

## **INTISARI**

**Latar belakang:** Perubahan komposisi tubuh terutama pada jaringan lemak berhubungan dengan peningkatan perkembangan penyakit kronis. Aktivitas fisik secara teratur diketahui dapat menurunkan lemak tubuh. *Muscle-strengthening exercise* (MSE) salah satu aktivitas fisik yang perlu dilakukan dan diketahui dapat memperbaiki profil adipositas seseorang. Populasi dewasa muda khususnya di Indonesia, kontribusi aktivitas tersebut masih perlu dipelajari lebih lanjut.

**Tujuan:** Menganalisis hubungan antara frekuensi, intensitas, dan durasi MSE dengan persentase lemak tubuh dan persentase lemak viseral.

**Metode:** Studi *cross-sectional* yang melibatkan 211 mahasiswa laki-laki dan perempuan dari berbagai pendidikan berusia 18-30 tahun. Komponen MSE diasesmen menggunakan *Muscle-strengthening Exercise Questionnaire* (MSEQ) dan profil adipositas diukur menggunakan *Bioelectrical Impedance Analysis*. Faktor-faktor yang memengaruhi lemak tubuh juga diukur untuk dianalisa menjadi variabel kovariat seperti indeks massa tubuh (IMT), perilaku sedenter, aktivitas fisik aerobik, kebugaran kardiorespirasi, hidrasi, dan kesejahteraan mental. Analisis hubungan antar variabel diuji menggunakan Korelasi Spearman dan uji multivariat menggunakan regresi berganda.

**Hasil:** Hasil analisis bivariat menunjukkan terdapat hubungan terbalik yang lemah antara frekuensi, intensitas, dan durasi MSE dengan persentase lemak tubuh dan persentase lemak viseral. Hubungan antara komponen MSE dengan persentase lemak tubuh dan persentase lemak viseral secara signifikan terkait dengan IMT.

**Kesimpulan:** MSE berkorelasi dengan persentase lemak tubuh dan persentase lemak viseral populasi dewasa muda.

**Kata kunci:** latihan penguatan otot, persentase lemak tubuh, persentase lemak viseral, populasi dewasa muda.

## **ABSTRACT**

**Background:** Changes in body composition, especially in fat tissue, are associated with the increased development of chronic diseases. Regular physical activity is known to reduce body fat. Muscle-strengthening exercise (MSE) is one of the physical activities that need to be done and is known to improve a person's adiposity profile. However, in the young adult population, especially in Indonesia, the contribution of these activities still needs to be studied further.

**Objective:** To analyze the relationship between frequency, intensity, and duration of MSE with body fat percentage and visceral fat percentage.

**Methods:** A cross-sectional study involving 221 male and female university students from various educational institutions aged 18–30 years. MSE components were assessed using the Muscle-Strengthening Exercise Questionnaire (MSEQ), and adiposity profiles were measured using bioelectrical impedance analysis. Factors that influence body fat were also measured to be analyzed as covariate variables, such as body mass index (BMI), sedentary behavior, aerobic physical activity, cardiorespiratory fitness, hydration, and mental well-being. Relationship analysis between variables was tested using Spearman correlation and multivariate tests using multiple regression.

**Result:** The results of bivariate analysis showed that there was a weak inverse relationship between the frequency, intensity, and duration of MSE and body fat percentage and visceral fat percentage. The relationship between MSE components and the percentage of body fat and visceral fat percentage significantly involved contributions from BMI.

**Conclusion:** MSE correlates with body fat percentage and visceral fat percentage in the young adult population.

**Keywords:** muscle strengthening exercise, body fat percentage, visceral fat percentage, young adult population.