

Assess the Effectiveness of Mindfulness Meditation Therapy to Reduce Depression among Alcohol Dependent-A Pilot Analysis

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ABSTRACT

. Alcohol use disorder and depression are often occur together and one can make the other worse if not treated properly, vice versa as one improve other may improve too. More than 300 million people experience depression world wide, People become psychological dependent on alcohol become use it as self-medication with depression. The path ways leading to the development of co occurring alcohol use disorder and depression are complex and intertwined. Mindfulness meditation is a mental training which will slow down racing thoughts and calm both mind and body by fully focused on “the now” rather than past and future. It helps practitioners focus their attention intentionally and non judgementally accept his thoughts ,feelings,and sensations.S.Bowen et al, Unpublished observations, 2007 stated that the participants in the study get reduced their drinking experience,lessening in the severity of alcohol addiction and effective for relapse prevention, reduced level of anxiety, depression, stress, craving and improve biomarker measurers of health and stress.Many studies revealed that mindfulnessmeditation therapy is highly effective in reducing level of depression among alcohol dependent.

Key words: Effectiveness, Mindfulness, Meditation, Therapy, Depression, Dependent

INTRODUCTION

Alcohol use disorders are more prevalent in people who also have depression than the general population. A clinical review in the journal, Professional Psychology Research and Practice explains that drinking can interfere with recovery from depression. Depressed study participants who were heavy drinkers displayed worse outcomes from depression treatment, furthermore , even mild to moderate amounts of alcohol appeared to worsen level of depression. Treatment often includes an integrated approach to simultaneously address.11 minutes of mindfulness meditation therapy can dramatically decrease alcohol intake published by a new study in the International Journal of Neuropsychopharmacology. According to a review of 18 dependent studies investigating the effects of mindfulness in depression begins at the molecular level. Our genes are responsible for creating new molecules which affect our emotions, behaviour and personal characteristics. Mindfulness alters the way these genes act. The altered gene activity leads to a reduction in molecules which are associated with depression. This long -term change in gene activity is the mechanism by which mindfulness improves symptoms of depression. The overall goal of mindfulness meditation is to synchronize the mind and body to reduce depression and improve quality the of life.

MATERIALS AND METHOD:

To know the feasibility of the of the study, a pilot study was conducted among 32 alcoholic patients in Sree Balaji Medical College and Hospital. The suitability of the study was analysed by statistical analysis.

AIM AND OBJECTIVES

- To assess the level of depression among alcohol dependent for experimental and control group.
- To assess the effectiveness of mindfulness meditation in reduction of depression among alcohol dependent with post test experimental group.
- To assess the level of depression among alcohol dependent post-test control group.
- To compare the pre and posttest level of depression and among experimental and control group.
- To associate the selected demographic variable with the level of depression of alcohol dependent in post-test among experimental group.

INCLUSION CRITERIA

- Alcoholic male who are admitted for deaddiction.
- Alcoholic patient who are able to perform mindful meditation therapy.
- Patients who are willing to participate.
- Patient who can understand Tamil language.

EXCLUSION CRITERIA

- Alcoholic patient who are in aggressive state.
- Alcoholic patient who are not able to do guided meditation therapy.
- Alcohol dependent with other sever systemic diseases.

RESEARCH METHODOLOGY

STUDY DESIGN: True experimental design.

SETTING OF THE STUDY: The setting of the study was Sree Balaji Medical and hospital Chennai.

POPULATION: All alcoholic dependent admitted in Sree Balaji Medical College and hospital who fulfils the inclusion criteria.

SAMPLING METHOD: Non probability of purposive sampling method was adopted

SAMPLE SIZE :

16 Alcohol dependent in experimental group and 16 in control group

TOTAL 32 Alcohol dependent participated in the study

DATA COLLECTION INSTRUMENTS

PART: 1:Demographic variables: Age, Education, Religion, Occupation, Monthly income, Type of family, Marital status, Locality of house, Duration of illness, Reason for alcoholism,

PART: II:Zung self-rating depression scale:It is tool to assess varies level of depression consist of 20 items. Scores range from 1 to 4. Total score from 20 to 80. (25-49 Normal, 50-59 Mild, 60-69 Moderate, 70 and above severe)

PART: 111:Mindfulnessmeditation therapy.:It is a process by which one or moreparticipants meditate in response to the guidance provided by a trained practitioner or a teacher either in person or via a written text,sound recording,video,audio,visual media comprising music or verbal instruction or a combination of both. In this studythe researcher formulated a mindfulness meditation audio recording with background sound effect used after obtainingcontent validity from experts.

