



P-ISSN: 2394-1685
E-ISSN: 2394-1693
Impact Factor (RJIF): 5.38
IJPESH 2025; 12(2): 267-270
© 2025 IJPESH
<https://www.kheljournal.com>
Received: 06-02-2025
Accepted: 09-03-2025

K Thrisha

Master of Physical Education
Student, Department of Physical
Education, Bharathiar
University, Coimbatore, Tamil
Nadu, India

RS Suma

Assistant Professor, Department
of Physical Education,
Bharathiar University,
Coimbatore, Tamil Nadu, India

RG Giridharaprasath

Guest Lecture, Department of
Physical Education, Bharathiar
University, Coimbatore, Tamil
Nadu, India

Corresponding Author:

K Thrisha

Master of Physical Education
Student, Department of Physical
Education, Bharathiar
University, Coimbatore, Tamil
Nadu, India

Assessment of body mass index and influence of aerobic dance on women student

K Thrisha, RS Suma and RG Giridharaprasath

Abstract

This study was designed to assess the body mass index and influence of Aerobic Dance on Women students. To achieve the purpose of the study with 250 women students were selected from Bharathiar University. All the subjects were subjected through body mass index assessment. After the assessment those who are poor in BMI, they were randomly 30 students were selected for experimental purpose. The selected subject was randomly assigned into two equal groups, consist of fifteen each, namely experimental group (n=15) and Control group (n=15). The Aerobic dance training was given to the experimental group for 3 days per week (Monday, Wednesday and Friday) for the period of twelve weeks. The control group was not be given any sort of Aerobic dance training except their routine work. The data collected from the subjects was statistically analyzed with 't' ratio to find out significant improvement if any at 0.05 level of confidence. The result of the Aerobic dance was decreased the Body Mass Index of college women students.

Keywords: Aerobic dance, body mass index

Introduction

In today's fast-paced world, sedentary lifestyles have become increasingly common, particularly among students who are often engaged in academic work, digital interactions, and other stationary activities. The lack of physical activity, coupled with unhealthy eating habits, has led to rising concerns over obesity and its associated health risks. Humans were created to engage in physical activity and are linked to improved health. A physically active lifestyle has developed, and many people tend to be insufficiently lively. One of the frustrating and exciting aspects of current health problems is that individuals can modify their health status and control major health risks. The frustrating aspect is that many people have difficulties trying to change unhealthy lifestyles. But the exciting aspect is that they can gain control of their health. Body Mass Index (BMI) serves as a fundamental measure to assess an individual's weight status and overall health, providing insights into the risks of metabolic disorders such as hypertension, diabetes, and cardiovascular diseases. Physical fitness plays a crucial role in maintaining optimal health, and among various forms of exercise, aerobic dance has gained popularity as an enjoyable and effective fitness activity. Aerobic dance combines rhythmic body movements with music, making it a sustainable and engaging workout option, particularly for women students. It not only aids in weight management by enhancing calorie expenditure but also improves cardiovascular endurance, muscular strength, flexibility, and mental well-being. Unlike traditional workout routines, aerobic dance fosters motivation and consistency, encouraging participants to adopt a more active lifestyle.

Women's health empowerment is a new movement that has gotten a lot of coverage in recent years all over the world. In today's world, sedentary lifestyles and health issues are becoming more prevalent as the generation becomes more advanced and inactive. This is a hot issue that needs to be tackled to maintain health and fitness and live a long and productive life. A person with a healthy body and mind contributes to the socioeconomic development of any nation. There are several factors like poor hygiene, bad habits, human conduct, poor sanitation, laziness, poor posture, use of elevators, use of cars, and so on are some of the causes that contribute to young people's health and fitness, either indirectly or directly. According to the department of health and human service United States (2011) Health related quality of life has

been defined as “an individual’s or group’s perceived physical and mental health over time. Human beings are so preoccupied that they have little time for their relatives, let alone themselves and their well-being. They are not preserving their health as a result of our fast-paced society, which is becoming increasingly prosperous. As a result, it can be concluded that women’s health, fitness, and wellness must be improved for their personal, professional, and family lives. The hypothesized that there would be optimum BMI among college women students and that their would be significant improvement on BMI of college women students due to Aerobic dance training of 12 weeks period. Therefore, the object of this study was to investigate the changes in Body Mass Index for experimental group.

