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The Effect Of Zumba Training On Body Composition Variables Among University Girls: A Comparative Study

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Abstract

The purpose of this study was to examine the effect of Zumba training on body composition variables among university girls. Zumba, a popular fitness program combining dance and aerobic movements, has gained prominence as an effective physical activity for improving health and fitness. This study specifically investigated changes in body weight, body mass index (BMI), body fat percentage, and lean body mass. A comparative analysis was conducted between an experimental group that participated in Zumba sessions and a control group that underwent a structured fitness training programme. The results of the study found that there was a significant difference among Pre-data and Mid-data. There was a significant difference in BMI, Fate % , Subcutaneous fat % and skeletal muscle mass among university girls. It was found that significant difference in BMI in pre data & mid data with values ($t = 0.919$, $p > 0.05$) and fat % where pre data & mid data with values ($t = 1.171$, $p > 0.05$). Further significant differences were found in subcutaneous fat % ($t = .160$, $p > 0.05$) and Skeletal Muscle Mass ($t = .060$, $p > 0.05$).

Keywords: Zumba, body composition, university girls, fitness, physical activity.

Introduction

Physical fitness and health are critical components of a balanced lifestyle, especially for young adults in their university years. This stage of life often witnesses significant lifestyle changes, including altered dietary patterns, sedentary behavior, and irregular physical activity. These factors collectively contribute to variations in body composition, which is a critical indicator of overall health and fitness. In recent years, innovative and engaging fitness programs like Zumba have emerged as popular methods for addressing these health concerns. Zumba, a Latin-inspired dance fitness program, integrates aerobic exercises with rhythmic dance movements, providing a fun and effective way to improve physical health. This study focuses on analyzing "The Effect of Zumba Training on Body Composition Variables Among University Girls: A Comparative Study."

Importance of Body Composition in Health

Body composition refers to the proportion of fat, bone, water, and muscle in the human body. It serves as a more comprehensive measure of health compared to traditional metrics like body weight or Body Mass Index (BMI). An optimal body composition—characterized by a lower percentage of body fat and a higher lean muscle mass—is associated with improved cardiovascular health, enhanced metabolic efficiency, and reduced risk of chronic diseases such as diabetes and hypertension.

For university girls, maintaining a healthy body composition is especially crucial. This demographic is often susceptible to unhealthy behaviors like excessive snacking, reduced physical activity, and stress-induced weight gain. These behaviors can lead to increased fat mass, reduced muscle mass, and long-term health consequences. Thus, incorporating effective interventions such as Zumba training can play a pivotal role in fostering healthier lifestyles.

Rise of Zumba Training as a Fitness Trend

Zumba has gained global popularity since its inception in the early 2000s. Created by Colombian dancer and choreographer Alberto "Beto" Perez, Zumba combines elements of dance and aerobic exercise, making it an enjoyable and energetic fitness activity. Its accessibility and adaptability have made it a preferred choice among diverse age groups, particularly among young women seeking alternative ways to engage in physical activity. Unlike traditional gym workouts, Zumba provides a social and motivational environment, which helps participants sustain their fitness routines over time.

The appeal of Zumba lies in its ability to blend physical exercise with cultural expression. The music and movements are derived from various dance forms, including salsa, merengue, reggaeton, and hip-hop. This diversity not only keeps the participants engaged but also ensures a full-body workout, targeting multiple muscle groups and improving cardiovascular endurance. For university students, Zumba sessions also offer a break from academic stress, contributing to overall well-being.

Body Composition Variables and Zumba Training

The primary body composition variables include body fat percentage, lean body mass, muscle mass, and visceral fat. These variables provide insights into the effectiveness of fitness programs like Zumba in altering body composition. Aerobic and anaerobic exercises incorporated in Zumba help burn calories, enhance muscle tone, and improve overall metabolic rate.

Studies have shown that regular Zumba training can lead to significant reductions in body fat and increases in lean muscle mass. The high-intensity intervals and continuous movement in Zumba sessions promote fat oxidation and caloric expenditure, while the resistance offered by certain dance movements contributes to muscle strengthening. Additionally, Zumba’s emphasis on core stability and flexibility helps improve posture and functional fitness.

