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EFFECT OF CYCLIC MEDITATION ON ALCOHOL DEPENDENT INDIVIDUALS– A RANDOMIZED CONTROLLED TRIAL

Naturopathy

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ABSTRACT

BACKGROUND AND OBJECTIVES: Alcoholism is one of the major health issues of the society posing a risk on an individual's life and socio economic development of the world. Various conventional treatment modalities have been used as a remedy for alcoholism. But the medications and the therapies have always found to have a side effect on an individual. Yoga is found to have a wonderful tool to treat alcoholism. Cyclic Meditation, a combination of asana and guided relaxation technique where the mind is stimulated and relaxed alternatively which is cost effective tool to manage these symptoms. The main objectives of the study are to assess whether *cyclic meditation* is having effect on controlling withdrawal symptoms, balance and gait, quality of sleep and quality of life among alcoholic dependent individuals.

MATERIALS AND METHODS: A total of eighty two alcoholic dependent individuals has been selected from de-addiction camp and were recruited for this study after they meet the inclusion and exclusion criteria and for the screening of the subjects Alcohol Use Disorders Identification Test (AUDIT) questionnaire is been used. Group one *cyclic meditation* group comprised of a cyclic meditation intervention and group two control group. Subjects in both the groups were randomized. Subjects in the group one practiced *cyclic meditation* for a period of 10 days. While the group two, control group carried on its routine activities. Both the groups were assessed for balance, gait, withdrawal symptoms, quality of sleep and quality of life at baseline that is at day one and day ten.

RESULTS: The present study was conducted to evaluate whether practice of *cyclic meditation* had influence in any of the outcome variables viz., withdrawal symptoms, balance and gait, quality of sleep, quality of life in alcohol dependent individuals. Results were assessed in between the groups and within the group. Data was extracted at both baseline and post-intervention. When the both groups are compared there was a significant results seen in the withdrawal symptoms, balance and gait, quality of sleep, quality of life P value < 0.0001.

INTERPRETATION AND CONCLUSION: Ten days of *cyclic meditation* practice has shown to bring a positive influence in alcoholic dependent individuals in improving withdrawal symptoms balance, gait, quality of sleep and quality of life.

KEYWORDS

Alcohol Dependent Individuals, Alcoholism, Cyclic meditation, Balance, Gait, withdrawal Symptoms, quality of sleep and quality of life.

INTRODUCTION

The term alcoholism has been defined as a primary; chronic disease characterized by impaired control over drinking, preoccupation with the drug, use of alcohol despite adverse consequences and distortions in thinking.[1] The term used is synonymous with alcohol addiction. This definition is much in common with that of the Diagnostic and Statistical Manual 4th Edition (DSM-IV) and International Classification of Diseases, 10th edition.[2,3]

In and around the globe, usage of Alcohol is widespread. [4] When alcohol consumption is abused acutely or chronically and alcohol consumption becomes frequent, then dependence develops.[5] Although a significant progress was made in the field of alcoholism, but pathogenesis of alcohol abuse remains unclear. Alcoholism has led to several issues at all levels like severe health problems, social consequences, poverty and familial issues and disputes.[4, 6] Worldwide approximately 4% deaths and 4.5% of world's burden of disease and injury are attributable to alcohol. In EUROPE in 2004 among men 15.2% of all disability adjusted life years (DALYs) and in women 3.9% of all DALYs were lost due to alcohol, inter personal relationship alcohol abuse is showing an immense effect on individuals daily work and also causing problems at a physical and mental level.[7] Approximately 80% people in Western countries have consumed alcohol; regardless of the persons education; [8] the lifetime risk for serious, repetitive alcohol problems is almost 20% for men and 10% for women. Life time and 12 month alcohol dependence was 12.5% and 3.8% in U.S.A. Dependence of alcohol is significantly more among men, whites, Native Americans, younger and unmarried adults, and those with lower incomes.[9]

Usage of alcohol and its abuse creates a tremendous burden in one's life at both physical and mental levels.[10] Prevalence of alcohol is higher among the poor in low-income countries such as India which increases the risk of cardiovascular disease, [11] cancer, liver disease and other injuries. On the other hand low doses of alcohol have some healthful benefits.[12]

Sudden decrease in alcohol intake can produce withdrawal symptoms like agitation and anxiety; autonomic nervous system over activity including an increase in pulse, respiratory rate, and body temperature, insomnia and tremors. Currently used conventional medicine for the treatment of alcoholism like Disulfiram [DSF], an aldehyde dehydrogenase inhibitor, is found to have side effects almost similar to chemotherapy.[13] Therefore an alternative remedy for the treatment of alcoholism is essential.