PARTICIPANTS IN THE STUDY

Thirty two alcohol dependent are the participants in this study. 16 control group participants involved only assessment of level of depression and 16 experimental group received mindfulness meditation therapy gained reduction of depression to come out of addiction.

EXPECTED BENEFITS

By completion of this study thealcohol dependent participant in this study should have reduced level of depression to overcome their addiction for prevent relapse.

ETHICAL CONSIDERATIONS

The proposed study was conducted after the approval of Research and Ethical committee of the Institution. Permission was obtained from the Head of the Institution. Due consent was obtained from the Dean of Sree Balaji Medical College and Hospital and the head of the Psychiatric department for the pilot study. Informed consent of each subject was obtained before starting the data collection and assurance was given to them that the anonymity of each individual would be maintained.

Table 1: DEMOGRAPHIC PROFILE

Demographic variables		Group			
		Experiment(n=15)		Control(n=15)	
		N	%	N	%
Age in years	20-30 years	2	13.33%	5	33.33%
	30-40 years	7	46.67%	5	33.33%
	40-50 years	3	20.00%	4	26.67%
	50-60 years	3	20.00%	1	6.67%
Education	Illiterate	6	40.00%	4	26.67%
	Primary	7	46.67%	8	53.33%
	Secondary	2	13.33%	3	20.00%
	Graduate	0	0.00%	0	0.00%
Religion	Hindu	11	73.33%	9	60.00%
	Christian	4	26.67%	5	33.33%
	Muslim	0	0.00%	1	6.67%

Occupation	Unemployed	6	40.00%	9	60.33%
	Govt employee	2	13.33%	0	0.00%
	Private Employee	7	46.67%	6	40.67%
Monthly income	Rs.5000	6	40.00%	4	26.67%
	Rs.5001-10000	9	60.00%	11	73.33%
	Rs.10001-15000	0	0.00%	0	0.00%
	>Rs.15001	0	0.00%	0	0.00%
Type of family	Nuclear Family	14	93.33%	9	60.00%
	Joint Family	1	6.67%	6	40.00%
Marital status	Married	11	73.33%	11	73.33%
	Unmarried	2	13.33%	2	13.33%
	Divorced	0	0.00%	0	0.00%
	Widower	2	13.33%	2	13.33%
Locality of house	Urban	5	33.33%	5	33.33%
	Rural	10	66.67%	10	66.67%
Duration of Illness	<3 years	4	26.67%	2	13.33%
	3 -5 years	10	66.67%	12	80.00%
	5 -7 years	1	6.66%	1	6.67%
	7 -10 years	0	0.00%	0	0.00%
Reason for alcoholism	Peer group	9	60.00%	10	66.67%
	Professional habit	6	40.00%	5	33.33%
	Alcoholic Parents	0	0.00%	0	0.00%
	Personal loss	0	0.00%	0	0.00%

Table 2 : PRETEST LEVEL OF DEPRESSION SCORE

Level of depression	Experiment		Control		Chi square test
	N	%	N	%	
Normal	0	0.00%	0	0.00%	$\chi^2=0.31P=0.86(NS)$
Mild	5	33.33%	4	26.67%	
Moderate	8	53.33%	8	53.33%	
Severe	2	13.34%	3	20.00%	
Total	15	100.00%	15	100.00%	

P>0.05 not significant

Table no.3 compares the pretest level of depression score between experimental and control group of alcohol dependant

Before guided meditation therapy, in experimental group, none of them are having normal level, 33.33% of the patients are having mild level of score, 53.33% of them having Moderate level of score, 13.33% of them having severe level of score.

In control group , none of them are having normal level, 26.67% of the patients are having mild level of score , 53.33% of them having Moderate level of score , 20.00% of them having severe level of score.

Statistically there is no significant difference between experimental and control group. Level of knowledge score between experimental and control group was calculated using chi-square test.

