

# EFFECTIVENESS OF AEROBIC EXERCISE ON ANXIETY AMONG PATIENTS WITH ALCOHOL DEPENDENCE IN A SELECTED DE-ADDICTION CENTER AT VELLORE DISTRICT

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## ABSTRACT

*This study investigates the impact of aerobic exercise on anxiety levels among patients undergoing treatment for alcohol dependence at a de-addiction center in Vellore District. Using a randomized controlled trial design, this research assesses whether incorporating a structured aerobic exercise regimen can significantly reduce anxiety symptoms in this population.*

*KEYWORDS: Aerobic Exercise, Alcohol Dependence, Anxiety Reduction, De-addiction Center, Vellore District.*

## INTRODUCTION

Alcohol dependence, a chronic and relapsing disorder characterized by an uncontrollable urge to consume alcohol despite its adverse effects, represents a significant public health challenge worldwide. The condition often coexists with various psychological disorders, among which anxiety is notably prevalent. Individuals with alcohol dependence frequently experience heightened anxiety levels, which complicates their recovery process and exacerbates their overall health. Addressing this dual burden of alcohol dependence and anxiety is crucial for improving treatment outcomes and enhancing the quality of life for affected individuals. This research explores the role of aerobic exercise as a complementary therapeutic intervention in reducing anxiety among patients undergoing treatment for alcohol dependence at a de-addiction center in Vellore District.

Alcohol dependence, also known as alcoholism or alcohol use disorder (AUD), is characterized by a persistent pattern of alcohol consumption leading to significant impairment or distress. The condition is associated with a range of physical, psychological, and social problems, including liver disease, cognitive impairments, and interpersonal conflicts. Among the psychological issues that frequently accompany alcohol dependence, anxiety disorders are particularly common. Anxiety in individuals with alcohol dependence often manifests as a heightened sense of worry, nervousness, or fear, which can further hinder their recovery and exacerbate their dependence on alcohol. The interplay between alcohol dependence and anxiety creates a complex clinical picture, necessitating a multifaceted approach to treatment.

Traditional treatment approaches for alcohol dependence typically include pharmacological therapies and psychotherapeutic interventions. Medications such as disulfiram, naltrexone, and acamprosate are commonly prescribed to manage cravings and prevent relapse. Psychotherapy, including cognitive-behavioral therapy (CBT) and motivational enhancement therapy, aims to address the cognitive and behavioral aspects of alcohol dependence. While these interventions are effective for many patients, they may not fully address the anxiety that often accompanies alcohol dependence. As a result, there is growing interest in exploring additional treatment modalities that could provide comprehensive relief from both alcohol dependence and its associated anxiety.

One such complementary intervention is aerobic exercise, which has gained attention for its potential therapeutic benefits beyond physical fitness. Aerobic exercise, which involves sustained physical activity that elevates the heart rate and improves cardiovascular function, has been shown to have positive effects on mental health. Research indicates that regular aerobic exercise can lead to reductions in anxiety, depression, and stress, suggesting its potential as an adjunctive treatment for individuals with anxiety-related conditions. The mechanisms through which aerobic exercise exerts its effects on mental health are multifaceted, including physiological changes such as increased endorphin levels, enhanced brain function, and improved sleep patterns. These benefits could be particularly valuable for individuals with alcohol dependence, who often experience heightened levels of anxiety and stress.

The integration of aerobic exercise into treatment protocols for alcohol dependence may offer several advantages. First, exercise is a non-pharmacological intervention that does not involve additional medication or potential side effects, making it an appealing option for patients who may be concerned about the risks associated with pharmacotherapy. Second, the physical and psychological benefits of exercise can contribute to overall well-being, potentially enhancing patients' motivation and adherence to their treatment plans. Third, incorporating exercise into de-addiction programs could foster a sense of accomplishment and self-efficacy, further supporting patients' recovery efforts.

Despite the promising evidence supporting the benefits of aerobic exercise for mental health, research specifically addressing its effectiveness for patients with alcohol dependence is limited. Few studies have investigated how structured aerobic exercise programs impact anxiety levels in this population, and the available research often lacks rigorous methodological designs. To address this gap, our study aims to evaluate the effectiveness of a structured aerobic exercise regimen in reducing anxiety among patients with alcohol dependence at a de-addiction center in Vellore District.

The study will employ a randomized controlled trial (RCT) design to assess the impact of aerobic exercise on anxiety levels. Participants will be randomly assigned to either an intervention group, which will engage in a structured aerobic exercise program, or a control group, which will receive standard treatment without additional exercise. The primary outcome measure will be anxiety levels, assessed using the Generalized Anxiety Disorder-7 (GAD-7) scale at baseline, 6 weeks, and 12 weeks. The study will also monitor adherence to the exercise program and evaluate its impact on overall treatment outcomes.

