

# The Effectiveness of Psychological Interventions (Cognitive Behavior Therapy Vs Light Therapy) for Depression among the Alcoholic Population at Psychiatric Unit, GMKMCH, Salem, Tamilnadu, India

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**Abstract:-** Alcoholic beverages are known entertained source since from Vedic period; which are commonly used for worship purposes, medicinal preparations, and widely consumed as a mind relaxants. Alcohol contents is a central nervous system depressant that reduces anxiety, fear inhibition and divert the feelings of guilt. Liqueur contents lowers mind alertness and impairs the perception, judgment, and muscle coordination. In high doses of alcohol consumption can cause addiction, loss of consciousness and even death. in India, the survey reports reveals the problems associated with intake of alcohol are spousal assaults in family 62%, day today spousal abuse 50%, road traffic accidental fatalities 45%, child abuse reports 38%, registered rape complaints 32%, murder case reports 49%, suicidal cases 20% in the percentages listed. The major FIR reports are much focused on the spousal abuse and assaults.

In this study focused the effectiveness of complimentary therapies refers to the significant reduction in depressive symptoms scores among alcoholic dependents after the administration of CBT Vs Light therapy as measured by the decreased post test score on the Modified Beck's Depression scale. The pilot study showed that combination of psychosocial treatments may help accelerate the treatment gains for Alcoholic patients with depression. Hence, the Cognitive behavior therapy Vs light therapy can be used as a complementary therapies for Alcoholic patients with depression.

## ➤ Objectives

To assess the level of depression among two experimental groups of Alcoholic patients before and after psychological intervention.

## ➤ Design

Quasi experimental design, where 2 experimental group pre-test post-test design.

## ➤ Settings

The pilot study was conducted at the Psychiatric department, Government Mohan Kumaramangalam Medical College and hospital, Salem. The Simple Random sampling technique was used to select the samples from the alcoholic patients admitted with the depressive symptoms in psychiatric unit for alcoholic addiction treatment. Only Male Patients those fulfilling the inclusion criteria and admitted as inpatient in Psychiatric department, GMKMCH. The pre and Post-test was assessed based on modified Beck's depression II scale over time interval of 30 days.

## ➤ Result

The study showed the result as reducing the level of depressive symptoms among 10 alcoholic clients in two experimental group after administration of Cognitive behavior therapy (CBT) Vs Light therapy (LT) 60% are having mild level depression score, 40% of them having borderline clinical depression score, none of them are having moderate level of depression score, no severe depression score and none of them are having extreme depression score with mean and standard deviation as  $13.4 \pm 18.8$ . While comparing to the table value, it showed that the calculated 't' value was greater than the table value at 0.001 level of significance. It shows CBT Vs LT is effective in reduction of depression among alcoholic patients.

## ➤ Conclusions

The pilot study findings suggest that differences between CBT and LT following 6 weeks of treatment are quite small and that powering studies to detect these

**differences would not represent cost-effective use of resources to the alcoholic depressive patients.**

**Keywords:-** Alcoholic Depression, Psychological Interventions, CBT, Light Therapy and Depression Scale.

## I. INTRODUCTION

Alcoholic contents are the central nervous system depressants that used to reduce anxiety, fear inhibition and decrease the feelings of guilt. It lowers alertness and impairs perception, judgment and reduce the muscles coordination. In high doses of alcohol consumption can cause loss of consciousness and fatal.

Excessive consumption of alcohol can lead to alcohol use disorders (AUD). Alcohol disorder is defined as an addiction problem and it can cover a large spectrum of people with alcohol issues.

Alcoholism is the most severe form of alcohol abuse and involves the inability to manage basic functions in their daily life. It is organized into three categories: mild, moderate and severe. Each category has various symptoms and can lead to harmful side effects. It is a disease that produces both physical and psychological addiction.