Yoga is an ancient science of India, which looks at the overall personality development of an individual i.e. physical, mental, emotional, spiritual and intellectual level. The yoga sutras and Patanjali explains yoga as a union of mind, body and soul and thereby exhibiting its importance as a body-mind medicine.[14,15] It is estimated that around 14.9 million people in America practice yoga and some say that yoga has become a world practice.[16, 17] Many researchers have found yoga as a main line of treatment for relieving stress and anxiety conditions.[16,18] Relaxations practiced in yoga reduce psychological and physiological reactions to stress.[19, 20] A technique called Cyclic meditation (CM) which involves a combination of *asanas* and guided relaxation was introduced by Dr. H.R. Nagendra, where the mind is stimulated and relaxed alternatively .Cyclic meditation is seen to have its origin in *Mandukya Upanishad*, an ancient Indian text.[21]

Verses of cyclic meditation state that, 'during the unconscious state of mind, awaken it; and when mind gets agitated, calm it; realize the possible abilities of the mind in between these two states. Do not disturb the mind if it reaches to a state of perfect equilibrium'. Cyclic meditation is based on this idea which says that the mental state of the person in routine is somewhere between extremes of being inactive or agitated, and to reach a balanced state of mind, a suitable technique would be one which combines awakening and calming practices.[21] This study is conducted to show the effect of cyclic meditation on alcoholics chiefly its effect in treating withdrawal symptoms.

METHODOLOGY:

A total of 82 male subjects with an age between 21 to 50 years were participated in the study. The subjects recruited for the study were from Shri Dharmasthala Manjunatheshwara De- Addiction Centre, Laila,

Ujire; who have enrolled for de-addiction camps. Subjects were selected from the camp by using AUDIT questionnaire, a simple ten-question test developed by the World Health Organization to determine if a person's alcohol consumption may be harmful; eighty two subjects aged 36.99±7.98 yrs, who have fulfilled the inclusion and exclusion criteria, were recruited for the study.

INCLUSION CRITERIA:

Participants who fulfilled the following conditions were included in the study

1. Age ranging between 20 to 60 years (adult population).
2. Alcoholics who are eligible after screening using AUDIT.
3. Only male subjects.
4. Patient having withdrawal symptoms, imbalance in balance and gait and disturbed sleep.

EXCLUSION CRITERIA:

The following criteria were used to exclude the participants

1. Subjects having history of any neurological and psychiatric disturbances based on history and prescription.
2. Physically handicapped based on the certificate.
3. Alcoholics with Cardiac and Respiratory disorders based on history.

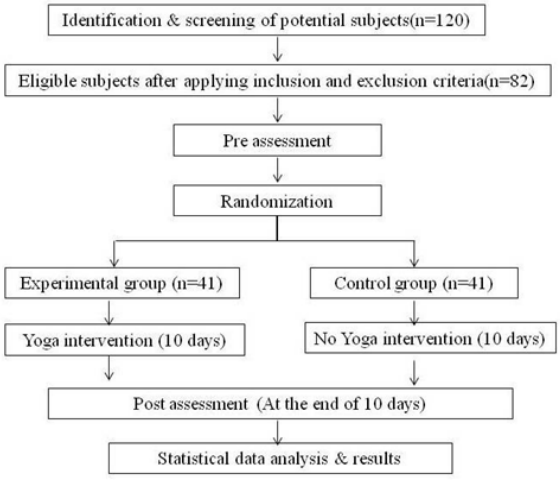
DESIGN OF THE STUDY:

A Randomized Controlled design was executed in this study. Subjects were matched for their age and sex. The data collection was done before (day 1) and after (day 10) from the intervention and control group. There were equal number of subjects in yoga intervention (n= 41) and in non yoga intervention group (n=41).

