



## Psychosocial interventions for the management of alcohol dependence and their quality of life

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**Abstract:** In the present study an attempt has been made To see the effectiveness of the psychological intervention for the management of alcohol dependents and their quality of life .This pre-test and post- test study include 42 participants(alcohol dependents) age range 25-35 were screened on Alcohol Use Disorder Identification Test and their quality of life were assessed on WHOQOL-BREF. After that 21 each in the experimental and control group were selected randomly and statistical analysis ancova was applied. Finding indicated the significant improvement on the alcohol dependence usage of the participants and quality of life of the experimental group than the control group after the intervention.

**Keywords:** Psychological intervention; Alcohol Dependents; Quality of life;

### 1. Introduction

Alcoholism is one of the major health and social problems all over the world and those close to the alcohol dependent are deeply affected by it. It is also associated with a sizeable percentage of deaths caused by accidents, murders, suicides, loss of productivity, damage to property and the emotional abuse of women and children Furthermore, it causes widespread absenteeism, inefficiency, and accidents in the workplace. These, in turn, do a cascade effect on healthy socio-economic growth of families, communities, and nation. Countries which had low alcohol consumption levels are now witnessing an increasing consumption pattern.

WHO [24] reported a comprehensive picture of alcohol consumption and the disease burden attributable to alcohol worldwide. According to the report 44.8% of total recorded alcohol is consumed in the form of spirits. The second most consumed type of beverage is beer 34.3% followed by wine at 11.7%. Presently there are 2.3 billion current drinkers worldwide. The rates of current drinking are highest among 15– 19-year-olds in Europe (44%), followed by the Americas 38% and the Western Pacific 38%. In addition, School surveys indicate that, in many countries, alcohol use starts before the age of 15 with hardly the difference between boys and girls. Moreover, the harmful use of alcohol is one of the leading risk factors for population health and has a direct impact on many health-related issues such as maternal and child health, HIV, viral hepatitis, tuberculosis, non-communicable diseases and mental health worldwide.

AIIMS [1] conducted A national survey on the extent of drug abuse in India revealed that 14.6 per cent (16 crore) Indians aged 10 to 75 years are 'current users' (have had it at least once in the past 12 months) of alcohol. One in five of these consumers is an addict and requires urgent treatment. The national prevalence of current use of alcohol is the highest for all drug categories at 14.6 per cent with 17 men consuming alcohol for every one woman. States with the highest prevalence of alcohol use are Chhattisgarh, Tripura, Punjab, Arunachal Pradesh and Goa.

Frequent heavy drinking or episodic heavy drinking were not only associated with risks and its hazardous issues however it also has a direct impact on the Quality of Life of the individual, family, society and nation at large. Alcohol dependents had significantly lower the levels of Quality of Life compared with the general population or with other chronic health conditions George et al., [8]. Quality of life has become a dominant theme in planning and evaluating services for people with alcohol dependence. It is recognized increasingly as an important component in the evaluation of alcohol treatment processes. Alcohol misuse is a major cause of morbidity and mortality and an important health care burden but the Quality of Life of alcohol misusing subjects has been little studied to date and have shown that the quality of life have been found improved significantly when subjects do not relapse to heavy drinking, and Quality of Life deteriorates significantly on prolonged relapse Foster, [7]. The abuse of Alcohol has never been before in the history of humankind such a threat to the quality of life as it is today.

Psychologically-based interventions aimed at reducing consumption behaviour or alcohol-related problems, which exclude any pharmacological treatments. This term refers to a heterogeneous collection of interventions, which vary depending on their theoretical underpinnings i.e. psychodynamic, behavioural and motivational with duration or intensity in terms of brief and extended besides setting in primary care based and inpatient having mode of delivery such as group, or individual and web-based with treatment goals i.e. abstinence-oriented and harm reduction Kaner, [9]. This form of Psychological intervention is theoretically appealing because alcohol user often is non-treatment-seeking and need to be motivated to engage in treatment. Bandura [5] explained that the cognitive-behavioural approach implies that excessive alcohol use is a maladaptive way of coping with problems. Inability to cope with life stresses in general and alcohol

cues, in particular, are thought to maintain excessive drinking and lead to a resumption of drinking following unsuccessful cessation attempts.

