



A Comparative Study to Assess the Effectiveness of Pranayama vs Deep Breathing Exercise on Alcohol Dependence Syndrome among Patients with Alcohol Dependence in Selected Hospital at Tirunelveli district

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Abstract

Background: Alcohol is a toxic and psychoactive substance with dependence-producing properties. Alcohol is part of our society, people use it to celebrate, socialize, relax, and enhance the enjoyment of meals. In the Indian population, it is estimated 34-42% of adults have been users of alcohol in their lifetime; 5-7% have been estimated to be the abusers of alcohol, and 10-20 million persons have been estimated to need treatment for alcohol dependence.

Objectives: To Assess the Effectiveness of Pranayama vs Deep Breathing Exercise on Alcohol Dependence Syndrome among Patients with Alcohol Dependence

Materials and Method: The quasi experimental design was adapted for the study. This study was conducted among 60 adult alcohol dependence syndrome patients at Sneak Mind Care Centre, Tirunelveli, Tamil Nadu. Purposive samples technique was used for selecting the sample.

Result: The pre-test mean and standard deviation was 41.16+ 6.44 in group I and in group II 37.43+ 8.85 the mean difference was 3.733 with the 't' value ($t= 1.867$) which was not significant. The post-test mean and standard deviation score was 21.83+ 5.07 in group I and in group II 31.70+ 8.40. The mean difference was 9.866 with the 't' value was (5.505), which was highly significant.

Conclusion: The study findings revealed that, there was a significant reduction in alcohol dependence syndrome after Pranayama and deep breathing exercise. While comparing pranayama and deep breathing exercise, the Pranayama played an important role in reducing the alcohol dependence syndrome.

Keywords: Alcohol dependence syndrome, Deep breathing exercises, Pranayama

Introduction

Alcoholic beverages, known since Vedic period, are used for worship purposes, medicinal preparations, and widely consumed as a relaxant ^{1,2}. The term alcohol refers to 'ethyl alcohol'. It is consumed as an alcoholic beverage in diluted concentrations of absolute (i.e., 100%) ethyl alcohol. There are various

types of alcoholic beverages that are consumed around the world. One standard alcoholic beverage corresponds to 10 g of absolute alcohol. The quantity differs among the types of alcoholic beverages. The most commonly used alcoholic beverages are beer, wine, whiskey, rum, vodka, gin and brandy and locally brewed beverages like arrack and toddy. Alcohol consumption becomes a problem when the

individual engages in problematic drinking pattern that puts him at the risk of developing adverse health events.³

Alcohol dependence is a complex behavior with far-reaching harmful effects on the family, work, society, as well as on the physical and mental health of the individual. Many of the studies conducted in the field of alcoholism have concluded the comorbidity of alcoholism with medical, behavioral, and emotional problems in those patients. Alcohol use disorders are chronic relapsing conditions, with generally poor outcomes². It is estimated that about 80% of all patients entering alcoholism treatment have other comorbidities like behavioral, emotional, and psychiatric problems and these are associated with worse treatment outcomes. So there is a need to identify specifically the problems affected by the alcoholic patients and find out specific interventions to solve these problems.⁴

Alcohol consumption, at present, is ubiquitous and has been consistently increasing throughout the world. Globally, harmful use of alcohol causes approximately 3.3 million deaths every year (5.9% of all deaths), and 5.1% of the global burden of disease is attributable to alcohol consumption.^{5,6} It causes more than 60 different disorders and is the third most important risk factor for the global burden of disease.^{5,6}

The Tamil Nadu Overall, the prevalence of alcohol use was found to be 9.4%. Prevalence was more among males (16.8%) as compared to that among females (1.3%). Among those who used alcohol, 29.2% (26) were possible hazardous drinkers, 33.7% (30) had a probable alcohol dependence and 56.2% (50) had experienced harmful effects, based on AUDIT item analysis. The Tirunelveli, prevalence of alcoholism was 35.7% which was comparable to earlier studies done in parts of southern and northern India revealing the prevalence of alcohol use to be from 33% to 50% and 25% to 40% respectively.⁷

pranayama therapy has been found to help patients in many ways such as increasing calmness, increasing awareness of self and surroundings, achieving higher levels of consciousness, increasing attention span, producing a sense of security, and reducing stress. It has also been shown to produce neuro chemical changes in the brain like increasing brain-derived neurotrophic factor (BDNF) levels, decreasing

cortisol levels, and increasing plasma oxytocin levels. On a structural level, it brings about neuroplasticity.⁵

