

A STUDY TO COMPARE THE EFFECTIVENESS OF CORE STRENGTHENING EXERCISES AND AEROBIC EXERCISES ON CARDIOVASCULAR FITNESS AND HAMSTRING FLEXIBILITY IN YOUNG ADULT OBESE PEOPLE

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ABSTRACT

Background of the Study: Obesity and overweight are characterized by an abnormal or excessive accumulation of fat in the body, which can lead to health risks such as cardiovascular diseases, osteoarthritis, and diabetes. Obesity develops gradually over time due to lifestyle changes, such as a lack of physical activity and a poor diet. It is associated with physiological changes that decrease cardiovascular fitness and flexibility, and there is a strong relationship between obesity and hypertension. Weight gain is linked to an increase in arterial pressure. A study aims to reduce weight and improve cardiovascular fitness and hamstring flexibility in young adult obese individuals by implementing core strengthening exercises and aerobic exercises.

Materials and Methodology: This study was carried out for 4 weeks among 20 young obese people who were selected based on inclusion and exclusion criteria and a simple random sampling technique. In this study, subjects between 18 to 25 years old, males and females, with a BMI of ≥ 25 kg/m² or 35 kg/m², were selected. Pre-reading and post-reading tests were taken by measuring body mass index, waist circumference, blood pressure, and a modified sit-and-reach test. The result of these tests were recorded before the study began and at the end of the fourth week. In this study, the twenty young adult obese people were divided into two groups, namely, Group A (n = 10) and Group B (n = 10). Group A individuals were given core strengthening exercises while Group B individuals were given aerobic exercises. The repetition of the exercises progressed every week.

Results: The two groups exhibited significant differences in cardiovascular fitness and hamstring flexibility before and after the interventions ($p < 0.05$). However, Group B demonstrated a greater increase in cardiovascular fitness and hamstring flexibility compared to Group A. The data analysis and results indicated that aerobic exercises led to improvements in weight reduction, cardiovascular fitness, and hamstring flexibility in young adults with obesity, as opposed to core strengthening exercises. With P values of < 0.0003 for Group A and < 0.0001 for Group B, it is evident that Group B is highly effective and statistically significant.

Conclusion: The study demonstrated significant results ($p < 0.05$), suggesting that aerobic exercises are more effective than core strengthening exercises in improving cardiovascular fitness and hamstring flexibility in obese individuals.

KEYWORDS: Obesity, overweight, core strengthening exercise, aerobic exercise, hamstring flexibility, cardiovascular fitness.