Alcohol dependence is a gradual process which can take from a few years to several decades to become a problem. The vulnerable people prone to addiction can develop in a number of months. Eventually over time and regular alcohol consumption can disrupt the balance of the brain chemical GABA (gamma-amino butyric acid), which controls impulsiveness, as well as glutamate, which stimulates the nervous system. When consumes alcohol the dopamine level has raised, it may make the drinking experience more gratifying. Over the long or medium-term, excessive drinking can significantly alter the levels of these brain chemicals, making the person's body crave alcohol in order to feel good and avoid feeling bad. Alcohol use increases both the duration and the severity of depressive episodes. It also increases the likelihood, frequency, feeling of worthlessness and severity of suicidal thoughts. It can also cause other stressors in life such as career and family problems that worsen depression and mood swings. The depressed person then turns to consume more and more alcohol to make themselves feel better, a vicious cycle has started that can be extremely difficult to break out of. According to the world health organization the average Indian consumes alcohol per day 1-2 liters, the average rural Indian consumes alcohol per day 1.4 liters, 30% of Indian population consumes alcohol regularly and 11 % of Indian are moderate to heavy drinkers, in that 3.3 million deaths occur in India were attributed to alcohol consumption.

### ➤ Statement of the Problem

The Effectiveness of Psychological Interventions (Cognitive Behavior therapy Vs Light therapy) for Depression among the Alcoholic depressive patients at Psychiatric unit, GMKMCH, Salem, Tamilnadu, India

### ➤ Objectives of the Study

- To assess the level of depression among two experimental group of alcoholic depressive patients before and after psychological interventions.
- To evaluate and compare the effectiveness of Psychological interventions (cognitive behavior therapy Vs light therapy) for alcoholic depression among two experimental group alcoholic depressive patients.
- To find out the association in posttest level of alcoholic depression scores among two experimental groups of alcoholic depressive patients with their selected demographic variable

## II. MATERIALS AND METHODS

A pilot study was conducted at Psychiatric department, GMKMCH, Salem on small number of patients among two experimental groups of alcoholic depressive patients (N=20), who were randomized to receive either the usual medical treatment with Cognitive behavior therapy Vs Light therapy. The groups were assessed before treatment and one month after treatment. Alcohol consumptions are reduced more for the alcoholic depression group. However, the findings were statistically significant and were limited by small sample size.

- **Research approach** : The quantitative approach.
- **Research design** : Factorial design.
- **Setting** : Psychiatric Department, Govt. Mohan Kumaramangalam Medical College and Hospital, Salem.
- **Population** : Alcoholic Patients with Depressive Symptoms
- **Sample** : Alcoholic depressive patients
- **Sample size** : 20
- **Cognitive Behavior Therapy** : 10
- **Light Therapy** : 10
- **Intervention** : Cognitive behavior therapy Vs Light therapy
- **Sampling Technique** : Simple random sampling techniques

### ➤ Development of the Tool

There are two sections tool were used.

Section A: Demographic variables and clinical variables

Section B: Modified Beck's depression Inventory – II will be used to assess the depression level of alcoholic patients.

Section A: It consists of demographic characteristics, Age, Gender, Domicile, Education, Marital status, Type of family, Number of family, members and Occupation, Duration of stay in ward, Duration of alcohol intake, Reason for alcoholism, Amount of alcohol consume, Frequency of intake, clinical variables like Duration of stay in ward, Duration of alcohol intake, Reason for alcoholism, Amount of alcohol consume Frequency of intake.

SECTION B: The modified Beck's Depression Inventory created by Aaron T. Beck is contains 21 question.

Table 1 Level of depression

| S. No | Level of depression            | Score |
|-------|--------------------------------|-------|
| 1     | Normal                         | 1-10  |
| 2     | Mild mood disturbance          | 11-16 |
| 3     | Borderline clinical depression | 17-20 |
| 4     | Moderate depression            | 21-30 |
| 5     | Severe depression              | 31-40 |
| 6     | Extreme depression             | > 40  |

Modified Beck's depression Inventory - II was used to assess the depression level among the alcohol dependents.