## 2 OBJECTIVES

1. To study the difference between the experimental group and control group of Alcohol Dependents on their post test scores after the intervention on their Alcohol Use Disorder Identification Test.
2. To study the difference between the experimental group and control group on the the Physical Health domain of quality of life of the participants (alcohol dependents) after the intervention

### 2.1 Hypotheses

1. There would be a significant difference between the alcohol dependents of experimental group and control group on their post test scores of Alcohol Use Disorder Identification Test after the intervention.
2. There would be a significant difference between the experimental group and control group on the post test scores on the Physical Health domain of quality of life of the participants (alcohol dependents) after the intervention

## 3. Research Method

The present investigation was designed to study the effectiveness of psychological intervention on alcohol dependents and their quality of life. The following methodology was used to test the hypotheses formulated in the preceding chapter.

### 3.1 Design of the Study

In the present study, Pre-Test and Post-Test Treatment design was used to study the effectiveness of Psychological Intervention on alcohol dependents and their quality of life .(See Table 1 and 2).

Table 1.  
Designs to study see the Effect of Psychological intervention on alcohol dependents

	Pre- Test	Post Test
Experimental Group	21	21
Control Group	21	21

Table 2  
.Designs to study see the Effect of Psychological intervention on their Quality of life of the participants

	Pre- Test	Post Test
Experimental Group	21	21
Control Group	21	21

### 3.2 Participants

The present study involves the 42 alcohol dependents in total,21 each in the experimental and control group. Initially, “Alcohol Use Disorder Identification Test” was applied on the alcohol dependents that came for the treatment in de addiction clinic/centre of Govt. Hospitals. Finally, 42 participants who gave their consent to participate in the study having age range of 25-35 years were selected for the study. After that 21 each in the experimental and control group were selected randomly.

**Variables of the Study:**The present study involves the following variables:

#### Independent Variables

- Psychological Intervention

#### Dependent Variables

- Treatment outcomes of Alcohol Dependents.
- Overall quality of life in terms of its four domains i.e., physical health, psychological, social relationship and environment.









### 3.3 Tools of the study

In the present study, the following standardized tools were administered.

#### 3.3.1 Alcohol Use Disorder Identification Test, AUDIT Babor, et al., [3]

The Alcohol Use Disorders Identification Test (AUDIT) was developed with the aim to identify hazardous and harmful use of alcohol use in primary health care. This is a five point Likert's Scale having 10 items in total comprising three domains of alcohol usage i.e., Hazardous use, Harmful use and Dependence symptoms ranges from 0 to 40 scores.

**Scoring:** Alcohol use disorders identification test is a 10-item scale. It is a 5-point Likert scale ranging from 0 to 4 with a cumulative range of 0 to 40. The higher score on the test indicate higher level of risk. The pattern of scoring for the items are as:

- For item number 1 to be taken as:
  - 0  Never
  - 1  Monthly or less
  - 2  2-4 times a month
  - 3  2-3 times a week
  - 4  4 or more times a week and
- For item number 2 it is to be taken as:
  - 0  1 or 2
  - 1  3 or 4
  - 2  5 or 6

- 3 → 7 to 9
- 4 → 10 or more drinks in a typical day. High score on the scale indicates high level of alcohol usage and
- For the item nos.3-8 of the scale are scored is to be taken as:
- 0 → Never
- 1 → Less than monthly
- 2 → Monthly
- 3 → Weekly
- 4 → Daily or almost daily
- Whereas the pattern for the item no 9 - 10 to be taken as:
- 0 → None
- 2 → Yes, but not in the last year
- 4 → Yes, during the last year,

### Reliability and Validity

The Alcohol Use Disorders Identification Test studies have reported to possess adequate internal consistency Fleming, et al., [6]. A test-retest reliability study indicated high reliability ( $r=.86$ ) in a sample consisting of cocaine abusers, and alcoholics Sinclair et al.,[21].According to Allen, et al., [2] the scale has been found to have good internal reliability across these populations, with Cronbach alphas ranging from .80 to .94. A validation study performed by Pal et al., [16] in India compared the AUDIT with the Short Michigan Alcoholism Screening Test (SMAST) and reported a very high internal consistency of AUDIT (Cronbach's  $\alpha = 0.92$ ).

