A Mixed Method Study to Assess the Severity of Alcohol Dependence and Explore Locus of Control in Patients of Alcohol Use Disorder Admitted in a Mental Health Facility of a Selected Tertiary Care Hospital in Western Maharashtra

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Abstract: Context: Alcohol Use Disorder (AUD) is a chronic condition marked by impaired control over alcohol use. Locus of Control (LOC) plays a pivotal role in influencing recovery and relapse. **Aim**: To assess the severity of alcohol dependence, evaluate Locus of Control orientation, and explore the relationship between them in patients with AUD. **Settings and Design:** A concurrent embedded mixed-method study conducted in a mental health facility of a tertiary care hospital in Western Maharashtra. **Methods and Material:** Short Alcohol Dependence Data (SADD) questionnaire and Drinking-Related Internal-External (DRIE) scale were used on 57 male inpatients diagnosed with AUD. In-depth interviews were conducted for qualitative insights. Statistical Analysis Used: Pearson's correlation and ANOVA were used for quantitative data. Thematic analysis was employed for qualitative data. **Results:** 42.1% of participants showed low dependence, 35.1% moderate. External LOC was dominant in 56%. A strong positive correlation ($r = 0.791$, $p < 0.0001$) existed between severity of dependence and external LOC. Hospitalization category had significant association with both variables ($p < 0.0001$). **Conclusions:** External LOC correlates with higher alcohol dependence severity. LOC should be targeted in therapy to reduce relapse and improve recovery outcomes.

Keywords: Alcohol Use Disorder (AUD), Locus of Control (LOC), Alcohol dependence

Key Messages

Locus of Control (LOC) plays a significant role in the severity and management of Alcohol Use Disorder. Patients with an external LOC are more prone to severe dependence and relapse, highlighting the need to integrate LOC-targeted strategies into treatment plans.

Introduction

Alcohol is a psychoactive substance toxic in nature with potential to cause dependence. Alcoholic beverages have become routine part of socializing in today's societies. Alcohol as an intoxicant has wide range of effect on structures and processes of central nervous system and increases the risk for injuries both intentional and unintentional and has adverse social consequences. It also has considerable toxic effects on digestive and cardiovascular system. International agency for Research on cancer has identified Alcohol beverages as carcinogenic and it increases risk of various types of cancer. It acts as immunosuppressant and increases risk of communicable diseases, including HIV and Tuberculosis.[1] Addictive substances have been available from thousands of years, alcohol has been the most widely available and most commonly used addictive substance.

Though addiction is not a new problem but it is a growing problem of modern society. Addiction has been viewed as problem of modern society as it is assumed that it is a response to stress as world has become increasingly stressful place and more and more people escape stress by turning to addictive behavior.[2] Consumption of alcohol contributes to nearly 3 million deaths worldwide as well as to disabilities and poor health of millions of people. Harmful use of alcohol is responsible for 5.1% of the global burden of disease and is leading risk factor for premature mortality and disability among people of 15-49 yrs of age accounting 10% of all deaths in this group[1].Risks for life time alcohol related disorders in male and females are 15% and 8-10% respectively where as Genetic and environmental factors are responsible for 60% and 40% of the risk. Patients with substance dependence have a higher chance to develop dependence on another sunstance.[3] The harmful use of alcohol is a global problem which adversely affects both individual and social development. Alcohol is the world's largest risk factor for premature mortality, morbidity, disability and loss of health. Alcohol is responsible for many serious social and developmental issues like violence, child neglect and abuse, absenteeism in the workplace. It does not only harm physical and psychological health of person who consumes it but also harm the wellbeing and health of people around.[4]

Alcohol Use Disorder (AUD) is a medical condition which is characterized by an impaired ability to stop or control alcohol use despite adverse social, occupational, or health consequences. It encompasses the conditions that some people refer to as alcohol abuse, alcohol dependence, alcohol addiction, and the colloquial term alcoholis.[5] AUD is considered as a brain disorder as it causes lasting changes in the brain which makes individual vulnerable to relapse. AUD can be mild, moderate or severe. However severe the problem may be the evidences-based treatment with

behavior therapies, mutual support groups and/or medication can help people with AUD in achieving recovery and maintaining it.[5]