Relevance of the Study

University girls represent a unique population for studying the effects of Zumba training on body composition. This demographic often faces a dual burden of academic stress and physical inactivity, leading to unfavorable health outcomes. As such, there is a pressing need to identify fitness interventions that are not only effective but also enjoyable and sustainable.

This study aims to fill a gap in the existing literature by focusing on university girls and examining the specific effects of Zumba training on body composition variables. A comparative approach is adopted to evaluate the efficacy of Zumba against other forms of exercise or no exercise at all. This comparison provides a deeper understanding of Zumba's potential as a holistic fitness solution.

Objectives of the Study

The primary objectives of this study are:

1. To analyze the impact of Zumba training on body composition variables such as body fat percentage, lean body mass, and muscle mass among university girls.
2. To compare the effectiveness of Zumba training with alternative fitness interventions or a sedentary lifestyle.
3. To identify the psychological and social benefits of Zumba training, including its influence on motivation, self-esteem, and adherence to physical activity.
4. To provide actionable insights for integrating Zumba into university fitness programs and promoting healthier lifestyles among students.

This study aimed to evaluate the effect of six week Zumba training program on body composition variables, including body weight, BMI, body fat percentage, and lean body mass, among university girls. The findings could provide insights into Zumba's potential as an effective fitness strategy for young adults.

Methodology

In this section the procedure for selection of subjects, selection of variables criterion measures, experimental design, procedure for administration of tests, administration of training programme and the statistical technique employed for analysis of data have been describe.

Selection of the Subjects

For the purpose of the study eighty college Girls free from deformities and ailments were selected randomly from **Guru Ghasidas Vishwavidyalaya**, Bilaspur, Chhattisgarh, India. The age range of 18-25 years was taken as a subject for the present study.

Selection of the Variables

Body Composition Variables-

1. BMI
2. Fat %
3. Subcutaneous Fat % (Whole Body)
4. Skeletal Muscle Mass (Whole Body)

Criterion Measures

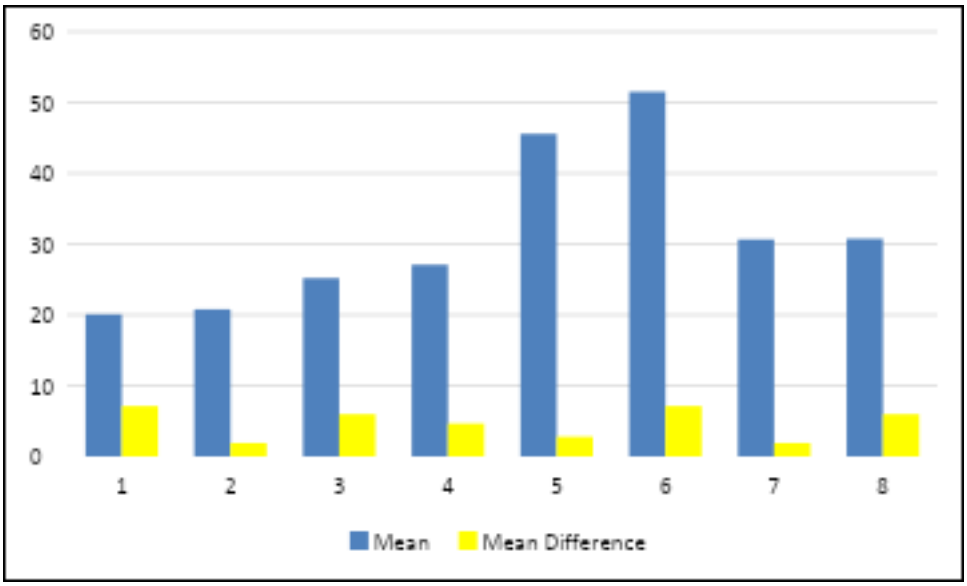
Body Composition measured by Karada Scan Body Composition Monitor.

