

Research Article

Effectiveness of Interventional Package on Anger Management among Alcohol Dependents

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A B S T R A C T

Introduction: Anger, a fundamental human emotional response, is closely linked with alcohol consumption and its adverse effects. Men who consume alcohol are particularly susceptible to experiencing and expressing anger.

Aim: This study aims to evaluate the efficacy of anger management interventions among individuals with alcohol dependency.

Method and Material: Sixty alcohol-dependent individuals meeting inclusion criteria were selected through convenience sampling. Socio-demographic data were collected using a structured interview schedule. Anger levels were assessed using the Clinical Anger Scale before and after a two-week intervention comprising breathing exercises, anger management techniques, and mindful meditation. The data were analysed using MS Excel and SPSS software version 21.0.

Results: Following the intervention, a significant reduction in anger levels was observed among the participants, indicating improvement in their ability to manage anger.

Conclusion: The anger management intervention demonstrated effectiveness in reducing anger levels among alcohol-dependent individuals. Integrating such interventions into de-addiction treatment protocols can aid in managing anger, thereby potentially preventing relapses, and enhancing overall health outcomes.

Keywords: Anger Management, Alcohol Dependence, Intervention, Anger Levels, De-addiction Treatment

Introduction

Alcohol dependence syndrome is a persistent and progressive condition characterised by an inability to control alcohol consumption despite experiencing adverse social, legal, occupational, psychological, and physical ramifications.¹ Globally, alcohol abuse leads to approximately 3 million

deaths annually, accounting for 5.3% of all fatalities.² In India, alcohol misuse contributed to an estimated 340,000 deaths and 14.7 million disability-adjusted life years in 2019 alone.³ Notably, alcohol consumption is widespread across India, with approximately 160 million individuals consuming alcohol, particularly in high-risk metropolitan

districts such as Chennai, Hyderabad, and Kolkata.⁴ The prevalence of alcohol abuse in men aged ≥ 18 years in Puducherry is 9.7%, with the highest prevalence observed among individuals aged 46–55 years.⁵

Alcohol dependence occurs when an individual struggles to cease alcohol intake without assistance after regular consumption over time. Dependence may manifest physically or psychologically, with withdrawal symptoms ranging from muscle aches to convulsions upon cessation of alcohol consumption.⁶ Alcohol abuse can severely impact various bodily systems, notably the brain, heart, liver, pancreas, and immune system.⁷ Studies have consistently shown a relationship between alcohol consumption and anger, with alcohol use directly associated with emotions such as irritability, impatience, and annoyance.⁸ Males with alcohol abuse issues tend to experience and express more anger than their non-abusing counterparts.^{9,10}

While anger is a natural human emotion with adaptive functions, excessive or uncontrolled anger can lead to detrimental physiological, psychological, and behavioural consequences.¹¹ It is characterised by a range of emotional responses, from mild irritation to intense fury and rage.¹² Physiologically, anger triggers changes such as increased heart rate, elevated blood pressure, and hormonal fluctuations.^{13,14}

Individuals with alcohol dependence who received therapeutic interventions, including relaxation techniques and cognitive restructuring, demonstrated improved management of negative emotions, including impulsivity and anger outbursts.^{15,16} Given the established link between anger and alcohol dependence, this study aims to evaluate the effectiveness of an intervention package on anger management among individuals with alcohol dependence at a selected de-addiction centre in Puducherry.

It will assess pre-intervention anger levels, administer the intervention programme, and evaluate post-intervention outcomes. The study also aims to explore the relationship between demographic and clinical variables and pre-intervention anger levels, by conducting anger management programmes for individuals with alcohol dependence in group settings within alcohol de-addiction centres.

Subjects and Method

Study Design

This study employed an experimental design and utilised convenience sampling. According to the ICD-10 criteria¹⁷, sixty individuals with alcohol dependence were selected from a de-addiction centre of Puducherry, based on

predefined inclusion criteria. The study was conducted from April 2022 to July 2023. Participants received anger management interventions in addition to standard de-addiction treatment.

Interventional Package

The interventional package provided to patients included a comprehensive anger management programme. This programme consisted of breathing exercises, cognitive-behavioural techniques, and mindful meditation sessions designed to help individuals recognise and manage their anger triggers. The sessions were conducted over a two-week period, with daily activities tailored to improve emotional regulation and reduce impulsivity. Participants were encouraged to practice these techniques in real-life situations to enhance their coping skills and promote long-term behavioural change.