Locus of Control (LOC) is a concept of social psychology developed by Rotter in 1966 which refers to extent to which individuals believe that they can control events and outcomes in their own lives.[6] It is individual's belief system regarding the causes of his or her experiences and the factors to which that person attributes success or failure.[7]This concept is usually divided into two categories: Internal and External. Person with internal LOC attributes success to his or her own efforts and abilities and are expected to succeed and more likely to be motivated in contrast with person with external LOC attributes his success to luck, fate or chance and is less

Materials and Method

Study Design and Approach:

This was a mixed-method study with a concurrent embedded design. The quantitative aspect employed a non-experimental descriptive design, while the qualitative aspect followed a phenomenological approach.

Setting and Sample:

The study was conducted in the Psychiatry Ward (IPD) of a selected tertiary care hospital in Western Maharashtra. A total of 57 male patients diagnosed with Alcohol Use Disorder (AUD) were selected using non-probability convenience sampling for the quantitative component. For the qualitative component, participants were selected purposively based on their ability to express themselves and willingness to participate in in-depth interviews. Data saturation determined the final number of interviews.

Inclusion Criteria:

- Male patients diagnosed with AUD
- Age ≥ 18 years
- Able to read and write in Hindi, English, or Marathi

Exclusion Criteria:

- Patients with other psychiatric illnesses or complications of AUD
- Patients with alcohol-related psychiatric disorders
- Patients in acute phases of withdrawal or delirium tremens

Tools and Techniques:

- Short Alcohol Dependence Data (SADD) Questionnaire: Used to assess severity of alcohol dependence.

- Drinking Related Internal-External (DRIE) Scale: Used to evaluate Locus of Control orientation.
- In-depth face-to-face interviews: Conducted to explore the Locus of Control among AUD patients.

Blueprint of the tool

SECTIONS	TOOL	DESCRIPTION
Section-A	**SOCIO DEMOGRAPHIC PROFILE**	Q1-Q7 (Item 1-7): Self prepared semi structured questionnaire to assess the demographic profile of the subjects
Section-B	**SHORT ALCOHOL DEPENDENCE DATA QUESTIONNAIRE (SADD)** **Auther**- Raistrick, Dunbar & Davidson	Q1-Q15 (Item 1-15) **Scoring-**Never=0,Sometimes=01, Often=3,Nearly always=4 0= No dependence,1-9=Low dependence 10-19= Medium dependence 20 and above= Severe dependence
Section-C	**DRINKING RELATED INTERNAL -EXTERNAL LOCUS OF CONTROLSCALE (DRIE)** **Auther-**Keyson M;Janda L.	Q1-Q25 (Item 1-25) **Scoring-** 0-6 –Internal 7-25 – External
Section-D	**SEMI STRUCTURED INTERVIEW SCHEDULE**	Q1-Q6 (Item 1-6) :6 open ended questions as guideline for in-depth interview

Figure1: Description of tool

Sample Size:

Using WHO sample size formula, with prevalence of 29.8%, 95% confidence interval, and 12% margin of error, the calculated sample size was approximately 57.

Data Collection:

Data were collected in two phases: quantitative data through structured questionnaires and qualitative data through audio-recorded interviews. Informed consent was obtained prior to participation.

Ethical Considerations:

Ethical clearance was obtained from the Institutional Ethics Committee. Participants were informed of the study's purpose, and their rights were safeguarded through confidentiality, anonymity, and the right to withdraw at any time.

Data Analysis:

Quantitative data were analyzed using SPSS v23. Descriptive statistics included mean, standard deviation, frequencies, and percentages. Inferential statistics included Karl Pearson's correlation and ANOVA. Qualitative data were transcribed, coded, and analyzed thematically using Braun and Clarke's six-step approach (2006)[9].

