the Student's t-test, Mann-Whitney test, Chi-square test, Fisher's Exact test, and ANOVA. A p-value of less than 0.05 was considered statistically significant. Statistical analysis was performed using IBM SPSS version 25.

RESULTS

The study reveals a varied distribution of alcohol dependence relapse cases across age groups, with the highest proportion (42%) in the 31-40 age bracket. The gender distribution shows a significant disparity, with 99% of cases being male. In terms of education, 27% completed high school, while 11% were illiterate. Occupation-wise, 61% were semi-skilled workers, and 50% came from urban areas. Family income data indicated that 50% earned between 21,914-36,526 rupees, while 69% were married. The majority (79%) lived in nuclear families, and 57% were from upper-lower socioeconomic backgrounds.

Among the 100 relapsed cases studied, 41% had their first drink before the age of 20, while 55% began drinking between 20 and 30 years, and only 4% started between 30 and 40 years. Most individuals (57%) developed alcohol dependence between the ages of 20 and 30, followed by 31% between 30 and 40 years. The duration of dependence varied, with 34% reporting less than five years, 31% between 6–10 years, 26% between 11–15 years, and 9% exceeding 15 years.

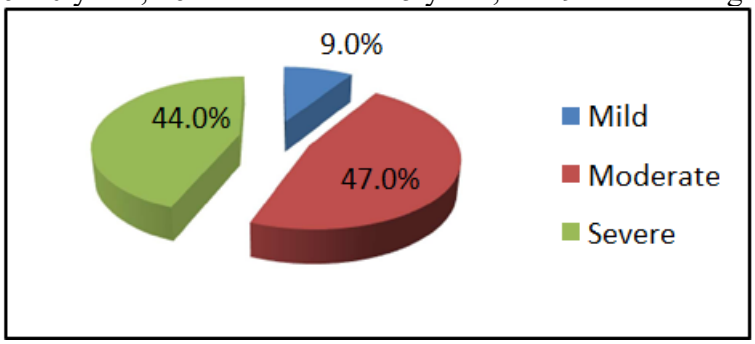

Figure 1: Severity of dependence in the relapsed cases

Among the 100 relapsed cases, 47% showed moderate dependence, 44% had severe dependence, and only 9% had mild dependence. The data reflects a high prevalence of moderate to severe alcohol dependence in the sample.

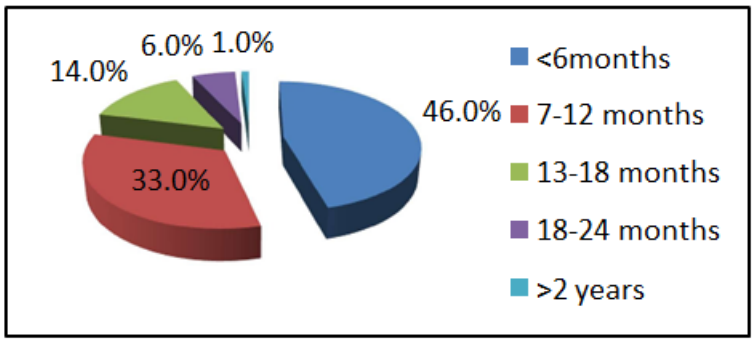

Figure 2: Abstinence duration in the relapsed cases

Among the 100 relapsed cases, 46% maintained abstinence for less than six months, while 33% abstained for 7 to 12 months. Only a small percentage sustained abstinence beyond one year, indicating that most relapses occurred within the first year.

Among the 100 relapsed alcohol dependence cases, treatment delays varied, with 33% delaying 4–6 months and 32% delaying 7–9 months, while 14% delayed over a year. Family problems (57%) and

cravings (47%) were the leading relapse triggers, followed by peer pressure (18%) and poor motivation (2%). Regarding treatment delay, 70% cited attitudes towards drinking, and 24% reported social influence. Personal beliefs contributing to relapse included lack of control (56%), indecision about quitting (24%), stigma (21%), and denial (2%).

Among the 100 relapsed alcohol dependence cases, 12% identified unsuitable living conditions and 14% cited physical and mental health issues as situational factors influencing their alcohol use, while the majority (74%) reported no such influences. Regarding accessible treatment factors, 36% mentioned treatment-related beliefs and barriers, and 4% cited proximity to services, while 60% reported no influence from listed factors. These findings highlight varied perceptions of external influences on alcohol use and treatment-seeking behavior.