Exercise has been suggested as an alternative approach in the prevention or treatment of AUDs^{8,9,10} Physical activity is unique in the sense that it is available to people who may not have access to other forms of treatment, such as psychological intervention or medication. It can also act as a alternative healthy activity versus addiction¹¹ and enhance mood and psychological wellbeing¹². However, treatment with the implementation of physical activity, as opposed to medication, requires the active participation of the individual and not the passive acceptance of treatment. Although it has been reported that exercise produces a feeling of wellbeing, the appropriate type or intensity of exercise that is required to improve mood remains to be elucidated and appears to depend on numerous factors.¹³

Statement Of The Problem

A Comparative Study to Assess the Effectiveness of Pranayama vs Deep Breathing Exercise on Alcohol Dependence Syndrome among Patients with Alcohol Dependence in Selected Hospital at Tirunelveli district

Objectives

1. To assess the pre-test and post-test level of alcohol dependence syndrome among patients with alcohol dependence in groups I and II.
2. To determine the effectiveness of pranayama on alcohol dependence syndrome among patients with alcohol dependence in group I.
3. To determine the effectiveness of deep breathing exercise on alcohol dependence syndrome among patients with alcohol dependence in group II.
4. To compare the effectiveness of Pranayama vs Deep Breathing Exercise on alcohol dependence syndrome among patients with alcohol dependence in group I and group II.
5. To find out the association between the pre-test level of alcohol dependence syndrome and demographic variables and clinical variables of patients with alcohol dependence in group I and group II.

Hypotheses

H₁: There is a significant difference in the pre-test and post-test level of alcohol dependence syndrome among patients with alcohol dependence in group I and group II.

H₂: There is a significant association between pre test score of alcohol dependence syndrome among patients with alcohol dependence and selected demographic and clinical variables.

Materials and Methods

The quasi experimental design was adapted for the study. The study was conducted at Sneak Mind Care Centre, Tirunelveli, Tamil Nadu. A total of 60 alcohol dependence syndrome patients were selected as a sample, among that 30 in group I and 30 in group II. Purposive sampling technique was used for selecting the sample. The data collection period was 6 weeks. The tool used for collecting the necessary information through the demographic variables, clinical variable and severe alcohol dependence questionnaire.

Criteria for Sample Selection

The samples were selected based on the following criteria

Inclusion criteria

Patients with alcohol dependence syndrome

1. In the age group of 18- 65 years with alcohol dependence syndrome.
2. Able to follow the instruction

Exclusion criteria

Patient with alcohol dependence syndrome

1. With critical illness
2. Who are severely debilitated

Setting of the Study

The study was conducted at Sneka Mind Care Centre, Tirunelveli, Tamil Nadu. The Hospital is situated 90 km away from Christian College of Nursing, Neyyoor. It is 80 bedded hospitals, approximately 50 beds in general and special ward and 20 beds in palliative ward with 100% bed occupancy rate. It has the services including ECT, counseling, Rehabilitation and recreational activities such as music, games, news paper etc.

Data Collection Tools and Techniques

The data collection tool used for this study consisted of three sections, section A, section B and section C.

Section A: (Demographic variables)

It was developed by the researcher to assess the demographic variables such as age, sex, religion, educational status, occupation, marital status, family type and family income and residential area.

Section B: (Clinical variables)

The Clinical variables was developed by the researcher the clinical variables such as age at which the alcohol consumption was started, Duration of alcohol dependence, Which type of Fermented beverages, Amount of alcohol consumed in a day, Frequency of alcohol consumption, Precipitating factor for alcohol consumption, Psychosocial problems arisen due to alcohol consumption and previous history of alcoholics de-addiction treatment.

Section C

Section c comprised of SADQ (Severity of alcohol dependence questionnaire). This scale was used to assess the intensity of alcohol dependant among the adult male clients. It consisted of 20 items. The questionnaire was explained to the sample subjects and asked to respond to the each

Method of Data Collection

Data collection was done between the given period of six weeks. A formal permission was obtained from the concerned authorities of the Sneka Mind Care Centre, Tirunelveli. The investigator explained the nature and purpose of the study to the sample subjects. A total of 60 samples was selected by purposive sampling technique. Among the 60 samples 30 samples were in group I and 30 samples were in Group II question the score range from 0-3. The minimum score was 15 and the maximum score was 60.