Results

Description of Sample Characteristics

A total of 57 male patients diagnosed with Alcohol Use Disorder (AUD) participated in the study. The demographic profile revealed varied socio-economic backgrounds, occupational stressors, and duration of alcohol use, which were analyzed in relation to their severity of dependence and Locus of Control.

Demographic Variable	Details(**n=57**)
Age (years)	Mean = 38.6 ± 8.4
Marital Status	Married (71.9%), Unmarried (28.1%)
Education	Up to 10th (56.1%), 12th or more (43.9%)
Family Type	Nuclear (70.2%), Joint (29.8%)
Duration of Use	Mean = 11.5 years ± 5.6
Family History of Substance Use	Present (36.8%), Absent (63.2%)
Presence of any socio-occupational stressors	None (63.2%), Domestic (17.5%)
Reason for present hospitalization	Harmful effects (38.6 %), Follow up during recovery (35.1%), Relapse (26.3%)

Table 1: Socio-demographic characteristics of patients with AUD. Severity of Alcohol Dependence

Based on the Short Alcohol Dependence Data (SADD) questionnaire:

- 42.1% of patients exhibited low dependence,
- 35.1% moderate dependence,
- 19.3% high dependence.

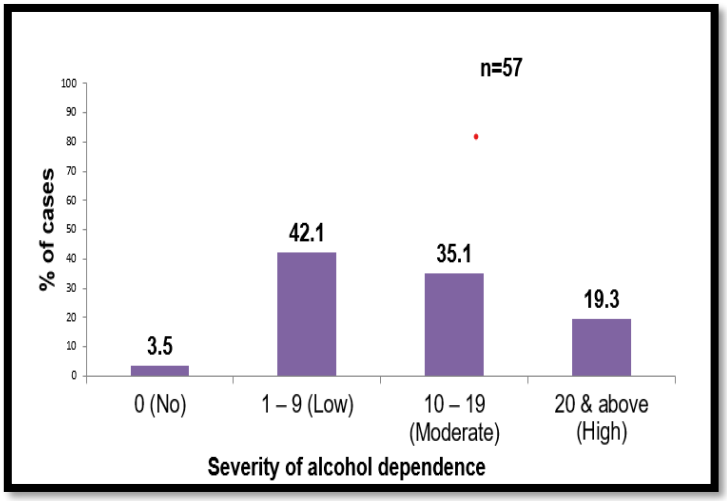

Figure 2: Severity of dependence among participants

Locus of Control Orientation

Using the Drinking Related Internal-External (DRIE) scale:

- 56% of patients was externally oriented,
- 44% was internally oriented.

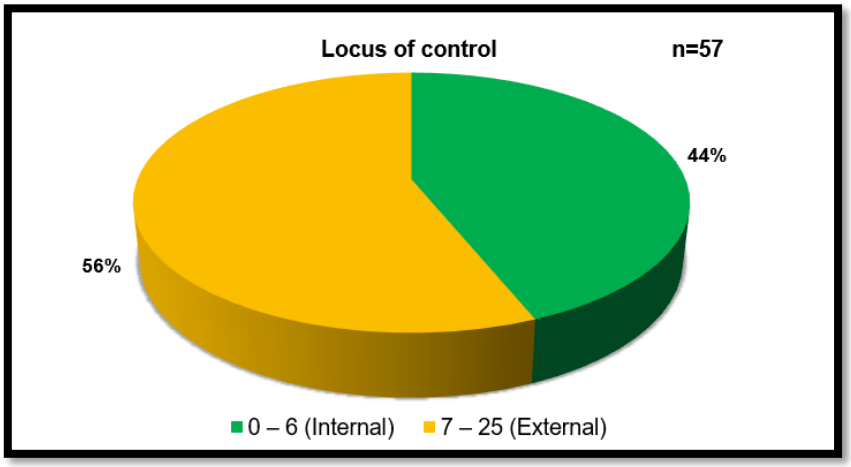

Figure 3: Locus of control orientation among participants.