Content validity of the tool was obtained from experts in the field of Psychiatric nursing Educators, psychiatrist, psychologist and statistical expert.

Reliability of modified Beck's Depression Inventory scale – II used as tool to test the depressive symptoms for alcoholic depressive patients.

#### ➤ Ethical Consideration

- Written permission were obtained from Director of Medical Education and Principal of Govt. College of Nursing, GMKMC, Salem.

- Written permission were obtained from HOD-Psychiatric department, GMKMCH, Salem.
- Ethical permission obtained from Chairperson of Ethical committee, GMKMCH, Salem.
- Prior informed consent was obtained from the Alcoholic depressive patients and care giver.

#### ➤ Period of Data Collection

Data was collected from 01-05-2022 to 30-05-2022. The investigator collected the data from two experimental groups (Cognitive behavior therapy Vs Light therapy).

#### • Pre test

In this Pilot study the Pre and Post test was conducted by using modified Beck's depression Inventory - II tool used to assess the depression level among the alcoholic depressive patients.

#### • Posttest

Depressive symptoms assessed for two experimental groups of alcoholic depressive patients on 30 days interval based on modified Beck's depression Inventory – II after given the Cognitive behavior therapy Vs Light therapy.

### III. PILOT STUDY FINDINGS

Table 2: Percentage distribution of alcoholic patients in two experimental according to their demographic variables. (N<sub>1</sub> = 10, N<sub>2</sub> = 10)

| S. No | Demographic variables                   | Experimental group I |                | Experimental group II |                |
|-------|-----------------------------------------|----------------------|----------------|-----------------------|----------------|
|       |                                         | Frequency (N)        | Percentage (%) | Frequency (N)         | Percentage (%) |
| 1.    | <b>Age in Years</b>                     |                      |                |                       |                |
|       | a. 20 - 30 Yrs.                         | -                    | -              | -                     | -              |
|       | b. 31 - 40 Yrs                          | 2                    | 20             | 3                     | 30             |
|       | c. 41 – 50 Yrs.                         | 7                    | 70             | 7                     | 70             |
|       | d. Above 60 Yrs                         | 1                    | 10             | -                     | -              |
| 2.    | <b>Marital status</b>                   |                      |                |                       |                |
|       | a. Married                              | 8                    | 80             | 10                    | 100            |
|       | b. Separated                            | -                    | -              | -                     | -              |
|       | c. Unmarried                            | -                    | -              | -                     | -              |
|       | d. Widow                                | -                    | -              | -                     | -              |
|       | e. Divorce                              | 2                    | 20             | -                     | -              |
| 3.    | <b>Educational status</b>               |                      |                |                       |                |
|       | a. Non formal education                 | 2                    | 20             | 1                     | 10             |
|       | b. Primary Level                        | -                    | -              | -                     | -              |
|       | c. Secondary and Higher secondary level | 8                    | 80             | 9                     | 90             |
|       | d. Graduate and above                   | -                    | -              | -                     | -              |
| 4.    | <b>Domicile</b>                         |                      |                |                       |                |
|       | a. Rural                                | 2                    | 20             | 3                     | 30             |
|       | b. Urban                                | 8                    | 80             | 7                     | 70             |
|       | c. Semi urban                           | -                    | -              | -                     | -              |
| 5.    | <b>Type of family</b>                   |                      |                |                       |                |
|       | Nuclear family                          | 2                    | 20             | 4                     | 40             |
|       | Joint family                            | 6                    | 60             | 4                     | 40             |
|       | Extended family                         | 2                    | 20             | 2                     | 20             |

