

# Craving Typologies and Risk of Relapse in Alcohol Use Disorder

Rohit Chandrakant Deshmukh<sup>1</sup>, Anita Nagargoje<sup>2</sup>, Nrupa Bhambure<sup>3</sup>, Himanshu Mansharamani<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of Psychiatry, Dr. Panjabrao Alias Bhausaheb Deshmukh Memorial Medical College, Amravati, Maharashtra, India, <sup>2</sup>Assistant Professor, Department of Psychiatry, SMBT Medical College, Ghoti, Maharashtra, India, <sup>3</sup>3<sup>rd</sup> Year Post Graduate student, Department of Psychiatry, Dr. Panjabrao Alias Bhausaheb Deshmukh Memorial Medical College, Amravati, Maharashtra, India, <sup>4</sup>Assistant Professor, Department of Psychiatry, LNCT Medical College and JK Hospital, Bhopal, Madhya Pradesh, India

## Abstract

**Introduction:** The types of cravings and their relationship with the risk of relapse have been studied widely, yet, no single model completely explains them. The present study was undertaken to classify the different typologies of craving and predict the risk of relapse in patients with alcohol use disorder (AUD).

**Materials and Methods:** A total of 40 male patients between an age group of 18–60 years having AUD seeking de-addiction and excluding comorbid drug dependence except tobacco, comorbid psychiatric disorders, acute alcohol intoxication or patients already taking anti-craving, and aversive or psychotherapy consented for the study. Craving Typology Questionnaire and Advance Warning of Relapse (AWARE) were administered.

**Results:** There was an overlap in craving typologies. Craving type could not be correlated with the onset of AUD or predictors of relapse. There was no correlation between AWARE score and the onset of alcohol dependence and duration of illness. The presence of physical complications closely correlated with AWARE score.

**Conclusion:** Craving types overlap in most patients of AUD. The risk of relapse is similar in all craving typologies. The presence of physical complications due to alcohol use is associated with higher risk of relapse.

**Key words:** Alcohol use disorder craving, Alcohol use disorder risk of relapse, Craving types

## INTRODUCTION

Alcohol use disorder (AUD) is a major global health burden. Alcohol has a deleterious effect on the physical and mental health. AUD is defined by the standard Diagnostic And Statistical Manual (DSM) or International Classification of Diseases (ICD) criteria such as tolerance development, withdrawal symptoms, reduced control over alcohol intake, and craving. De-addiction, to restore the patients physical, mental, familial, occupational, and social well-being is essential.

The urge to use alcohol is present in 54–72% of AUD subjects and has a multi-faceted construct.<sup>[1,2]</sup> A three-

pathway psychobiological model for craving-reward, relief, and obsessive has been suggested.<sup>[3]</sup> They depend on genetic loading, personality make up, and environmental factors. The presence of craving is associated with poor therapeutic outcome and increased risk of relapse.<sup>[4-7]</sup> It also plays a crucial role in the transition from controlled drinking to AUD.<sup>[8]</sup> Different pathways and neurotransmitters are involved in these three sub types. Therefore, the choice of pharmacological interventions differ.

We aim to classify the craving typology and predict the risk of relapse in patients with AUD.

## MATERIALS AND METHODS

A cross-sectional single interview study was conducted in a Tertiary Care Hospital's de-addiction center for 4 months after approval from the Institute's Ethics Committee. Male patients between the age group of 18–60 years seeking treatment for AUD were enrolled in the study after written consent. Patients having comorbid substance use disorders

Access this article online



www.ijss-sn.com

**Month of Submission :** 07-2022  
**Month of Peer Review :** 08-2022  
**Month of Acceptance :** 08-2022  
**Month of Publishing :** 09-2022

**Corresponding Author:** Rohit Chandrakant Deshmukh, Sriram Building, Joglekar Plot, Rukmini Nagar, Amravati, Maharashtra, India.

except tobacco, comorbid psychiatric disorders, acute alcohol intoxication or those patients already taking anti-craving agents, and aversive or psychotherapy were excluded from the study. The sample size was calculated to be as 40 patients by convenience sampling. Sociodemographic profile and history pertaining to alcohol use and related complications was noted.

Participants were evaluated using the following tools:

**Craving Typologies Questionnaire (CTQ)<sup>[9]</sup>**

Individuals receive scores under reward, relief, and obsessive craving type. An individual may have a high score in more than one domain.

**Advance Warning of Relapse Questionnaire (AWARE)<sup>[10]</sup>**

The probability of heavy drinking in the next 2 months is estimated, based on the score. Patients attain a score between 28 and 196. Higher score is associated with increased risk of relapse.

Both the above scales were validated in Hindi and Marathi.

**Statistics**

Data was analyzed using descriptive statistics with SPSS21 software. Correlation was done among intervariables by Pearson’s correlation coefficient.

**RESULTS**

Subjects were classified as early and late onset AUD with 25 year as cut off mark [Table 1].

There was no correlation between the craving type and onset of AUD [Table 2].

The AWARE score predicted a high relapse rate in most enrolled patients [Table 3].

The onset and duration of AUD and AWARE score did not show any correlation.

There was a close correlation between physical complications and AWARE score ( $P < 0.0009$ )\*\*\*.

**DISCUSSION**

Alcohol craving is a core symptom of AUD and a strong predictor of relapse.<sup>[7,11-13]</sup> As per the CTQ, it is classified as reward, relief, and obsessive.

