



### Abstract

#### Background

promotes long-term cardiovascular health, reduces the risk of chronic diseases, and improves physical performance. Additionally, musculoskeletal adaptations help prevent injuries, improve mobility, and enhance quality of life. The findings highlight the importance of regular exercise in maintaining both cardiovascular and musculoskeletal health, providing a comprehensive understanding of how physical activity influences overall well-being.

**Key words :** Exercise; Cardiovascular health; Musculoskeletal physiology; Adaptations; Mechanisms; Muscle strength; Bone density

**Introduction**

boosted bone density, mitigating the risk of age-related bone loss [9].