Table 3: POSTTEST LEVEL OF DEPRESSION SCORE

Level of depression	Experiment		Control		Chi square test/yates corrected chi square test
	N	%	N	%	
Normal	0	0.00%	0	0.00%	$\chi^2=7.15P=0.03*(S)$
Mild	12	80.00%	4	26.67%	
Moderate	3	20.00%	8	53.33%	
Severe	0	0.00%	3	20.00%	
Total	15	100.00%	15	100.00%	

$P>0.05$ not significant

compares the post-test level of depression score between experimental and control group of alcohol dependant

Before **guided meditation therapy**, in experimental group, none of them are having normal level, 80.00% of the patients are having mild level of score , 20.00% of them having Moderate level of score , none of them having severe level of score.

In control group , none of them are having normal level, 26.67% of the patients are having mild level of score , 53.33% of them having Moderate level of score , 20.00% of them having severe level of score.

Statistically there is a significant difference between experimental and control group. Level of depression score between experimental and control group was calculated using chi-square test.

Table 4 : COMPARISON OF PRETEST AND POSTTEST MEAN DEPRESSION SCORE

Group		N	Mean	SD	Mean reduction score	Paired t-test
Experiment	Pre-test	15	61.27	5.95	13.00	$t=8.78 p=0.001*** (S)$
	Post-test	15	48.27	3.53		
Control	Pre-test	15	60.80	9.26	1.60	$t=0.70 p=0.49 (NS)$
	Post-test	15	59.20	5.73		

Fig13 Considering Experimental group depression , in pretest they are having 61.27 score and in posttest they are having 48.27 score, so the difference is 13.00 this difference is large and it is statistically significant.

Considering Control group , in pretest they are having 60.80 score and in posttest they are having 59.20 score, so the difference is 1.60, this difference is small and it is not statistically significant. statistical significance difference between pre-test and post-test was calculated using student paired t-test

Table 5 COMPARISON OF MEAN DEPRESSION SCORE BETWEEN EXPERIMENT AND CONTROL GROUP

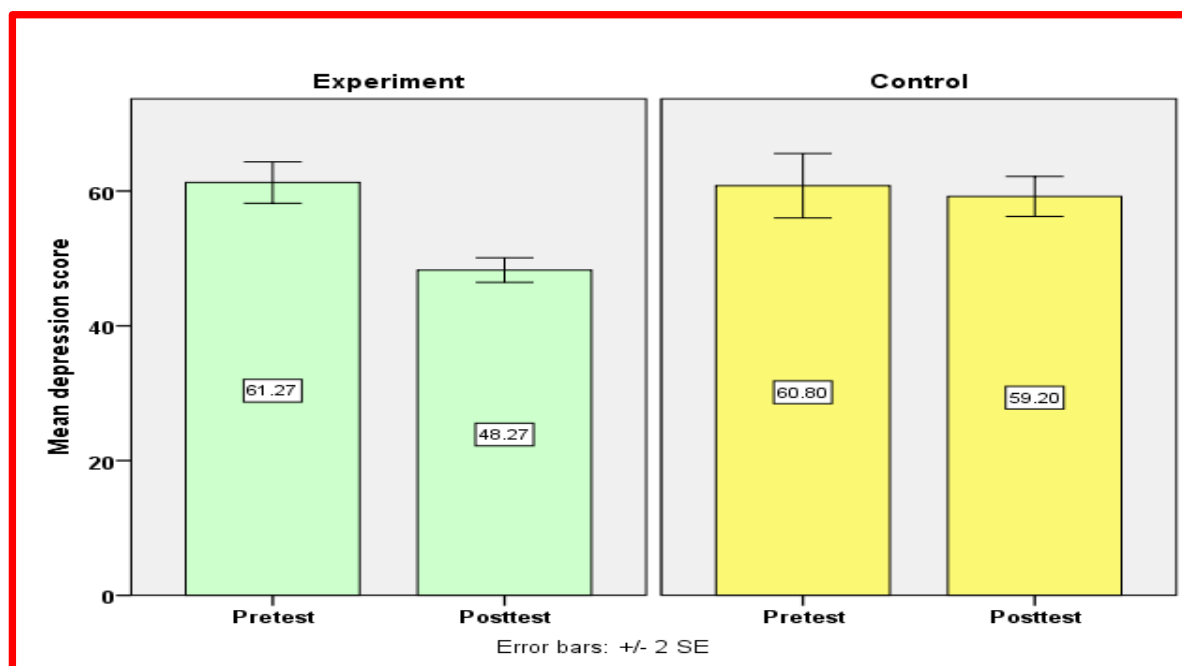
Group		N	Mean	SD	Mean difference score	Student independent t-test
Pretest	Experiment	15	61.27	5.95	0.67	t=0.16 p=0.87(NS)
	Control	15	60.80	9.26		
Posttest	Experiment	15	48.27	3.53	6.28	t=10.93 p=0.001*** (S)
	Control	15	59.20	5.73		

considering pretest , experimental group are having 61.27 score and control group, they are having 60.80 score, so the difference is 0.67, this difference is small and it is statistically not significant.