Health Status Assessment

The health status of participants was assessed using a structured health questionnaire that evaluated physical, psychological, and social well-being. This assessment was conducted both before and after the intervention to determine any changes in health status as a result of the anger management programme.

Data Collection and Measurement

A structured questionnaire was utilised to gather socio-demographic details and clinical variables. A translated version of the Clinical Anger Scale, comprising a 4-point Likert scale with 21 items, was employed to assess anger levels, with responses coded as A = 0, B = 1, C = 2, and D = 3. The study adopted a pre- and post-experimental research design involving 60 alcohol-dependent individuals. Ethical approval was obtained from the Institutional Ethical Committee, and formal written permission was secured from the Managing Director of Bharatha Matha Deaddiction Centre, Puducherry. After obtaining written consent from each participant, they were provided with an information sheet and were required to provide written informed consent, ensuring confidentiality. Ethical permission was obtained from the Institute Ethics committee (Ref. No. VMCN/PDY/IEC 2022/068) and CTRI with registration CTRI/2022/11/046985 [Registered on: November 2, 2022] - Trial Registered Prospectively. Alcohol-dependent individuals meeting inclusion criteria were selected using convenience sampling. The anger management intervention was administered over fifteen days, after which a post-test was conducted using the same assessment tool employed in the pre-test (Figure 1).

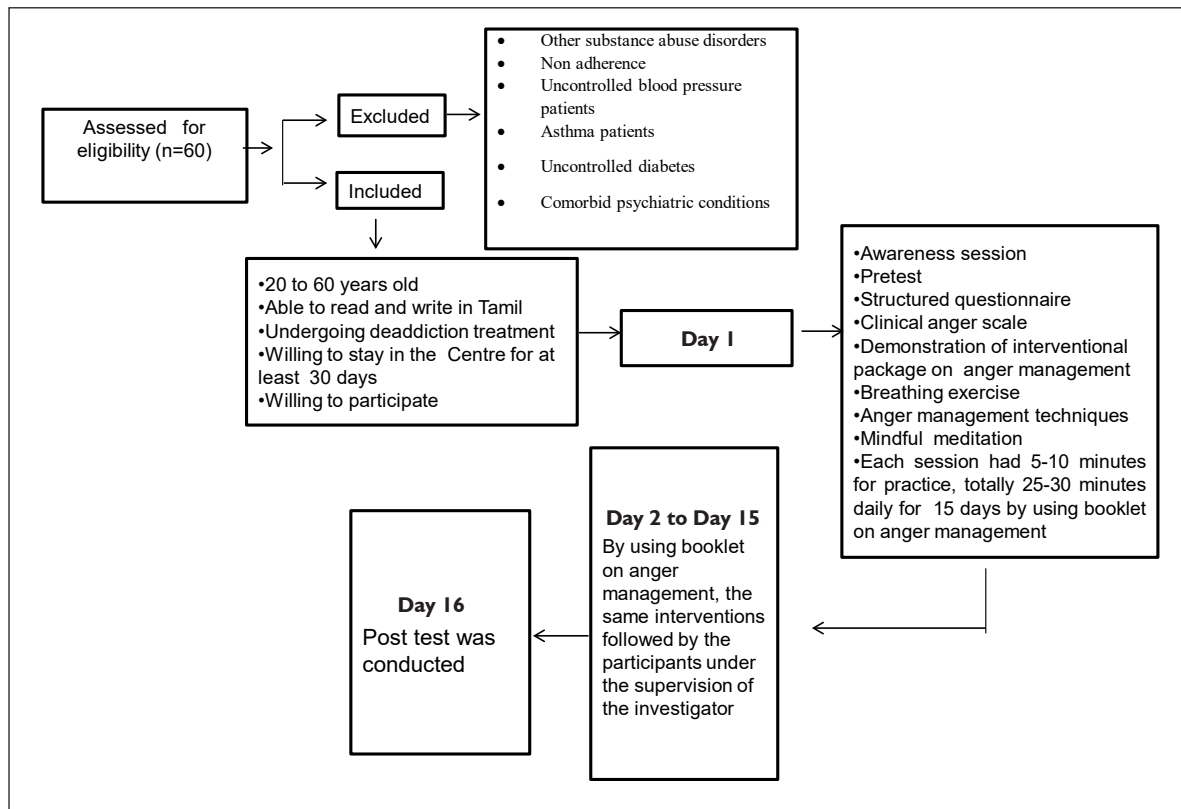


Figure 1. Anger Management Interventions for Alcohol Dependents

Statistical Analysis

Descriptive and inferential statistics were employed to analyse the collected data. Statistical analysis was conducted using SPSS version 21. Frequency and percentage distributions were utilised to characterise demographic variables and clinical variables. While mean and standard deviation were calculated to describe the continuous variables of the study. The paired “t” test was used to analyse the effectiveness of the interventional package on anger management. Additionally, the Chi-Square test was employed to determine the associations between measured anger levels and selected demographic and clinical variables of the study samples.