Data collection procedure was done in three steps

Step 1

1. Investigator explained the nature and purpose of the study to the sample subjects
2. Consent was obtained from the sample subjects
3. Pre-test was conducted from the sample subjects with the SADQ.

Step 2

Pranayama was given for group I and deep breathing exercise was given for group II.

Group 1 (Pranayama procedure)

1. Sit comfortable on the mat
2. Keep the right foot on the left thigh and gently in crossed position, keep the left foot in right thigh, the soles of the feet must be pointed upward.
3. Keep the head and spine upright. Rest both hands on the knee
4. Close the eyes and relax the whole body Place the hand on your belly and other on your rib cage, under the arm
5. Sit up comfortably straight and relax the face and jaw
6. Take a couple of relaxed breath Then exhale fully contract the abdomen in as you exhale
7. Allow the air to fill your abdomen after the complete exhalation
8. Once the abdomen is full, allow the air in the ribcage to expand
9. Allow the upper chest fill with air for 5 second and release the air for 10 seconds in 15 minutes.

10. As you exhale it is just opposite. The air moves out of your upper chest, the middle,
11. then lower

• Repeat this for 15 minutes

Group II (Deep breathing exercise procedure)

1. Find a comfortable spot to sit. Make sure your clothing is loose and not restrictive
2. Place your hand lightly on your abdomen just above your navel
3. Take a deep slow breath in through you nose count slowly “one., two., three” And notice your abdomen moving out and your chest raising
4. Slowly exhale this time your mouth making a slight whooshing sound. Count as your breath out “one...., two...., three....” Notice your abdomen drawing in and your chest fall.
5. Take another, deep breath, counting as you do
6. Breath out again, still counting
7. Repeat this for 25 times.

Step 3

Post-test was conducted end of the third week with the same questionnaire.

Table :1 Comparison of the effectiveness of in pre-test Pranayama and post- test among patients with alcohol dependence in group II.

Group	Pre-test		Post test		Mean difference		't' test value	df	p-value
	Mean	SD	Mean	SD	Mean	SD			
Group I	41.16	6.44	21.83	5.07	19.33	7.30	14.49	29	0.000** HS

**-p < 0.001 highly significant

Table :2 Comparison of the effectiveness of deep breathing exercise in pre-test and post- test among patients with alcohol dependence in group II.

Group	Pre-test		Post test		Mean difference		't' test value	df	p-value
	Mean	SD	Mean	SD	Mean	SD			
Group II	37.43	8.85	31.7	8.40	5.73	9.35	3.358	29	0.002* S

*-p < 0.05 significant

Table:3 Comparison of the Mean, standard deviation and 't' values of alcohol dependence syndrome among patients with alcohol dependence in group I and group II.

TEST	GROUP	MEAN	STANDARD DEVIATON	MEAN DIFFERENCE	't' VALUE	df	'p' VALUE
Pretest	Group I	41.16	6.44	3.733	1.867	58	0.067
	Group II	37.43	8.85				NS
Post test	Group I	21.83	5.07	9.866	5.505	58	0.000**
	Group II	31.70	8.40				HS

**-p < 0.001 highly significant, NS-Non Significant

Result and Discussion:

The final data set comprised of 60 alcohol dependence syndrome patients, the demographic data revealed that, most of them 15(50%) in group I and 14(46.7%) in group II, were between the age group of 18- 35 years. With regard to the religion, majority of 23(76.7%) in group I and 24(80%) in group II, were Hindu. Regarding the type of family, majority of 29(96.7%) in group I and 27(90%) in group II. were belongs to nuclear family. Regarding the family monthly income, most of them 5(16.7) in group I and 7(23.3%) in group II, were had Rs. 10001 to Rs. 15000/ month. Based on the education most of them 14(46.7%) in group I and 21(70%) in group II, were had school education. Regarding the residential area, majority of 29(96.7%) in group I and 24(80%) in group II, were living in rural area. Regarding the occupation, majority of 21(70%) in group I 19(63.3) and group II, were employed. In both group 17(56.7%) and group II 18(60%) were married.