Methods

Experimental Approach to the Problem

In order to address the hypothesis presented herein, we selected 250 women students from Bharathiar university, Coimbatore. All the subjects were subjected through body mass index assessment. After the assessment those who are poor in BMI, they were randomly 30 students were selected for experimental purpose. The selected subject was randomly assigned into two equal groups, consist of fifteen each, namely experimental group (n=15) and Control group (n=15). The respective aerobic dance training was given to the experimental group the 3 days per week (alternate days) for the training period of twelve weeks. The control group was not given any sort of Aerobic dance training except their routine.

Design

The study was formulated as a pre test and post test random group design, in which thirty women students were randomly

assigned into two groups of I (n=15) and II (n=15) students. Group I (n=15) was considered as experimental group (EG), Group II (n=15) was considered as control group (CG). Experimental group (EG) training was given for the period of twelve weeks and the subject in control group (CG) will not engaging in any kind of physical activity. The subject of group I was selected based on over weight and obesity women students.

Training Programme

Control group was not exposed to any treatment. The experimental groups were treated with their respective aerobic dance program for the period of six weeks after the training period the post test was conducted. In such training session, the training was impaired for a period of 60 minutes which included warm down after the aerobics dance program if for three days per week for period of six weeks. The length of aerobic dance intervention for this study was based on the fact that six weeks has shown to be sufficient to prove significant changes in their weight for overweight and obese women students. The experimental group underwent their respective dance program under the supervision of the investigator. Training was offered for six weeks for three days in a week. Every session was for one hour including 10 minutes of warm up and 10 minutes of warm down.

Statistical Analysis

The collected data on height and weight through this found BMI due to the effect of the aerobic dance programme was analysed by using mean and standard deviation. In order to find out the significant improvement paired ‘t’ test will be applied 0.05 level of confidence was fixed to the level of significant.

Table 1: The table shows the body mass index of Women students

Underweight	Healthy weight	Overweight	Obese
60 (24%)	154 (61.6%)	27 (10.8%)	9 (3.6%)

Table 1 reveals that the percentage of body composition of women students. The result of the study observed out of 250 women students that 9 women students were obese (3.6%), 27

women students were overweight (10.8%), 154 women students were healthy weight (61.6%) and 60 women students were under weight (24%).

Table 2: Computation of ‘t’-ratio between pre and post test means of experimental group on BMI

Group	Variables	Mean	Standard Deviation	Standard Error mean	t-ratio
Experimental Group	Pre	27.46	1.42	0.36	33.36*
	Post	25.06	1.38	0.35	

*Significant at 0.05 level of confidence (2.14), 1 and 14.

Table 2 reveals the computation of ‘t’ ratio between mean of pre and post test on BMI of women students. The mean values of pre and post test of experimental group were 27.46 and 25.06 respectively. Since, the obtained ‘t’ ratio 33.36 was less than the required table 2, it was found to be statistically

significant for the degree of freedom 1 and 14 at 0.05 level of confidence. The result clearly indicated that the BMI of the experimental group improved due to the influence of aerobic dance.