Considering posttest , experimental group are having 48.47 score and in posttest they are having 59.20 score, so the difference is 6.28 this difference is large and it is statistically significant.

Statistical significance difference between pre-test and post-test was calculated using student independent t-test

Fig 1: Simple bar with 3 standard error diagram compares the pretest and posttest depression score among experiment and control group



Tab 6 ; Effectiveness of mindful meditation therapy and generalization of depression reduction score

Group	Test	Maximum score	Mean score	Mean Difference of depression reduction score with 95% Confidence interval	Percentage Difference of depression reduction score with 95% Confidence interval
Experiment	Pretest	100	61.27	13.00(9.82 – 16.14)	13.00%(9.82% – 16.14%)
	Posttest	100	48.27		
Control	Pretest	100	60.80	1.60(-3.24 – 6.44)	1.60%(-3.24% – 6.44%)
	Posttest	100	59.20		

shows the effectiveness of **mindfulness meditation therapy** on level of depression.

Experimental group are reduced 13.00% depression score whereas control group reduced only 1.60% depression score.

Differences and generalization of depression reduction score between pretest and posttest score was calculated using and mean difference with 95% CI and proportion with 95% CI

Tab7: Association between posttest level of depression score and patients demographic variables (Experiment group)

Demographic variable		Post-test level of Depression				n	Chi square test/Yates corrected chi square test
		Mild		Moderate			
		n	%	n	%		
Age in years	20-40 years	6	66.67%	3	33.33%	9	$\chi^2=2.50p=0.11(NS)$
	40-60 years	6	100.00%	0	0.00%	6	
Education	Illiterate	3	50.00%	3	50.00%	6	$\chi^2=7.42p=0.01^{**}(S)$
	Literate	9	100.00%	0	0.00%	9	
Religion	Hindu	8	72.73%	3	27.27%	11	$\chi^2=1.36p=0.24(NS)$
	Christian/Muslim	4	100.00%	0	0.00%	4	
Occupation	Unemployed	5	83.33%	1	16.67%	6	$\chi^2=0.07p=0.79(NS)$
	Employed	7	77.78%	2	22.22%	9	
Monthly income	Rs.5000	3	50.00%	3	50.00%	6	$\chi^2=7.42p=0.01^{**}(S)$
	Rs.5001-10000	9	100.00%	0	0.00%	9	
Type of family	Nuclear Family	11	78.57%	3	21.43%	14	$\chi^2=0.27p=0.61(NS)$
	Joint Family	1	100.00%	0	0.00%	1	
Marital status	Married	8	72.73%	3	27.27%	11	$\chi^2=1.36p=0.24(NS)$
	Unmarried/widower	4	100.00%	0	0.00%	4	

Locality of house	Urban	5	100.00%	0	0.00%	5	$\chi^2=1.87p=0.17(NS)$
	Rural	7	70.00%	3	30.00%	10	
Duration of Illness	<3 years	3	75.00%	1	25.00%	4	$\chi^2=0.08p=0.77(NS)$
	>3 years	9	81.82%	2	18.18%	11	
Reason for alcoholism	Peer group	8	72.73%	3	27.27%	11	$\chi^2=1.36p=0.24(NS)$
	Professional habit	4	100.00%	0	0.00%	4	

** $p \leq 0.01$ highly significant * $p \leq 0.05$ significant S=significant

$p > 0.05$ not significant NS= not significant

shows the association between the post-test level of Depression score and demographic variables. Educated alcohol dependant and Rs.5001-10000 alcohol dependant are having more mild level of score than others. Statistical significance was assessed using Chi square test/Yates corrected chi square test.

