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An ambispective study on the determinants of treatment outcome and follow-up of patients with alcohol dependence syndrome in a Tertiary Care Center in Tamil Nadu

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Abstract

Background: Alcohol dependence syndrome (ADS) is a major public health challenge in India, characterized by high relapse rates and poor long-term outcomes. Understanding multifactorial determinants, including personality traits, psychosocial stressors, and clinical factors, can help in improving treatment strategies to get better outcomes.
Aim: To assess determinants of treatment outcome and follow-up compliance among inpatients with ADS at a tertiary care center in Tamil Nadu.
Methods: 116 patients diagnosed with ADS were studied over 9 months (October 2024–June 2025). Retrospective and prospective data, including sociodemographic and clinical factors, personality traits, stressful life events, and treatment adherence, were analyzed using statistical tools.
Results: Relapse rate was high (approximately 95%). Significant predictors of relapse included craving ($p < 0.001$), poor treatment compliance ($p = 0.028$), high severity of dependence (SADQ) ($p < 0.001$), married status ($p = 0.040$), and positive family history ($p = 0.011$). Personality traits showed no significant association with relapse except "Liveliness" correlating with stressful life events ($p = 0.020$). Disulfiram therapy showed better abstinence rates compared to other pharmacotherapies.
Conclusion: Treatment compliance, craving, family history, and psychosocial stressors are critical factors in relapse among ADS patients. Multifaceted intervention models that address these variables are essential for improving long-term outcomes.

Keywords: alcohol dependence syndrome, relapse, treatment outcome, ambispective study, personality traits, India

Introduction

Alcohol Dependence syndrome (ADS) is a chronic, relapsing psychiatric disorder characterized by compulsive alcohol use, impaired control over drinking, physiological withdrawal symptoms, increased tolerance, and persistent drinking despite evidence of harmful consequences. Globally, ADS represents a serious public health concern due to its prevalence, associated comorbidities, and socio-economic impact. The World Health Organization (WHO) estimates

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nearly 3 million annual deaths attributable to harmful alcohol use, constituting 5.1% of the global disease burden.

The burden of ADS is disproportionately high in low- and middle-income countries such as India, where healthcare accessibility, awareness, and early intervention remain limited. The "Magnitude of Substance Use in India" (2019) reported that 14.6% of the Indian population aged 10–75 years consumed alcohol in the past year, with 5.2% meeting dependence criteria. Despite millions suffering from ADS, treatment engagement is hindered by stigma, poor service reach, and inadequate follow-up.

Treatment of ADS involves pharmacological agents, psychosocial therapies such as cognitive behavioral therapy (CBT) and motivational enhancement therapy (MET), and support groups like Alcoholics Anonymous. However, relapse rates remain discouragingly high, often ranging between 60% and 70% within 6 months post-treatment.

Research highlights various biological, psychological, and social determinants of treatment outcome, including personality traits that predict vulnerability to relapse. Traits like impulsivity, neuroticism, and antisocial features have been associated with early drinking initiation, poor adherence, and repeated relapse. In India, studies also underscore family history and early drinking patterns as adverse prognostic indicators.

Stressful life events significantly affect ADS trajectory. Financial strain, familial discord, bereavements, and occupational challenges exacerbate relapse risk by diminishing coping efficacy.

Despite extensive isolated studies, there is a scarcity of ambispective research integrating retrospective and prospective data to examine multifactorial influences such as personality, stress, and treatment adherence on relapse in an Indian clinical setting.

This study aims to fill this gap by examining the treatment modalities, determinants of treatment outcome, and follow-up in patients with ADS admitted to a tertiary care center in South India. By tracking patients at multiple intervals over 6 months and integrating clinical, psychosocial, and personality assessments, it provides comprehensive insights to guide improved interventions.

Methodology

This study is an ambispective observational study conducted at the Institute of Mental Health, Chennai, over 9 months from October 2024 to June 2025. A total of 116 patients diagnosed with ADS admitted for inpatient care were included using consecutive non-probability sampling. Patients with a diagnosis of ADS as per DSM-5 criteria, who were admitted for the first time for treatment and were willing to participate and provide follow-up data, were included in the study. And patients with severe medical or neurological illness were excluded from the study. Data collection combined retrospective review of records and prospective follow-ups at 1, 2, 3, and 6 months post-discharge. Clinical and demographic variables recorded included age, sex, education, occupation, marital status, socioeconomic status, family history of alcohol use, age at first drink, duration and frequency of alcohol use, severity of dependence (SADQ), presence of craving, pharmacological treatment used, and treatment compliance. Personality assessment was done using the 16PF personality questionnaire. Stressful life events were measured using the presumptive stressful life events scale (PSLES).