ASSESSMENT:

Assessment were done using Alcohol Use Disorders Identification Test[22], Tinetti Assessment Tool[23], Clinical Institute Withdrawal Assessment of Alcohol Scale, Revised (CIWA-Ar)[24], Pittsburgh Sleep Quality Index(PSQI)[25], The World Health Organization Quality of Life (WHOQOL)[26]. Participants in yoga intervention group underwent cyclic meditation for 10 days and participants in non yoga intervention group not given any kind of yogic intervention.

ILLUSTRATION OF THE STUDY DESIGN



DATA EXTRACTION &ANALYSIS:

The data was collected as self-reported measures using assessment tools viz., TINETTI, CIWA-Ar, PSQI and WHOQOL. The assessments were done as baseline and following a 10 days intervention (cyclic meditation for experimental group and no specific intervention for the control group). The data later were further scored using their respective scoring keys and then arranged in Microsoft Excel sheets for statistical analysis. Raw data obtained during the study were tabulated. The groups Mean ± SD were calculated for all the variables. Statistical analysis was done by using SPSS (Version18.0). The data was checked for normality of pretest and posttest scores of all parameters by Kolmogorov Smirnov test. Comparison of cases and controls with respect to AUDIT, CIWA-Ar scores, WHOQOL- BREF scores done by independent t test, Comparison of cases and controls with respect to Tinetti scores i.e. balance and gait, PSQI scores done by Mann-Whitney U test. For all the analysis, we considered $p < 0.05$ as significant.

RESULT

The present study was conducted to evaluate whether practice of cyclic meditation had any influence in any of the outcome variables viz, balance, gait, withdrawal symptoms, sleep quality and quality of life in alcohol dependent individuals. The data were analyzed for normally distribution by Shapiro wilk test, which shown results of CIWA-Ar and WHOQOL- BREF scores were followed a normal distribution, which is further analyzed parametric test and other variables were assessed by using Nonparametric tests to see the changes within and between the case and control groups.

Comparison of results of case group and control group participants has shown significant changes in CIWA-Ar, Tinetti Score (Balance and Gait), PSQI and WHOQOL-BREF with p-value < 0.0001.

Table1: Comparison of cases and controls with respect to pretest and posttest CIWA-Ar scores by independent t test

Groups	Pretest		Posttest		Difference	
	Mean	SD	Mean	SD	Mean	SD
Cases	35.17	4.72	19.39	3.56	15.78	3.66
Controls	36.02	2.82	34.71	2.73	1.32	3.30
% of change in Cases					44.87%#, p=0.0001*	
% of change in Controls					3.66%#, p=0.0146*	
t-value	-0.9943		-21.8728		18.7880	
p-value	0.3231		0.0001*		0.0001*	

*p<0.05, #applied paired t test

Table2: Comparison of cases and controls with respect to pretest and posttest Tinetti scores by Mann-Whitney U test

Groups	Pretest		Posttest		Difference	
	Mean	SD	Mean	SD	Mean	SD
Cases	8.34	1.37	22.39	1.00	14.05	1.32
Controls	9.24	1.07	11.27	1.47	2.02	1.15
% of change in Cases					168.42%#, p=0.0001*	
% of change in Controls					21.90%#, p=0.0001*	
Z-value	-1.1439		-7.7948		-7.7948	
p-value	0.1283		0.0001*		0.0001*	

*p<0.05, #applied Wilcoxon matched pairs test

Table 3: Comparison of cases and controls with respect to pretest and posttest PSQI scores by Mann-Whitney U test

Groups	Pretest		Posttest		Difference	
	Mean	SD	Mean	SD	Mean	SD
Cases	11.59	1.53	4.49	1.36	7.10	1.55
Controls	11.63	1.30	11.15	1.48	0.49	1.99
% of change in Cases					61.26%#, p=0.0001*	
% of change in Controls					4.19%#, p=0.0898	
Z-value	-0.8161		-7.7948		-7.7948	
p-value	0.4144		0.0001*		0.0001*	

*p<0.05, #applied Wilcoxon matched pairs test

Table 4: Comparison of cases and controls with respect to pretest and posttest WHOQOL- BREF scores by independent t test