Fig 2: Association between posttest level of depression score and education of alcohol dependant (Experiment group)

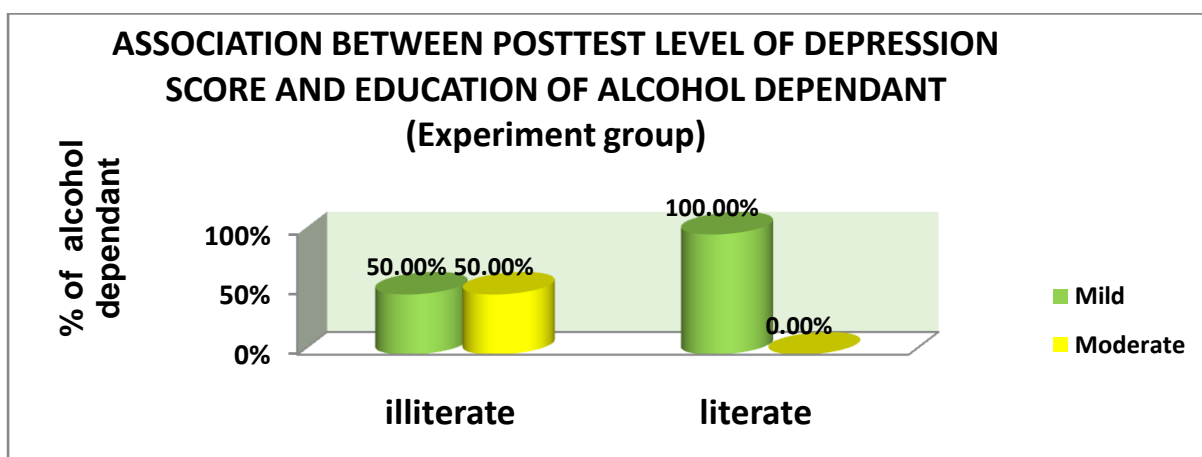


Fig 3: Association between posttest level of depression score and monthly income of alcohol dependant

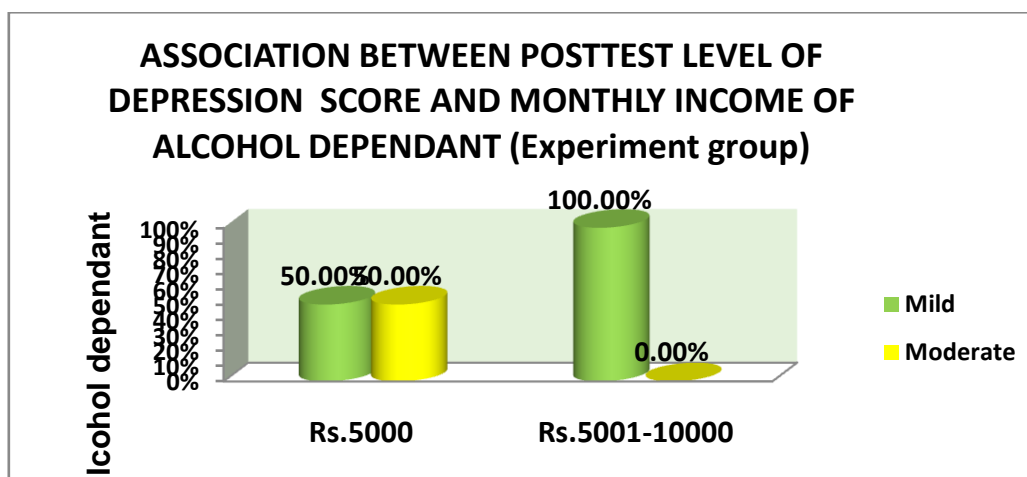


Fig 4:Shows the pre test level of depression score among experimental and control group

