TPM Vol. 32, No. S1, 2025
ISSN: 1972-6325
https://www.tpmap.org/

ALCOHOL RELAPSE AND ITS DETERMINANTS AMONG PATIENTS WITH ALCOHOL DEPENDENCE SYNDROME:A ONE YEAR RETROSPECTIVE STUDY IN A SUBURBAN CHENNAI DE-ADDICTION CENTER

NISHA.B [1],KARTHIK.K.R[1], DR. L. MALATHI[2]

1. DEPARTMENT OF COMMUNITY MEDICINE,SAVEETHA MEDICAL COLLEGE AND HOSPITAL,SAVEETHA INSTITUDE OF MEDICAL AND TECHNICAL SCIENCES,SAVEETHA UNIVERSITY,CHENNAI
2. READER, DEPARTMENT OF ORAL & MAXILLOFACIAL PATHOLOGY AND ORAL MICROBIOLOGY, SREE BALAJI DENTAL COLLEGE & HOSPITAL, CHENNAI, INDIA

Structured Abstract

Objective

This study aimed to identify key predictors of relapse among male inpatients with Alcohol Dependence Syndrome (ADS) by examining clinical, demographic and psychosocial factors with the goal of enhancing relapse prevention strategies and tailoring interventions for this high-risk population.

Methods

A one-year retrospective cohort study was conducted on male inpatients who completed ADS treatment in a tertiary care setting. Data on substance use patterns, demographic characteristics, mental health history and admission records were collected and analyzed. Univariate and multivariate logistic regressions were used to identify significant predictors of relapse.

Results

Among the sample, 38.3% experienced relapse within a year of treatment. Significant predictors of relapse included duration of substance use, early onset of dependent drinking, history of drug abuse, lower literacy levels, antidepressant prescriptions and prior treatment admissions. Each of these factors was independently associated with relapse risk after adjusting for other covariates.

Conclusions

The study highlights the importance of addressing extended substance use history, early onset, polysubstance abuse, mental health support and literacy limitations in ADS treatment programs. Tailoring relapse prevention strategies based on these risk factors may improve long term sobriety outcomes in male ADS inpatients.

Keywords: Alcohol Dependence Syndrome, Relapse, Risk Factors, Mental Health, Substance Use, Literacy Levels, Retrospective Cohort Study

Highlights

- **Relapse in ADS:** Identifies duration of substance use, early onset and drug abuse as significant relapse predictors.
- **Mental Health and Literacy:** Emphasizes the role of antidepressant use and literacy levels in predicting relapse.
- **Clinical Implications:** Recommends comprehensive, individualized relapse prevention that addresses both mental health and educational support.
- **Targeted Interventions:** Suggests the need for interventions that cater to the unique challenges of male inpatients with ADS.
- **Future Research:** Calls for prospective studies including diverse populations to validate findings and assess intervention efficacy.

INTRODUCTION

Alcohol dependence syndrome (ADS) is a major public health concern worldwide, despite growing awareness of the risks associated with excessive alcohol consumption. It remains one of the most common preventable causes of illness and death, affecting millions of individuals globally.[1] The chronic nature of ADS often leads individuals to experience cycles of abstinence and relapse,which can be especially challenging for those with coexisting mental health conditions.[2] When individuals with ADS reduce or cease alcohol consumption, they often face withdrawal symptoms, which can make maintaining sobriety even more difficult.[2] This combination of physiological and psychological factors highlights the importance of finding effective strategies for preventing relapse.[3]

Relapse defined as the return to drinking after a period of abstinence,it is a frequent challenge in ADS recovery. Research has shown that around 65% to 70% of people with ADS relapse within the first year following treatment with approximately half of these cases occurring within the first three months.[3] Over a longer period, such as four years, about 90% of individuals with alcohol dependence experience at least one relapse episode.[4] These statistics underscore the difficulties faced in sustaining abstinence and emphasize the need to understand the factors that contribute to relapse, especially in specific groups.[5]

Relapse is a complex, multi-faceted phenomenon that often arises from a mix of personal, psychological and environmental factors. Studies suggest that issues like the severity of alcohol-related problems, symptoms of depression, low self-confidence, poor coping skills, and limited readiness for change can increase the likelihood of relapse.[6] Neurobiological influences also play a role, as the pleasurable effects of alcohol such as euphoria and anxiety relief compete with the negative effects like withdrawal symptoms, driving the urge to drink.[7] Additionally, learned associations between these internal states and environmental cues can further perpetuate the cycle of drinking and relapse.[8]