### 3.3.2 The World Health Organization Quality of Life-BREF [25]

The scale 'BREF, 1998' developed by WHO, was used in the present study to measure the quality of life of alcohol dependents along with their wives. The WHOQOL-BREF, contains total 26 items, includes two items on overall QOL and general health (Not used in the present study), while the remaining 24 items comprising four domains i.e., physical health. Psychological, social relationship and environment were taken in the present study.

**Physical Health** (Domain I), comprising 7 items, measure the quality of life Physical health such as Activities of daily living, Dependence on medicinal substances and medical aids, Energy and fatigue, Mobility, Pain and discomfort, Sleep and rest, Work Capacity.

**Psychological** (Domain II), comprising 6 items, measure the quality of life Psychological such as Bodily image and appearance, Negative feelings, Positive feelings, Self-esteem, Spirituality, Religion, Personal beliefs, Thinking, learning, memory and concentration.

**Social Relationships** (Domain III), comprising 3 items, measure the quality of life social relationship such as Personal relationships, Social support, Sexual activity.

**Environment** (Domain IV), comprising 8 items, measure the quality of life environment such as Financial resources, Freedom, physical safety and security, Health and social care: accessibility and quality, Home environment, Opportunities for acquiring new information and skills, Participation in and opportunities for recreation, leisure activities, Physical environment (pollution/noise/traffic/climate), Transport.

**Scoring:** Respondent gave their responses on a five point Likert scaleranging from 1 to 5 i.e., 1 stands for very poor/dissatisfied/not at all/ Never, 2 for poor/dissatisfied/a little/ Seldom, 3 for Neither poor nor good / Neither satisfied nor dissatisfied/Moderately/Quite Often, 4 for good/ satisfied/ very much (Often)/Mostly and 5 for very good/ satisfied/ extremely/ always. The item number 3, 4 and 26 are scored reversely. The Higher score indicates a higher quality of life along with its domains.

### Reliability and Validity

The internal consistency between the four domains of the WHOQOL-BREF was found to be excellent (Cronbach's  $\alpha=0.89$ ) among opium and alcoholic dependent subjects. The inter-domain correlations were found to be positive and significant between all pairs of the four domains using two tailed test at  $P < 0.01$  (Pearson coefficient varied between + 0.62 to + 0.71 between the domain pairs). WHOQOL-BREF is a 26-item shorter version of the WHOQOL-100 which correlates at 0.9 with the WHOQOL-100 with good discriminant validity, content validity and test-retest reliability WHO, [21].

### 3.4 Procedure

At the outset, the rapport was established with the Participants of the study and they were briefed about the study tools and nature of the information it would yield. They were also briefed about anonymity and confidentiality of the whole process of the psychological intervention programme. After the proper agreement understanding with the patients, "Alcohol Use Disorder Identification Test" was applied on the alcohol dependents who came for the treatment in the addiction clinic/centre of Govt. Hospitals. Finally, 42 participants who gave their consent to participate in the study having age range of 25-35 years were selected for the study. After that 21 each in the experimental and control group were selected randomly. Further, in the experimental and control group of these participants were administered WHOQOL -BRIEF before and after the intervention.

**In the Second phase of the study,** Psychological Intervention Programme Module was developed following the lines of Group Treatment For Substance Use Velasquez et al. [12] and Treatment Approaches for Alcohol and Drug Dependence Tracey, et al.[23] for the alcohol dependents based on their observation on alcohol Use Disorder Identification test. Then the psychological intervention programme was conducted for the experimental group in regular three times in a month for 45 minutes. Throughout six months for alcohol dependents. The subject of the control group was only interacted simultaneously without giving any Psychological intervention programme.

After the six months of the Intervention, all the subject i.e., 21 alcohol dependents of the experimental group and 21 alcohol dependents of the control group were reassessed on "Alcohol Use Disorder Identification Test" and WHOQOL -BRIEF scale to see the outcome of Psychological intervention Programme and the data was recorded for analysis.