Based on the analysis of 100 relapsed alcohol dependence cases, the average age of participants was approximately 39.5 years, ranging from 21 to 64 years. In terms of relapse risk, the highest mean score was observed in the Stimulus Vulnerability domain (mean = 2.82), followed by Emotional Problems (2.32) and Positive Emotion (2.26), with lower scores in Compulsivity (1.63), Negative Emotion (1.61), and Insight (1.78), indicating variability in the psychological dimensions contributing to relapse. Social support and stress were evaluated using the Dukes Social Support and Stress Scale (DUSCOS), where Family Support had the highest mean score (45.16), followed by Social Support (40.58) and Non-Family Support (23.64), reflecting moderate levels of perceived social support. Conversely, stress scores were also notable, with Family Stress averaging 34.53, Social Stress 30.95, and Non-Family Stress 18.60, highlighting the dual role of social networks in both supporting and stressing individuals at risk of relapse.

Analysis of the correlation between various socio-demographic factors and the duration of treatment delay revealed no statistically significant associations in most categories. Age group showed no significant link with treatment delay (p=0.98), although individuals aged 31–40 had the highest delays across all durations. Similarly, sex was not significantly associated with treatment delay (p=0.553), with males representing nearly all cases across all delay periods. Locality also showed no significant relationship (p=0.387), though rural individuals experienced longer delays more frequently than urban residents. Educational status did not significantly impact treatment delay (p=0.928), though individuals with lower education levels tended to have longer delays. Occupational status had no significant association (p=0.586), with both semi-skilled and skilled workers distributed fairly evenly across delay durations. Family income also showed no significant impact (p=0.992), though most delays occurred in the middle-income group. Marital status, however, was the only variable to show a statistically significant association (p=0.026), with married individuals experiencing longer delays more frequently than others. Lastly, family type did not significantly influence treatment delay duration (p=0.701), although nuclear families comprised the majority of delayed cases across all time frames. Overall, most socio-demographic factors studied did not significantly correlate with the duration of treatment delay, except for marital status.

Table 1: Distribution of treatment delay categorized by socioeconomic status

		Duration of Treatment Delay						Chi-square value	p-value
		< 6 months	< 6 months	6 months-12 months	6 months-12 months	> 12 months	> 12 months		
SES	Lower	7	15.2%	8	20.0%	4	28.6%	6.784	0.48
	Upper Lower	25	54.3%	27	67.5%	5	35.7%		
	Lower Middle	14	30.4%	5	12.5%	5	35.7%		
Total		46	100.0%	40	100.0%	14	100.0%		

The distribution of treatment delay by socioeconomic status showed most upper-lower SES individuals experienced shorter delays, while delays over 12 months were more evenly distributed

across groups. However, the chi-square test indicated no significant association between SES and treatment delay.

The analysis explored several variables in relation to the duration of treatment delay among individuals with alcohol dependence. There was no statistically significant association between the age at first drink, age at dependence, duration of dependence, severity of dependence, social influences, and situational factors with treatment delay. This indicates that these factors did not influence how soon or late individuals sought treatment. However, a significant relationship was observed between abstinence duration and treatment delay, suggesting that those with longer periods of abstinence experienced varied delays. Additionally, personal attitudes and beliefs, particularly the perception that drinking was "not a problem," personal stigma, and a sense of lack of control, were significantly associated with longer treatment delays. Among the reasons for relapse, only peer pressure was significantly linked to delayed treatment, while other reasons like craving, poor motivation, and family problems were not. Overall, internal psychological and motivational factors appeared to have a stronger influence on delaying treatment compared to external demographic, social, or situational factors.

Table 2: Mean and standard deviation (SD) values for age across three time intervals (< 6 months, six months - 12 months, and > 12 months) after relapse.

	< 6 months		6 months- 12 months		> 12 months		F	p-value
	Mean	SD	Mean	SD	Mean	SD		
Age	39.20	10.28	39.18	9.81	41.50	10.78	0.312	0.732

The data shows that mean age across different post-relapse intervals (<6 months, 6–12 months, and >12 months) is similar, with no significant variation. This suggests that the time since relapse does not significantly impact the average age of individuals seeking treatment.