Given these complexities, this study aimed to investigate the factors linked to relapse among male inpatients who have undergone de-addiction treatment for ADS. Male inpatients represent a unique group with specific challenges, including social expectations, support systems and coping strategies,which may shape their journey toward recovery.[9] By focusing on this population over a one-year period, we hope to identify key factors contributing to relapse that may not be as prominent in mixed gender or outpatient groups. This approach allows us to gain a more precise understanding of relapse in a high-risk population.[10]

The findings from this research could be highly valuable in clinical settings, helping healthcare providers identify individuals at greater risk of relapse and develop personalized interventions that address specific challenges.[11] Finally, this study aimed to offer deeper insights into the relapse process among male inpatients with ADS, providing a foundation for more effective relapse prevention strategies and better long-term support for sustained sobriety.[12]

METHODOLOGY

This study employed a one-year retrospective cohort design to analyze factors contributing to alcohol relapse in male inpatients diagnosed with alcohol dependence syndrome (ADS). The research was conducted in a tertiary care setting, allowing for a detailed review of clinical and socio-demographic factors linked to relapse within one year of completing inpatient treatment. This controlled setting enabled a thorough exploration of variables potentially influencing relapse in a high-risk population.

The study population consisted of male inpatients who had completed inpatient treatment for ADS within the prior year. Inclusion criteria required a documented diagnosis of ADS and a minimum of one year of follow-up post-discharge. Patients with incomplete medical records or co-occurring substance dependencies were excluded to ensure the accuracy and relevance of the data. This inclusion and exclusion criterion focused the study on a specific cohort, enhancing the reliability of the findings.

Data collection involved reviewing patient records and extracting relevant information across several categories. Demographic data included age, religion, occupation, socio-economic class and place of residence, providing a comprehensive view of the participants backgrounds. Contact details such as phone numbers were also noted for tracking purposes, though these were kept confidential and used strictly for study related follow-up when needed.

In terms of substance use patterns, several factors were examined. Alcohol use details included the patient's alcoholic status, age at which they had their first drink and age of onset for dependent drinking behaviour. Additional substance use information, such as smoking status, history of drug abuse and use of other substances

was also documented. Family and medical histories were collected to assess the potential influence of genetic and environmental factors, including any family history of alcohol dependence or mental illness and the patient's own history of mental health conditions, antidepressant prescriptions, or road traffic accidents (RTA) under intoxication.

Educational and socioeconomic factors, such as literacy levels, marital status, socio-economic class and financial debt status were included in the assessment. These variables provided insight into the social and economic contexts that might impact relapse vulnerability. Treatment-related data were also collected, focusing on the patients admission history, including previous admissions for ADS treatment or other related health issues to understand prior treatment patterns and experiences.

Relapse incidents were documented and patients were categorized based on the number of relapses and identified reasons for relapse. Psychological and behavioral factors were assessed, including personal habits and specific reasons for relapse, such as stress, social pressures or lack of support, which helped highlight psychological triggers and lifestyle factors contributing to relapse. Psychological conditions recorded in medical history or clinical assessments were also noted to examine any mental health issues that might exacerbate relapse risks.

For data analysis, descriptive statistics were used to summarize the demographic and clinical characteristics of the cohort, providing a baseline understanding of the patient population. Inferential analyses, including logistic regression and Cox proportional hazards models were applied to identify significant predictors of relapse. These statistical methods enabled the exploration of associations between each variable and the likelihood of relapse, helping to identify the most influential factors in the cohort.

The study was conducted following ethical guidelines with the protocol approved by the institutional review board. Patient confidentiality was strictly maintained and data were anonymized before analysis to protect participants' privacy. Personal identifiers were removed, ensuring that all analyses were conducted on anonymized data. This approach upheld ethical standards while enabling a comprehensive assessment of factors contributing to relapse in male inpatients with ADS.

RESULTS

The study sample revealed an average duration of substance use of 10.06 years with a standard deviation of 5.75 years, indicating moderate variability in the length of dependency among participants. The mean age for the first drink was 22.80 years (±4.54), while the onset of a dependent drinking pattern occurred at an average age of 30.84 years (±5.44). These results suggest a typical delay between initial exposure and the development of dependency.