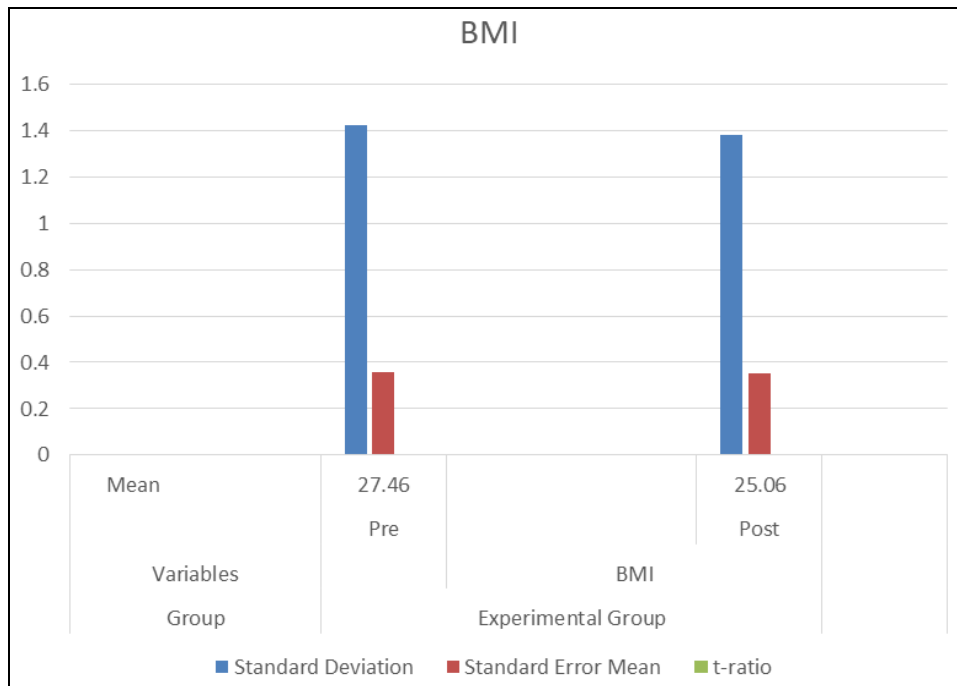
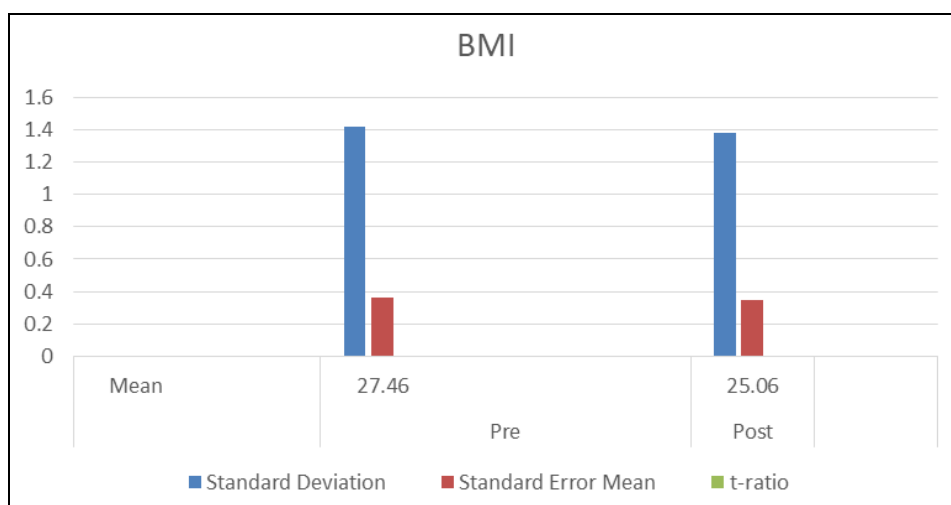


Table 3: Computation of 't'-ratio between pre and post test means of control group on BMI

Group	Variables	Mean	Standard Deviation	Standard Error Mean	t-ratio
Control Group	BMI Pre	27.90	1.64	0.42	-1.46
	BMI Post	28.04	1.82	0.46	

*Significant at 0.05 level of confidence (2.14), 1 and 14.