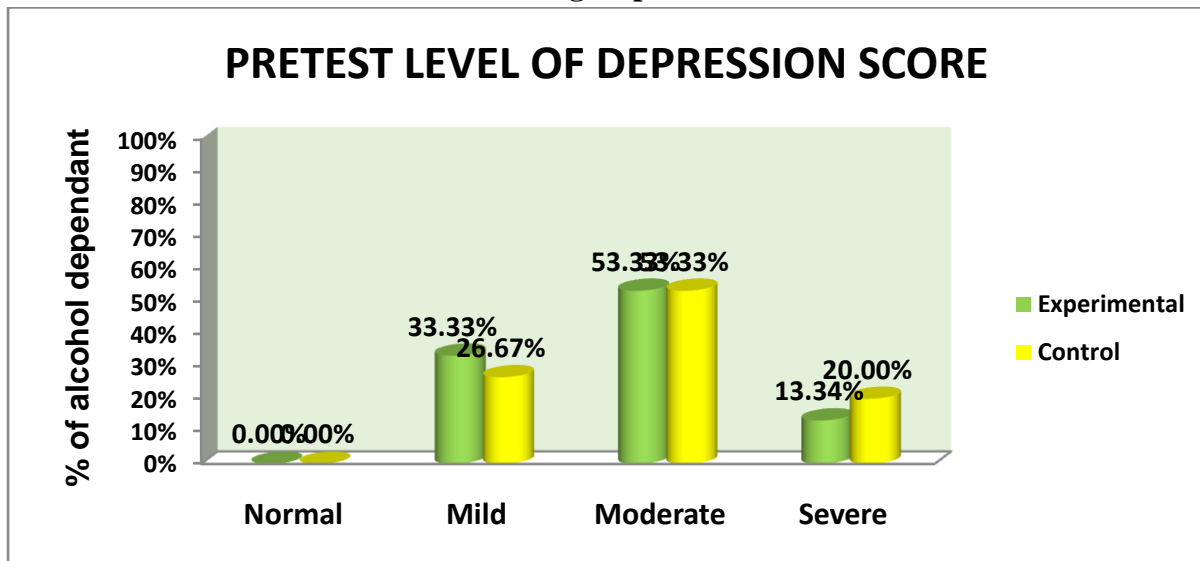
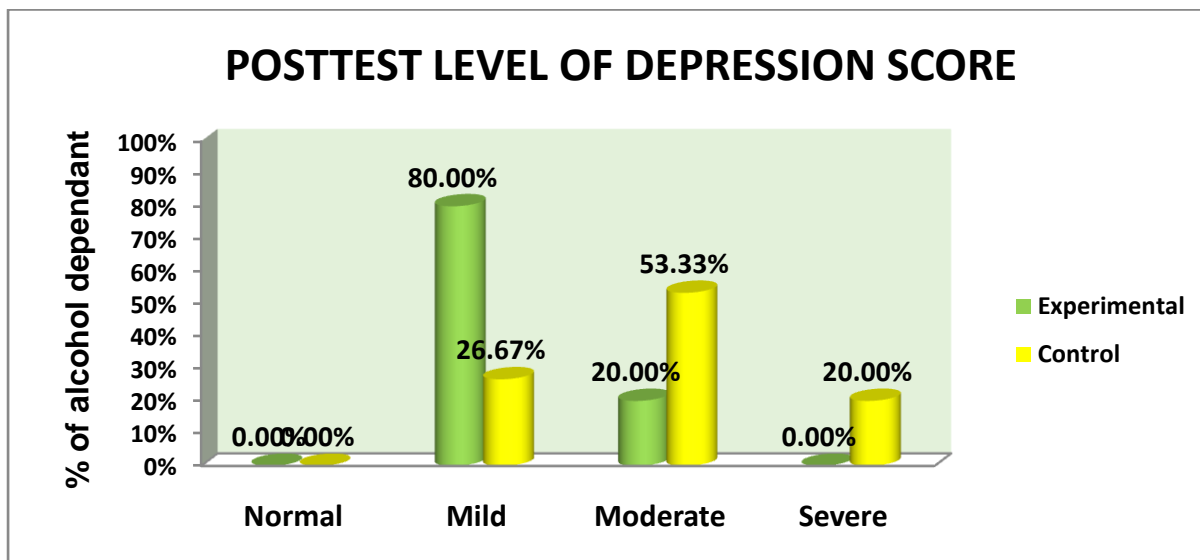


Fig 5:Shows the post test level of depression score among experimental and control group



VALIDITY AND RELIABILITY

Validity of the tool was assessed using content validity . Content validity was determined by experts from Nursing and Medical. They suggested certain modifications in tool. After the modifications they agreed this tool for assessingmindfulness meditation to reduce the level of depression among alcohol dependant at sree Balaji medical and hospital Chennai

Reliability of the tool was assessed by using cron-bach alpha method. Reliability correlation coefficient value was Anxiety (0.84), depression,(0.86) and Self-efficacy(0.81) score. These correlation coefficients was very high and it is good tool for

assessing mindfulness meditation therapy to reduce the level of depression among alcohol dependent at Sree Balaji Medical and Hospital Chennai.