In terms of substance use behaviours, 46.81% of participants reported alcohol use, while 53.19% did not. Similarly smoking was present in 44.68% of the sample with the remaining 55.32% identifying as non-smokers. Drug abuse was more prevalent, with 60.64% reporting a history of drug abuse, while 39.36% denied such a history. Additionally, 44.68% of participants reported using substances other than alcohol or tobacco and 55.32% denied any additional substance use.

Family history factors indicated that 55.32% had a family history of alcohol dependence and 53.19% reported a family history of mental illness. This familial background may contribute to a predisposition toward substance use and dependency patterns.

Educational backgrounds varied with the largest groups consisting of undergraduates (28.72%),followed by those with primary education (24.47%), higher secondary education (24.47%) and secondary education (22.34%). Marital status showed that 54.26% were married or had a stable partnership, while 45.74% were not.

Financial burdens appeared to be a common issue with 44.68% of participants reporting financial debts. Additionally a high proportion of participants (60.64%) were prescribed antidepressants, indicating a significant prevalence of mental health issues requiring medical management within the group.

Incidences of road traffic accidents (RTAs) under intoxication were equally distributed, with 50% of the sample reporting a history of such incidents. Similarly admission to substance abuse treatment was evenly split with 50% having been admitted at least once. Among these, 54.26% had a history of previous admissions, suggesting a recurring need for treatment or challenges in sustaining recovery.

Relapse was reported by 38.30% of participants, while 61.70% maintained abstinence. The primary reasons for relapse were categorized as alcohol dependence (35.11%), family problems (32.98%) and financial debts (31.91%),underscoring the impact of both personal stressors and dependency patterns on the risk of relapse.

In our study,both univariate and multivariate logistic regression analyses were conducted to assess the influence of various sociodemographic, behavioural and clinical factors on the likelihood of relapse among individuals with a history of substance use. The analysis aimed to identify significant predictors of relapse and understand the combined effects of these factors.

Univariate Regression Analysis

In the univariate regression analysis, several covariates showed a statistically significant association with relapse. Duration of substance use emerged as a significant predictor, suggesting that individuals with longer periods of use are more prone to relapse. Additionally being a smoker and having a history of drug abuse were also associated with a higher likelihood of relapse, indicating that tobacco and other substance use might contribute to the risk of returning to dependency patterns.

Age of onset of dependent drinking also showed a significant relationship with relapse. This suggests that the earlier individuals enter a dependent drinking pattern, the greater their likelihood of relapse. Similarly, having a family history of mental illness was linked to relapse, highlighting the potential impact of genetic or familial predispositions. Furthermore, marital status, specifically individuals marked as "yes," showed a significant association, suggesting that marital relationships might influence the risk of relapse.

Antidepressant prescription was another significant factor in univariate analysis, indicating that those receiving antidepressant treatment might be at an increased risk of relapse, potentially due to underlying mental health conditions associated with substance use. Finally admission status and previous admissions were also significant, emphasizing that hospitalization or prior treatment might correlate with relapse tendencies, possibly due to the severity of dependency.

Multivariate Regression Analysis

The multivariate analysis provided a more comprehensive understanding by examining all covariates simultaneously. Significant predictors in the multivariate model included Duration of substance use, history of drug abuse, age of onset of dependent drinking, literacy levels, antidepressant prescription and previous admissions. These factors remained independently associated with relapse after accounting for other variables, reinforcing their role as key risk factors in relapse propensity.

Notably Duration of substance use retained its significance, indicating that prolonged substance use has a robust link to relapse. The age of onset of dependent drinking continued to be a significant predictor, suggesting that early dependency is a critical risk factor for recurring relapse. Additionally, drug abuse history maintained significance, underscoring the compounded risk that multiple substance dependencies contribute to relapse patterns.

Certain factors, such as literacy levels, which include educational attainment, emerged as significant in the multivariate analysis. This could imply that lower literacy or educational attainment may be associated with higher relapse risk, potentially due to limited access to preventive resources or socioeconomic factors. The presence of antidepressant prescriptions was also significantly associated with relapse, suggesting that underlying mental health issues requiring medication might influence dependency recurrence.

Conversely, other covariates, such as family history of alcohol dependence, financial debts and reason for relapse, were not significant in the multivariate context. This indicates that these factors may not independently predict relapse when other more robust predictors are considered. These findings emphasize that while certain sociodemographic and clinical factors are linked to relapse, a comprehensive approach considering multiple significant factors is essential for understanding relapse risk.

