

Research Report

EMOTIONAL INTELLIGENCE IN PATIENTS WITH ALCOHOL DEPENDENCE SYNDROME: A COMPARATIVE STUDY

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ABSTRACT

Background: Emotional intelligence (EI) is an important psychological construct influencing self-awareness, emotional regulation, and decision-making. Its role in alcohol dependence syndrome (ADS) is increasingly being recognized.

Methods: This hospital-based cross-sectional comparative study was conducted in a tertiary care center and included 60 male patients with alcohol dependence syndrome and 60 age-matched healthy male controls. Emotional intelligence was assessed using the Schutte Self-Report Emotional Intelligence Test (SSEIT). Severity of alcohol dependence and craving were measured using the Severity of Alcohol Dependence Questionnaire (SADQ) and Alcohol Craving Questionnaire–Short Form Revised (ACQ-SF-R), respectively. Data were analyzed using SPSS version 22.

Results: The mean SSEIT score was significantly lower in the ADS group compared to controls (106.05 ± 17.45 vs. 141.33 ± 9.63 ; $p < 0.001$). Subdomains of EI, including emotion perception, self-regulation, and utilization of emotions, were significantly impaired in the ADS group. Family history of alcohol use was associated with lower EI scores ($p = 0.004$). No significant correlation was found between EI and alcohol craving or severity of dependence.

Conclusion: Emotional intelligence is significantly lower in individuals with alcohol dependence syndrome. Although EI was not associated with craving or severity, it may represent a potentially modifiable factor relevant to long-term recovery. Further longitudinal studies are needed to clarify its role in treatment outcomes.

Keywords: Emotional Intelligence, Alcohol Dependence Syndrome, Craving, Severity of Dependence

INTRODUCTION

Emotion and intelligence are two important concepts in psychology that have now been shown to be relevant in other areas of daily life, such as administration, governance, and health care. Emotional intelligence is the ability to assess and perceive emotions to inform thought, to understand their meanings, and to reflectively regulate them to improve both thought and emotion.¹ The concept was

originally described by Salovey and Mayer, who proposed that emotional processing plays a crucial role in adaptive functioning and interpersonal behavior.

The various domains of emotional intelligence studied in substance abuse involve the negative and painful feelings that a person experiences, difficulties in expressing one's emotions, controlling them, and understanding others' emotions.^{2,3}



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Different dimensions of emotional intelligence play a distinct yet crucial role in influencing substance use disorders. Studies using different scales define the components of emotional intelligence differently, but there are common explanations. Self-awareness helps one to recognise their drives and emotions; those who score high in this component are able to resist the grave consequences of substance dependence. Self-regulation is the ability to think before you act. This helps one avoid arguments and stay open to others' opinions and views. Motivation helps one to be optimistic and keep moving forward towards a sober life. Empathy, the skill of understanding others' emotions, helps one understand the feelings of other family members and be compassionate towards them. Social skills, when scored high, imply that one is able to initiate and maintain good relationships; these individuals do well in support groups and other self-help organizations.⁴

Emotional intelligence (EI) has been considered a reliable predictor of addictive behavior.⁴ Studies have found several risk factors leading to alcohol and other substance use disorders, which are early onset and favourable attitudes to drug use, rebellious behaviour, association with peers engaged in drug abuse, low commitment to school and academic failure, poor family bonding, and persistent conflicts between family members, as well as family history of substance use disorders.⁵ EI has been closely related to healthy life-promoting behaviours, better coping skills, and helping in proper stress management. Emotion control issues have long been considered a significant risk factor for developing Alcohol Use Disorder (AUD) symptoms. One of the key factors influencing the development, course, and treatment outcomes of AUD is emotional dysregulation.⁶

Alcohol use disorder is a highly prevalent disorder in our community with a chronic relapsing course. Alcohol use affects the person's cognition by decreasing inhibition of impulsive behaviour and the ability to foresee negative consequences, leading to harm.²

Multiple factors contribute to the development of alcohol dependence. Early life stress and trauma have been associated with an increased risk of substance use disorders, possibly through their impact on emotional regulation and coping mechanisms.⁷ In addition, genetic vulnerability plays a significant role, with family history of alcohol use disorder consistently identified as an important risk factor.⁸ Emotional intelligence may represent a key link between these biological and psychosocial factors and alcohol use behaviour.

