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A study to assess the effectiveness of aerobic exercise on anxiety among alcoholic dependence patients in selected de-addiction centre in Chennai

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Abstract

Alcohol dependence is a Chronic condition often co-morbid with anxiety disorders. Aerobic exercise has shown anxiolytic effect in various population, but it impacts on Alcoholic dependence patient in under study. The objective of the study is to Evaluate the effectiveness of aerobic exercise in reducing anxiety among Alcoholic dependence patients in selected de-addiction center in Chennai. The design selected for the study was one group pretest post-test experimental design. Study was conducted with 30 patients diagnosed with alcoholic dependence who were selected through lottery method. Around 150 patients were residing in the de-addiction center out of which only 30 patients who fulfill the inclusion criteria were participated in this study. The level of anxiety was assessed by using Hamilton anxiety rating scale followed with a planned aerobic exercise like jumping jacks, high knees, squats, were once demonstrated and instructed to do in the morning on daily basis for 7 days and end of the last day post-test anxiety level was assessed by using the same tool. After the aerobic exercise intervention, there was a significant reduction in anxiety level, 50% of the patient experienced moderate anxiety, 46.7% experienced severe anxiety and only 3.3% experienced in severe anxiety category.

Keywords: Alcoholic dependents, anxiety, aerobic exercise

Introduction

Alcoholic dependence is a maladaptive pattern of substances used, leading to a clinically significant impairment or distress as manifested by tolerance withdrawal excessive consumption and social occupation or recreational activity are given up. Person with Alcohol dependence face enormous health consequences. Alcohol dependence is a major cause of mortality and is associated with psychiatry condition, neurological impairment, cardiovascular disease, liver disease and malignant neoplasm. As per the survey eliminated in India whose population is just over a billion, 62.5 million people use alcohol, 8.75 million use cannabis, 2 million use opioids and 0.6 million use sedative or hypnotics. While treatment for alcoholic dependence have demonstrated efficacy (W.R. Milar and Willbourne, 2002) ^[10] relapse remains problematic with rates of relapse in the first year following treatment ranging from 60% to 90% according to Brownell, Marlatt, Lichtenstein and Wilson *et al.* 1986 ^[11] Weiner. Aerobic exercise has been described as a highly recommended life style change activity for relapsed prevention and treatment of addictive disorder more over exercise has minimal side effects then the use of psychotropic medication in short. Exercise may benefit alcoholic attempting recovery from alcohol problems through a number of pleasurable states without the use of alcohol, reduce depressive symptoms and negative mood. In this study, we discussed the rationale and review potential mechanism of action whereby aerobic exercise might benefit alcohol dependent patients in recovery.

Statement of the problem

A study to assess the effectiveness of aerobic exercise on anxiety among alcoholic dependence patients in selected de-addiction center in Chennai.

Objectives

1. To assess the level of anxiety among alcoholic dependence patients before and after aerobic exercise in selected de-addiction center in Chennai.
2. To compare the level of anxiety among alcoholic dependence patients before and after aerobic exercise in selected de-addiction center in Chennai.
3. To find out the association between the level of anxiety among alcoholic dependence patients with their selected demographic variables.

Hypothesis

- There is a significant difference between pretest and post-test levels of anxiety among alcoholic dependence patients in selected Deaddiction centers in Chennai.
- There is a significant association between the level of anxiety among alcoholic dependence patients with their selected demographic variables

Methodology

The quantitative approach was selected and pre-experimental one group pretest and post-test design was used to conduct study in selected de-addiction center in Chennai. Around 150 patients were residing in the de-addiction center out of which only 30 patients who fulfill the inclusion criteria were selected by using lottery method. The level of anxiety was assessed by using Hamilton anxiety rating scale followed with a planned aerobic exercise like jumping jacks, high knees, squats, were once demonstrated and instructed to do in the morning on daily basis for 7 days and end of the last day, post-test anxiety level was assessed by using the same tool.

Results and Discussion

The analysis of demographic variables shows that most of participants were aged between 25 – 40 years and over 50 years, each accounting for 30% of the sample, while 16.7% were between 18-25 years and 23.3% were aged 20-50 years. All participants were male (100%). Regarding

education, 40% had completed high school, while 36.7% were graduates, 20% had a higher secondary education and only 3.3% were illiterate. 60% of the participants were unmarried, while 40% were married. In respect to occupation, 36.7% were engaged in daily wages or coolie work, followed by 30% who were unemployed, 20% working as professional and 13.3% in technical jobs. The nearly half of the participants (40%) reported taking alcohol due to stress, followed by 30% who drank to escape from problems, while 23.3% cited social norms and 6.7% for relaxation. Most participants 76.7% consumed between 200-500 ml of alcohol, 20% drank less than 200 ml and 3.3% consumed over 1 liter. In terms of frequency of alcohol intake, 46.7% drank every 6 hours, while 43.3% drank daily and 10% drank weekly. Regarding treatment, 63.3% had been receiving treatment for the past 3 months, 26.7% for 6 months to 1 year and 10% for the past 3 – 6 months. Additionally, 86.7% had been alcohol dependent for over 1 year, indicating a high level of chronic dependence, while only 3.3% had been dependent for less than 6 months.