Table 3: Mean and standard deviation (SD) values for several domains of the ARRS scale across three-time intervals (< 6 months, 6 months - 12 months, and > 12 months)

	< 6 months		6 months- 12 months		> 12 months		F	p-value
	Mean	SD	Mean	SD	Mean	SD		
ARRS_SV	2.18	0.54	3.01	5.38	4.41	9.12	1.215	0.301
ARRS_EP	2.35	0.52	2.33	0.56	2.19	0.51	0.540	0.585
ARRS_CA	1.66	0.67	1.67	0.67	1.45	0.42	0.643	0.528
ARRS_NE	1.64	0.75	1.59	0.73	1.59	0.73	0.067	0.935
ARRS_PE	2.02	0.86	2.54	0.67	2.27	0.81	4.654	0.012
ARRS_I	1.76	0.63	1.87	0.71	1.62	0.53	0.794	0.455

The data shows no significant differences across most domains of the Alcohol Relapse Risk Scale (ARRS) based on time since relapse, except for Positive Expectancy (ARRS_PE), which shows a significant variation. This suggests that individuals' expectations about alcohol use may change over time, highlighting the need to address positive reinforcement factors in relapse prevention.

Table 4: Mean and standard deviation (SD) values for three different time intervals (< 6 months, 6 months - 12 months, and > 12 months) across various domains of the DUSCOS scale.

	< 6 months		6 months- 12 months		> 12 months		F	p- value
	Mean	SD	Mean	SD	Mean	SD		
DUSCOS_FS	46.84	20.78	42.44	17.39	47.44	16.72	0.694	0.502
DUSCOS_NFS	26.30	17.68	23.00	18.70	16.71	14.69	1.612	0.205
DUSCOS_SS	42.18	15.92	39.52	19.35	38.31	16.60	0.384	0.682
DUSCOS_FS	32.68	22.42	36.61	18.87	34.69	18.34	0.392	0.677
DUSCOS_NFS	18.91	22.83	17.00	19.90	22.14	28.06	0.279	0.757
DUSCOS_SS	31.31	15.25	30.24	16.04	31.82	15.02	0.076	0.927

The analysis of the Dukes Social Support & Stress Scale (DUSCOS) shows no significant differences across time intervals, though there is a downward trend in non-family and social support. This suggests that while overall support and stress levels remain stable, non-family and social support may decline over time.

Table 5: Mean and standard deviation (SD) values for dependence severity across domains of the ARRS Scale.

Severity of Dependence	Mild		Moderate		Severe		F	p-value
	Mean	SD	Mean	SD	Mean	SD		
ARRS_SV	6.03	11.25	2.11	0.59	2.93	5.13	2.621	0.078
ARRS_EP	2.39	0.47	2.31	0.57	2.33	0.51	0.092	0.912
ARRS_CA	1.50	0.71	1.66	0.63	1.64	0.66	0.221	0.802
ARRS_NE	1.64	0.74	1.65	0.79	1.57	0.68	0.137	0.872
ARRS_PE	2.54	0.49	2.27	0.82	2.20	0.85	0.668	0.515
ARRS_I	2.02	0.74	1.83	0.65	1.68	0.63	1.259	0.288

The analysis of dependence severity across ARRS domains shows a decline in mean scores from mild to severe dependence in ARRS_SV, ARRS_PE, and ARRS_I, with no statistically significant differences. The larger standard deviation in ARRS_PE for the mild group suggests variability in positive expectancy.

Table 6: Mean and standard deviation for Severity of Dependence across various domains of the DUSCOS scale

Severity of Dependence	Mild		Moderate		Severe		F	p-value
	Mean	SD	Mean	SD	Mean	SD		
DUSCOCS_FS	40.48	15.15	44.17	18.44	47.18	20.15	0.588	0.558
DUSCOCS_NFS	21.56	24.33	25.11	17.05	22.50	17.54	0.305	0.737
DUSCOCS_SS	35.86	13.91	40.69	18.94	41.42	16.38	0.381	0.684
DUSCOCS_FS	35.71	8.75	36.29	21.11	32.42	21.43	0.421	0.657
DUSCOCS_NFS	7.78	15.63	17.45	21.41	22.05	23.97	1.664	0.195
DUSCOCS_SS	27.23	10.13	30.95	17.14	31.72	14.46	0.313	0.732

The analysis of dependence severity across DUSCOS domains shows an increase in mean scores from mild to severe dependence for Family Support, Social Support, and Non-Family Stress, though the differences are not statistically significant. Variations in Social Stress and Non-Family Stress are also observed but remain non-significant.