DATA ANALYSIS METHOD

Demographic variables in categorical/dichotomous were given in frequencies with their percentages. Depression scores were given in mean and standard deviation. Quantitative differences between Pretest and Posttest were assessed using **paired t-test**. Quantitative differences between Experiment and control were assessed using **student independent t-test**. Effectiveness of the study was given in **mean with 95% confidence interval** and **percentage with 95% confidence interval**.

Association between level of **Depression score** with demographic variables were analyzed chi square test and Yates corrected chi square test.

Simple bar diagram, Multiple bar diagram, simple bar with 2 standard Error bar were used to represent the data. A p-value of ≤ 0.05 was considered statistically significant, and two-tailed tests were used for testing significance. Statistical analysis was carried out using the Statistical Package for Social Sciences (SPSS, version 22) and STATA (version 10) and Epi info (Version 3.5.1) statistical software's.

MAJOR FINDINGS OF THE STUDY

Before guided meditation therapy, in experimental group, none of them are having normal level, 33.33% of the patients are having mild level of score, 53.33% of them having Moderate level of score, 13.33% of them having severe level of score.

In control group, none of them are having normal level, 26.67% of the patients are having mild level of score, 53.33% of them having Moderate level of score, 20.00% of them having severe level of score.

After guided meditation therapy, in experimental group, none of them are having normal level, 80.00% of the patients are having mild level of score, 20.00% of them having Moderate level of score, none of them having severe level of score.

In control group, none of them are having normal level, 26.67% of the patients are having mild level of score, 53.33% of them having Moderate level of score, 20.00% of them having severe level of score.

Considering pretest, experimental group are having 61.27 score and control group, they are having 60.80 score, so the difference is 0.67, this difference is small and it is statistically not significant.

Considering posttest, experimental group are having 48.47 score and in posttest they are having 59.20 score, so the difference is 6.28 this difference is large and it is statistically significant.

CONCLUSION

By conducting this study it concludes that mindfulness meditation is an effective tool to reduce the level of depression among alcohol dependent and it is greatly appreciated by the study participants.

LITERATURE REVIEW

1. Stephanie Watson, Jennifer Robinson, WebMD, Alcohol and Depression, Nov 15, 2020.
2. Timothy J. Legg, Ph.D. CRNP, et al, Healthline, Understanding the Link Between Alcohol Use and Depression. June 25, 2019.
3. Stacy Mosel, L.M.S.W, American Addiction Centre- Trademark Logo, Alcohol & Depression: The Connection & Dual Treatment Near Me, Oct-26, 2021.
4. Dr. Philip Timms, Dr. Tony Rao, RC PSYCH Royal college of Psychiatrists, Alcohol and depression, Nov 2019.
5. Sarah Sheppard, John C. Umhau, MD, MPH, CPF, Verywellmind, What's the connection Between Alcohol and Depression? Aug 31, 2021
6. Aleksandra Zgierska, MD, Ph.D. David Rabago, et al, Journal of addiction medicine, Mindfulness Meditation for Alcohol Relapse Prevention: A Feasibility Pilot Study, 2008, Sep:2(3) 165-173.
7. Chuntana Reangsing, Ph.D, RN, Ph.D, RN, Pawadee Wimolphan MSN, RN et al, Healio- Journal of Psychosocial Nursing and Mental Health Services, Effects of mindfulness Based interventions on Depressive Symptoms and Alcohol Craving in individuals with Comorbid Alcohol use Disorder and Depression: A Systematic Review, Aug 2021
8. Krystina Murray, Theresa Parisi, Meditation Therapy For Substance Abuse, How can Meditation Therapy Help Treat Substance Abuse?, Nove 2, 2021
9. Fung Kei Cheng, Open access text, How meditation can be salutary in dealing with alcohol use disorders?, Sep 20, 2016.
10. Carol Galbicsek, Alcohol And Depression, The Link Between Alcohol Abuse And Depression , Octo 14, 2021.
11. Joseph M Boden et al, National Library of Medicine, Alcohol and Depression, May 2011.
12. Mary w. kuria, David M. Ndetel et al, International Scholarly Research Notice, The Association between Alcohol Dependence and Depression before and after Treatment for Alcohol Dependence. Jan 26, 2012.

NET REFERANCE

1. [www.pub med](http://www.pubmed)
2. www.verywellmind.com