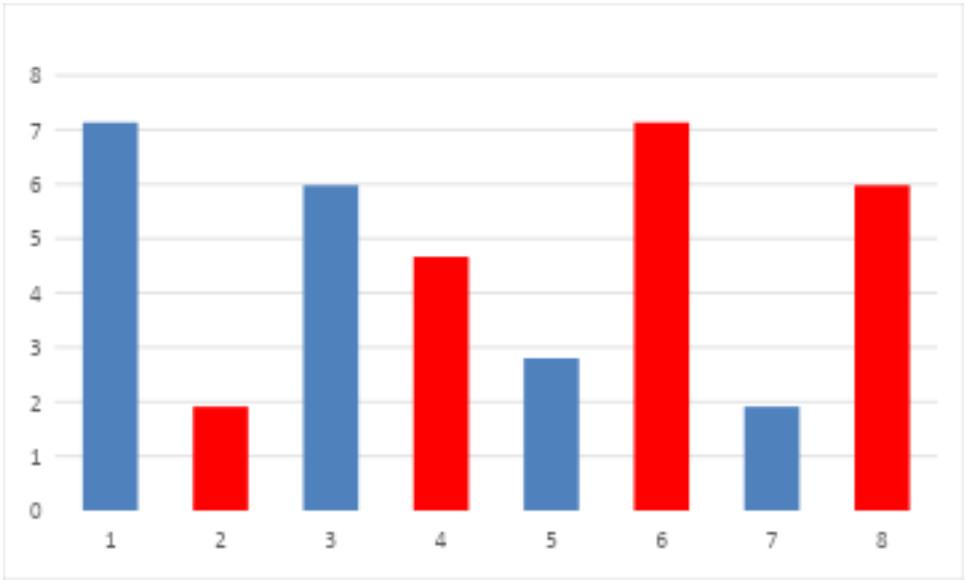
Statistical analysis

To compare the selected **Body Composition** variable of **University Girls,** following statistical techniques were applied to assess the data:

i. Mean
ii. Standard Deviation.
iii. Independent T-test.

	Data	N	Mean	Mean Difference	Std. Deviation	Std. Error Mean	t	Std. Error Difference
BMI	**Pre Data**	30	20.08	7.13	2.71	.49	.919	.77
	Mid Data	30	20.79	1.91	3.27	.59		
FAT %	**Pre Data**	30	25.18	5.98	5.85	1.06	1.17	1.63
	Mid Data	30	27.09	4.66	6.78	1.23		
Subcutaneous fat % (Whole Body fat)	**Pre Data**	30	45.53	2.80	143.49	26.19	.160	37.28
	Mid Data	30	51.51	7.13	145.33	26.53		
Skeletal Muscle Mass.	**Pre Data**	30	30.67	1.91	2.87	.52	.060	.783
	Mid Data	30	30.72	5.98	3.18	.58		





Results and Discussion - The results of the study found that there was a significant difference among Pre-data and Mid-data. There was a significant difference in BMI, Fate %, Subcutaneous fat % and skeletal muscle mass among university girls. It was found that significant difference in BMI in pre data & mid data with values ($t = 0.919$, $p > 0.05$) and fat % where pre data & mid data with values ($t = 1.171$, $p > 0.05$). Further significant differences were found in subcutaneous fat % ($t = .160$, $p > 0.05$) and Skeletal Muscle Mass ($t = .060$, $p > 0.05$).

The significant difference in body composition variables in pre-data and mid data of university girls was probably due to zumba training sessions as zumba being the cardio work out significantly affects the overall body. Zumba training results in reduction in fat percentage, BMI & subcutaneous fat percentage. Zumba also leads to increase in hike of skeletal muscle mass as it is a form of cardio & strength training work out. This has been supported by the study conducted by Sanjay,Rajguru .V et.al (2021) an Intervention training on Zumba.The six weeks training period has led to drastic changes in body composition in university girls were consistently undergoing zumba sessions without fail. Several studies indicate the impact of Zumba dancing, particularly for women, on controlling body weight and VO2 max. The strategy program for this dance varies depending on the individual's level of fitness. The program's length and approach can be adjusted based on participants' health status and the anticipated results of various participant groups. In later rounds of the program, participants are

trained for more complex bodily movements after beginning with simpler ones. Meta analysis report on this program has stated as females are more involved in this type of activities to improve their physical fitness. Zumba practice and other physical activities serve to emphasize the potential advantages of fitness and health for various communities. It is crucial to determine how this program compares to other forms of physical activity and when combined with other programs. It is advised that more research be done to compare the impact of this Zumba dancing to other aerobic activities. In order to promote this practice to persons with mental and physical illnesses, it is necessary to determine other outcomes besides its impact on fitness, weight, and VO2 max.

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