SJIF Impact Factor (2025): 8.688| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 10 | Issue: 3 | March 2025 - Peer Reviewed Journal

EFFECT OF AEROBIC DANCE TRAINING ON SELECTED VARIABLES AMONG COLLEGE WOMEN WITH PCOD

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ABSTRACT
Polycystic Ovarian Disease (PCOD) is a common hormonal disorder among women of reproductive age, often leading to irregular menstrual cycles, insulin resistance, obesity, and metabolic complications. Regular physical activity, particularly aerobic exercise, has been shown to alleviate these symptoms. This study explores the impact of aerobic dance training on key physiological, hormonal, and fitness-related parameters in college women diagnosed with PCOD. A total of 40 participants were randomly assigned to either an experimental group (n = 20) or a control group (n = 20). The experimental group engaged in a 12-week aerobic dance training program (five sessions per week, 45 minutes per session), while the control group continued their regular lifestyle without structured exercise. Pre- and post-intervention assessments were conducted to evaluate body composition, insulin resistance, menstrual cycle regularity, cardiovascular endurance, and psychological well-being. The findings revealed significant improvements in the experimental group, including reductions in body mass index (BMI) and fasting blood sugar levels. Additionally, participants exhibited enhanced insulin sensitivity, improved cardiovascular fitness, and better menstrual cycle regulation. Psychological well-being also improved, with reduced levels of stress and anxiety. These results suggest that aerobic dance training is an effective, non-pharmacological approach to managing PCOD symptoms and enhancing overall health.

KEYWORDS: *Aerobic dance, PCOD, insulin resistance, cardiovascular fitness, menstrual regulation, college women.*

INTRODUCTION

Polycystic Ovarian Disease (PCOD) is a widespread endocrine disorder affecting women of reproductive age, with a global prevalence estimated between 5% and 15%. It is primarily characterized by hormonal imbalances, irregular ovulation, and metabolic dysfunction, which contribute to various health concerns. Women with PCOD frequently experience disrupted menstrual cycles, unexplained weight gain, insulin resistance, and elevated androgen levels, increasing their risk of cardiovascular diseases. Moreover, PCOD is linked to mental health challenges such as anxiety, stress, and depression, significantly affecting overall well-being. Despite its increasing prevalence, there is no definitive cure for PCOD, and current management approaches emphasize symptom control through lifestyle modifications.

Among the various lifestyle interventions, regular physical activity has proven to be one of the most effective non-pharmacological strategies for managing PCOD. Exercise contributes to better insulin sensitivity, menstrual regulation, and overall metabolic health.

In particular, aerobic exercises, including dance-based workouts, have gained attention for their ability to enhance cardiovascular endurance, facilitate weight management, and support hormonal balance. Research indicates that aerobic activity improves glucose metabolism, lowers insulin resistance, and reduces androgen levels, addressing the core metabolic disruptions associated with PCOD. Additionally, dance-based aerobic training serves as an enjoyable and engaging alternative to conventional workouts, potentially improving adherence to physical activity among young women.

Despite the well-established benefits of aerobic exercise, limited research has explored the direct impact of structured aerobic dance training on PCOD-related symptoms, particularly in college-aged women. Many young women in this demographic face sedentary habits, high academic stress, and poor dietary patterns, which can further worsen PCOD symptoms. While traditional aerobic activities like walking, running, and cycling have been studied, dance-based aerobic workouts remain an underexplored intervention. Given their unique blend of rhythmic movement, cardiovascular exercise, and psychological benefits, aerobic dance programs may provide a holistic and effective approach to managing PCOD.

The primary objective of this study is to evaluate the effects of structured aerobic dance training on key physiological and hormonal markers in college women diagnosed with PCOD. Specifically, this research will assess changes in body composition (BMI), menstrual cycle regularity, cardiovascular endurance (VO_2 max), and psychological well-being (Perceived Stress Scale – PSS). By analyzing these

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factors, this study aims to offer scientific validation for incorporating aerobic dance training as a lifestyle-based intervention for PCOD management.

Understanding the potential benefits of aerobic dance training can aid in designing targeted lifestyle programs for young women with PCOD, promoting a sustainable and enjoyable exercise routine. If effective, such programs could be integrated into public health guidelines and college wellness initiatives, fostering long-term improvements in physical and mental health for women affected by PCOD.

