

Abstract

Body Mass Index (BMI) is a widely used indicator to assess body composition and potential health risks. While sedentary behaviour is known to influence physical health outcomes, limited research has focused on how BMI affects physical performance in individuals who maintain an active lifestyle, particularly during middle age.

This study investigates the correlation between Body Mass Index (BMI) and physical health parameters in middle-aged individuals (aged 39–60 years) without sedentary behavior. A total of participants were selected using convenience sampling and categorized into Normal, Overweight, and Obese Class I based on BMI. Physical assessments included upper and lower limb muscle strength (using a hand-held dynamometer), dynamic balance (Y-Balance Test), and cardiorespiratory endurance (6-Minute Walk Test).

Statistical analysis using ANOVA revealed significant differences in upper limb strength and aerobic capacity across BMI groups ($p < 0.05$), while balance and lower limb strength showed no significant variation. The findings suggest that increased BMI negatively impacts certain aspects of physical health, particularly muscular strength and endurance, even in non-sedentary individuals.

This study highlights the importance of maintaining a healthy BMI for preserving functional capacity during middle age and suggests further research with larger populations and longitudinal designs.

Key words “Body Mass Index (BMI), Physical Health, Middle-Aged Adults, Muscle Strength, Y-Balance Test, 6-Minute Walk Test (6MWT), Non-Sedentary Behaviour”.

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