Outcome measures

Primary outcome: Relapse status at 6 months' follow-up (relapse vs. abstinence).

Secondary outcomes: Association of relapse with personality traits, craving, treatment compliance, and psychosocial variables.

Statistical analysis

Descriptive statistics summarized baseline variables. Chi-square and Fisher's exact tests assessed categorical variable associations. Odds ratios were computed for abstinence predictors. p-values < 0.05 were considered statistically significant.

Results

Sample characteristics

The mean age of the participants of the study was 38 years, and all participants were male (**Table 1**). About 54% were married, and most of the participants were unemployed or unskilled laborers. More than one third of the study population had completed their high school. Early age of onset of drinking (<21 years) was noted, and most of them had moderate to severe dependence patterns of drinking. Relapse rates were around 95% with only 5% remaining abstinent at the end of the study period (**Table 2**). A positive family history of alcohol use significantly predicted relapse (**Table 3**).

Personality trait "Liveliness" and stressful life events

A significant association ($p = 0.020$) was observed with the "Liveliness" trait and stressful life events (**Table 4**). Patients with medium liveliness exhibited the highest stressful events rates (86.5%) compared to high (60%) or low (63.6%) liveliness. No other personality traits correlated significantly.

TABLE 1 | Sociodemographic variables and relapse status.

Variable	Category	Relapse rate (%)	Abstinent (%)	Odds ratio (abstinence)	p-value
Age	<37 years	66 (92.6)	5 (7.4)	0.099	0.055
	≥38 years	45 (100)	0	—	
Education	≥High school	54 (86.1)	9 (13.9)	0.139	0.134
	<High school	53 (100)	0	—	
Occupation	Unemployed/Unskilled	53 (96.4)	2 (3.6)	0.893	1.000
	Other	59 (96.3)	2 (3.7)		
Marital status	Married	63 (100)	0	—	0.040
	Unmarried/separated/divorced	49 (92.0)	4 (8.0)	11.7	
Type of family	Nuclear	67 (96.5)	2 (3.5)	1.59	0.643
	Joint	45 (95.4)	2 (4.6)		
Socioeconomic status	Lower	100 (95.7)	5 (4.3)	1.08	1.000
	Middle	10 (95.3)	1 (4.7)		

TABLE 2 | Clinical variables and relapse status.

Variable	Category	Relapse rate (%)	Abstinent (%)	Odds ratio (abstinence)	p-value
Age at first drink	<21 years	79 (94.9)	4 (5.1)	—	0.575
	≥21 years	33 (100)	0		
Duration of alcohol use	<16 years	48 (94.7)	3 (5.3)	—	0.619
	≥16 years	64 (98.1)	1 (1.9)		
Frequency of drinking	1–4 days/week	95.8	4.2	—	1.000
	Almost daily	65 (96.8)	2 (3.2)		
Last drink before admission	≤3 days	97.8	2.2	—	0.164
	>3 days	90.5	9.5		
Abstinent days prior to relapse	<36 days	71 (100)	0	—	0.014
	≥36 days	35 (89.7)	1 (10.3)		
Craving at admission	Present	115 (99.1)	1 (0.9)		<0.001
	Absent	0	116 (100)		
Craving during follow-up	Present	112 (100)	0		0.002
	Absent	5 (84)	1 (16)		
Pharmacotherapy	Disulfiram	5 (55.6)	4 (44.4)		<0.001
	Naltrexone/other	82 (100)	0		
Treatment compliance	Good	43 (91.3)	3 (8.7)		0.028
	Poor	64 (100)	0		

TABLE 3 | Family history and stressful life events.