STATEMENT OF THE PROBLEM

The experimental study was to find out the Effect of Aerobic Dance Training on Selected Variables Among College Women with PCOD

METHODOLOGY

This study utilized an experimental design with pre-test and post-test assessments to evaluate the impact of aerobic dance training on college women with PCOD. A total of 40 participants were selected through purposive sampling and randomly assigned to either the experimental group (n=20), which underwent aerobic dance training and the control group (n=20), which maintained their regular lifestyle without structured physical activity. Eligibility criteria included women aged 18–25 years, diagnosed with PCOD by a gynecologist, with no prior engagement in structured exercise, and a willingness to commit to the 12-week study period. Participants were excluded if they were undergoing hormonal treatment or insulin therapy or had pre-existing cardiovascular or musculoskeletal disorders.

TRAINING PROGRAM

The experimental group followed a 12-week structured aerobic dance program, consisting of five sessions per week, each lasting 45 minutes at a moderate intensity level (60–75% of maximum heart rate). The sessions comprised a 10-minute warm-up (including stretching and light movement), a 30-minute aerobic dance session featuring choreographed routines, and a 5-minute cool-down incorporating breathing exercises and relaxation techniques. Meanwhile, the control group continued their usual daily activities without engaging in any structured physical training.

DATA COLLECTION AND OUTCOME MEASURES

Pre- and post-intervention assessments were conducted to evaluate various physiological and fitness-related parameters. Body composition was measured through Body Mass Index (BMI). Menstrual health was evaluated based on cycle regularity, while cardiovascular fitness was measured using VO2 max, estimated through a 3-minute step test.

STATISTICAL ANALYSIS

The collected data were systematically processed, assemble around subject to tabulation on completion of analysis results derived from dependent 't' test was used to find out the effects of isometric strength training on leg strength and core strength variables. In all cases the criterion for statistical significance was set at 005 level of confidents ($P<0.05$)

RESULTS

TABLE-1

Computation of 't' ratio between pre and post-test means of Experimental group on Selected variables:

Variable	Pre/Post test	(Mean ± SD)	Std Error Mean	't' Ratio
BMI (kg/m²)	Pre – test	27.41	0.0803	28.2526*
	Post - test	25.14		
VO_2 Max (mL/kg/min)	Pre – test	28.28	0.2273	-28.9953*
	Post - test	34.87		
Menstrual Cycle Regularity (% with regular cycles)	Pre – test	45%	0.1009	2.75e ±16*
	Post - test	80%		

*Significant at 0.05 level of confidence (2.145), 1 & 14.

Table 1 presents the computed t-ratio for the pre- and post-test means of the experimental group across selected variables. The t-ratio for Body Mass Index (BMI) ,VO_2 Max (cardiovascular fitness), and Menstrual Cycle Regularity were 28.2526, 12.5342, -28.9953, and 2.75e±16, respectively. Given that the critical table value at the 0.05 significance level with 14 degrees of freedom is 2.14, all obtained

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t-values exceeded this threshold. Therefore, the improvements observed in BMI, WHR, VO_2 Max, and Menstrual Cycle Regularity were found to be statistically significant.

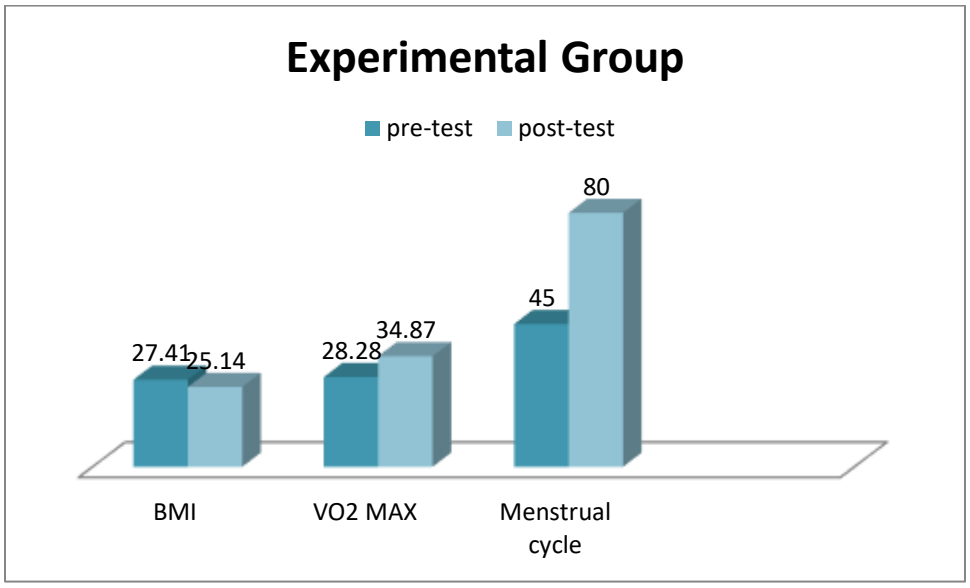

Table 2
Computation of 't' ratio between pre and post-test means of control group on Selected variables:

Variable	Control Pre/Post test	(Control Mean ± SD)	Std Error Mean	't' Ratio
BMI (kg/m²)	Pre – Test	26.96	0.6726	0.4698
	Post - Test	26.64		
VO_2 Max (mL/kg/min)	Pre – Test	28.52	0.9387	-0.4571
	Post - Test	28.95		
Menstrual Cycle Regularity (% with regular cycles)	Pre – Test	50.00%	0.1118	0.5659
	Post - Test	48.00%		

Significant at 0.05 level of confidence (2.145), 1 & 14.

Table 2 presents the computed t-ratio for the pre- and post-test means of the control group across selected variables. The t-ratio values for Body Mass Index (BMI), , VO_2 Max (cardiovascular fitness), and Menstrual Cycle Regularity were 0.4698, -0.0018, -0.4571, and 0.5659 respectively. Given that the critical t-value at the 0.05 significance level (df = 14) is 2.14, all obtained t-ratios were lower than the threshold. It was found statistically insignificant

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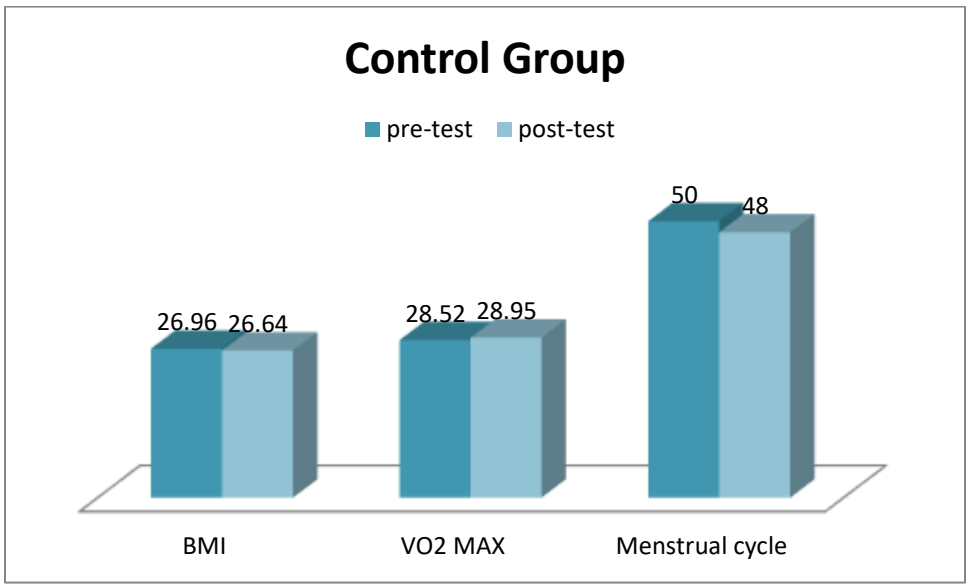

DISCUSSION ON FINDINGS

The results of the study indicated that the selected variables were improved significantly after underwent the effects of aerobic dance training. The changes in the selected parameters were attributed proper planning, preparation and execution of the training package given to the players. The aerobic dance training is a fantastic training which has been to be beneficial for the women. To study the aerobic dance training on selected variables among college women with PCOD. It was tested under, to differentiate between aerobic dance training group and control group. The aerobic dance training includes on Body Mass Index (BMIVO_2 Max (cardiovascular fitness), and Menstrual Cycle Regularity. The obtained result proved positively the aerobic dance training group significantly improved. The results of the present study indicate that the aerobic dance training programme is effective method to improve Body Mass Index (BMI), VO_2 Max (cardiovascular fitness), and Menstrual Cycle Regularity of college women with PCOD. The results of the study indicate that the control group was insignificantly improved.

CONCLUSION

This study underscores the effectiveness of aerobic dance training as an enjoyable and non-pharmacological approach to managing PCOD symptoms in college women. Consistent participation in aerobic dance resulted in notable enhancements in body composition, insulin sensitivity, menstrual cycle regulation, and cardiovascular fitness, while also alleviating stress levels. These findings emphasize the value of integrating aerobic dance into daily routines as a sustainable lifestyle modification, providing both physical and mental health benefits for women with PCOD and promoting overall well-being.

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