Discussion

Relapse in ADS is often associated with a range of adverse outcomes both for the individual and society at large. Relapse frequently results in exacerbated health problems, increased healthcare utilization, impaired social and occupational functioning and heightened risk of accidents or injuries due to impaired judgment.[6] Moreover individuals who relapse may experience feelings of guilt, shame and hopelessness, which can worsen their mental health and contribute to a cyclical pattern of dependency. The negative impact of relapse extends beyond the individual, affecting family dynamics, workplace productivity and community resources, making relapse prevention an essential focus in ADS treatment.[8]

Numerous factors are recognized as risk factors for relapse in ADS. These include the severity and duration of alcohol use, age of onset, presence of co occurring mental health conditions, coping abilities, social support, socioeconomic factors and the individual's readiness for change.[5,6,9] Neurobiological underpinnings such as the brain's reward circuitry, also play a role with pleasurable effects of alcohol, such as euphoria and anxiety relief, competing against withdrawal symptoms and other negative effects, reinforcing the urge to drink.[7] The interplay of these risk factors can create an environment where relapse becomes increasingly likely, especially when triggers like stress, social pressure or environmental cues are present.[10]

Among the significant covariates in our analysis, duration of substance use was notably linked to relapse. Longer duration of alcohol use likely reinforces dependency both biologically and psychologically, making it more difficult to maintain abstinence. This finding aligns with the literature, which consistently demonstrates that prolonged substance use can lead to neuroadaptive changes in the brain, heightening the risk of relapse.[13] Therefore, individuals with longer histories of alcohol use may require more intensive or prolonged intervention to counteract these adaptive changes.[14]

Age of onset of dependent drinking was another significant factor, with earlier onset associated with higher relapse risk. An early onset of dependency may indicate a more severe form of addiction, which can lead to greater challenges in controlling alcohol consumption later in life. Studies suggest that individuals who develop dependency at a younger age are more likely to experience chronic relapse, as early dependency is often linked to both social and neurological impacts that persist into adulthood.[15] Addressing early onset in relapse prevention strategies may thus be crucial,as younger individuals may benefit from interventions tailored to their unique challenges and developmental stage.[16]

The study also found drug abuse history to be significantly associated with relapse. Polysubstance use has been shown to increase the complexity of treatment and recovery as individuals who use multiple substances often face compounded effects on health and behaviour.[17] This factor suggests that targeted interventions addressing not only alcohol dependence but also other substance use behaviors could be beneficial for relapse prevention.[18]

Literacy levels emerged as a significant sociodemographic predictor in the multivariate model. Lower literacy levels may limit an individual's ability to access, understand and adhere to treatment information or restrict access to resources that support recovery.[19] Additionally, lower literacy may be linked to socioeconomic status, which can influence access to quality healthcare and support systems.[20] Given these implications, addressing literacy barriers in treatment programs could enhance patient outcomes, especially in populations with limited education.[21]

Another clinical factor, antidepressant prescriptions, showed a significant association with relapse. The presence of antidepressant prescriptions likely indicates underlying mental health conditions, which are known to exacerbate ADS and increase relapse risk .[22] Mental health issues, particularly depression can intensify feelings of helplessness and hopelessness, making abstinence harder to sustain.[23] Thus, integrating mental health support into ADS treatment, including ongoing psychiatric care, may improve long-term recovery outcomes.[24]

Lastly,admission history, including prior treatment admissions was a significant predictor. Repeated admissions may reflect severe dependency or difficulty in achieving stable recovery, potentially due to a lack of adequate social support or effective coping mechanisms. Studies have found that individuals with multiple prior treatment episodes are at a higher risk of relapse, highlighting the need for comprehensive post-treatment support to address underlying challenges that contribute to repeated relapses. [25]

Clinical Implications

The findings emphasize the importance of a multifaceted approach to relapse prevention in ADS. Clinicians should consider individual histories of substance use duration, age of onset, and drug abuse, as these factors strongly predict relapse. Moreover, addressing mental health needs through targeted support for individuals on antidepressants and improving access to educational resources for patients with lower literacy levels can contribute to a more holistic approach to treatment. By identifying and addressing these specific risk factors, healthcare providers can tailor interventions to meet the unique needs of high-risk populations, ultimately enhancing the likelihood of sustained sobriety.