Correlation between Severity of Alcohol Dependence and Locus of Control

A strong positive correlation was found between severity of alcohol dependence and external Locus of Control orientation ($r = 0.791$, $p < 0.0001$). This indicates that patients with a more external orientation had higher levels of alcohol dependence.

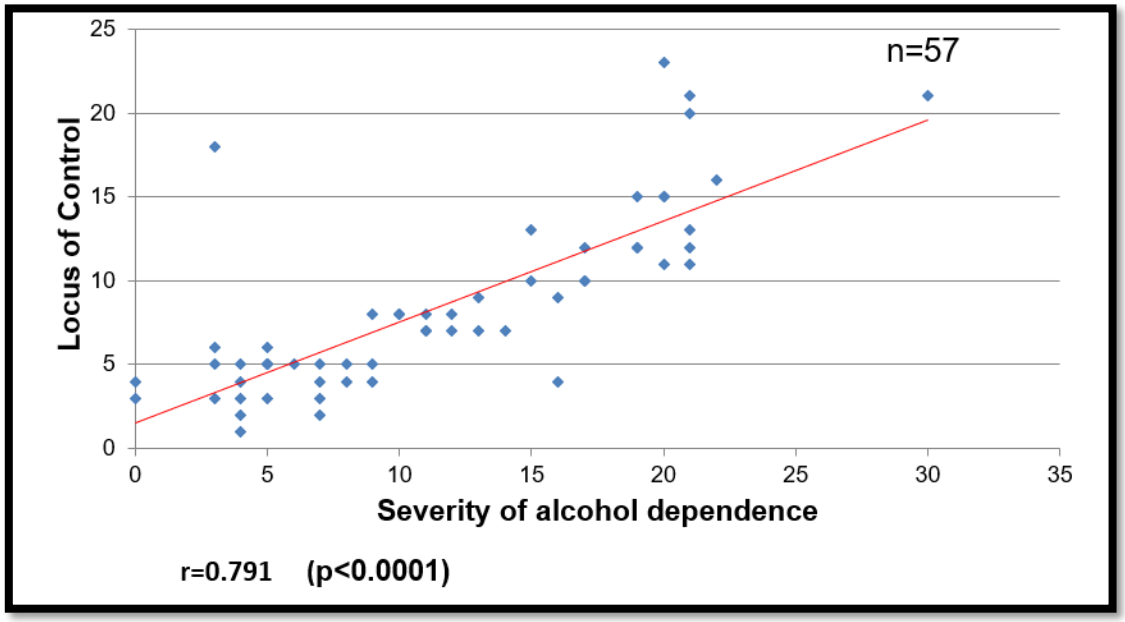

Figure 4: Correlation between Severity of Alcohol Dependence and Locus of Control

Association of Severity of Alcohol Dependence with Socio-Demographic Variables

ANOVA revealed a statistically significant association between severity of dependence and socio-demographic variables ($F = 4.98$, $p < 0.05$). Key factors included category of hospitalization, duration of use, and occupational stressors.

A similar significant association was observed between LOC orientation and selected socio-demographic variables ($F = 4.98$, $p < 0.05$), particularly with age, education, and family history of substance use.

Qualitative Thematic Analysis

In-depth interviews revealed mixed orientations. While initial drinking was often attributed to peer pressure and stress (external LOC), determination to quit, willpower, and belief in self-control (internal LOC) emerged as key factors for recovery. This duality underlines the dynamic nature of LOC in alcohol dependence.

Themes identified included:

- Attribution of cause(external vs internal): Peer pressure, Stress, Family Conflict
- Perceived triggers for use and relapse:Craving, Social Events, Emotional Distress
- Readiness for change and abstinence: Desire for recovery, Motivation, Support Seeking
- Self-efficacy and support systems: Will power, Spiritual Belief, Family Role.