|            |                                    |           |            |           |            |
|------------|------------------------------------|-----------|------------|-----------|------------|
| <b>6.</b>  | <b>Number of family members</b>    |           |            |           |            |
|            | a. Less than 3                     | <b>2</b>  | <b>20</b>  | <b>2</b>  | <b>20</b>  |
|            | b. 3 – 5                           | -         | -          | <b>5</b>  | <b>50</b>  |
|            | c. More than 5                     | <b>8</b>  | <b>80</b>  | <b>3</b>  | <b>30</b>  |
| <b>7.</b>  | <b>Occupation</b>                  |           |            |           |            |
|            | a. Unemployed                      | -         | -          | -         | -          |
|            | b. Coolie                          | <b>7</b>  | <b>70</b>  | <b>6</b>  | <b>60</b>  |
|            | c. Unskilled worker                | <b>3</b>  | <b>30</b>  | <b>4</b>  | <b>40</b>  |
|            | d. Professionals                   | -         | -          | -         | -          |
|            | e. Business                        | -         | -          | -         | -          |
|            | f. Government job                  | -         | -          | -         | -          |
| <b>8.</b>  | <b>Monthly Income</b>              |           |            |           |            |
|            | a. Rs 5000 - 10000                 | -         | -          | -         | -          |
|            | b. Rs 10001 – 20000                | <b>10</b> | <b>100</b> | <b>10</b> | <b>100</b> |
|            | c. Rs 20001 – 30000                | -         | -          | -         | -          |
|            | d. Above 30001                     | -         | -          | -         | -          |
| <b>9.</b>  | <b>Religion</b>                    |           |            |           |            |
|            | a. Hindu                           | <b>6</b>  | <b>60</b>  | <b>5</b>  | <b>50</b>  |
|            | b. Muslim                          | <b>2</b>  | <b>20</b>  | <b>3</b>  | <b>30</b>  |
|            | c. Christian                       | <b>2</b>  | <b>20</b>  | <b>2</b>  | <b>20</b>  |
|            | d. Others                          | -         | -          | -         | -          |
| <b>10.</b> | <b>Relationship of the patient</b> |           |            |           |            |
|            | a. Wife                            | <b>4</b>  | <b>40</b>  | <b>2</b>  | <b>20</b>  |
|            | b. Father                          | -         | -          | <b>2</b>  | <b>20</b>  |
|            | c. Mother                          | <b>6</b>  | <b>60</b>  | <b>6</b>  | <b>60</b>  |
|            | d. Others (Specify)                | -         | -          | -         | -          |

The above table 2 depict that the demographic informations of two experimental group of alcohol depressive patients those who are participated for “Assess the effectiveness of Cognitive behavior therapy Vs Light therapy on depressive symptoms among alcoholic patients admitted at Psychiatric department GMKMCH, Salem”

Among the 10 alcoholic patients in two experimental group (20 - 30%) were in the age group of 30 – 40 years (30%) were in the age group of 40-50 years (70%) were in the age group more than 60 years (10%) were in the age group of more than 50 years.

Gender wise the homogenous subjects, all were the males (100%).

In case of marital status (80 - 100%) were married, 20% were divorced.

Regarding domicile of the alcoholic patients (70-80%) were from urban, (20-30%) and were from the rural.

The educational status revealed that (10 – 20 %) had non formal education and 80 - 90% are Secondary Education level.

The type of family which revealed that (20-40%) were Nuclear family, (40 – 60 %) were joint family and 20% were extended family.

Among the alcoholics (20%) have less than three members, (50%) have three members, (21.7%) have more than five members, (30%) have more than five members in their family.

According to the occupational status of the alcoholic patients who were Cooley (50 - 70%) , (20-30%) were skilled worker and no one in the state of unemployment.

Alcoholic client monthly income were earned Rs. 10,001-20,000, (10 - 100 %)

Regarding religion of the alcoholic clients, highest numbers of alcoholics were Hindu (50 - 60%), followed by Muslims accounting for (20-30%), Christians were (20%).

Among alcoholic patients who were visited frequently by their wife in the ward was (20-40), Father (20%) and mother (60%).