Variable	Category	Relapse rate (%)	Abstinent (%)	Odds ratio (abstinence)	p-value
Family history alcohol	Present	77 (100)	0	—	0.011
	Absent	35 (89.2)	4 (10.8)	0.050	
Stressful life events	Present	93 (96.7)	3 (3.3)	1.53	0.557
	Absent	19 (95.0)	1 (5.0)		

TABLE 4 | Psychiatric comorbidity and personality traits.

Variable	Group/outcome	Rate (%)	p-value
Psychiatric comorbidity	Early relapse (within 1 month)	66–80	—
	Late relapse (6 months; psychosis group)	6.3	—
Personality TRAITS	None show significant association	—	>0.05
Severity	**Relapse rate (%)**	**Abstinent (%)**	**p-value**
Mild	66.7	33.3	<0.001
Moderate	96.7	3.3	
Severe	100	0	

Discussion

This ambispective study conducted at a tertiary care center in South India provides important insights into the clinical, psychosocial, and demographic determinants of relapse in patients with ADS. The findings reinforce the complexity of relapse risk and highlight areas for targeted intervention.

The exclusively male sample mirrors treatment-seeking trends in India, where women with alcohol use disorders are underrepresented due to socio-cultural stigma, gender roles, and limited access to care (1, 2). This gap necessitates gender-sensitive research and services.

The mean age of 37.7 years aligns with established dependence patterns but is younger than those reported in other Indian studies (3, 4). This suggests earlier initiation of alcohol use, which is further supported by the high proportion of participants who began drinking before age 21. Early onset has been linked with a higher risk of chronic dependence and poor outcomes (5).

Marital status was unexpectedly associated with increased relapse risk, with married individuals relapsing more frequently. While some literature suggests marriage may act as a protective factor against substance use (6), this study indicates that marital stress and relationship discord may instead serve as significant relapse triggers, as indicated by some studies (7). Thus, couple and family interventions may be considered in relapse prevention strategies.

Craving emerged as a prominent and statistically significant factor associated with relapse, in line with prior research that identifies craving as a key clinical target in preventing relapse (8, 9). This emphasizes the need for pharmacological agents such as naltrexone and acamprosate and psychosocial interventions including CBT to manage craving effectively (10).

In this study, treatment adherence was another major determinant of outcome. All patients with poor adherence experienced relapse, consistent with literature showing that non-adherence predicts poor long-term outcomes (11, 12). Factors such as socioeconomic burden, family support, motivation, and side effects often influence adherence in chronic conditions like ADS (13).

Pharmacologically, disulfiram was associated with better abstinence outcomes compared to other agents. While this may partly reflect selection bias—since disulfiram is often prescribed to motivated patients with strong supervision. The same results were replicated by existing evidence (14, 15). Careful patient selection remains key for optimal outcomes.

A positive family history of alcohol dependence significantly predicted relapse, in line with prior studies highlighting both genetic predispositions and familial modeling of substance use behavior (16, 17). This underscores the importance of taking family history into account during assessment and designing family-inclusive interventions.

Contrary to international studies that emphasize personality traits like impulsivity and neuroticism as predictors of relapse (18), this study found no significant association, except between the trait of "Liveliness" and increased stressful life events. Differences in sociocultural norms and assessment tools may account for this divergence (19).

The SADQ, as measured by the SADQ, was a strong predictor of relapse. This finding aligns with earlier studies that validate this (20). Greater severity often reflects higher tolerance, compulsivity, and associated psychosocial impairment, necessitating more intensive interventions.

The relapse rate in this study, which is lower when compared to a previous study (21) conducted in South India, is probably due to the severity of alcohol dependence of cases that visit the tertiary care center as most of the patients have severe alcohol dependence.

Conclusion

This study highlights the multifactorial nature of relapse in ADS in India, where craving, poor treatment adherence,

family history, marital status, and SADQ dominate outcomes. Psychosocial factors and personality traits play a major role, necessitating personalized treatment approaches emphasizing craving management, family and marital support, and adherence-promoting strategies. This study provides insight on the determinants playing a significant role in the outcome for patients with alcohol dependence when followed up for 6 months.

Limitations

Single-center study limits generalizability. Lack of biological markers and neurocognitive assessments is also a limitation, and self-reported data may be subject to recall bias.

Future directions

Future studies should include female participants and adopt multicentric or community-based designs to improve generalizability. Incorporating biological markers and neurocognitive assessments may offer deeper insights into relapse predictors.

