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Hope and assertiveness of alcohol-dependent patients: A cross-sectional study

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Abstract:
Alcohol dependence syndrome is a chronic relapsing disorder, yet the roles of hope and assertiveness in recovery remain insufficiently explored in Indian de-addiction settings. Therefore, it is of interest to assess the hope and assertiveness among 110 male patients with alcohol dependence syndrome using the Herth Hope Index and Assertiveness Inventory. High hope was observed in 66.36% of participants, while 50.90% were highly assertive and hope showed a significant positive correlation with assertiveness ($r = 0.36$, $p = 0.01$). Age, education and residence were significantly associated with both hope and assertiveness ($p < 0.05$). Thus, data shows that hope and assertiveness are interrelated psychosocial resources that can guide targeted behavioral interventions in de-addiction care.

Keywords: Alcohol dependence syndrome (ADS), hope, assertiveness, de-addiction, psychiatric nursing, recovery, psychosocial intervention

Background:
Alcohol dependence syndrome (ADS), now more commonly subsumed under alcohol use disorder (AUD), remains one of the most disabling chronic mental health conditions worldwide because it affects not only physical health but also emotional stability, family relationships and occupational functioning. Alcohol-related liver disease alone accounts for about 5.1% of the global burden of disease and 5.3% of global deaths, with the heaviest impact falling on the productive age group of 15-44 years **[1].** In 2019, alcohol-associated liver disease contributed to nearly 25% of global cirrhosis deaths, underlining the close relationship between harmful alcohol use and preventable mortality **[2].** Contemporary burden analyses show marked sex differences, with men carrying substantially higher incidence, mortality and disability-adjusted life-year (DALY) burdens from alcohol-related disorders than women across most regions **[3].** A review in India reported that the estimated the pooled prevalence of AUD at 12.5%, with 8.6% showing hazardous or harmful use and 2.3% meeting criteria for dependent use. The same review summarized major national surveys showing that the National Mental Health Survey 2016 reported 4.7% AUD prevalence, the National Survey on Extent and Pattern of Substance Use 2019 found 14.6% alcohol use, 5.2% problem use and 2.7% dependent use, while NFHS-5 (2021) reported alcohol use in 19% of men and 1% of women **[4].** Additional national analyses confirm pronounced regional variation and a continuing concern about problematic drinking, even where overall prevalence appears to decline **[5].** Among Indian men aged 15 years and above, one recent analysis reported current drinking in 19% overall, including 20% in rural and 17% in urban settings **[6].** Community-based data from rural Tamil Nadu further documented an overall alcohol-use prevalence of 9.4%, emphasizing that alcohol-related harm remains deeply embedded in local communities **[7].** Similarly, a mixed-methods study from Chengalpattu district in Tamil Nadu found that 16.9% of adult male drinkers had alcohol dependence; significant predictors included unskilled occupation, suicidal ideation and alcohol use among family members, depression and drinking-related interpersonal problems **[8].** Although pharmacological management has improved, long-term recovery remains difficult. Contemporary pharmacotherapy reviews continue to identify naltrexone, acamprosate and disulfiram as the principal approved medications for AUD, but these remain underused in routine care **[9].** Indian evidence suggests that psychosocial variables matter greatly: in one study, coping behaviors in adverse situations showed a stronger association with relapse than merely the number of high-risk situations experienced, suggesting that relapse is shaped not only by clinical severity but also by how patients respond to stress and interpersonal triggers **[10].** These observations make a strong case for studying modifiable psychological strengths alongside routine clinical variables. Among such strengths, hope and assertiveness deserve special attention. Herth described hope as a positive inner resource oriented toward future possibility and meaningful adaptation, a concept that fits well within recovery-focused addiction care **[11].** The Herth Hope Index (HHI), a brief 12-item instrument, has shown good psychometric performance across settings, for example, the recent Spanish validation found a one-factor structure explaining 62% of common variance with satisfactory reliability ($\omega = 0.88$), supporting its continued use in clinical populations **[12].** Assertiveness refers to the capacity to express one's needs, feelings and rights clearly and appropriately while respecting others. In alcohol dependence, this may translate into the ability to refuse drinks, manage peer pressure, negotiate conflict and disclose craving before relapse occurs. Early behavioural research demonstrated that alcohol-dependent individuals who received 10 hours of assertiveness training scored significantly higher than control groups on three measures of assertiveness **[13].** Therefore, it is of interest to

report the hope and assertiveness among the alcoholic dependence syndrome patients attending De-addiction centre.