Table 3: Percentage distribution of alcoholic depressive patients in according to their clinical variables. ( $N_1 = 10$ ,  $N_2 = 10$ )

| S. No | Demographic variables                            | Experimental group I |                | Experimental group II |                |
|-------|--------------------------------------------------|----------------------|----------------|-----------------------|----------------|
|       |                                                  | Frequency (N)        | Percentage (%) | Frequency (N)         | Percentage (%) |
| 1     | <b>Duration of stay in the ward</b>              |                      |                |                       |                |
|       | e. 1 – 3 days                                    | -                    | -              | -                     | -              |
|       | f. 4 – 6 days                                    | -                    | -              | -                     | -              |
|       | g. 7 – 9 days                                    | -                    | -              | -                     | -              |
|       | h. More than 10 days                             | 10                   | 100            | 10                    | 100            |
| 2     | <b>General health status of the patient</b>      |                      |                |                       |                |
|       | a. Healthy                                       | -                    | -              | -                     | -              |
|       | b. Moderate healthy                              | 3                    | 30             | 2                     | 20             |
|       | c. Unhealthy                                     | 7                    | 70             | 8                     | 80             |
| 3     | <b>Duration of alcoholic intake ( years)</b>     |                      |                |                       |                |
|       | a. Less than 1 years                             |                      |                |                       |                |
|       | b. 2 – 3 years                                   | 4                    | 40             | 3                     | 30             |
|       | c. 4 – 5 years                                   | 2                    | 20             | 3                     | 30             |
|       | d. 6 – 7 years                                   | 4                    | 40             | 4                     | 40             |
|       | e. 8 – 9 years                                   | -                    | -              | -                     | -              |
|       | f. More than 10 years                            | -                    | -              | -                     | -              |
| 4     | <b>Reason for alcoholism</b>                     |                      |                |                       |                |
|       | a. Family problems                               | 5                    | 50             | 4                     | 40             |
|       | b. Get rid of worries                            | 2                    | 20             | 2                     | 20             |
|       | c. Recreational                                  | -                    | -              | -                     | -              |
|       | d. Accepted in culture                           | -                    | -              | -                     | -              |
|       | e. Occupational                                  | -                    | -              | -                     | -              |
|       | f. Peer pressure                                 | 3                    | 30             | 4                     | 40             |
| 5     | <b>Amount of consumption of alcohol per day</b>  |                      |                |                       |                |
|       | a. Less than 100 ml                              | -                    | -              | -                     | -              |
|       | b. 100 – 300 ml                                  | 4                    | 40             | 3                     | 30             |
|       | c. 301 – 500 ml                                  | 6                    | 60             | 7                     | 70             |
|       | d. 500 – 800 ml                                  |                      |                |                       |                |
|       | e. More than 800 ml                              |                      |                |                       |                |
| 6     | <b>Frequency of alcohol intake</b>               |                      |                |                       |                |
|       | a. Every day                                     | 5                    | 50             | 6                     | 60             |
|       | b. Alternate day                                 | 5                    | 50             | 4                     | 40             |
|       | c. Week end                                      |                      |                |                       |                |
|       | d. Only attending party                          |                      |                |                       |                |
|       | e. Others ( Specify)                             |                      |                |                       |                |
| 7     | <b>Have you undergone for disulfiram therapy</b> |                      |                |                       |                |
|       | a. Yes                                           |                      |                |                       |                |
|       | b. No                                            | 10                   | 100            | 10                    | 100            |
| 8     | <b>Have of history of withdrawal symptoms</b>    |                      |                |                       |                |
|       | a. Yes                                           | 7                    | 70             | 8                     | 80             |
|       | b. No                                            | 3                    | 30             | 2                     | 20             |
| 9     | <b>History of abstinence</b>                     |                      |                |                       |                |
|       | a. Nil                                           | 8                    | 80             | 7                     | 70             |
|       | b. 1 – 3 month                                   | 2                    | 20             | 3                     | 30             |