### 4. Results and Analysis

The present study was designed to see the Effectiveness of Psychological Intervention on the Quality of Life of the Alcohol Dependents under study. The Pre-test and Post test design was used and the pre test was conducted on the participants (alcohol dependents) to assess the level of their alcohol dependency and quality of life of the participants (alcohol dependents). After that six month programme of psychological Intervention was organised with the Participants in the experimental group besides, the control group was interacted simultaneously but no special intervention was given to them. Further, the post test was conducted to assess the treatment outcomes and quality of life of the participants and the observation were analysed as below:

In order to see the treatment outcomes of the study analysis of covariance was applied on the pre test scores and post test scores of both the groups. To analyse the observation with Analysis of Covariance Certain assumptions need to be satisfied first, to apply the analysis of Covariance to the data observed. Firstly, to test the control on the independent variable i.e. whether there exist any difference between the participants of experimental group and control group on their pre test scores analyses was applied and the result was tabulated in Table 3.

The F value ( $F = .024$ ) came out to be non-significant at .05 level of significance indicating no significant difference between experimental and control group on their pre test scores i.e., the independent variables and covariate are not different across the group and satisfied the assumption to apply Analysis of covariance.

Table 3.

The F Value Table Showing the Difference between the Experimental and Control Group on their PreTest Scores.

Source	Sum of Squares	df	Mean square	F value
Groups(Pre test scores)	.595	1	.595	.024
Error	1009.810	40	25.25	
Total	13943.000	42		

Secondly to test the assumption of homogeneity of regression, the result of the analysis showed the F value ( $F = .099$ ) non-significant at .05 level of significance (See Table 4) indicating no difference between the subject's effects on group time pretest and thus satisfied the assumption of homogeneity of regression to qualify to apply Analysis of covariance to test the significant difference between experimental group and control group on the dependent variable i.e., Post test scores of the participants with the covariate independent variable i.e., pre test

Table 4.

The F Value Table Showing the Difference between the Experimental and Control group to test the Homogeneity of Regression

Source	Sum of Squares	df	Means square	F value
Groups*(Pre test scores)	.031	1	.031	.099
Error	11.896	38	.313	
Total	8342.000	42		

Further, to see the difference between the experimental group and control group on the post test score of the participants on their treatment outcomes ,the F value came out ( $F = 188.89^{**}$   $p < .01$ ) to be significant at 0.01 level of significance (See table 1.5). The mean values of the post test score of the experimental group turn out to be 10.52 whereas for the control group, it is 16.71(See table 6) revealing the significant difference between the experimental and control group on their treatment outcomes i.e., the participants of experimental group showed significant improvement on their alcohol dependency than the control group.

Table 5.

The F Value Table Showing the Difference between Experimental and Control Group on the Participants Scores in the Post Test

Table  
Mean  
table of

Source	Sum of Square	df	Means Square	F value
Groups (Post test scores)	373.590	1	37.59	188.89**
Error	77.134	39	1.98	
Total	9162.000	42		

6.  
Value  
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Participants of the Experimental and Control Group on their Alcohol Dependency after the Intervention in their Post test Scores

Variable	Mean Values (Post Test)	
	Experimental Group	Control Group
Alcohol Dependency	10.52	16.71

In order to apply analysis of covariance on the pre test scores and post test scores of the Physical health domain of Quality of Life of the Participants, besides satisfying the basic assumption of applying Analysis of covariance.

To satisfy the assumption of the "control" on the independent variable i.e., pre test scores on the Physical health domain of Quality of Life of the Participants, Analysis of covariance was applied to see the difference between pre test scores in the experimental group and control group(See Table 7)

Table 7

The F Value Table Showing the Difference between the Scores of Physical Health Domain of the Participants in Experimental and Control group in the Pre Test

Source	Sum of Squares	df	Mean square	F value
Groups(Pre test scores)	5.138	1	5.138	1.169
Error	175.786	40	4.395	
Total	5422.335	42		

The result showed the F value( $F = 1.169$ )non-significant at .05 level of significance indicating no significant difference between experimental and control group on their pre test scores i.e., the independent variableand covariate that is outcome are not different across the group and satisfied the assumption to apply Analysis of covariance.