Though there are several treatment options for AUD, one size does not fit all. Hence, the need for a better understanding of the various dimensions of this disorder and for the incorporation of specific treatment strategies is pressing. This remains an area that has not been adequately explored, particularly with respect to relapse prevention and the maintenance of abstinence. We hypothesize that psychological interventions aimed at enhancing emotional intelligence (EI)—including training in emotional awareness, regulation, empathy, and adaptive coping—may contribute to the reduction of alcohol use. At the same time, it remains important to empirically establish whether a measurable association exists between EI and craving. The lack of conclusive evidence in this area makes it a fertile ground for further research. The current study seeks to contribute by comparing EI in patients with alcohol dependence and non-users, while also underlining the need for future investigations into the EI–craving relationship.

MATERIALS AND METHODS

After obtaining Institutional Ethics Committee clearance, a hospital-based comparative study was conducted in the Department of Psychiatry of Government Medical College, Kozhikode between February 2021 and January 2022. After obtaining written informed consent, patients meeting the criteria for alcohol dependence syndrome according to ICD 10 were selected by a consecutive sampling technique from patients attending the outpatient department of psychiatry. Patients who were intoxicated or had withdrawal symptoms or were in delirium or had other comorbid psychiatric disorders except nicotine dependence were excluded from the study. Subjects without formal education were also excluded from the study because it used a self-report questionnaire. Subjects with an incomplete questionnaire or missing data were excluded from the study. Sociodemographic details, family history, and past history of treatment were collected by interviewing the subject. This study was conducted and reported in accordance with STROBE guidelines for cross-sectional studies

Comparators were healthy male individuals accompanying patients in neighboring ophthalmology wards who had undergone brief procedures, such as cataract surgery. Individuals aged 18 to 65 years were clinically evaluated, and psychiatric screening was conducted through a detailed clinical interview with a psychiatrist, based on ICD-10 diagnostic criteria. The assessment included evaluation for current and past psychiatric disorders, substance use disorders, and significant psychological distress. Individuals with a history of alcohol dependence, other substance use disorders (except nicotine), or any major psychiatric illness were excluded.

Although this approach may introduce selection bias, it was considered feasible within the hospital-based setting. Efforts were made to ensure comparability between groups on key sociodemographic variables. Sample size was estimated in OpenEpi (version 3) using the standardized mean difference reported by Mohagheghi et al.⁹, who compared alcohol-dependent participants with healthy comparators using a different emotional intelligence scale with a different scoring range. The reported means (289, 252) and standard deviations (28.47, 28.90) were used to approximate the expected effect size for the present study. A sample of 120 individuals, comprising 60 cases and 60 controls, was used in the study.

Participants with incomplete questionnaire data or missing key variables were excluded from the analysis. The study tools included the following: Schutte Self-Report Emotional Intelligence Test (SSEIT) - Emotional intelligence was assessed based on the scoring of SSEIT scores which was developed by Schutte et al. based on the Salovey and Mayer model. The subjects were given a Malayalam translation of the self-administered scale on their first visit and asked to select the appropriate options for each item. The Schutte Self-Report Emotional Intelligence Test (SSEIT) is a widely used instrument with established internal consistency (Cronbach's alpha reported to be approximately 0.85–0.90 in previous studies). The Malayalam version used in this study was translated using forward-backward translation and reviewed by subject experts for content validity. The emotional intelligence of both cases and controls was compared using the scoring system. It has four domains that assess different components of EI: emotion perception, emotion utilization, self-relevant

emotion management, and other-relevant emotion management.

The SSEIT includes a 33-item self-report, with responses on a 1 (strongly disagree) to 5 (strongly agree) scale. Each domain score is graded and then added to give the participant's total score. The scale has a reliability of 0.90. The EI score is reliable for adults and adolescents and has been translated into various languages.¹⁰ The Severity of Alcohol Dependence Questionnaire (SADQ) was used to assess the severity of alcohol dependence. The Severity of Alcohol Dependence Questionnaire (SADQ) is a short, simple-to-finish, self-administered, 20-item survey intended to quantify the severity of dependence on liquor. The test has a test-retest reliability of 0.85.¹¹ Alcohol Craving Questionnaire Short Form Revised (ACQ SF-R): Cases were administered to assess their craving for alcohol. ACQ-SF-R Alcohol Craving Questionnaire short form revised is a 12-item questionnaire developed from the 47-item alcohol craving questionnaire NOW, which was used to assess the craving of alcoholics in the current situation (right now). The ACQ NOW was administered to subjects who had used alcohol at least once in the past 30 days and validated. The 12 items of ACQ SF-R have been strongly correlated with the following 4 factors: Compulsivity, expectancy, purposefulness, and emotionality. All the tools used were translated into Malayalam using forward-backward translation by bilingual subject experts.