|           |                                                 |           |            |           |            |
|-----------|-------------------------------------------------|-----------|------------|-----------|------------|
|           | c. 4 – 6 month                                  |           |            |           |            |
|           | d. 6 – 9 month                                  |           |            |           |            |
|           | e. More than 9 month                            |           |            |           |            |
| <b>10</b> | <b>Motivational factor for taking treatment</b> |           |            |           |            |
|           | e. Brought by family members                    | <b>10</b> | <b>100</b> | <b>10</b> | <b>100</b> |
|           | f. Want to get rid of the problem               | -         | -          | -         | -          |
|           | g. Financial constraints to buy the alcohol     | -         | -          | -         | -          |
|           | h. Physical problem                             | -         | -          | -         | -          |

The above table shows the duration of stay in the ward was more than 10 days (100%)

- General health status of the patients were moderately healthy (20-30 %) and Unhealthy patient were (70-80%)
- Duration of alcoholic intake were less than 3 years (30-40%), more than 3 years (20-30%) and more than 5 years (40%).
- Reason for alcoholism was due to Family problems (40-50%), Get rid of worries (20%) and due to peer pressure (30-40%).
- Amount of consumption of alcohol per day less than 300ml per day (30-40%) and more than 300ml per day (60-70%).
- Frequency of alcohol intake was **every** day (50-60%) and alternate day were (40-50%)
- No patients was undergone disulfiram therapy (100%)
- History of withdrawal symptoms were (70-80%) and no history of withdrawal symptoms were (20-30%).
- No history of abstinence were (70-80%) and 1-3months were (20 – 30%).
- Motivational factor for taking treatment by family members (100%).

➤ *Assess the level of depression among two experimental group of alcoholic depressive patients before and after psychological intervention*

Table 4: Frequency and percentage distribution of pre- and post-test scores of level of depression among alcoholic depressive patients in experimental (N<sub>1</sub>= 10)

| Level of depression            | Pretest score |                | Post test score |                |
|--------------------------------|---------------|----------------|-----------------|----------------|
|                                | Frequency (N) | Percentage (%) | Frequency (N)   | Percentage (%) |
| Normal                         | -             | -              | -               | -              |
| Mild mood disturbance          | -             | -              | 6               | 60             |
| Borderline clinical depression | -             | -              | 4               | 40             |
| Moderate depression            | -             | -              | -               | -              |
| Severe depression              | 7             | 70             | -               | -              |
| Extreme depression             | 3             | 30             | -               | -              |

The table 4 shows pre- and post-test scores of level of depression among alcoholic population in experimental group I the level of depression – mild mood difference 60%, borderline clinical depression, the severe depression was 70% and the extreme level of depression was 30%

Table 5: Frequency and percentage distribution of pre and post test scores of depression among alcoholic depressive patients (N<sub>1</sub>= 10)

| Level of depression            | Pretest score |                | Post test score |                |
|--------------------------------|---------------|----------------|-----------------|----------------|
|                                | Frequency (N) | Percentage (%) | Frequency (N)   | Percentage (%) |
| Normal                         | -             | -              | -               | -              |
| Mild mood disturbance          | -             | -              | 8               | 80             |
| Borderline clinical depression | -             | -              | 2               | 20             |
| Moderate depression            | -             | -              | -               | -              |
| Severe depression              | 6             | 60             | -               | -              |
| Extreme depression             | 4             | 40             | -               | -              |

The above table shows pre- and post-test scores of level of depression among alcoholic population. The pretest score of the severe depression was 60% and the extreme level of depression was 40% in post test score the level of depression – mild mood difference 80% and the borderline clinical depression. Score was 20%.