To test the assumption of homogeneity of regression, the result in the Table 8 showed theF Value( $F = .908$ ), which is not significant at .05 level of significance indicating no difference between the subject's effects on group time pretest and satisfied the assumption of homogeneity of regression to qualify for analysisof Covariance to applyon the dependent variable i.e., post test scores of the

Physical Health Domain of The Participants with covariate independent variable i.e., pretest scores on the Physical Health Domain of the Participants.

**Table 8**

The F Value Table Showing the Scores of Physical Health Domain of Participants in Experimental and Control group to test the Homogeneity of Regression

Source	Sum of Squares	df	Mean square	F value
Groups* (Pre test scores)	2.553	1	2.553	.908
<b>Error</b>	106.843	38	2.812	
Total	6888.434	42		

The F value came out to be ( $F = 119.44^{**}$ ,  $p < .01$ ) significant at 0.01 level of significance showing significant difference between the groups on their post test scores (See Table 9) and the mean values of the post test score of the experimental group (15.01) and control group (9.71) revealing the significant improvement on the Physical Health Domain of the Participants in the experimental group than the control group.

**Table 9**

The F Value Table Showing the Difference between Experimental and Control Group on the Physical Health Domain of Participants in the Post Test

Source	Sum of Squares	df	Mean square	F value
Groups (Post test scores)	335.046	1	335.046	119.44**
<b>Error</b>	109.396	39	2.805	
Total	6888.434	42		

**Table 10**

Mean value score of the groups on the Physical Health Domain of QOL after the Intervention

Variable	Mean Values (Post Test)	
	Experimental Group	Control Group
Physical Health	15.01	9.71

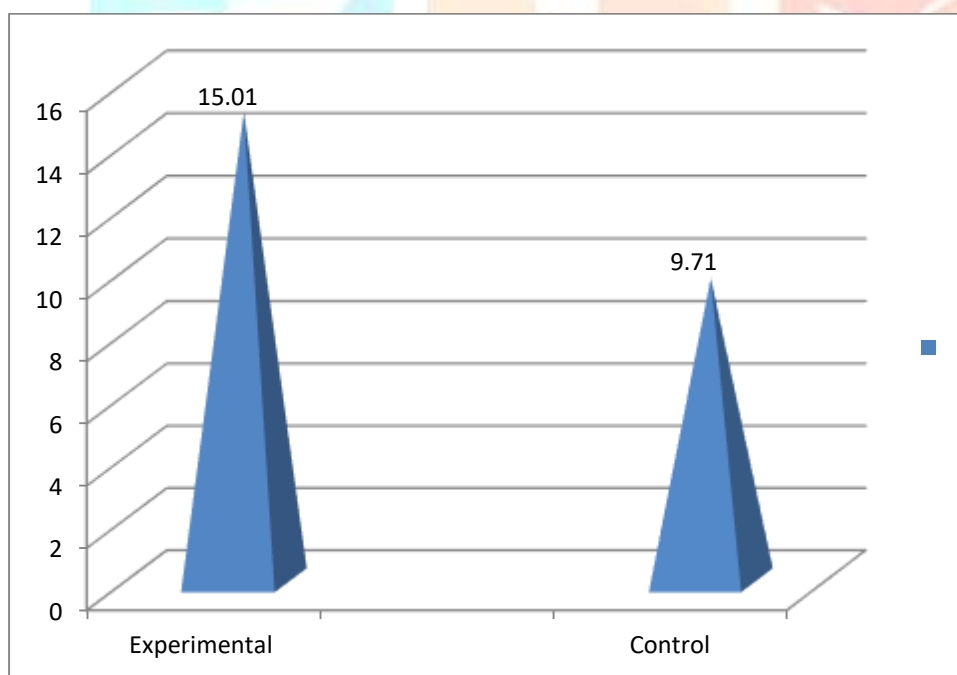


Fig. 1: The difference between the groups on the Physical Health Domain of QOL after the Intervention

## 5. DISCUSSION

In order to see the effectiveness of Psychological Intervention Programme on the Participants of the study, Analysis of Covariance (ANCOVA) was applied on the pretest and posttest scores of the experimental group and control group. The F value came out ( $188.89^{**}$ ) significant at 0.01 level of significance showing significant difference between the groups on their post test scores (See Table 5). Further, the mean value scores (See Table 6) on the post-test score of the participants of the experimental group (10.52) were lower than the participants of control group (16.71). Thus, indicated the significant improvement on the alcohol dependence usage of the participants of experimental group than the control group after the intervention. Hence, the **Hypothesis No.1 is accepted and stand confirmed i.e., "There would be a significant difference between the experimental group and control group of Alcohol Dependents on their post-test scores after the intervention on Alcohol Use Disorder Identification Test"**.