Major Findings Of The Study

1. While assessing the alcohol dependence syndrome in alcohol dependence patients, in pre-test score 29(96.7%), had severe alcohol dependence, and 1(3.3%) had moderate alcohol dependence syndrome whereas the post-test majority of patients 19(63.3%) had moderate alcohol dependence, 9(30%) had mild alcohol dependence in group I. In group II 23(76.7%) had severe alcohol dependence and 7(23.3%) had moderate alcohol dependence in pre-test 16(53.3%) had severe alcohol dependence

- 11(36.7%) had moderate alcohol dependence and 3(10%) had mild alcohol dependence
- 2. The effectiveness of Pranayama on alcohol dependence syndrome patients, in group I pre-test mean score was 41.16+6.44 and the same after Pranayama was 21.83+5.07; and t' test values were t=14.49 was very highly significant at P<0.001.
- 3. The effectiveness of deep breathing exercise on alcohol dependence syndrome patients in group II pre-test mean score was 37.43+8.85 and the same after deep breathing exercise the 31.7+8.40; and 't' test values was t=3.358 was very highly was statistically very highly significant at P<0.001.
- 4. While comparing the effectiveness of Pranayama and Deep breathing exercise on alcohol dependence syndrome patients in group I, group II the pre-test mean and standard deviation was 41.16+ 6.44 in group I and in group II 37.43+ 8.85 the mean difference was 3.733 with the 't' value (t= 1.86)7 which was not significant. The post-test mean and standard deviation score was 21.83+ 5.07 in group I and in group II 31.70+ 8.40. The mean difference was 9.866 with the 't' value was (5.505), which was highly significant.
- 5. There is a significant association between the pre- test level of alcohol dependence syndrome and demographic variables in group I such as educational level, marital status and other demographic variable in group I such as age, religion, Type of family, family monthly income, occupation, marital status did not shows any significant association. In group II the

demographic variables such as age, religion, type of family, family monthly income, educational level, residential area, the occupation did not show any significant association.

6. There was a significant association between the pre test level of alcohol dependence syndrome and clinical variable in group I such as which type of fermented beverages, frequency of alcohol consumption, specify the previous history of alcoholic's de-addiction treatment and in group II which type of fermented beverages, amount of alcohol consumed in a day, specify previous history of alcoholic's de-addiction treatment. The other clinical variable in group I such as the age at which the alcohol consumption was started, duration of alcohol dependence, amount of alcohol consumed in a day, precipitating factor for alcohol consumption, psychological problem due to alcohol consumption and group II age at which the alcohol consumption was started, duration of alcohol dependence, frequency of alcohol consumption, precipitating the factor for alcohol consumption, psychological problem due to alcohol consumption did not show any significant association.

Conclusion

The study findings revealed that, there was a significant reduction in alcohol dependence syndrome after Pranayama and deep breathing exercise. While comparing both pranayama and deep breathing exercise, the Pranayama played an important role in reducing the alcohol dependence syndrome.

Implication Of The study

Nursing practice

Nurses must improve their knowledge regarding alternative therapies like Pranayama and Deep breathing exercise.

Nurses can prepare teaching model and learning material for the student nurses on how to handle the alcohol dependent syndrome patients in clinical settings.

Nursing education

1. It should be ensured that the student has adequate knowledge regarding Pranayama and Deep breathing exercise.
2. Nurse educator can encourage the students to conduct in service education regarding various techniques of pranayama and deep breathing exercise. .
3. Available literature and studies related to assess the effectiveness of pranayama vs deep breathing exercise on alcohol dependence syndrome among patients with alcohol dependence

Nursing administration

1. The evidence based practice should be introduced on the research findings.
2. Nursing administrator can encourage the nursing personnel to do the research on different alternative therapies
3. Nurse administrator should highlight the importance of pranayama and deep breathing exercise through media, posters, pamphlets and media.

Recommendation

1. Based on the findings of the study the investigator proposed the following recommendations
2. The study can be conducted with large number of samples for better generalization.
3. A longitudinal study can be conducted to find the long term effect of pranayama and deep breathing exercise.
4. A true experimental study to assess the effectiveness of Pranayama Breathing Techniques in the Management of Anxiety and Depression in alcohol dependence

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