Data were analyzed using IBM SPSS Statistics version 22. Continuous variables were expressed as mean $\pm$ standard deviation, and categorical variables as frequencies and percentages. The primary outcome was the total SSEIT score. Secondary outcomes included domain-wise SSEIT scores and correlations with craving

(ACQ-SF-R) and dependence severity (SADQ). Effect sizes were calculated using Cohen's *d*, and results are presented with 95% confidence intervals (CI) for mean differences. Group differences in emotional intelligence (SSEIT total and domain scores) between persons with alcohol dependence syndrome (ADS) and healthy controls were assessed using independent t-tests after checking assumptions of normality and homogeneity of variance. To adjust for potential confounders, a multivariable linear regression model was constructed with SSEIT total score as the dependent variable and ADS status as the primary independent variable, controlling for age, education, marital status, occupation, and family history. A separate regression analysis was conducted within the ADS group to examine clinical correlates of emotional intelligence. In this model, the SSEIT score was the dependent variable, and the severity of dependence (SADQ), alcohol craving (ACQ-SF-R), and sociodemographic variables were included as independent variables. Two separate regression models were used to avoid methodological inconsistency, as SADQ and ACQ-SF-R were measured only in the ADS group and were not applicable to the comparison group. Domain-wise SSEIT comparisons were treated as secondary analyses. Alcohol craving (ACQ) and severity of dependence (SADQ) were analyzed only within the ADS group. Pearson's correlation and linear regression analyses were used to examine associations between SSEIT, ACQ, and SADQ. A *p*-value < 0.05 was considered statistically significant. Very small *p*-values were reported as $p < 0.001$.

RESULTS

Although groups were comparable on several sociodemographic variables, significant

differences were observed in family history and marital status, which may act as potential confounders. (Table 1) After excluding participants with incomplete data, the final sample comprised 120 individuals (60 cases and 60 controls).

Table 1: Baseline characteristics of the non-users group and persons with alcohol dependence group

	Non-Users group	Persons with Alcohol Dependence
Age		
18-40 yrs	24(40%)	26(43.3%)
41-60 yrs	36(60%)	34(56.6%)
Family History		
No	39 (65%)	19 (31.7%)
Yes	21 (35%)	41 (68.3%)
Educational Status		
Primary	4 (6.7%)	7 (11.7%)
High school	10 (16.7%)	9(15%)
Higher Secondary	17 (28.3%)	21 (35%)
Graduate or equivalent	29(47.3%)	23(38.4%)
Marital Status		
Unmarried	16 (26.7%)	18 (30%)
Married	42 (70%)	34 (56.7%)
Divorced	2 (3.3%)	8 (13.3%)
Occupation Status		
Unemployed	4 (6.7%)	9 (15%)
Unskilled	8 (13.3%)	5 (8.3%)
Semi-Skilled	28 (46.7%)	33 (55%)
Professional	20 (33.3%)	13 (21.7%)
History of deaddiction Treatment		
No	60	28 (46.7%)
Yes	0	32 (53.3%)

Table 2: SSEIT score compared between persons with alcohol dependence and the non-user group

Variable	ADS (n = 60)	Controls (n = 60)	Mean Difference	t	p-value	Cohen's d
SSEIT total	106.05 ± 17.45	141.33 ± 9.63	-35.28	-13.71	<0.001	2.50

Data in Mean, SD; * Independent t-test

The mean SSEIT score was significantly lower in the alcohol dependence group compared to

non-users (106.05 ± 17.45 vs 141.33 ± 9.63). The mean difference was 35.28 (95% CI: 30.24 -40.32), with a large effect size (Cohen's d =2.50). This difference was statistically significant (p < 0.001). Normality and homogeneity of variance assumptions were checked and found to be satisfactory for parametric testing. (Table 2)