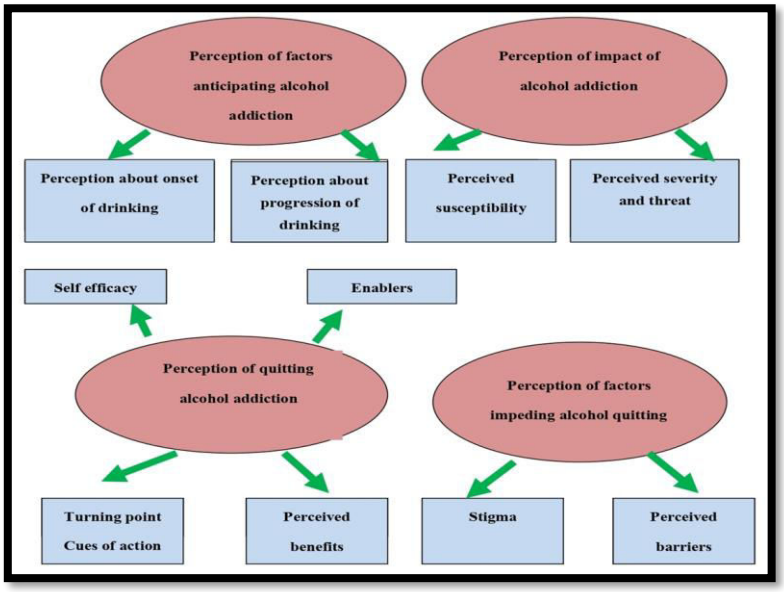

Figure 5: Map of Global themes and subthemes derived from initial codes

Discussion and Conclusion

Discussion

This mixed-method study sought to assess the severity of alcohol dependence and explore the role of Locus of Control (LOC) among patients with Alcohol Use Disorder (AUD). The findings strongly indicate that a majority of participants exhibited external LOC orientation, which was significantly associated with higher levels of alcohol dependence. These results are consistent with previous research suggesting that external LOC is a critical factor in the development and persistence of addictive behaviors.

The quantitative data revealed a statistically significant correlation ($r = 0.791$, $p < 0.0001$) between external LOC and severity of alcohol dependence. This reinforces the idea that individuals who attribute control of their lives to external forces such as fate, circumstances, or others are less likely to take proactive steps toward abstinence and more likely to relapse. These findings align with studies by Marco Caliendo and Juliane Hennecke (2020) and Dalbir Singh Saini (2012), which emphasized the predictive value of LOC in addiction outcomes[7,8.]

The qualitative exploration further enriched the understanding of LOC dynamics. Although many participants initially described external reasons for their drinking (peer pressure, stress, family problems), they simultaneously identified internal attributes—such as self-control, determination, and willpower—as essential to quitting. This duality suggests that therapeutic interventions can shift LOC from external to internal by enhancing self-efficacy and motivation.

Notably, socio-demographic variables like age, education, and category of hospitalization were significantly associated with both severity of dependence and LOC orientation. These findings underscore the need for individualized and context-sensitive treatment approaches. Training mental health professionals and nurses to assess LOC and tailor interventions accordingly could significantly improve treatment outcomes and prevent relapses.

Conclusion

This study clearly establishes the importance of Locus of Control in the assessment and management of Alcohol Use Disorder. The positive correlation between external LOC and severity of alcohol dependence underscores the need to include LOC assessment as part of routine psychiatric evaluations for AUD patients. Therapy should aim to promote internal LOC by empowering patients to take control of their recovery process. Incorporating motivational enhancement, relapse prevention strategies, and family-based interventions will support this transition. Recommendations:

- LOC assessment should be included in initial and ongoing evaluations of AUD patients.
- Nurses and mental health professionals should be trained in LOC-based therapy planning.
- Larger, multicentric studies should be conducted to validate these findings.
- Family-centered care models should be adopted to strengthen support systems.

Addressing LOC as a dynamic psychological factor may serve as a key to unlocking more effective and sustainable recovery paths for individuals struggling with alcohol dependence.

Declarations

Ethical Clearance:

The study was approved by the Institutional Ethics Committee. Written informed consent was obtained from all participants prior to data collection.

Funding:
No funding was received for this study. It was conducted as part of academic requirements for MSc Nursing and it was dissertation project of corresponding author.

Conflict of Interest:
The authors declare no conflict of interest.

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