DISCUSSION

The study, conducted on 100 patients, provides critical insights into alcohol relapse patterns and associated risk factors. It highlights the influence of demographic factors such as age, gender, education, and occupation on relapse rates. The highest proportion of relapse cases was observed among individuals aged 31-40 (42%), followed by those aged 41-50 (26%) and under 30 (18%), with the lowest rate among those over 50 (14%). This suggests that early to mid-adulthood is a period of increased relapse risk, possibly due to life pressures. Educational background also played a role, with the majority having completed high school (27%) or middle school (24%), and only 5% being graduates, indicating a potential link between lower education and higher relapse rates [15].

Occupation-related stress was a significant factor, as 61% of relapses occurred among semi-skilled workers, 30% among skilled workers, and only 9% among the unemployed. Marital status was another key determinant, with 69% of the sample being married, 24% single, and 7% separated, divorced, or widowed, emphasizing the need for tailored support strategies. Approximately half of the participants had a family income above 21,000 rupees, highlighting the financial burden of alcohol consumption [16].

Comparing these findings with previous studies, similar trends were observed in alcohol users aged 26-45, where lower education levels and employment in unskilled labor correlated with higher relapse rates. Most participants were middle-aged, married men, aligning with findings from other research emphasizing gender differences, as men constituted 99% of relapse cases. Socioeconomic status also played a role, with 44% belonging to the upper-lower class and 50% to the lower-middle class [17].

Regarding drinking patterns, 61% of participants had been dependent on alcohol for over five years, similar to findings from a Bangalore study where 72.1% of participants had long-term alcohol use. Early initiation was common, with 68% having their first drink before the age of 20 and 31% between 20-30 years. These numbers were slightly higher than those reported in previous studies, where 41% had their first drink before 20 and 55% between 20-30 years [18].

Cravings were the primary cause of relapse for 47% of participants, followed by family issues (57%) and peer pressure (18%). This aligns with prior research, which identified psychological cravings, relationship issues, and emotional distress as key relapse triggers. Family-related stress played a significant role, with 50% of patients citing it as a major reason for relapse. Similarly, previous studies reported that 57% of participants relapsed due to family problems, highlighting the impact of interpersonal relationships on recovery [19].

Abstinence duration varied significantly, with 47% maintaining sobriety for 2-6 months, 33% for 6-12 months, 20% for 1-2 years, and only 1% for more than two years. The high relapse rate within the first year mirrors past studies where over 50% relapsed within six months of treatment. The average time to lapse was around 76 days, time to full relapse was 138 days, and the delay in seeking treatment post-relapse was approximately 420 days, suggesting a critical window for intervention [20].

Treatment-seeking behavior was influenced by psychological and personal beliefs. A large proportion (70%) did not perceive their drinking as a problem requiring treatment, while 56% cited lack of control as a major psychological barrier. Only 36% mentioned treatment-related concerns, and 4% pointed to issues with service accessibility. These findings align with past research emphasizing personal attitudes over external treatment barriers as key factors in delaying intervention [21].

Social and family support played a crucial role in recovery, with studies showing that a supportive marriage can improve long-term sobriety, while marital conflicts increase stress and relapse risk. Individuals with alcohol dependence often experience strained relationships at work and home, making social support a critical factor in sustaining abstinence. Previous research also indicates that individuals who seek treatment earlier tend to have better social and familial support compared to those who delay treatment [22,23].

Alcohol relapse is influenced by multiple factors, including demographic characteristics, social support, psychological cravings, and treatment-seeking behavior. Addressing these issues through targeted interventions, educational support, and family-based programs can enhance recovery outcomes and reduce relapse rates. Effective relapse prevention strategies should focus on early intervention, strengthening social support, and addressing personal beliefs that hinder treatment [24,25].

CONCLUSION

The study highlights the complex nature of alcoholism and relapse, influenced by socioeconomic, demographic, and personal factors. Treatment delays during relapse are a significant issue, primarily due to stigma, limited awareness, and inadequate social support. Occupational stress, family conflicts, and psychological cravings contribute to relapse risk, while lower education levels and financial instability further complicate recovery. Marital status and social environment play crucial roles in sustaining sobriety. Addressing these challenges through targeted interventions, community support, and educational programs can improve treatment outcomes and reduce relapse rates, emphasizing the need for early intervention and comprehensive care.

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