The various domains of the SSEIT scores were compared between the persons with Alcohol-dependence group and the non- users group, and there was a significant difference across domains within the SSEIT score (P-value < 0.05). (Table 3)

Table 3: SSEIT Scores Domains Between the Persons with Alcohol Dependence Group and the Other Group

SSEIT domains	Persons with Alcohol dependence group		Non-Users group		P value
	Mean	Std. Deviation	Mean	Std. Deviation	
Perception of emotion	31.25	6.56	42.66	3.25	0.001
Managing own emotion	28.45	5.90	38.55	2.73	<0.001
Managing others Emotion	26.72	4.56	34.08	3.51	0.002
Utilisation of emotion	19.65	3.96	26.15	2.88	0.003

Data in Mean, SD; * Independent t-test

Table 4. Multivariable Linear Regression for SSEIT

Variable	β Coefficient	95% CI	p-value
ADS (ICD-10)	-35.61	-41.09 to -30.13	<0.001
Age	0.09	-5.68 to 5.86	0.976
Education	-2.03	-4.64 to 0.58	0.126
Marital status	-4.39	-9.21 to 0.43	0.074
Occupation	2.05	-1.33 to 5.43	0.232
Family history	0.68	-4.86 to 6.22	0.808

After adjusting for sociodemographic variables, alcohol dependence syndrome remained a strong independent predictor of lower emotional intelligence ($\beta = -35.61$, 95% CI: -41.09 to -30.13 , $p < 0.001$). Other variables were not statistically significant.

Table 5. Multivariable Linear Regression for SSEIT within ADS Group (n = 60)

Variable	β Coefficient	95% CI	p-value
SADQ	-0.64	-1.32 to 0.05	0.068
ACQ-SF-R	0.75	-3.03 to 4.53	0.693
Age	0.93	-9.26 to 11.12	0.855
Education	-1.98	-6.21 to 2.26	0.353
Marital status	-9.14	-16.99 to -1.28	0.023
Occupation	3.62	-2.04 to 9.29	0.205
Family history	7.32	-2.95 to 17.60	0.158

Within the ADS group, marital status emerged as a significant predictor of emotional intelligence ($\beta = -9.14$, 95% CI: -16.99 to -1.28 , $p = 0.023$). Severity of dependence showed a negative trend with emotional intelligence but did not reach statistical significance ($p = 0.068$). Alcohol craving was not significantly associated with emotional intelligence.

DISCUSSION

The present study examined the relationship between emotional intelligence (EI) and alcohol dependence syndrome (ADS), comparing the total and domain-wise Schutte Self-Report Emotional Intelligence Test (SSEIT) scores between persons with alcohol dependence and non-users. The findings demonstrated a significantly lower total EI score among persons with alcohol dependence compared to controls (mean 106.05 vs. 141.33, $p = 0.0001$), indicating marked emotional processing deficits in those with ADS. This is consistent with the findings

of the previous studies, which show that emotional intelligence plays a critical role in the development, maintenance, and recovery from alcohol dependence. In the multivariable linear regression model including both cases and controls, alcohol dependence syndrome was independently associated with significantly lower SSEIT scores ($\beta = -35.61$, 95% CI: -41.09 to -30.13 , $p < 0.001$) after adjusting for sociodemographic variables.

Mohagheghi et al. (2015) found significantly lower EI and all its components in alcohol-dependent individuals compared to healthy controls, which was similar to the findings observed in the present study.⁹ Similarly, Peterson et al. (2011), in their meta-analytic review, reported a moderate negative association between emotional intelligence and alcohol involvement, suggesting that deficits in emotional awareness and regulation predispose individuals to maladaptive coping through alcohol use.¹²

The current study also revealed impairments across all four SSEIT domains—perception of emotion, managing one's own emotions, managing others' emotions, and utilization of emotions—among alcohol-dependent individuals, which was also statistically significant compared to non users. These findings are consistent with the concept of EI as described by Salovey and Mayer (2004),¹ who emphasized that perceiving, using, understanding, and managing emotions form the core dimensions of adaptive emotional functioning. Impairments in these domains can compromise one's ability to regulate affect, tolerate distress, and use emotions constructively, leading to maladaptive coping behaviours such as alcohol consumption.^{3,5} Although the correlation between SSEIT scores and severity of dependence (SADQ) and craving (ACQ-SF-R) was not statistically significant. The trend toward a negative

correlation suggests that greater emotional deficits may be associated with more severe dependence. This finding is similar to the observations of Berking et al. (2011), who reported that deficits in emotion-regulation skills predict higher alcohol consumption during and after treatment.⁶ Leite et al. (2020) similarly emphasized that low EI is linked with impaired self-control, heightened impulsivity, and poor relapse prevention in addiction.¹³