Data availability statement

Data available on reasonable request from the corresponding author.

Ethics statement

Approved by the Institutional Ethics Committee, Madras Medical College. Written informed consent was obtained from all participants.

Consent for publication

Not applicable.

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Competing interests

The authors declare no competing interests.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

References

1. Ray R. *The Extent, Pattern and Trends of Drug Abuse in India: National Survey*. Ministry of Social Justice and Empowerment, Government of India and UNODC (2004).
2. Murthy P. *Women and Drug Use in India: Substance, Women and High-Risk Assessment Study*. UNODC (2008).
3. Rao R, Chand P, Chavan BS, Khandelwal SK. Treatment-seeking profile of subjects with alcohol dependence syndrome in a de-addiction centre. *Indian J Psychiatry.* (2010) 52(4):376–9.
4. Balhara YPS, Mathur S, Anand T. A cross-sectional study of profile of treatment seekers at a tertiary care de-addiction centre in India. *Indian J Psychol Med.* (2014) 36(4):400–4.
5. Grant BF, Dawson DA. Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: results from the National Longitudinal Alcohol Epidemiologic Survey. *J Subst Abuse.* (1997) 9:103–10.
6. Kermyt GA. Marital status and alcohol use: a meta-analysis. *Psychol Bull.* (2006) 132(4):592–614.
7. Fals-Stewart W, O'Farrell TJ, Birchler GR. Behavioral couples therapy for male substance-abusing patients: effects on relationship adjustment and drug-using behavior. *J Consult Clin Psychol.* (2001) 69(6):944–54.
8. Anton RF. Craving research: where do we go from here? *Alcohol.* (1999) 24(2):165–73.
9. Sinha R, O'Malley SS. Craving for alcohol: findings from the clinic and the laboratory. *Alcohol Alcohol.* (1999) 34(2):223–30.
10. Garbutt JC, West SL, Carey TS, Lohr KN, Crews FT. Pharmacological treatment of alcohol dependence: a review of the evidence. *JAMA.* (1999) 281(14):1318–25.
11. Kranzler HR, Stephenson JJ, Montejano LB, Wang S, Tzeng J, Gastfriend DR. Persistence with oral naltrexone for alcohol treatment: implications for healthcare utilization. *Addiction.* (2008) 103(11):1801–8.
12. Moos RH, Moos BS. Rates and predictors of relapse after natural and treated remission from alcohol use disorders. *Addiction.* (2006) 101(2):212–22.
13. Hser YI, Evans E, Huang D, Anglin DM. Relationship between drug treatment services, retention, and outcomes. *Psychiatr Serv.* (2004) 55(7):767–74.

14. Chick J, Gough K, Falkowski W, Kershaw P, Hore B, Mehta B, et al. Disulfiram treatment of alcoholism. *Br J Psychiatry.* (1992) 161:84–9.
15. Skinner MD, Lahmek P, Pham H, Aubin HJ. Disulfiram efficacy in the treatment of alcohol dependence: a meta-analysis. *PLoS One.* (2014) 9(2):e87366.
16. Goodwin DW. Alcoholism and genetics. *Arch Gen Psychiatry.* (1979) 36(1):57–61.
17. Kendler KS, Prescott CA, Myers J, Neale MC. The structure of genetic and environmental risk factors for common psychiatric and substance use disorders. *Arch Gen Psychiatry.* (2003) 60(9):929–37.
18. Le Bon O, D'Hondt L, Verbanck P, Reggers J, Kornreich C. Personality traits in alcohol-dependent subjects with major depression: relation to relapse. *Eur Psychiatry.* (2004) 19(6):349–54.
19. Srivastava K, Sinha PK. Personality characteristics and their association with outcome in alcohol dependence syndrome. *Ind Psychiatry J.* (2011) 20(2):103–8.
20. Stockwell T, Hodgson R, Edwards G, Taylor C, Rankin H. The development of a questionnaire to measure severity of alcohol dependence. *Br J Addict.* (1979) 74(1):79–87.
21. Abraham J, Chandrasekaran R, Chitralekha V. A prospective study of treatment outcome in alcohol dependence from a deaddiction centre in India. *Indian J Psychiatry.* (1997) 39(1):18–23.