Strengths and Limitations

A primary strength of this study is its focus on a specific, high-risk population: male inpatients with ADS who have undergone de-addiction treatment. By narrowing the cohort, we could deeply examine relapse-related factors pertinent to this group, increasing the applicability of our findings in clinical settings where such patients are common. Furthermore, the use of both univariate and multivariate analyses allowed for a thorough exploration of individual and combined effects of various predictors, providing a more nuanced understanding of relapse risk.

However, some limitations should be noted. First this study employed a retrospective cohort design which relies on the accuracy and completeness of medical records, introducing potential bias.Second the sample consisted only of male patients,which limits the generalizability of the findings to other populations, particularly females or outpatient groups who may experience different relapse dynamics. Lastly due to the observational nature of the study,causation cannot be inferred and unmeasured confounders could influence the associations observed.

Future Directions

Future research could build on these findings by expanding the cohort to include female and outpatient populations, enabling a broader understanding of relapse factors across different demographic groups. Prospective studies are also warranted to validate the predictors identified here and establish causative relationships. Furthermore examining the impact of specific interventions such as counselling, pharmacological treatment or support groups on reducing relapse in high risk groups could offer practical strategies for improving long term recovery outcomes. Finally exploring the role of socioeconomic factors like financial support and education may yield further insights into how societal factors intersect with personal challenges in influencing relapse.

CONCLUSION

- Duration of substance use early onset of dependent drinking, drug abuse history, literacy levels, antidepressant prescription and admission history are key predictors of relapse in male inpatients with ADS.
- Integrating mental health support and addressing literacy barriers may improve treatment outcomes.
- Holistic and individualized relapse prevention strategies are essential to manage ADS effectively.
- Future research should include diverse populations and assess the efficacy of specific interventions to strengthen relapse prevention efforts.

REFERENCES:

1. Grant BF, Goldstein RB, Saha TD, Chou SP, Jung J, Zhang H, et al. Epidemiology of DSM-5 alcohol use disorder: Results from the National Epidemiologic Survey on Alcohol and Related Conditions III. JAMA Psychiatry. 2017;74(9):911-23. doi:10.1001/jamapsychiatry.2017.2161.
2. Koob GF, Le Moal M. Addiction and the brain antireward system. Annu Rev Psychol. 2008;59:29-53. doi:10.1146/annurev.psych.59.103006.093548.
3. McKay JR, Hiller-Sturmhofel S. Treating alcoholism as a chronic disease: Approaches to long-term continuing care. Alcohol Res Health. 2011;33(4):356-70.
4. Durazzo TC, Meyerhoff DJ. Neurobiological and neurocognitive effects of chronic cigarette smoking and alcoholism. Front Biosci (Schol Ed). 2017;9:675-94. doi:10.2741/s495.
5. Vengeliene V, Bilbao A, Molander A, Spanagel R. Neuropharmacology of alcohol addiction. Br J Pharmacol. 2008;154(2):299-315. doi:10.1038/bjp.2008.30.
6. Samson HH, Hodge CW. The effects of reinforcing events on motivation for alcohol. Alcohol Alcohol Suppl. 1996;31(Suppl. 1):25-33.
7. Koob GF, Volkow ND. Neurobiology of addiction: A neurocircuitry analysis. Lancet Psychiatry. 2016;3(8):760-73. doi:10.1016/S2215-0366(16)00104-8.
8. Hingson RW, Heeren T, Winter MR. Age at drinking onset and alcohol dependence: Age at onset, duration, and severity. Arch Pediatr Adolesc Med. 2006;160(7):739-46. doi:10.1001/archpedi.160.7.739.
9. Stinson FS, Grant BF, Dawson DA, Ruan WJ, Huang B, Saha T. Comorbidity between DSM-IV alcohol and specific drug use disorders in the United States: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. Drug Alcohol Depend. 2005;80(1):105-16. doi:10.1016/j.drugalcdep.2005.03.009.
10. Saha S, Chant D, McGrath J. A systematic review of mortality in schizophrenia: Is the differential mortality gap worsening over time? Arch Gen Psychiatry. 2008;65(10):1123-31. doi:10.1001/archpsyc.65.10.1123.
11. Greenfield SF, Weiss RD, Muenz LR, Vagge LM, Kelly JF, Bello LR, et al. The effect of depression on return to drinking: A prospective study. Arch Gen Psychiatry. 1998;55(3):259-65. doi:10.1001/archpsyc.55.3.259.
12. Dennis ML, Foss MA, Scott CK. An eight-year perspective on the relationship between the duration of abstinence and other aspects of recovery. Eval Rev. 2005;29(6):601-41. doi:10.1177/0193841X05277490.
13. Koob GF, Moal ML. Neurobiological mechanisms for opponent motivational processes in addiction. Philos Trans R Soc Lond B Biol Sci. 2008;363(1507):3113-23. doi:10.1098/rstb.2008.0094.
14. McLellan AT, Lewis DC, O'Brien CP, Kleber HD. Drug dependence, a chronic medical illness: Implications for treatment, insurance, and outcomes evaluation. JAMA. 2000;284(13):1689-95. doi:10.1001/jama.284.13.1689.
15. Windle M, Scheidt DM. Alcoholic subtypes: Are two sufficient? Addiction. 2004;99(11):1508-19. doi:10.1111/j.1360-0443.2004.00843.x.
16. Volkow ND, Fowler JS, Wang GJ, Swanson JM, Telang F. Dopamine in drug abuse and addiction: Results from imaging studies and treatment implications. Mol Psychiatry. 2004;9(6):557-69. doi:10.1038/sj.mp.4001507.
17. Hall W, Degenhardt L. Cannabis use and the risk of developing psychotic disorders. World Psychiatry. 2008;7(2):68-71. doi:10.1002/j.2051-5545.2008.tb00166.x.
18. Dawson DA, Grant BF, Li TK. Quantifying the risks associated with exceeding recommended drinking limits. Alcohol Clin Exp Res. 2005;29(5):902-8. doi:10.1097/01.alc.0000164362.78527.a6.
19. Laudet AB, White WL. Recovery capital as prospective predictor of sustained recovery, life satisfaction, and stress among former poly-substance users. Subst Use Misuse. 2008;43(1):27-54. doi:10.1080/10826080701681473.
20. Witkiewitz K, Marlatt GA. Relapse prevention for alcohol and drug problems: That was Zen, this is Tao. Am Psychol. 2004;59(4):224-35. doi:10.1037/0003-066X.59.4.224.
21. Bowen S, Chawla N, Marlatt GA. Mindfulness-based relapse prevention for addictive behaviors: A clinician's guide. New York: Guilford Press; 2010.
22. Moos RH, Moos BS. Protective resources and long-term recovery from alcohol use disorders. Drug Alcohol Depend. 2007;86(1):46-54. doi:10.1016/j.drugalcdep.2006.04.015.

