

Alexithymia in Alcohol Dependence – A Case Control Study from a Rural Tertiary Health Care Center

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Received date: November 03, 2023, **Accepted date:** December 01, 2023

Citation: Sathe HS, Borhade S, Awalekar A, Purandare J, Karia S. Alexithymia in Alcohol Dependence – A Case Control Study from a Rural Tertiary Health Care Center. Arch Psychiatry. 2023;1(1):39-44.

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Abstract

Background: Alexithymia is a personality trait characterized by difficulty in identifying, expressing, and describing one's emotions. In recent years, there has been a growing interest in the relationship between alexithymia and alcohol dependence. Several studies have found that alexithymia is more prevalent in individuals with alcohol dependence compared to healthy controls.

Objectives: The current research aimed to compare alexithymia between individuals with Alcohol Dependence Syndrome (ADS) and healthy controls among residents of rural India. Additionally, the study sought to assess the association of alexithymia with the duration, severity of drinking, and obsessive-compulsive drinking behaviors.

Materials and Methods: A case-control study was conducted involving 49 patients with alcohol dependence and 52 healthy controls in the Psychiatry department of a rural tertiary healthcare center in central India. The Toronto Alexithymia Scale (TAS-20) was utilized to evaluate alexithymia, while patterns of drinking were assessed using the Alcohol Use Disorder Identification Test (AUDIT) and the Obsessive-Compulsive Drinking Scale (OCDS).

Results: Significant differences were observed in alexithymia levels between patients with alcohol dependence and healthy controls. Furthermore, alexithymia levels were significantly associated with the duration and severity of alcohol consumption, as well as with the presence of obsessive-compulsive drinking patterns.

Conclusion: This study underscores the noteworthy association between alexithymia and obsessive-compulsive drinking behaviors in individuals with alcohol dependence. The findings underscore the importance of addressing emotional difficulties and alexithymia in patients with alcohol dependence.

Keywords: Alexithymia, Alcohol dependence, Obsessive compulsive drinking, Rural

Introduction

Alexithymia is a personality trait characterized by difficulty identifying, expressing, and describing emotions in oneself [1]. In recent years, there has been growing interest in the relationship between alexithymia and alcohol dependence. Several studies have found that alexithymia is more common in alcohol-dependent patients than in healthy controls [2]. For example, a review found that 45-67% of alcohol-dependent

patients met the criteria for alexithymia. The literature indicates a strong association between alcohol dependence and alexithymia, as well as an adverse impact of alexithymia on the treatment of alcohol abuse [2,3].

There are several possible mechanisms that could explain the relationship between alexithymia and alcohol dependence. One possibility is that alexithymia makes people more likely to use alcohol as a way to cope with difficult emotions. People with

alexithymia often have difficulty identifying and expressing their emotions, which can lead to feelings of frustration, anger, and sadness. Alcohol can provide a temporary escape from these negative emotions, which can make it more likely that people with alexithymia will develop an alcohol dependence [4,5]. Another possibility is that alexithymia is a risk factor for alcohol dependence because it makes people more likely to engage in risky behaviors. People with alexithymia often have difficulty understanding and responding to social cues, which can lead them to make impulsive decisions that put them at risk for alcohol-related problems [6].

The relationship between alexithymia and alcohol dependence has implications for treatment. People with alexithymia may need more help than other people in learning how to identify, express, and regulate their emotions. They may also need help in developing coping skills that do not involve alcohol [4]. The research on the relationship between alexithymia and alcohol dependence in India is still in its early stage. Previous studies have investigated the relationship between alcohol dependence and alexithymia in rural setting. However, the link between obsessive compulsive drinking behaviors and alexithymia, has been suggested in international studies [7]. Hence current research was done to compare alexithymia between patients having ADS and healthy controls in patients living in rural India as well as to assess the association of alexithymia with duration, severity of drinking, and obsessive compulsive drinking behaviors.