Table 6: Comparison of Frequency and percentage distribution of post test scores of depression among alcoholic depressive patients (N<sub>1</sub>=10) (N<sub>2</sub> = 10)

| Level of depression            | Post test score             |                |                            |                |
|--------------------------------|-----------------------------|----------------|----------------------------|----------------|
|                                | Experimental group I        |                | Experimental group II      |                |
|                                | Frequency (N <sub>1</sub> ) | Percentage (%) | Frequency N <sub>2</sub> ) | Percentage (%) |
| Normal                         | -                           | -              | -                          | -              |
| Mild mood disturbance          | 6                           | 60             | 8                          | 80             |
| Borderline clinical depression | 4                           | 40             | 2                          | 20             |
| Moderate depression            | -                           | -              | -                          | -              |
| Severe depression              | -                           | -              | -                          | -              |
| Extreme depression             | -                           | -              | -                          | -              |

The above table shows the Comparison of Frequency and percentage distribution of post test scores of depression among alcoholic population in Mild mood disturbance for experimental group I was 60% and was 80%. Borderline clinical depression for experimental group I was 40% and group II was 20%.

➤ Estimate the effectiveness of psychological Intervention on depression among alcoholic depressive patients

Table 7 Area wise comparison of mean, SD, and mean percentage of pre and posttest depression among alcoholic depressive patients

| S. No | Areas                 | Max. scores | Pretest score |      |          | Post test score |      |          | Difference in Mean (%) | 't' Value |
|-------|-----------------------|-------------|---------------|------|----------|-----------------|------|----------|------------------------|-----------|
|       |                       |             | Mean          | SD   | Mean (%) | Mean            | SD   | Mean (%) |                        |           |
| 1.    | Experimental group I  | 63          | 57.5          | 2.24 | 91       | 34.6            | 1.84 | 55       | 36                     | 13.4*     |
| 2.    | Experimental group II |             | 58.5          | 2.08 | 93       | 28.4            | 1.42 | 45       | 48                     | 18.8*     |

The above table shows the effectiveness of psychological Intervention on depression among alcoholic population Area wise comparison of mean, SD, and mean percentage of pre and posttest depression among alcoholic depressive patients in experimental group I was 13.4\* and group II was 18.8\*. The P value was \*- P < 0.05 Significant.

Table 8 Association between post test scores of depression among among alcoholic depressive patients the association between experimental group I post test scores and demographic variables of the among alcoholic depressive patients

| Sl. No. | Variables                   | Df | χ <sup>2</sup>       |             | Level of Significant |
|---------|-----------------------------|----|----------------------|-------------|----------------------|
|         |                             |    | Experimental group I | Table value |                      |
| 1.      | Age (in year)               | 2  | 0.25                 | 5.86        | Not Significant      |
| 2.      | Marital status              | 1  | 0.36                 | 3.84        | Not Significant      |
| 3.      | Educational status          | 1  | 4.06                 | 3.84        | Significant*         |
| 4.      | Domicile                    | 2  | 1.87                 | 5.86        | Not Significant      |
| 5.      | Type of family              | 1  | 5.61                 | 3.84        | Significant*         |
| 6.      | Number of family members    | 2  | 0.96                 | 5.86        | Not Significant      |
| 7.      | Occupation                  | 2  | 1.82                 | 5.86        | Not Significant      |
| 8.      | Monthly income:             | 1  | 0.04                 | 3.84        | Not Significant      |
| 9.      | Religion                    | 1  | 0.32                 | 3.84        | Not Significant      |
| 10.     | Relationship of the patient | 1  | 0.07                 | 3.84        | Not Significant      |

The above table shows the Association between experimental group I post test scores of depression among alcoholic depressive patients was the educational status and the type of family was significant. The P value was χ<sup>2</sup> P < 0.05.