1. The first objective was to assess the level of anxiety among alcohol dependence patient before and after aerobic exercise

The level of anxiety among alcoholic dependence patient before and after aerobic exercise was presented in five levels, such as no anxiety, mild, moderate, severe and very severe anxiety and it was analysed comparatively using frequency and percentage. Before the exercise, all patients 100% experienced very severe anxiety, with no patient were normal, mild, moderate or severe anxiety categories. After the aerobic exercise intervention, there was a significant reduction in anxiety level, 50% of the patient experienced moderate anxiety, 46.7% experienced severe anxiety and only 3.3% experienced in severe anxiety category. No patient reached a normal or mild anxiety level after the intervention, indicating that aerobic exercise helped reduce the severity of anxiety through moderate and severe anxiety level persisted in many patients.

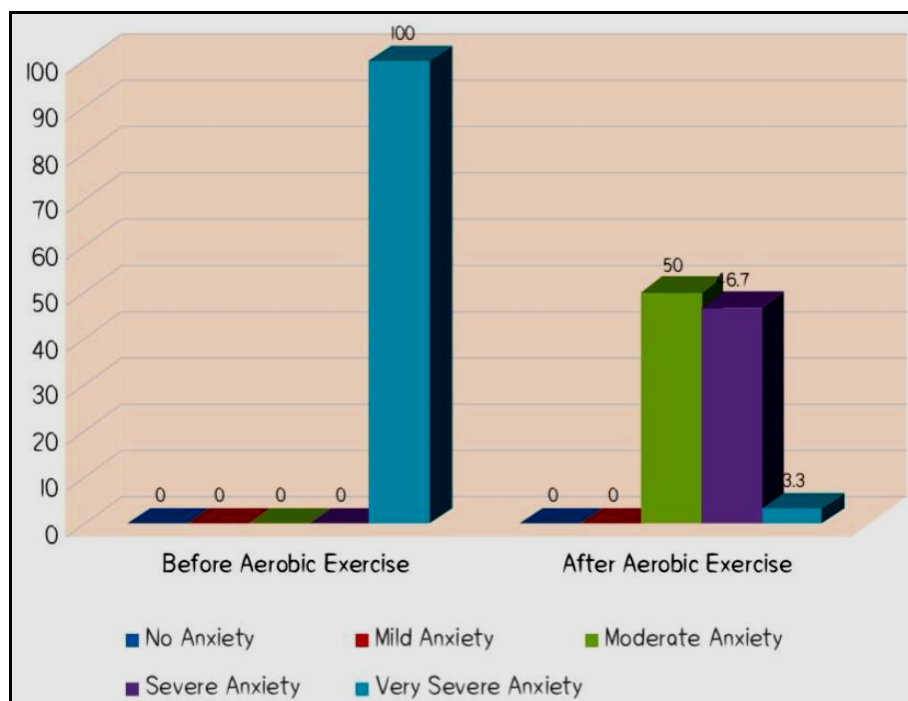


Fig 1: Presents the percentage distribution of levels of anxiety among alcoholic – dependence patients before and after aerobic exercise

The second objective was to compare the level of anxiety among alcoholic dependence patients before and after aerobic exercise in selected de-addiction center in Chennai

While compare the level of anxiety before participating in the aerobic exercise, the mean anxiety score among alcoholic dependence patients was 48.27, with a standard deviation of 2.625. After engaging in the aerobic exercise,

the mean anxiety score was 25.10, accompanied by a standard deviation of 3.407, which reveals that the aerobic exercise had a substantial positive impact on the alcoholic dependence patients, leading to a significant decrease in their anxiety levels. The paired t-value, which was 26.965 with 29 degrees of freedom (df), was notably high. The corresponding significance value was reported as 0.000 ($p < 0.05$), indicating a high level of statistical significance.