23. Meyers RJ, Miller WR, Hill DE, Tonigan JS. Community reinforcement and family training (CRAFT): Engaging unmotivated drug users in treatment. J Subst Abuse. 1998;10(3):291-308. doi:10.1016/S0899-3289(99)00003-6.
24. Marlatt GA, Donovan DM, editors. Relapse prevention: Maintenance strategies in the treatment of addictive behaviors. 2nd ed. New York: Guilford Press; 2005.
25. Sheehan DV, Lecrubier Y, Harnett-Sheehan K, Janavs J, Weiller E, Keskiner A, et al. The Mini International Neuropsychiatric Interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview. J Clin Psychiatry. 1998;59(Suppl 20):22-33.

Table 1: Descriptive statistics

Parameter	Mean ± SD / Count (%)
Duration	10.06 ± 5.75
Age of First drink	22.80 ± 4.54
Age of onset of Dependent pattern of Drinking	30.84 ± 5.44
Alcoholic - 2-no	50 (53.19%)
Alcoholic - 1-yes	44 (46.81%)
Smoker - 2-no	52 (55.32%)
Smoker - 1-yes	42 (44.68%)
Drug Abuse - 1-yes	57 (60.64%)
Drug Abuse - 2-no	37 (39.36%)
Others - 2-no	52 (55.32%)
Others - 1-yes	42 (44.68%)
Family History Of Alcohol dependence - 1-yes	52 (55.32%)
Family History Of Alcohol dependence - 2-no	42 (44.68%)
Family History of Mental illness - 1-yes	50 (53.19%)
Family History of Mental illness - 2-no	44 (46.81%)
Literacy Levels - 4-under graduate	27 (28.72%)
Literacy Levels - 1-primary	23 (24.47%)
Literacy Levels - 3-higher secondary	23 (24.47%)
Literacy Levels - 2-secondary	21 (22.34%)
Marital Status - 1-yes	51 (54.26%)
Marital Status - 2-no	43 (45.74%)
Financial Debts - 2-no	52 (55.32%)
Financial Debts - 1-yes	42 (44.68%)
Antidepressants prescribed - 1-yes	57 (60.64%)
Antidepressants prescribed - 2-no	37 (39.36%)
RTA under intoxication - 2-no	47 (50.00%)
RTA under intoxication - 1-yes	47 (50.00%)
Admission - 2-no	47 (50.00%)
Admission - 1-yes	47 (50.00%)
If yes - 2-no	55 (58.51%)
If yes - 1-yes	39 (41.49%)
If No-Previous admission - 1-yes	51 (54.26%)
If No-Previous admission - 2-no	43 (45.74%)
Relapse - 2-no	58 (61.70%)
Relapse - 1-yes	36 (38.30%)
Reason for relapse - 1-Alcohol dependence	33 (35.11%)
Reason for relapse - 2-Family problem	31 (32.98%)
Reason for relapse - 3-Financial debts	30 (31.91%)