Method

Participants

The study was done in a Psychiatry outpatient department of a rural teaching hospital in central India after obtaining approval from the institutional ethics committee. The participants in this study were divided into two groups: cases and controls. The cases were consenting adult patients having alcohol dependence as diagnosed by a consultant psychiatrist according to the tenth version of International Classification of Diseases (ICD-10) [8]. Patients having known co-morbid psychiatric disorders and those using other substances in a dependence pattern (except tobacco) were excluded. The age matched controls were chosen among the caregivers accompanying the patients who did not have the problem of alcohol dependence. The first degree relatives of psychiatric patients were excluded from the study to avoid the possibility of a confounding effect due to co-inheritance of alexithymia personality trait. A written informed consent was obtained prior to data collection from all the study participants after informing them about research methodology, confidentiality of the data, and their right to withdraw. The participants in this study were asked to fill up socio-demographic performance and given standardized questionnaires, to assess alexithymia and psychiatric co-morbidities. The sample size for the current study was determined based on an assumed prevalence of

alexithymia of 45% in cases and 13% in controls, as reported in previous research [9]. This calculation was performed by the authors at a 95% confidence interval with a standard error of 5%, using the freely available OpenEpi software as has also been done in previous research investigating alexithymia [10,11].

Tools

Toronto Alexithymia Scale: The primary measure in this study would be alexithymia which was measured using the Toronto Alexithymia Scale (TAS-20). The TAS-20 is a self-report questionnaire that consists of 20 items. Each item is rated on a 5-point scale, with higher scores indicating greater alexithymia [12]. The score of 61 or above indicates presence of alexithymia and that below 50 rules out the same [12]. The three factor structure of this scale adequately measures the construct of alexithymia as found by a confirmatory factor analysis [12]. The Hindi version of the scale which has been validated and shown to have good reliability and internal consistency was used for current study [13]. The Hindi version of the scale was chosen considering the fact Hindi is the national language of India and most of the patients visiting the institute understand this language.

Audit scale: The Alcohol Use Disorders Identification Test (AUDIT) is a widely used screening tool developed by the World Health Organization (WHO) to assess alcohol consumption patterns and identify potential alcohol-related problems. The AUDIT scale consists of ten questions that cover three key domains: alcohol consumption, drinking behaviors, and alcohol-related problems. The questions in the AUDIT scale inquire about the frequency and quantity of alcohol consumed, patterns of binge drinking, and adverse consequences resulting from alcohol use. The scoring system ranges from 0 to 4 for each question, with higher scores indicating a greater likelihood of harmful or hazardous alcohol use [14]. For the present study we used scores in the AUDIT scale to quantify severity of alcohol consumption as done in a previous study [7]. Authors acknowledge that AUDIT is a screening tool and its limitations in severity assessment in the present research. However, it was chosen considering the practical limitations of time while interviewing the patients in busy psychiatry OPD settings in a public hospital.

Obsessive compulsive drinking scale (OCDS): OCDS is a 14 item self administered structured tool which measures obsessionality and compulsivity in relation to craving and drinking behavior. OCDS is shown to have predictive validity for relapse of alcohol consumption. It consists of two subscales of seven items each for obsessive and compulsive drinking behaviors and scoring is done by simple addition of the scores of individual items. Higher scores imply higher intensity of obsessive and compulsive behaviors [15]. The scale has been used to assess alcohol craving in the recent study undertaken by Thornberg et al. [7]. The OCDS has been found to have high

test retest correlation for total score (0.96) as well as subscale scores (0.94 for obsessive subscale and 0.86 for compulsive subscale).

Data analysis

The data from this study was collected electronically using google forms and transferred to Microsoft excel software for tabulation and cleaning. The statistical analysis was done using SPSS software version 23 (IBM, 2020) as has been used in similar research [16]. Descriptive statistics were used to analyze the socio-demographic information which has been presented in the form of frequencies and percentages. All the data variables showed non-normal distribution as per the Kolmogorov Smirnov test ($P < 0.05$). Comparison of alexithymia scores between the patients and controls was done using Mann Whitney U test whereas Spearman correlation was used to correlate alexithymia scores with quantitative variables.