Table 1: Mean anxiety score and standard deviation among alcoholic dependence patients before and after aerobic exercise and its level of significance

Observation	Mean	Standard Deviation	Paired t value df=29	Sig value
Before aerobic exercise	48.27	2.625	26.965 *	0.000
After aerobic exercise	25.10	3.407		

N=30

* Significant at $p < 0.05$ df – degrees of freedom

Table 1 presents the mean anxiety score and standard deviation among alcoholic-dependence patients before and after aerobic exercise and its level of significance.

The table concluded that, statistically, there was a significant difference in the mean anxiety score among alcoholic dependence patients before and after aerobic

exercise. Hence the hypothesis, H_1 is accepted, which shows the effectiveness of aerobic exercise on anxiety among alcoholic dependence patients. The findings highlight the potential value of incorporating aerobic exercise as part of anxiety management strategies for alcoholic dependence populations.

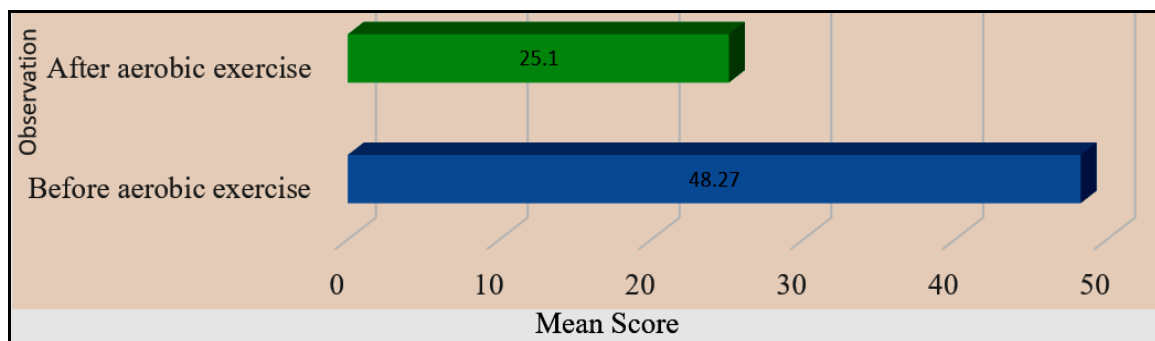


Fig 2: Presents the mean anxiety score among alcoholic dependence patients before and after aerobic exercise

The third objective was to find out the association between the level of anxiety among alcoholic dependence patients with their selected demographic variables.

The association between the level of anxiety and demographic variable among alcoholic dependence patient. no significant association between the selected demographic variable with level of anxiety.

Table 2 Presents the association between the demographic

characteristics and level of Anxiety among alcoholic dependence patient. The finding from the table reveals that there was no significant association between the selected demographic variables such as age, education status, marital status, occupation, the reason for taking alcohol, amount of alcohol intake, frequency of alcohol intake and duration of treatment with the level of Anxiety among alcoholic dependence patient after aerobic exercise.

Table 2: Association between the demographic variable and the level of anxiety among alcoholic dependence patient after the aerobic exercise

Sl. No.	Demographic Characteristics	Level of Anxiety		χ^2 value df	Significant value
		Moderate	Severe /very severe		
1	Age in Years			4.375 NS df = 3	0.224
	18 – 25	2	3		
	40 – 40	4	5		
	40 – 50 50	2 7	5 2		
2	Educational status			0.739 NS df = 2	0.390
	High school	5	7		
	Higher secondary Graduate	5 4	1 7		
3	Marital status			2.222 NS df = 1	0.136
	Married Unmarried	8 7	4 11		
4	Occupation			3.485 NS df = 3	0.323
	Unemployed	3	6		
	Daily wages or coolie	7	4		
	Technical Professional	3 2	1 4		
5	Reason to take alcohol			2.4762 df = 3	0.4796
	Social norms	3	4		
	Stress	8	4		
	Relaxation Escaping from problems	1 3	1 6		
6	Amount of alcohol intake			0.833 df = 1	0.361
	<200 ml >200 ml	4 11	2 13		
7	Frequency of alcohol intake			1.168 NS df = 2	0.338
	6 hours	9	5		
	Daily	5	8		
	Weekly	1	2		
8	Duration of treatment			0.386 NS df = 2	0.824
	Past 3 months	9	10		
	Past 3- 6 month Past 6 months to 1 year	2 4	1 4		

NS – Not significant at $p < 0.05$ * - Significant at $p < 0.05$

Conclusion

The present study was conducted to study the level of Anxiety among alcoholic dependence patient. The study findings showed that majority of the alcohol dependent patients were moderately anxiety after the intervention of aerobic exercise.

Conflict of Interest

Not available

Financial Support

Not available

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