In a separate regression analysis restricted to the ADS group, marital status was significantly associated with SSEIT scores ($\beta = -9.14$, 95% CI: -16.99 to -1.28 , $p = 0.023$). Severity of dependence showed a negative trend but was not statistically significant ($\beta = -0.64$, $p = 0.068$). Alcohol craving was not significantly associated with emotional intelligence. Within the ADS group, marital status emerged as a significant factor, suggesting that social and interpersonal contexts may influence emotional processing abilities. Although severity of dependence showed a negative trend, it did not reach statistical significance, indicating that emotional intelligence deficits may be relatively independent of dependence severity.

The lack of statistical significance of this correlation in the present sample could be attributed to the relatively small sample size or the cross-sectional design, which precludes temporal or causal inferences, or the influence of other factors such as impulsivity, stress reactivity, and early-life adversity, which were not directly assessed in this study but are known to impact both EI and addictive behaviors.^{13,14}

A significant association was found between family history of alcohol dependence and lower EI scores within the ADS group, suggesting possible genetic and environmental contributions. Family environments characterized by maladaptive

emotional modelling and poor emotional communication may impair the development of EI, thereby increasing vulnerability to alcohol misuse.^{14,15} Educational level and occupation, however, were not significantly related to EI, consistent with prior findings indicating that emotional intelligence is relatively independent of formal education.⁴ The lack of association between craving and both emotional intelligence and severity of dependence suggests that craving may represent a relatively independent construct influenced more by psychosocial and familial factors than by emotional processing or dependence severity. The significant association with occupation may reflect the role of environmental stressors, while family history may indicate underlying vulnerability to addictive behaviours.

These findings underscore the importance of incorporating emotional intelligence assessment and training into the treatment and rehabilitation of alcohol dependence. Enhancing emotional awareness, regulation, and interpersonal skills through structured psychosocial interventions, such as Emotional Skills Training, Mindfulness-Based Relapse Prevention, and Motivational Enhancement Therapy, could reduce craving and relapse risk.^{4,6} Moreover, preventive programs targeting adolescents and high-risk groups could benefit from strengthening EI to build resilience against substance use.¹⁶

The present study has certain limitations, including the relatively small sample size, which limits the generalizability of the findings to the wider population. As the study included only male participants, the results may not be applicable to female or mixed-gender populations. Furthermore, the absence of validated assessment tools in the local language, particularly for self-administered scales, may have influenced responses. The

Malayalam versions of SADQ and ACQ-SF-R used in this study, although translated using standard forward-backward procedures, have not undergone formal psychometric validation. Additionally, since the sample was drawn from a tertiary care hospital, it is likely to have included a higher proportion of individuals with more severe forms of alcohol dependence, thereby limiting the applicability of the findings to community-based populations. The control group was selected after clinical evaluation. Structured diagnostic interview tools were not administered, which may have resulted in under-detection of subclinical or undiagnosed psychiatric conditions. The subgroup analyses within the alcohol dependence syndrome group were conducted on a relatively small sample ($n = 60$), which may limit statistical power and the ability to detect smaller associations. Therefore, these findings should be interpreted with caution and considered exploratory. In addition to this, since the study was a cross-sectional study, causal inferences regarding the direction of the relationship between EI and alcohol dependence cannot be made. The exclusion of individuals with no formal education, due to the self-report nature of the instrument, may limit the generalizability of the findings to populations with lower literacy levels.

CONCLUSION

In conclusion, individuals with alcohol dependence exhibited significantly lower emotional intelligence compared to non-users across all domains of the SSEIT. Although EI did not show a statistically significant correlation with dependence severity or craving, the negative trend suggests a clinically meaningful relationship. These findings support the view that alcohol dependence is

associated with impairments in emotional regulation and suggest that interventions targeting emotional intelligence may have potential in prevention and treatment, however, the cross-sectional design precludes conclusions regarding causality or directionality.

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"The author(s) attest that there was no use of ChatGPT and Perplexity AI for grammatical improvement

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