Table 9 Association between experimental group II post test scores and demographic variables of the among alcoholic depressive patients

| Sl. No. | Variables                   | df | $\chi^2$              |             | Level of Significant |
|---------|-----------------------------|----|-----------------------|-------------|----------------------|
|         |                             |    | Experimental group II | Table value |                      |
| 1.      | Age (in year)               | 2  | 0.96                  | 5.86        | Not Significant      |
| 2.      | Marital status              | 1  | 1.01                  | 3.84        | Not Significant      |
| 3.      | Educational status          | 1  | 5.33                  | 3.84        | Significant*         |
| 4.      | Domicile                    | 2  | 0.54                  | 5.86        | Not Significant      |
| 5.      | Type of family              | 1  | 5.56                  | 3.84        | Significant*         |
| 6.      | Number of family members    | 2  | 0.67                  | 5.86        | Not Significant      |
| 7.      | Occupation                  | 2  | 0.51                  | 5.86        | Not Significant      |
| 8.      | Monthly income:             | 1  | 0.59                  | 3.84        | Not Significant      |
| 9.      | Religion                    | 1  | 0.3                   | 3.84        | Not Significant      |
| 10.     | Relationship of the patient | 1  | 0.50                  | 3.84        | Not Significant      |

The above table shows the Association between experimental group II post test scores of depression among alcoholic population was the educational status and the type of family was significant. The P value was  $\chi^2 P < 0.05$ .

Table 10: Association between and clinical variables of the alcoholic depressive patients

| Sl. No. | Variables                           | Df | $\chi^2$               |                       | Level of Significant |
|---------|-------------------------------------|----|------------------------|-----------------------|----------------------|
|         |                                     |    | Experimental group III | Experimental group IV |                      |
| 1.      | Age (in year)                       | 2  | 0.98                   | 0.96                  | Not Significant      |
| 2.      | Religion                            | 1  | 1.01                   | 1.01                  | Not Significant      |
| 3.      | Marital status                      | 1  | 0.81                   | 5.33                  | Significant          |
| 4.      | Educational status                  | 2  | 0.19                   | 0.54                  | Not Significant      |
| 5.      | Occupational status                 | 2  | 1.24                   | 0.67                  | Not Significant      |
| 6.      | House hold Income/ Month            | 2  | 8.54                   | 0.59                  | Not Significant      |
| 7.      | Personal habit (Betel Leaf chewing) | 1  | 8.54                   | 0.3                   | Not Significant      |
| 8.      | Body Mass Index (BMI)               | 1  | 0                      | 0.50                  | Not Significant      |
| 9.      | Exercise                            | 1  | 0.67                   | 5.56                  | Significant          |
| 10.     | Age at menarche                     | 1  | 0.19                   | 0.54                  | Not Significant      |
| 11.     | Number of live births               | 1  | 0.19                   | 0.54                  | Not Significant      |
| 12.     | Family type                         | 1  | 0.91                   | 0.90                  | Not Significant      |

The above table shows the Association between experimental post test scores and clinical variables of the among alcoholic depressive patients the marital status and exercise shows the significant. The  $\chi^2$  Value with  $P < 0.05$

#### IV. RESULTS

The study results showed the level of depressive symptoms among 10 among alcoholic depressive patients in two experimental group after administration of Cognitive behavior therapy (CBT) Vs Light therapy (LT) shows, 60% are having mild level depression score, 40% of them having borderline clinical depression score, none of them are having moderate level of depression score, none of them are having severe depression score and none of them are having extreme depression score with mean and standard deviation as  $13.4 \pm 18.8$ . While comparing to the table value, it showed that the calculated 't' value was greater than the table value at 0.001 level of significance. It shows CBT Vs LT is effective in reduction of depression among alcoholic depressive patients.

#### V. CONCLUSION

The study concluded that there was a statistically significant reduction of depression among alcoholic depressive patients after given the cognitive behavior therapy and Light therapy. Both psycho therapeutic interventions are effective therapies in reduction of depressive symptoms among alcoholic depressive patients.

The pilot study results showed feasibility for the researcher to conduct main study with larger samples in future.

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