Results

A total of 49 cases and 52 controls participated in the study. There was no significant difference between the mean ages in the two groups ($P = 0.113$). A majority of the study participants were Hindu and educated at least up to primary level. The demographic characteristics of the cases and controls are shown in **Table 1**. Mann Whitney U test was used to compare the alexithymia scores between cases and controls. The results showed a significant difference between cases and controls in all subscales such as difficulty identifying feelings ($U = 95$, $P < 0.001$), difficulty in expressing the feelings ($U = 0$, $P < 0.001$) and externally oriented thinking ($U = 596$, $P < 0.001$) as well as total score of alexithymia ($U = 478$, $P < 0.001$) as shown in **Table 2**.

The Spearman correlation statistics for the present study revealed significant direct association of all the domains

Table 1. Socio-demographic profile of cases and controls.

		Cases Frequency (N=49) n (%)	Controls Frequency (N=52) n (%)	P value
Age in years (Mean ± SD)		34.83 ± 8.42	37.44 ± 9.13	0.113 ^a
Religion	Hindu	44 (89.8)	46 (88.5)	0.62 ^b
	Buddhist	5 (10.2)	5 (9.6)	
	Muslim	0 (0)	1 (1.9)	
Education	Illiterate	1 (2)	0 (0)	0.08 ^b
	Primary	28 (57.1)	19 (36.5)	
	Secondary	10 (20.4)	9 (17.3)	
	Higher Secondary	9 (18.4)	14 (26.9)	
	Graduate	1 (2)	10 (19.2)	
Residence	Rural	47 (95.9)	34 (65.4)	0.0001^b
	Urban	2 (4.1)	18 (34.6)	
Employment	Employed	45 (91.8)	42 (80.8)	0.10 ^b
	Unemployed	4 (8.2)	10 (19.2)	

^a-Mann Whitney U test; ^b-chi square test

Table 2. Comparing Alexithymia between patients having ADS and controls.

Alexithymia subscales	Cases (Median (IQR))	Controls (Median (IQR))	U*	P value
Difficulty Identifying the feeling	24 (14-28)	8 (8-10)	95	<0.001
Difficulty Describing Feelings	18 (15-19)	7 (6-7)	0.0	<0.001
Externally Oriented Thinking	22 (12-24)	24 (24-24)	596	<0.001
Total Alexithymia Score	64 (44-71)	39 (38-41)	428.5	<0.001

*U: Mann Whitney U test

Table 3. Correlates of Alexithymia with depression, anxiety, and stress.

	Difficulty Identifying Feelings		Difficulty Describing Feelings		Externally Oriented Thinking		Alexithymia Total Score	
	Spearman Rho	P value	Spearman Rho	P value	Spearman Rho	P value	Spearman Rho	P value
Severity of alcohol consumption	0.296*	0.039	0.257	0.075	0.219	0.13	0.306*	0.033
Duration of alcohol consumption	0.503**	<0.001	0.535**	<0.001	0.516**	<0.001	0.577**	<0.001
OCDS Obsession subscale	0.410**	0.003	0.261	0.070	0.470**	0.001	0.428**	0.002
OCDS compulsion subscale	0.286*	0.046	0.232	0.109	0.475**	0.001	0.348*	0.014
OCDS Total	0.431**	0.002	0.292*	0.042	0.596**	<0.001	0.483**	<0.001

*P<0.05, **P<0.001

of alexithymia with duration and severity of alcohol consumption. Among the subscales of alexithymia, difficulty identifying feelings ($\rho=0.410$, P 0.003; $\rho=0.286$, P 0.046) had a significant positive association with scores on the obsession and compulsion drinking subscales of OCDS. Similarly, the obsession and compulsion subscales showed a significant association with the externally oriented thinking subscale ($\rho=0.470$, P 0.001; $\rho=0.475$, P 0.001) and overall score of alexithymia ($\rho=0.428$, P 0.002; $\rho=0.348$, P 0.014) (**Table 3**).