Results

Among the 60 participants, most of the alcohol dependents, 22 (36.7%) were aged between 31 and 40 years, 22 (36.7%) had high school education, 26 (43.4%) were private employees, 22 (36.7%) had a monthly income of INR 10001–15000, 39 (65%) were married, 30 (50%) were residing in an urban area and 46 (76.7%) had self or someone has been hurt because of their anger related to alcohol drinking (Table 1).

It illustrates that before the intervention, 32 individuals (53.3%) experienced severe anger, while 19 individuals (31.7%) had moderate anger, and 9 individuals (15%) had mild anger. Following the administration of the intervention

package, the post-test results revealed that 28 individuals (46.7%) exhibited minimal anger, 20 individuals (33.3%) had mild anger, and 12 individuals (20%) displayed moderate anger (Figure 2).

It illustrates that before the intervention, 37 individuals (61.67%) reported poor health status, while 23 individuals (38.33%) had moderate health status. The post-intervention data revealed that 32 individuals (53.33%) had moderate health status, and 28 individuals (46.67%) reported good health status among individuals with alcohol dependence (Figure 3).

Table 2 indicates that the calculated paired t test value for the level of anger ($t = 19.229$) was highly significant at the $p < 0.001$ level, indicating that the intervention package effectively reduced the anger levels among alcohol dependents post-intervention. Similarly, the calculated paired t test value for health status ($t = 56.445$) was also highly significant at the $p < 0.001$ level, indicating that the intervention package effectively improved the health status of alcohol dependents post-intervention.

This analysis examines the association between the pre-test level of anger and various demographic and clinical variables among alcohol dependents. Specifically, the demographic variable “self or someone has been injured because of anger related to drinking alcohol” showed significance ($\chi^2 = 8.039$, $p = 0.018$) with the pre-test level of anger among alcohol-dependents at a significance level of $p <$

0.05. Additionally, clinical variables such as experiencing headaches ($\chi^2 = 8.189$, $p = 0.017$) and the frequency of abdominal pain, nausea, and burning sensation in the stomach ($\chi^2 = 11.365$, $p = 0.003$) were also found to be significant predictors of the pre-test level of anger among alcohol dependents, with significance levels of $p < 0.05$ and $p < 0.01$, respectively (Table 3). Other demographic and clinical variables did not show statistically significant.

Table 4 presents the level of skill in performing anger management techniques among alcohol dependents. It indicates that a majority (90%) of participants demonstrated

proficient skills in executing these techniques post-intervention, while a smaller group (10%) showed moderate skill levels. This suggests that most participants were able to effectively learn and apply the anger management strategies provided during the intervention.

Table 4 indicates that the majority of alcohol dependents, comprising 54 individuals (90%), demonstrated a proficient skill level in performing the anger management technique. Conversely, a smaller proportion, constituting 6 individuals (10%), exhibited a moderate skill level in executing the anger management technique.

Table I. Frequency and Percentage Distribution of Demographic Variables of Alcohol Dependents

N = 60

Demographic Variables	n	%
Age (years)		
20–30	11	18.3
31–40	22	36.7
41–50	20	33.3
51–60	7	11.7
Educational status		
No formal education	5	8.3
Primary school education	15	25.0
High school education	22	36.7
Higher school education	5	8.3
Degree	13	21.7
Occupation		
Daily wages	20	33.3
Private employee	26	43.4
Government employee	6	10.0
Business	8	13.3
Monthly family income in rupees		
< 5000	6	10.0
5001–10000	18	30.0
10001–15000	22	36.7
15001–20000	5	8.3
> 20000	9	15.0
Marital status		
Married	39	65.0
Unmarried	21	35.0
Residential area		
Urban	30	50.0
Semi-urban	5	8.3
Rural	25	41.7
Self or someone been hurt because of their anger related to drinking alcohol?		
Yes	46	76.7
No	14	23.3