Materials and Methods:

Study design and setting:

A quantitative, non-experimental descriptive cross-sectional study was conducted at the De-addiction Outpatient Department (OPD) of the Institute of Mental Health, Chennai-10. Data were collected over four weeks.

Participants and sampling:

The participants include all male patients with physician-confirmed ADS attending the De-addiction OPD during the study period. Participants aged 20 years or older, both male and females, ability to comprehend Tamil or English and willingness to provide written informed consent were included. Patients with cognitive impairment, active severe withdrawal symptoms, or critical illness were excluded. The sample size was computed using the formula $n = (Z^2 \times (1–p)) / (p \times e^2)$, with Z = 1.96 at the 95% confidence level, p = 0.47 (assertiveness proportion from prior literature) and e = 0.20 relative precision, yielding a minimum requirement of 110 participants. Non-probability convenience sampling was used.

Ethical considerations:

The study protocol was reviewed and approved by the Institutional Ethics Committee of IMH, with formal written permission from the Director and the De-addiction OPD In-charge. Written informed consent was obtained from every participant.

Data collection tools:

Data was collected using socio-demographic variables and clinical variables, the Herth Hope Index (HHI), a 12-item Likert scale (1–4) with a total score of 12–48, interpreted as low (1–16), moderate (17–32), or high hope (33–48) and the Assertiveness Inventory, a 35-item Likert scale (0–3) with a total score of 0–105, categorised as passive (0–26), moderately passive (27–52), moderately assertive (53–78), or highly assertive (79–105). Content validity was established through expert review by nursing faculty and psychiatrists; internal consistency was acceptable, with Cronbach's alpha values ranging between 0.83 and 0.90. A pilot study was carried out on 11 participants (10% of the planned sample) to assess feasibility; these participants were excluded from the main analysis. Eligible patients were approached in the OPD waiting area, briefed and consented. The instrument was self-administered with clarification provided when required and completion took 20–25 minutes.

Data analysis:

Responses were entered into Microsoft Excel, double-checked for accuracy and exported into IBM SPSS version 26. Categorical variables were summarised as frequencies and percentages; hope and assertiveness scores were expressed as mean ± standard deviation (SD). Karl Pearson's correlation coefficient quantified the relationship between hope and assertiveness. The chi-square test examined associations between the two outcome variables and selected socio-demographic and clinical factors. A two-tailed p-value < 0.05 was considered statistically significant.

Results:

Of 110 male patients, 30.00% were aged 20–29 years and 41.82% held a graduate degree or above. Suburban residents formed the largest group (42.73%), followed by urban (33.64%) and rural (23.64%). Most participants were married (88.17%), Hindu (80.91%), employed in the private sector (53.64%), lived with family (81.82%) and belonged to the middle socio-economic stratum (53.64%). Nearly half (43.64%) reported a monthly family income of Rs. 20,001–30,000 and 63.64% came from nuclear families. Smoking was the most common co-occurring substance use (62.73%) and 31.82% cited media as their source of information about de-addiction services. Co-morbidities were absent in 68.18%, while hypertension (14.55%) and liver disease (13.64%) were most prevalent. Clinically, 44.55% had a 1–5 year history of alcohol use and 49.09% drank weekly. Whisky or brandy was the preferred beverage in 58.18%. Withdrawal symptoms were mild in 32.73%, moderate in 25.45% and severe in 15.45%. More than half (57.27%) had never attempted de-addiction previously **(Table 1).** None of the 110 participants scored in the low-hope category; 37 (33.64%) were in the moderate range and 73 (66.36%) in the high range. The overall mean HHI score was 34.75 ± 8.98 (72.40%). Item-level analysis showed the strongest endorsement for "I have short and/or long-range goals" (77.25%) and the weakest for "I have a positive outlook on life" (67.00%). On the Assertiveness Inventory, 16 participants (14.55%) exhibited passive behaviour, 18 (16.36%) were moderately passive, 20 (18.19%) moderately assertive and 56 (50.90%) highly assertive, with an overall mean of 64.74 ± 26.91 (61.66%) (**Figure 1**). The highest item score was for "At family meals, do you control the conversation?" (65.33%) and the lowest for "If someone is smoking near you and it disturbs you, can you say so?" (56.67%). Karl Pearson's analysis revealed a statistically significant positive fair correlation between the HHI and Assertiveness Inventory scores ($r = 0.36$, $p = 0.01$), supporting acceptance of the hypothesis that higher hope co-occurs with greater assertiveness. Chi-square analysis **(Table 1)** showed that age ($\chi^2 = 51.19$, $p = 0.001$ for hope; $\chi^2 = 48.63$, $p = 0.001$ for assertiveness), education ($\chi^2 = 16.18$, $p = 0.001$; $\chi^2 = 13.14$, $p = 0.001$) and residence ($\chi^2 = 8.35$, $p = 0.05$; $\chi^2 = 16.02$, $p = 0.001$) were each significantly associated with both outcomes. Younger, more educated and urban participants consistently scored higher. Other variables did not reach statistical significance ($p > 0.05$).