Table 3 reveals the computation of 't' ratio between mean of pre and post test on a BMI. The mean values of pre and post test of control group were 27.90 and 28.04 respectively. Since, the obtained 't' ratio -1.46 was lower than the required table 3, it was found to be statistically not significant for the degree of freedom 1 and 14 at 0.05 level of confidence. The result clearly indicated that the BMI of the control group had not improved due to the influence of aerobic dance.



Discussion and Findings

The result of the study conducted 6 weeks of Aerobic dance was decrease the Body Mass Index of college women students. The findings of the present study had similarity with the findings of the investigations referred in this study. Tangarani *et al.*, (2013) concluded that the exercise intervention in the form of aerobic dance performed for twelve weeks is effective in reducing body fat in young women. Jang (2019) [4] evaluated 8 weeks of aerobic and resistance exercises decreasing the percentage of body fat in obese middle-aged women. Jin *et al.*, (2018) [7] investigated that eight weeks of combined training of aerobic and resistance exercises decrease the percentage of body fat. Kelley (2019) [9] discovered that exercise interventions decrease the percentage of body fat. Bupesh (2021) [11] evaluated 12 weeks of resistance training decreasing the

percentage of body fat among obese male students. Hopkins *et al.*, (1990) [3] reported that 12 weeks of low impact aerobic dance, the group improved significantly on all functional fitness components. Kavitha (2024) [8] concluded that 12 weeks twelve weeks aerobic dance significantly improved the flexibility of college women. Jaywant (2013) [5] conducted aerobics as highly effective in weight loss. Pallavi Sawant *et al.*, (2014) [2] observed that aerobic dancing class's climate can affect maintaining and enhancing well-being. Hopkins *et al.*, (1990) [3] reported that 12 weeks of low impact aerobic dance, the group improved significantly on all functional fitness components.

Conclusions

The study concluded that Bharathiar University Women students have optimum Body mass Index. The study also

concluded the significant improvements in Body Mass Index of obese and overweight women students due to the influence of Aerobic dance.

References

1. Bupesh, Baiju. Investigation on the changes on percentage of body fat and total cholesterol due to resistance training among obese male students. *Int J Phys Educ Sports Health*. 2021;8(6):75-76.
2. Sawant P, Gadkari JV. The efficacy of Cooper Protocol dance aerobics in causing physiological changes in the endurance capacity of middle-aged women. *Int J Basic Appl Physiol*. 2014;3(1):47-50.
3. Hopkins D. Effect of low-impact aerobic dance on the functional fitness of elderly women. *J Strength Cond*. 1990;6(2):63-74.
4. Jang SH, Paik IY, Ryu JH, Lee TH, Kim DE. Effects of aerobic and resistance exercises on circulating apelin-12 and apelin-36 concentrations in obese middle-aged women: a randomised controlled trial. *BMC Womens Health*. 2019;19(1). <https://doi.org/10.1186/s12905-019-0722-5>
5. Jaywant PJ. Effect of aerobic dance on the body fat distribution and cardiovascular endurance in middle-aged women. *J Exerc Sci Physiother*. 2013;9(1):6-10.
6. Jhajharia S. Improvement of women's health, fitness, and wellness for better personal, professional, and family lives. [No journal name or publication details provided].
7. Jin CH, Rhyu HS, Kim JY. The effects of combined aerobic and resistance training on inflammatory markers in obese men. *J Exerc Rehabil*. 2018;14(4):147. <https://doi.org/10.12965/jer.1836294.147>
8. Kavitha. Effect of aerobics dance training on selected physical fitness variables of college women. *J Sports Sci Nutr*. 2024;5(1):105-107.
9. Kelley GA, Kelley KS, Pate RR. Exercise and adiposity in overweight and adolescents: a systematic review with network meta-analysis of randomised trials. *BMJ Open*. 2019;9(11). <https://doi.org/10.1136/bmjopen-2019-1220>
10. Tangarani, Gajanana, Prabhu. Effect of aerobic dance training on body composition of young women. *Int J Yoga Physiother Phys Educ*. 2018;3(2):158-161.