Discussion

The present study compares alexithymia between the patients having alcohol dependence and healthy controls and identifies the relationship between alexithymia and drinking patterns in the patients. We found significantly higher levels of alexithymia in the patients having alcohol dependence when compared to healthy controls. Moreover, the duration and severity of alcohol consumption had a significant association with alexithymia. The results of this study align with previous research highlighting the relationship between alexithymia and alcohol dependence [2,7]. Alexithymia has been consistently linked to various addictive disorders, including alcohol dependence, and is known to be associated with the use of maladaptive coping strategies [17]. Alexithymia is understood as a personality trait, and individuals with alexithymia experience difficulties in regulating their emotions. Consequently, it has been suggested that they may attempt to manage their emotions through compulsive behaviors, such as substance use [17]. An alternative perspective regards alexithymia as a state-dependent construct in patients with substance dependence, wherein they seek to alleviate negative emotions by using

substances [18]. Brain imaging studies in alexithymic patients have revealed the association of alexithymia with altered size of paracentral lobule and consequent association with somatic pain syndromes due to lowered pain threshold [19]. This lowered pain threshold may drive these patients to consume alcohol as a means of pain relief. Difficulties in identifying and expressing emotions may lead individuals to rely on alcohol as a means of coping with emotional distress, thereby increasing the risk of developing alcohol dependence. Moreover, the neurobiological connection between alexithymia and addiction has been elucidated by various theories. Aberrations in the functioning of the hypothalamic-pituitary-adrenal axis, along with a deficit in interoceptive and emotional awareness, can lead to distress, which, in turn, drives individuals to resort to substance addiction as a coping mechanism for relief [4].

In the present study we found a significant association between alexithymia and obsessive compulsive drinking pattern. An Indian study conducted by Kamboj et al. aimed to investigate the association of alexithymia with obsessive-compulsive drinking behaviors. The authors recruited a sample of 100 participants diagnosed with alcohol dependence and assessed them using the Toronto Alexithymia Scale (TAS-20) and the Obsessive Compulsive Drinking Scale (OCDS). The findings revealed a significant relationship between alexithymia and obsessive-compulsive drinking behaviors in individuals with alcohol dependence [17]. Similar findings have been recorded in an international study where compulsive drinking and negative mood were found to have a mediating effect between alexithymia and alcohol dependence [7]. An experimental study found a positive association between desire to consume alcohol and psychological stress in a community sample of alexithymia patients [20]. This suggests

that individuals with difficulties in identifying and expressing emotions are more likely to exhibit compulsive drinking behaviors as a maladaptive coping mechanism.

Implications

The implications of these findings are significant for the treatment of alcohol dependence. Treatment interventions that focus on improving emotional awareness, expression, and coping skills may help individuals with alexithymia develop healthier strategies for managing emotional distress and reduce the likelihood of engaging in obsessive-compulsive drinking.

Strengths

The focus on a rural tertiary health care center in this study is significant, as rural populations often face unique challenges in accessing mental health services. By examining alexithymia in a rural context, this study emphasizes the need for tailored interventions that consider the specific characteristics and barriers faced by rural populations. Our study adds to the previous research in Indian rural population by highlighting the link between alexithymia and alcohol craving thereby advocating the need for suitable changes in assessment and counselling service provision to the patients having alcohol dependence.

Limitations

While our study yielded valuable insights, it is important to acknowledge its inherent limitations. The cross-sectional design employed in our research restricts our ability to establish a causal relationship between alexithymia and compulsive drinking patterns. Furthermore, our study was conducted within hospital settings, which may limit the generalizability of our findings to the broader community. Specifically, our findings may not fully represent individuals with alcohol dependence who are not seeking treatment. Another significant limitation of our study was the omission of an investigation into comorbid psychiatric disorders. Previous national and international studies have demonstrated a noteworthy association between alexithymia and depression [21,22].

Conclusion

The study highlights the significant association between alexithymia and obsessive-compulsive drinking behaviors in individuals with alcohol dependence. The findings emphasize the importance of considering emotional difficulties and addressing alexithymia in the treatment of alcohol dependence. Future research exploring the mediating factors linking alexithymia with obsessive-compulsive drinking as well as comorbid psychiatric disorders in alcohol dependence patients are warranted.

Ethical Considerations

The authors submit that the study was done after obtaining the institutional ethics committee approval and written informed consent was obtained from all the study participants before the data collection.

Financial Support and Sponsorship

Nil.

Conflict of Interest

There are no conflicts of interest.

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