Table 1: Association between selected demographic variables, level of hope and level of assertiveness among men with alcohol dependence syndrome (N = 110)

Variable	Category	n	High Hope n (%)	Mod./High Assertive n (%)	χ^2 (p-value)
Age (years)	20–29	33	33 (100.0)	33 (100.0)	**$\chi2$=51.19 p=0.001***(S)**
	30–39	31	26 (83.87)	25 (80.65)	

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	40–49	30	12 (40.00)	17 (56.67)	
	50–59	10	1 (10.00)	1 (10.00)	
	≥ 60	6	1 (16.67)	0 (0.00)	
Education	No formal	2	0 (0.00)	0 (0.00)	**χ2=16.18 p=0.001***(S)**
	Primary	8	2 (25.00)	4 (50.00)	
	Secondary	18	11 (61.11)	12 (66.67)	
	Higher secondary	36	22 (61.11)	21 (58.33)	
	Graduate & above	46	38 (82.61)	39 (84.78)	
Residence	Urban	37	30 (81.08)	34 (91.89)	**χ2=8.35 p=0.05***(S)**
	Suburban	47	31 (65.96)	30 (63.83)	
	Rural	26	12 (46.15)	12 (46.15)	
Marital status	Married (reference)	97	64 (65.98)	66 (68.04)	**χ2=48.63 p=0.001***(S)**
Duration of alcohol use	1–5 yrs (largest)	49	39 (79.59)	39 (79.60)	**χ2=13.14 p=0.001***(S)**
Previous de-addiction attempts	None (reference)	63	47 (66.60)	49 (77.78)	**χ2=16.02 p=0.001***(S)**

**Very High significant at p ≤ 0.05.*

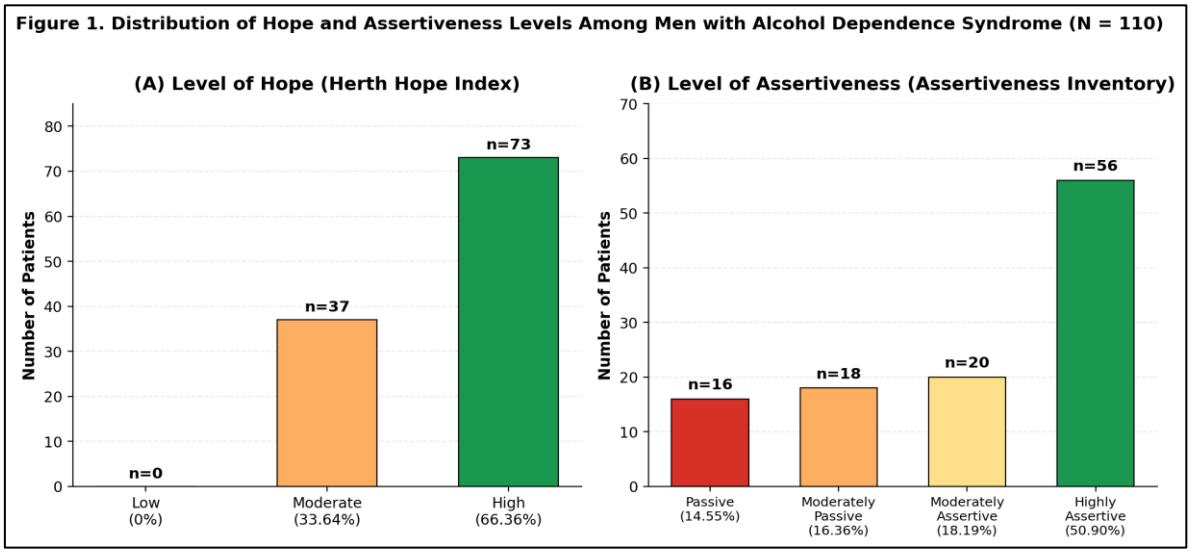

Figure 1: Distribution of hope and assertiveness among men with alcohol dependence syndrome (N = 110)