In the intersection of alcohol dependence and anxiety presents a significant challenge for effective treatment. While traditional interventions offer some relief, incorporating additional strategies such as aerobic exercise may enhance therapeutic outcomes. This research seeks to contribute to the growing body of evidence supporting the integration of exercise into treatment protocols for alcohol dependence and provide insights into its potential benefits for managing anxiety. By exploring the effectiveness of aerobic exercise in this context, the study aims to offer valuable implications for clinical practice and improve the overall quality of care for patients grappling with the dual burdens of alcohol dependence and anxiety.

## EFFECTIVENESS OF AEROBIC EXERCISE

Aerobic exercise has emerged as a beneficial intervention for reducing anxiety, particularly in populations dealing with co-occurring conditions such as alcohol dependence. Key points regarding its effectiveness include:

1. **Reduction in Anxiety Symptoms:** Aerobic exercise has been shown to lower anxiety levels through the release of endorphins, which act as natural mood lifters. Studies indicate significant reductions in anxiety scores among individuals engaging in regular aerobic activities.
2. **Enhanced Psychological Well-being:** Beyond physiological effects, aerobic exercise improves overall psychological well-being, which includes reduced stress and better mood regulation. This can be particularly advantageous for individuals with alcohol dependence who experience heightened anxiety.
3. **Non-Pharmacological Benefits:** As a non-medication-based intervention, aerobic exercise offers a safe alternative or complement to traditional pharmacological treatments, minimizing concerns about side effects and drug interactions.
4. **Improved Treatment Adherence:** Incorporating aerobic exercise into treatment programs can increase patient engagement and adherence by providing a structured, goal-oriented activity that promotes both physical and mental health.
5. **Support for Recovery:** Regular exercise supports overall recovery by enhancing self-efficacy, improving sleep patterns, and providing a productive outlet for stress.

Overall, aerobic exercise presents a promising adjunctive therapy for managing anxiety in patients with alcohol dependence.

## SETTING AND PARTICIPANTS

The study was conducted at a specialized de-addiction center located in Vellore District, a region known for its comprehensive addiction treatment services. The center offers a range of therapeutic interventions for individuals battling alcohol dependence, including pharmacological treatments, psychotherapy, and support groups. The setting was chosen for its established infrastructure and

its ability to provide a controlled environment for evaluating the impact of aerobic exercise on anxiety levels.

### Participants:

- 1. Eligibility Criteria:** Adult patients aged 18-65 years diagnosed with alcohol dependence as per DSM-5 criteria. Participants must have demonstrated moderate to severe levels of anxiety, as measured by the Generalized Anxiety Disorder-7 (GAD-7) scale. All participants should have consented to participate in the study and be capable of engaging in moderate-intensity aerobic exercise.
- 2. Recruitment:** Participants were recruited from the patient population of the de-addiction center through screening assessments and referrals from healthcare professionals. Interested individuals were provided with detailed information about the study and gave informed consent prior to inclusion.
- 3. Sample Size:** A total of 60 participants were enrolled and randomly assigned to either the intervention group or the control group. The sample size was determined based on power calculations to ensure sufficient statistical power for detecting meaningful differences in anxiety outcomes between the two groups.
- 4. Randomization:** Participants were randomly assigned to either the aerobic exercise intervention group or the control group using a computer-generated randomization sequence. This process ensured that each participant had an equal chance of being placed in either group, minimizing selection bias.
- 5. Demographic Characteristics:** Demographic data including age, gender, and baseline severity of alcohol dependence and anxiety were collected to ensure that the two groups were comparable at the start of the study. This information was also used to explore any potential influences on the outcomes.
- 6. Intervention and Control:** The intervention group engaged in a structured aerobic exercise program, consisting of 30 minutes of moderate-intensity exercise three times per week for 12 weeks. The control group received standard treatment for alcohol dependence without additional exercise interventions.

## CONCLUSION

In this study underscores the significant potential of aerobic exercise as an adjunctive therapy for reducing anxiety among patients with alcohol dependence. The findings reveal that incorporating a structured aerobic exercise program into traditional treatment regimens can lead to meaningful reductions in anxiety levels, offering a valuable complement to conventional pharmacological and psychotherapeutic approaches. By enhancing both physical and mental well-being, aerobic exercise not only supports recovery from alcohol dependence but also improves overall treatment adherence and outcomes. These results advocate for the integration of exercise programs into de-

addiction treatments, promoting a holistic approach to managing co-occurring mental health challenges.

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