The result of the present study does find support in the light of earlier work done in the field of alcohol abuse. Amy O'Donnell et al., [3] studied Twenty-four systematic reviews of studied the impact of psychological intervention on alcohol dependents Across the included studies, it was consistently reported that Psychological intervention was effective for addressing alcohol drinking problem and significant reduction in alcohol usage after the psychological intervention Further, motivational interviewing focused to enhance the patient's intrinsic motivation so as to change their substance use by exploring and resolving ambivalence toward behavior change Miller et al., [14]. Riper[19 ] conducted ameta-analysis that revealed Cognitive behavioral therapy and motivational interviewing proved effective for treating subclinical and clinical alcohol usecompared with controls.McQueen et al., [13]Brief interventions are often motivational in nature involve a time-limited intervention focused on changing behaviour using counseling skills so as to encourage a reduction in alcohol consumption. They also included fourteen studies involving 4041 male participants and demonstrated that patients receiving brief interventions have a greater reduction in alcohol consumption compared to those in control groups at six months.

In order to observe the effectiveness of Psychological Intervention Programme on Physical Health Domain of quality of life of the Alcohol Dependents the result of the Analysis of covariance (ANCOVA) applied on the data of the experimental and control group showed The F value in terms of the Physical Health domain of the Quality of life of the participants is concerned it came out significant (  $F = 119.45^{**}$   $p < .01$ ) at 0.01 level of significance showing significant difference between the groups on their post test scores (See Table 9). Therefore, showed the significant difference between the participants of the experimental and control group on their Physical health Domain of the quality of life. The mean scores of the post-test score of experimental group (  $M = 15.01$ ) is higher than the control group (  $M = 9.71$ ) indicating the significant improvement on the Physical Health of the Participants of the experimental group than the control group and substantiates the better physical health status of the experiment group than the control after the intervention (See the Table 10). Therefore, the result of the present study showed the significant improvement on the Physical Health of the Participants of the experimental group than their counterparts highlights the effectiveness of the psychological intervention and hence the hypothesis **No 2.1 i.e., "There would be a significant difference between the experimental group and control group of alcohol dependents on the post-test scores of their Physical Health domain of Quality of Life after the intervention,"** is stands confirmed and accepted.

The results of the study do find support from the earlier studies. Lahmek, et al., (2009) examined the prospective improvement in Quality of life after a residential treatment. Improvement in the physical component of Quality of Life was related to good somatic status. Foster, (2000) suggested that Quality of Life improved significantly in all the domains when the subjects were undergone for 3-month Psychological intervention programme. Johnson, (2008) evaluated the combinations of a medicine (Naltrexone) and combined behavioral intervention and acamprosate (Medicine) and combined behavioral intervention, the result showed that each predicted significant improvement in the physical health domain of the Quality of Life of the participants. Karow et al., (2010) conducted a longitudinal investigation of Health-Related Quality of Life in 938 alcoholics and opium dependents who were randomly assigned to four groups of medical and psychosocial treatment, Result showed under both forms of maintenance and psychosocial treatment of Health-Related Quality of Life improved significantly especially with regard to subjective physical health. Therefore, the result of the present study confirms the effectiveness of the Psychological intervention on the Physical Health Domain of quality of life of the Alcohol dependents after the intervention.

## 6. Conclusion

Consumption of alcohol was high before psychological intervention and Physical health domain of quality of life in the participants of experimental group and control group were low before the intervention. the study claim that there is significant reduction in consumption of alcohol usage and significant improvement in Physical health domain of quality of life in the participants of experimental group after the intervention than the control group.

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