Discussion:

In the present study, most men with alcohol dependence syndrome (ADS) reported moderate-to-high hope, with 66.36% falling in the high-hope category and none in the low-hope range. This pattern is clinically encouraging because hope has been linked with better treatment adherence in psychiatric populations, suggesting that preserved hope may function as a recovery-supporting strength even in chronic mental disorders **[14]**. The overall mean HHI score of 34.75 ± 8.98 also suggests that hope was not uniformly depleted in this sample. This interpretation is supported by recent psychometric work showing that the 12-item. Herth Hope Index remains a valid and reliable tool for assessing hope in clinical populations, making it suitable for examining recovery-oriented constructs in ADS **[15].** Assertiveness findings showed a similarly mixed but overall favorable profile, with 50.90% classified as highly assertive and 18.19% as moderately assertive, while about one-third still remained passive or moderately passive. These results are important because assertiveness is directly relevant to alcohol recovery, particularly in situations involving refusal skills, interpersonal conflict and the communication of needs and distress before relapse occurs **[16].** The positive fair correlation between hope and assertiveness (r = 0.36, p = 0.01) suggests that these two strengths may operate together in recovery. This is theoretically plausible because alcohol recovery research has linked hope and coping-related capacities with adaptive prefrontal functioning, supporting the view that motivational and self-regulatory strengths may reinforce one another during sustained recovery **[17].** The significant associations of hope and assertiveness with younger age, higher education and urban residence are also noteworthy. Indian studies have shown that alcohol use patterns and their determinants vary significantly by age, education, residence and socioeconomic context, making it plausible that the same social gradients influence psychosocial strengths relevant to treatment response**.** The finding that younger and better educated participants had more favorable psychological profiles may reflect greater health literacy, better access to care and stronger adaptive coping resources. This interpretation is further supported by Indian alcohol research showing substantial socio-demographic variation in drinking patterns and risk profiles across communities**.**

Conclusion:

An immediate and actionable implication for nursing practice is of interest. Routine screening of hope and assertiveness using brief validated instruments should become standard in de-

addiction OPD assessment. Nurse-led brief interventions motivational dialogue, structured assertiveness role-play, refusal-skill training and family-inclusive counselling should be institutionalized alongside pharmacotherapy, with particular attention to older, less-educated and rural patients who appear most likely to score lower on both dimensions.

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

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References:

[1] Narro GEC *et al. Ann Hepatol*. 2024 **29:**101499. [PMID: 38582247]
[2] Anouti A *et al. Gastroenterol Rep (Oxf)*. 2024 **12:**goae097. [PMID: 39502523]
[3] An J *et al. BMC Public Health*. 2025 **25:**1632. [PMID: 40317000]
[4] Narasimha VL *et al. Indian J Psychiatry*. 2024 **66:**495. [PMID: 39100372]
[5] Shaikh R & Khan J. *Alcohol*. 2021 **97**:23. [PMID: 34597757]
[6] Singh SK & Kumar S. *J Ethn Subst Abuse*. 2024 **23:**947-966. [PMID: 36579708]
[7] Kumar SG *et al. J Clin Diagn Res*. 2013 **7:**1637. [PMID: 24086861]
[8] Baskaran G *et al. Cureus*. 2024 **16:**e66624. [PMID: 39258065]
[9] Belnap MA *et al. Pharmaceut Med*.2024 **38:**291. [PMID: 38967906]
[10] Sureshkumar K *et al. Indian J Psychol Med*. 2017 **39:**312. [PMID: 28615766]
[11] Herth K. *J Adv Nurs*. 1990 **15:**1250. [PMID: 2269747]
[12] Calderon C *et al. Psicothema*. 2024 **36:**72. [PMID: 38227302]
[13] Hirsch SM *et al. J Stud Alcohol*. 1978 **39:**89. [PMID: 633910]
[14] Kisaoglu O & Tel H. *Acta Psychol (Amst)*. 2024 **244:**104194. [PMID: 38402848]
[15] Nayeri ND *et al. Int J Health Sci (Qassim)*. 2020 **14**:50. [PMID: 32952505]
[16] Pfost KS *et al. J Clin Psychol*. 1992 **48:**262. [PMID: 1573031]
[17] Bradshaw SD *et al. Am J Drug Alcohol Abuse*. 2017 **43:**591. [PMID: 28635348]