

EFFECT OF ZUMBA FITNESS TRAINING ON PULMONARY FUNCTION OF SEDENTARY WOMEN

By,

¹Naorem Ramchandra Singh & ²Dr. Y. Santikumar Singh

¹Research Scholar, Department of Physical Education and Sports Science, Manipur University

Mail: ram.naorem7@gmail.com

ORCID Id: <https://orcid.org/0009-0002-6585-7905>

²Assistant Professor, Department of Physical Education and Sports Science, Manipur University

Mail: santikumar12340@gmail.com

ORCID Id: <https://orcid.org/0000-0002-3628-3335>

ABSTRACT

Introduction: Physical inactivity has become a serious concern for numerous health issues in recent years and can accelerate the inflammatory cascade in patients' lungs. Exercise and Physical Activity are very important for healthy living. Exercise has its benefits its overall health, fitness and quality of life. Exercise on a regular basis reduces the risk of acquiring hypokinetic disorders, including diabetes, heart disease, stroke, COPD, and other conditions. In recent years, pulmonary disorders have increased. With 3.23 million fatalities from chronic obstructive pulmonary disease (COPD) in 2019, it is the third leading cause of death worldwide. Of all the causes of pulmonary function decline, aging and sedentary lifestyle are important ones – human lungs mature by about 20-25 years but after about 35 years, its normal function decline. To prevent from these complications, there are many ways and exercising is an important one and Zumba fitness training has become a very popular form of physical training which combines music with exercise. Its characteristics of dancing in music even encourage women to participate in this fitness program. The purpose of this study is to examine the effect of 12 weeks Zumba fitness training on pulmonary function of sedentary women.

Methods: A total of 62 healthy women were selected randomly. The selected subjects were categorized, according to age, into 2 groups: **Group-1:** 20-30 years group (n=30) and **Group-2:** above 40 years groups (n=32). For Group-1, Experimental Group **EG1**(n=15) and Control Group **CG1** (N=15) were subdivided. As for Group-2, Experimental Group **EG2** (n=17) and Control Group **CG2** (n=15) were further subdivided. Pulmonary test was conducted from all the groups, before 12 weeks Zumba Fitness Training, on Force Vital Capacity (FVC), Force Expiratory Volume in one second (FEV1), Peak Expiratory Flow Rate (PEFR) and FEV1/FVC by using Clarity Spiro-tech Digital Spirometer. The Zumba fitness training was conducted for 1 hour for both experimental groups: EG1 & EG2. A certified Zumba fitness trainer conducted the training at Khagempali Club House, Imphal West (5-6am) for EG2 and VIVA GYM, Imphal west (6.30-7.30 am) for EG1. The warm up lasted 8-10 minutes and performed free hand movements. The main training lasted for around 40 minutes: 2×10 minutes (1minute break) and 4×5 minutes (30sec break) Zumba music training. The post test data was collected from all the groups on pulmonary function. Shapiro-Wilk normality test was conducted, and independent t-test was used to compare the initial data and pair t-test was used to compare pre and post test data all groups.

Findings: The result showed that there was normal distribution found in experimental and control groups of all groups. Further independent t-test showed that there was equal pulmonary function level between experimental and control groups of Group1 and Group2. Sample pair t-test revealed that pulmonary functions improved by participating in regular Zumba Fitness Training. There was significant improvement found in FVC, FEV1, PEFR & FEV1/FVC (p<0.05) in EG1 and EG2. Significant improvement in pulmonary function was achieved in both Zumba Training Groups (p>0.05) as compared to Control Groups.

Conclusion: It was concluded that regular participation in Zumba Fitness Training improves pulmonary function on sedentary women.

Keywords: Zumba, Sedentary, Pulmonary Function, Experimental Group.

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