



**UNIVERSITAS ANDALAS**

**KORELASI *HANDGRIP STRENGTH* DENGAN KAPASITAS LATIHAN UJI  
BERJALAN 6 MENIT PADA PENDERITA GAGAL JANTUNG**



**TESIS**

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## ABSTRAK

Nama : dr. Emelda  
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Judul Tesis : **Korelasi *Handgrip Strength* dengan Kapasitas Latihan Uji Berjalan 6 Menit Pada Penderita Gagal Jantung**

**Latar Belakang:** Penilaian kapasitas latihan pada penderita gagal jantung merupakan bagian yang penting terutama pasca rawatan. Metode yang direkomendasikan oleh *American College of Sports Medicine* (ACSM) pada populasi ini adalah uji berjalan 6 menit. Uji ini memiliki keterbatasan baik dalam penggunaannya maupun interpretasinya bila dihadapkan dengan kondisi tertentu diantaranya deconditioning yang berat, gangguan pada tungkai bawah, kecemasan dan depresi yang sering timbul pada penderita gagal jantung. Hal ini mendorong dilakukannya penelitian pada metode yang bersifat statis namun memiliki respon terhadap sistem kardiovaskular sehingga berpotensi pada penilaian kapasitas latihan, salah satunya *handgrip strength*.

**Metode Penelitian:** Penelitian ini merupakan penelitian *cross sectional* dimana variabel independen dan dependen diamati pada waktu yang bersamaan pada pasien gagal jantung di Instalasi Pelayanan Jantung Terpadu RSUP Dr. M. Djamil dari bulan September-Desember 2021. Pasien dilakukan penilaian *handgrip strength* kemudian dilakukan penilaian kapasitas latihan dari uji berjalan 6 menit.

**Hasil Penelitian:** Dari 40 orang subjek penelitian, mayoritas laki-laki (90%) dengan rerata usia  $59 \pm 10,03$  tahun, penyebab gagal jantung terbanyak adalah penyakit jantung koroner dan rerata fraksi ejeksi  $39,17 \pm 11,32$  %. Rerata nilai *handgrip strength*  $13,87 \pm 6,48$  kg dan rerata nilai kapasitas latihan  $9,68 \pm 3,25$  VO<sub>2</sub>mL/Kg/mnt. Menggunakan uji korelasi *Pearson* didapatkan nilai  $r = 0,974$  dan nilai  $p = \leq 0.001$

**Kesimpulan:** Terdapat korelasi sangat kuat dan bermakna antara *handgrip strength* dengan kapasitas latihan uji berjalan 6 menit pada penderita gagal jantung.

**Kata Kunci:** Gagal Jantung, Kapasitas Latihan Uji Berjalan 6 Menit, *Handgrip Strength*



## ***ABSTRACT***

Name : dr. Emelda  
Study Programme : Cardiology and Vascular Medicine  
Title : **Corellation of Handgrip Strength with Exercise Capacity in the Six Minute Walking Test in Heart Failure Patient**

**Background:** Assessment of exercise capacity in patients with heart failure is an important part, particularly after hospitalization. The method recommended by American College of Sports Medicine (ACSM) in this population is the 6-minute walking test. The test has limitations in both its use and interpretation when it is under certain conditions. This includes severe deconditioning, disorders of the lower limbs, anxiety and depression that often arise in patients with heart failure. The futher research is encouraged to find methods that are static but have a response to the cardiovascular system so that they have the potential to assess exercise capacity. One of them is the handgrip strength.

**Methods:** This study is a cross sectional study in which independent and dependent variables were observed at the same time in heart failure patients at the Integrated Cardiac Service Installation, Dr. M. Djamil from September to December 2021. Patients were assessed by handgrip strengths and then the exercise capacity was evaluated through a 6-minute walking test.

**Result:** From the 40 subjects researched, the majority was male (90%) with a mean age of  $59 \pm 10.03$  year old and the most common cause of heart failure was coronary heart disease and the mean ejection fraction was  $39.17 \pm 11.32$  %. The average value of handgrip strength was  $13.87 \pm 6.48$  kg and the average value of exercise capacity was  $9.68 \pm 3.25$  VO<sub>2</sub>mL/Kg/min. the research used the Pearson correlation test with the value of  $r = 0.974$  and the value of  $p = \leq 0.001$

**Conclusion:** There is a very strong and significant correlation between handgrip strength and the exercise capacity of the 6-minute walking test in patients with heart failure.

**Keyword:** Heart Failure, Exercise Capacity in the Six Minute Walking Test, Handgrip Strength