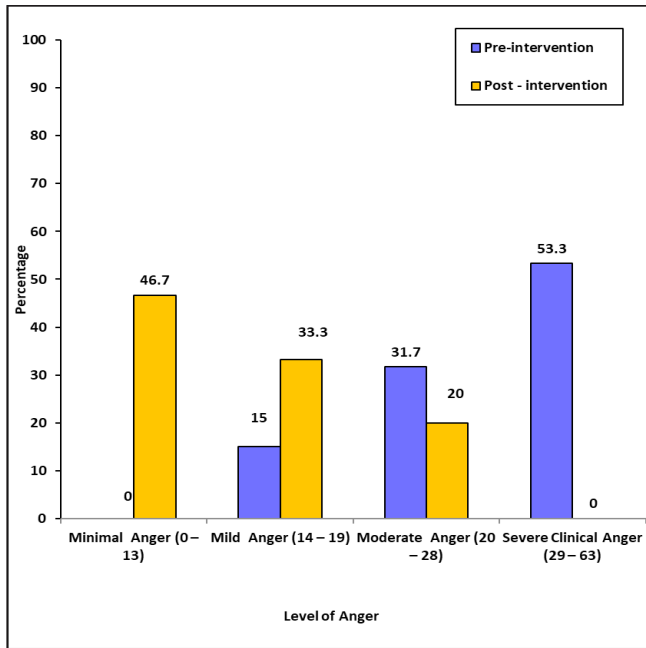


Figure 2.Percentage Distribution of Pre- and Post-Interventional Levels of Anger among Alcohol Dependence as Measured by the Standardised Clinical Anger Scale (N = 60)

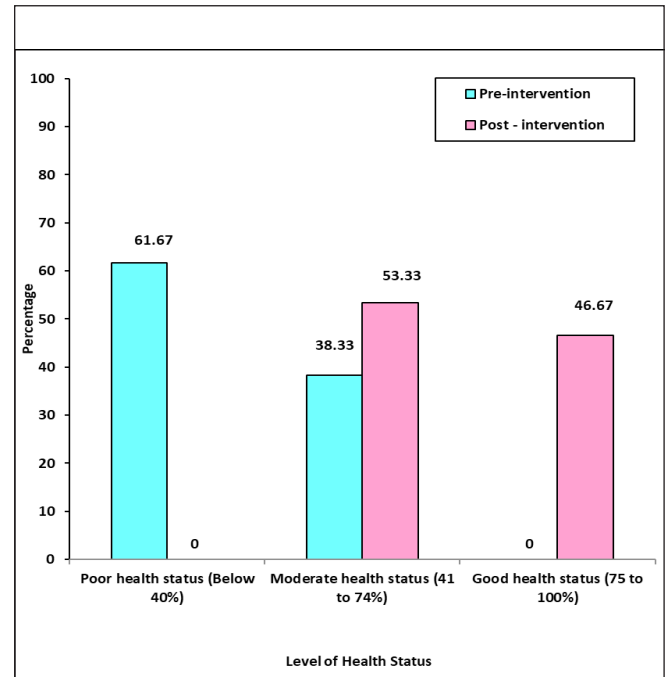


Figure 3.Percentage Distribution of Pre- and Post-Interventional Level of Health Status among Alcohol Dependents (N = 60)

Table 2.Comparison of Pre-Intervention and Post-Intervention Levels of Anger and Health Status among Alcohol Dependents

N = 60

Variable	Test	Anger		Mean Difference	Sig.
		Mean	SD		
Anger	Pre-intervention	35.87	12.67	20.64	t = 19.229 p = 0.0001, S***
	Post-intervention	15.23	7.18		
Health status	Pre-intervention	10.87	2.42	7.20	t = 56.445 p = 0.0001, S***
	Post-intervention	18.07	2.43		

***p < 0.001, S: Significant

Table 3.Association of Pre-Test Level of Anger among Alcohol Dependents with Their Selected Demographic Variables and Clinical Variables

N = 60

Variables		Minimal Anger		Mild Anger		Moderate Anger		Sig.
		n	%	n	%	n	%	
Social variable								
Self or someone been hurt because of anger related to drinking alcohol?	Yes	25	41.7	11	18.3	10	16.7	c ² = 8.039 p = 0.018 S*
	No	3	5.0	9	15.0	2	3.3	

Clinical variable								
How often do you have headaches?	Sometimes	17	28.3	13	21.7	2	3.3	c ² = 8.189 p = 0.017 S*
	Never	11	18.3	7	11.7	10	16.7	
How often do you have abdominal pain, nausea, and burning sensation in the stomach?	Always	-	-	-	-	-	-	c ² = 11.365 p = 0.003 SS**
	Sometimes	17	28.3	13	21.7	1	1.7	
	Never	11	18.3	7	11.7	11	18.3	

