

Effects of 12 Weeks Circuit Training on Subcutaneous Body Fat %, Skeletal Muscle % and Basal Metabolic Age in Colligate Women



Physical Education

KEYWORDS :

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Introduction

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health reducing life expectancy and increased health problem. Obesity is a leading preventable cause of death worldwide, with increasing prevalence in adults and children and authorities view it as one of the most serious public health problem of the 21st century. In 2013, the American Medical Association classified obesity as a disease. It is defined by Body Mass Index (BMI) i.e. Individual's body mass divided by the square of their height with the universally being given in units of KG/m².

- BMI between 25.0 - 29.9 is over weight
- BMI between 30.0 - 39.9 is class 1 obesity
- BMI between 35.0 - 39.9 is class 2 obesity
- BMI between 40.0 – above is class 3 obesity

Excessive body weight is associated with various diseases i.e. cardio-vascular disease, diabetes mellitus type 2, obstructive sleep apnea, and certain types of cancer, osteoarthritis and asthma. As a result, obesity has found to reduce life expectancy.

A sedentary lifestyle plays a significant role in obesity. In children and youth, there appear to be decline in levels of physical activity due to less walking and physical education. The World Health Organization indicates people worldwide are taking up less active recreational pursuits, while a study from Finland found an increase and a study from the United States found leisure-time physical activity has not changed significantly.

Methods

30 subjects (18-23 years old) were randomly divided into two groups (n=15) Group 1, was rest group (control) and Group 2 (experimental), performed circuit training for 3 days a week. Circuit training was designed with totals of 20 stations. Every alternate station was cardio station with circuit machine. Subjects started and ended with five minutes stretching before and after each session for warm up as well as for cool down. First 2 weeks subjects were asked to perform one complete circuit and second circuit without performing on cardio station. During third and fourth week they were asked to perform complete two circuits. During fifth and sixth weeks subjects performed third circuit without cardio and after that till 12th week they were asked to complete three circuits.

Results

After 12 week training subcutaneous body fat %, Skeletal Muscle % and Basal Metabolic Age were recorded and compared. Statistical analysis was done using paired t test (pre test and post test). When results of Pre test and Post test were compared the data showed significant changes in lowering of fat % and increased muscle %. The reverse co-relation found in reduction of body fat % while increasing of total percentage of muscles in the body. Statistical analysis was done using paired t test (pre

test and post test). The Pre test score of Basal Metabolic Age when compared to Post test the active group showed significant reduction in Basal Metabolic Age.

The significant reduction of subcutaneous body fat percentage and significant reduction in Basal Metabolic Age may be attributed to the well designed circuit training machines which targets different fat sights in the whole body. The significant reduction may also attributed to well defined cardio exercises on cardio station which helped fat to metabolise during every session.

Conclusion

Circuit training appeared to be effective on reduction of subcutaneous fat percentage and Basal Metabolic Age .Circuit training also helped to build up skeletal muscles.

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