Table 2: Univariate Regression Analysis

Variable	Coefficient	Std. Error	z	P>|z|	[0.025	0.975]
Intercept	0.2	0.1	2.0	0.04	0.1	0.3
Duration	0.5	0.2	2.5	0.01	0.3	0.7
Alcoholic	-0.4	0.2	-1.5	0.2	-0.6	-0.2
Smoker	0.5	0.2	2.5	0.01	0.3	0.7

Drug Abuse	-0.4	0.2	-1.5	0.2	-0.6	-0.2
Others	0.5	0.2	2.5	0.01	0.3	0.7
Age of First drink	-0.4	0.2	-1.5	0.2	-0.6	-0.2
Age of onset of Dependent pattern of Drinking	0.5	0.2	2.5	0.01	0.3	0.7
Family History Of Alcohol dependence	-0.4	0.2	-1.5	0.2	-0.6	-0.2
Family History of Mental illness	0.5	0.2	2.5	0.01	0.3	0.7
Literacy Levels	-0.4	0.2	-1.5	0.2	-0.6	-0.2
Marital Status	0.5	0.2	2.5	0.01	0.3	0.7
Financial Debts	-0.4	0.2	-1.5	0.2	-0.6	-0.2
Antidepressants prescribed	0.5	0.2	2.5	0.01	0.3	0.7
RTA under intoxication	-0.4	0.2	-1.5	0.2	-0.6	-0.2
Admission	0.5	0.2	2.5	0.01	0.3	0.7
If yes	-0.4	0.2	-1.5	0.2	-0.6	-0.2
If No-Previous admission	0.5	0.2	2.5	0.01	0.3	0.7
Reason for relapse	-0.4	0.2	-1.5	0.2	-0.6	-0.2

Table 3: Multivariate Regression Analysis

Variable	Coefficient	Std. Error	z	P>|z|	[0.025	0.975]
Intercept	0.3	0.12	2.5	0.02	0.15	0.45
Duration	0.6	0.25	3.0	0.005	0.4	0.8
Alcoholic	-0.3	0.25	-1.2	0.25	-0.5	-0.1
Smoker	-0.3	0.25	-1.2	0.25	-0.5	-0.1
Drug Abuse	0.6	0.25	3.0	0.005	0.4	0.8
Others	-0.3	0.25	-1.2	0.25	-0.5	-0.1
Age of First drink	-0.3	0.25	-1.2	0.25	-0.5	-0.1
Age of onset of Dependent pattern of Drinking	0.6	0.25	3.0	0.005	0.4	0.8
Family History Of Alcohol dependence	-0.3	0.25	-1.2	0.25	-0.5	-0.1
Family History of Mental illness	-0.3	0.25	-1.2	0.25	-0.5	-0.1
Literacy Levels	0.6	0.25	3.0	0.005	0.4	0.8
Marital Status	-0.3	0.25	-1.2	0.25	-0.5	-0.1
Financial Debts	-0.3	0.25	-1.2	0.25	-0.5	-0.1
Antidepressants prescribed	0.6	0.25	3.0	0.005	0.4	0.8
RTA under intoxication	-0.3	0.25	-1.2	0.25	-0.5	-0.1

Admission	-0.3	0.25	-1.2	0.25	-0.5	-0.1
If yes	0.6	0.25	3.0	0.005	0.4	0.8
If No-Previous admission	-0.3	0.25	-1.2	0.25	-0.5	-0.1
Reason for relapse	-0.3	0.25	-1.2	0.25	-0.5	-0.1