**p < 0.05, S: Significant, *p < 0.01, SS: Strongly significant

Table 4. Level of Skill of Anger Management Technique among Alcoholic Dependents

N = 60

Skill	n	%
Moderate skill (41–74%)	6	10.0
Good skill (≥ 75%)	54	90.0

Discussion

- **Pre-Intervention Anger Levels:** Prior to the intervention, the study observed that 32 individuals (53.3%) reported severe anger, 19 individuals (31.7%) exhibited 1.67% reported poor health status, while 23 individuals (38.33%) had moderate health status. None of the participants reported good health status. This aligns with previous studies that found lower quality of life scores and higher levels of trait rage expression among alcohol users.^{19,20}
- **Effectiveness of Intervention on Anger Levels:** Following the intervention, there was a significant reduction in anger levels. The post-intervention mean score for anger decreased to 15.23 ± 7.18, with a mean difference score of 20.64 and a mean difference percentage of 32.80%. The paired t test value of t = 19.229 was highly significant at p < 0.001, indicating the effectiveness of the intervention in reducing anger levels. This is consistent with previous research that found anger management interventions to be effective in controlling negative emotions and impulsivity among alcohol dependents.²¹
- **Improvement in Health Status:** The study also observed a significant improvement in health status post-intervention. The pre-test mean score for health status was 10.87 ± 2.42, which increased to 17.98 ± 2.47 in the post-test. The mean difference score was 7.20, with a mean difference percentage of 30%. The paired t test value of t = 56.445 was highly significant at p < 0.001, indicating the effectiveness of the intervention in improving health status. This finding is consistent with previous research that reported a positive association between anger management interventions and improved health outcomes.²²

- **Association between Anger and Demographic Variables:** The demographic variable “whether self or anyone has been injured because of their anger related alcohol drinking” was found to be statistically significant ($\chi^2 = 8.039$, p = 0.018) with the pre-test level of anger among alcohol dependents at p < 0.05 level. This is in line with previous research that highlighted the association between problematic alcohol use and psychological disturbances. Similar studies have also reported a strong association between alcohol intake and physical aggressiveness.²³

Clinical Variables and Pre-Intervention Anger Levels

- **Headache Frequency:** The analysis revealed a statistically significant association between the frequency of headaches and the pre-intervention level of anger among alcohol dependents ($\chi^2 = 8.189$, p = 0.017) at the p < 0.05 level. This suggests that individuals experiencing frequent headaches may exhibit higher levels of anger prior to intervention.
- **Abdominal Pain, Nausea, and Burning Sensation:** Similarly, the frequency of experiencing abdominal pain, nausea, and burning sensation was found to be significantly associated with pre-intervention anger levels among alcohol dependents ($\chi^2 = 11.365$, p = 0.003) at the p < 0.01 level. This indicates that individuals experiencing these symptoms may also experience higher levels of anger before intervention.

The study findings align with previous research, indicating that patients with Alcohol Dependence Syndrome often present with comorbid conditions such as diabetes mellitus, hypertension, and other chronic health issues. Additionally, these individuals may face challenges in their interpersonal relationships with both neighbours and family members, exacerbating their alcoholism-related problems.^{5,24,25}

Limitations

The study had several limitations. Firstly, the sample size was relatively small and limited to a single de-addiction centre, which may affect the generalisability of the findings. Secondly, the study relied on self-reported measures for assessing anger levels and health status,

which could introduce bias due to social desirability or recall inaccuracies. Additionally, the short duration of the intervention might not capture long-term effects on anger management. Future research should consider larger sample sizes, multiple centres, and longitudinal designs to validate these findings and explore sustained impacts.

Conclusion

The findings of this study affirm that the implementation of an anger management intervention resulted in a notable reduction in anger levels among individuals with alcohol dependence. Significant disparities were observed between pre-test and post-test assessments, indicating the efficacy of the intervention in mitigating anger among alcohol dependents. Moreover, the study underscores the effectiveness of conducting anger management programmes in group settings, providing alcohol dependents with opportunities to acquire and practice effective anger management techniques. Consequently, it is recommended that mental health professionals at alcohol de-addiction centres prioritise the organisation of regular anger management programmes alongside conventional de-addiction treatments. This proactive approach aims to not only prevent relapse and maintain sobriety but also to foster psychological well-being among individuals struggling with alcohol dependence.

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Conflict of Interest: None

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