Reward craving is the desire to achieve a pleasurable state of mind. It is more common in early-onset male alcoholics

**Table 1: Craving types with Early: Late onset AUD (number of patients: Early=32 and Late=8)**

Craving type	Mean CTQ score (Early: Late)
Reward	15.67±4.68:11.62±4.24
Relief	14.56±3.84:17.75±5.11
Obsessive	16.18±5.61:16.5±3.96

AUD: Alcohol use disorder

**Table 2: Estimation of risk of relapse using AWARE Score (n = 40)**

AWARE score (probability of heavy drinking in next 2 months)	Number of patients
28–55 (37%)	5
56–69 (62%)	6
70–83 (72%)	10
84–97 (82%)	5
98–111 (86%)	5
112–125 (77%)	6
126–168 (90%)	3

AWARE: Advance warning of relapse

**Table 3: Correlation of onset of AUD, total duration of illness and physical complications with AWARE score (n = 40)**

Onset, duration and physical complications due to AUD	No. of patients	Mean AWARE score
Onset of AUD		
Early	32	88.93±27.21
Late	8	84.5±27.98
Duration of AUD (years)		
<5	17	80.94±24.67
5–10	12	91.08±25.90
10–15	7	88.14±19.28
>15	4	109±45.97
Physical complications		
Present	16	107.93±24.73
Absent	24	74.79±19.61

AWARE: Advance Warning of Relapse, AUD: Alcohol use disorder and is associated with novelty or sensation seeking behavior, impulsivity, anger, and traits observed in Cluster B Personality Disorders. It results from dopaminergic and/or opioidergic dysregulation. “Reward drinking” is generally associated with positive reinforcement. This pathway has an important genetic load.<sup>[14]</sup>

Relief craving is desire to terminate an aversive stimulus or suppress stress. It results from either  $\gamma$ -aminobutyric acid-ergic or glutamatergic dysregulation. It is associated with negative reinforcement. This pathway is usually observed in late-onset alcoholics, has bias toward females, and is associated with traits observed in Cluster C personality disorders. The influence of external factors is stronger than genetic influence.

Obsessive craving is lack of control over intrusive thoughts about drinking alcohol. This type of craving results

either from a serotonin deficiency or a personality style characterized by low constraint or disinhibition or their combination.

These three craving types usually overlap with one dominating. This becomes relevant in pharmacological treatment, for example, naltrexone is efficacious for reward craving, acamprosate for relief craving, and serotonin reuptake inhibitors for obsessive craving.

In the present study, the patients had overlap of craving typology. The craving type could not be correlated with the onset of AUD or predictors of relapse. There was no correlation between AWARE score and the onset of alcohol dependence and duration of illness. The presence of physical complications closely correlated with AWARE score.

We could not correlate the craving typology and risk of relapse with various parameters in AUD, probably due to our small sample size. Understanding craving may guide us toward better pharmacotherapy and effective anti-craving measures.

## CONCLUSION

Reward, relief, and obsessive craving overlap in most patients of AUD. The risk of relapse is similar in all craving typologies. The presence of physical complications due to alcohol use is associated with higher risk of relapse.

## REFERENCES

1. Westerberg VS. Constituents of craving in a clinical alcohol sample. *J Subst Abuse* 2000;12:415-23.
2. Yoon G, Kim SW, Thuras P, Grant JE, Westermeyer J. Alcohol craving in outpatients with alcohol dependence: Rate and clinical correlates. *J Stud Alcohol* 2006;67:770-7.
3. Verheul R, van den Brink W, Geerlings P. A three-pathway psychobiological model of craving for alcohol. *Alcohol Alcohol* 1999;34:197-222.
4. Anton RF, Moak DH, Latham PK. The obsessive compulsive drinking scale: A new method of assessing outcome in alcoholism treatment studies. *Arch Gen Psychiatry* 1996;53:225-31.
5. Kranzler HR, Mulgrew CL, Modesto-Lowe V, Burleson JA. Validity of the obsessive compulsive drinking scale (OCDS): Does craving predict drinking behavior? *Alcohol Clin Exp Res* 1999;23:108-14.
6. Roberts JS, Anton RF, Latham PK, Moak DH. Factor structure and predictive validity of the obsessive compulsive drinking scale. *Alcohol Clin Exp Res* 1999;23:1484-91.
7. Bottlender M, Soyka M. Impact of craving on alcohol relapse during, and 12 months following, outpatient treatment. *Alcohol Alcohol* 2004;39:357-61.
8. Wise RA. The neurobiology of craving: Implications for the understanding and treatment of addiction. *J Abnorm Psychol* 1988;97:118-32.
9. Martinotti G, di Nicola M, Tedeschi D, Callea A, di Giannantonio M, Janiri L. Craving typology questionnaire (CTQ): A scale for alcohol craving in normal controls and alcoholics. *Compr Psychiatry* 2013;54:925-32.
10. Goriski TT, Miller M. *Counselling for Relapse Prevention*. United States: Independence Press; 1982.
11. Flannery BA, Poole SA, Gallop RJ, Volpicelli JR. Alcohol craving predicts drinking during treatment: An analysis of three assessment instruments. *J Stud Alcohol* 2003;64:120-6.
12. de Bruijn C, Korzec A, Koerselman F, van Den Brink W. Craving and withdrawal as core symptoms of alcohol dependence. *J Nerv Ment Dis* 2004;192:494-502.
13. Evren C, Cetin R, Durkaya M, Dalbudak E. Clinical factors associated with relapse in male alcohol dependents during six-month follow-up. *Bull Clin Psychopharmacol* 2010;20:14-22.
14. Tiffany ST. New perspectives on the measurement, manipulation, and meaning of drug craving. *Hum Psychopharmacol Clin Exp* 1997;12:S103-11.

**How to cite this article:** Deshmukh RC, Nagargoje A, Bhambure N, Mansharamani H. Craving Typologies and Risk of Relapse in Alcohol Use Disorder. *Int J Sci Stud* 2022;10(6):62-64.

**Source of Support:** Nil, **Conflicts of Interest:** None declared.