Groups	Pretest		Posttest		Difference	
	Mean	SD	Mean	SD	Mean	SD
Cases	157.80	23.28	252.73	15.28	94.93	16.83
Controls	161.20	9.92	162.10	13.82	0.90	10.26
% of change in Cases					60.15%#, p=0.0001*	
% of change in Controls					0.56%#, p=0.5765	
t-value	-0.8578		28.1626		30.5405	
p-value	0.3935		0.0001*		0.0001*	

*p<0.05, #applied paired t test

DISCUSSION:

Results of present study indicate that the practice of *Cyclic Meditation* for 10 days, improved positively the overall status of alcohol dependent individuals. Withdrawal symptoms, TINETTI assessment tool for balance and gait, quality of life and sleep showed significant changes as compared to the control group($p<0.0001$).

The current study showed significant improvement in the quality of life ($p<0.0001$) in cyclic meditation group, which hypothesized that, reduction in anxiety scores indicates the improvement in quality of life, which is due to the awareness of body sensations during the practice of asana and relaxation[27].

In the current study there is a significant improvement in the domains(day to-day activities, social behaviour and overall skills) of the quality of life ($p<0.0001$) in case group as compared to the control group which showed a significant improvement in day to-day activities, social behaviour and overall skills of the alcohol dependent individuals after withdrawing the alcohol, as mentioned in a review by Khanna S *et al*[28], insights and self awareness through yoga and mindfulness targets psychological and neural, physiological and behavioural process and there by treating various mental and emotional problems implicated in addiction and relapse.

The tremor amplitude in untreated patients with essential tremors was improved by long term use of propranolol drug. Compared to this literature in our study we have to administer prolonged yogic intervention to show the significant improvement in a tremor.[29]

Earlier study on anxiety symptom in non-alcoholics shown significant improvement in the symptoms following 12-week yoga intervention.[30] similarly there is improvement in the quality of life due to the reduction in anxiety of alcohol dependent individuals.

Reduction in vomiting and other withdrawal symptoms has been showed significantly ($p<0.001$) in the present study. At par with the results of present study, similar results were shown by another study, which has showed significant reduction in distressful symptoms such as insomnia, nausea and vomiting can be managed by integrated approach of yoga as a complementary conventional treatment and there by improved the quality of life in breast cancer patients, which hypothesized that yoga could act as a prophylactic intervention in the initial stages of treatment affecting quality of life.[31] Hence, practice of *cyclic meditation* may be an prophylactic intervention to reduce the withdrawal symptoms and thereby to improve the quality of sleep and life in the alcohol dependent individuals.

As there is no direct evidence of yoga helping patients of alcohol dependence to remain abstinent, research indicates that depression symptoms during withdrawal in alcohol dependent subjects are reduced better if a yoga practice is added during such acute detoxification program.[32]

Cyclic meditation involves alternate asana and relaxation, similar to Tai-Chi- Qui- Gong [33] and such practices have been described as 'moving meditation'. These techniques are described as meditation because during these practices practioners ideally assume a meditative state of mind characterized by interoception, awareness of body sensation and relaxation[34]. Though the moving meditation differ from the classic description of meditation where practioners remain seated and keeping as still as possible, but the mental state in both practices is supposed to be comparable.[27] Similarly in the current study, practice of *cyclic meditation* (moving meditation i.e. alternate asana and relaxation) for 10 days, decreased stress and improved the sense of internal state of body i.e. interoception, awareness of body sensation and relaxation which aimed at reducing the withdrawal symptoms and there by improved the balance, gait, quality of sleep and life in alcohol dependent individuals.

By using *cyclic meditation* as an intervention and when we compare the *cyclic meditation* group and control group, results of the present study showed significant reduction in withdrawal symptoms like nausea, tremors, paroxysmal sweats, anxiety and headache, fullness in head, balance and gait, sleep quality and quality of life in alcohol dependent individuals. This indicates *cyclic meditation* is a very safe and beneficial tool in alcohol dependent individuals.

CONCLUSION:

The present study reveals that 10 days of cyclic meditation practice has a good effect in reducing withdrawal symptoms, balance and gait, quality of sleep, and quality of life in alcohol dependent individuals. Hence we can conclude that 10 days practice of Cyclic Meditation can be employed as an effective mode of treatment in adjuvant to the conventional medicine in the treatment of alcohol dependent disorder.

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