

ABSTRAK

Latar Belakang: Gagal jantung kronis sering disertai gejala kelelahan dan sesak yang mengarah pada penurunan kapasitas fungsional dan berakhir dengan penurunan kualitas hidup pada pasien dengan gagal jantung. Program Standar Rehabilitasi Jantung (PSRJ) adalah bagian dari terapi komprehensif pasien gagal jantung kronis yang sering disertai dengan gangguan respirasi. Penelitian ini menambahkan pemberian *Threshold Inspiratory Muscle Trainer* (IMT) pada program rehabilitasi jantung. IMT merupakan suatu bentuk latihan otot pernapasan dengan pemberian tahanan.

Tujuan: Mengetahui efek peningkatan kapasitas fungsional ($VO_2\text{peak}$) setelah penambahan *threshold* IMT pada PSRJ pada pasien gagal jantung kronis.

Materi dan Metode: Dua puluh orang yang termasuk kriteria inklusi, dibagi menjadi 2 kelompok, kelompok PSRJ dan kelompok PSRJ yang ditambah *threshold* IMT selama 4 minggu. Latihan nafas dilakukan dua kali per hari, 30 repetisi per kali, lima hari seminggu. Tahanan dinaikkan setiap minggu. Latihan lari sebagai bagian dari PSRJ dilakukan tiga kali seminggu di atas *treadmill* dengan intensitas 40% - 60% *HR reserved*, RPE (*Borg Scale*) 11-14 selama 30 menit. Penilaian kapasitas fungsional dengan mengukur konsumsi oksigen puncak ($VO_2\text{peak}$) sebelum perlakuan dan pada akhir minggu ke empat.

Hasil: Terdapat peningkatan bermakna kapasitas fungsional ($VO_2\text{peak}$) pada kedua kelompok setelah latihan empat minggu penambahan *threshold* IMT ($p= 0,01$).

Kesimpulan: Hasil penelitian ini menunjukkan penambahan latihan otot inspirasi dengan menggunakan *threshold* IMT dapat dipertimbangkan sebagai salah satu terapi tambahan pada Program Standar Reahabilitasi Jantung meningkatkan kapasitas fungsional ($VO_2\text{peak}$) sehingga dapat meningkatkan kualitas hidup pada pasien gagal jantung kronis.

Kata kunci: *Threshold Inspiratory muscle training*, kapasitas fungsional, $VO_2\text{peak}$, rehabilitasi jantung.

ABSTRACT

Background: Chronic heart failure is often accompanied by symptoms of fatigue and respiratory symptoms that lead to decreased functional capacity and end in a decrease in quality of life in patients with heart failure. The Cardiac Rehabilitation Standard Program (PSRJ) is part of a comprehensive therapy for patients with chronic heart failure that is often accompanied by respiratory distress. This study adding Threshold Inspiratory Muscle Trainer (IMT) to the cardiac rehabilitation program. IMT is a form of breathing muscle training by giving resistance.

Aim: Determined the increase functional capacity (VO_{2peak}) after adding threshold IMT on PSRJ in patients with chronic heart failure.

Material and Methods: Twenty people included in the inclusion criteria were divided into 2 groups, the PSRJ group and the PSRJ group who were added by the threshold IMT for 4 weeks. Breathing exercises are done twice per day, 30 reps per time, five days a week. Resistance are raised every week. Running training as part of the PSRJ is done three times a week on a treadmill with an intensity of 40% - 60% HR reserved, Borg Scale 11-14 for 30 minutes. Functional capacity by measuring peak oxygen consumption (VO_{2peak}) before treatment and at the end of the fourth week.

Results: There was a significant increase in functional capacity (VO_{2peak}) at both groups after four weeks of training in the addition of the threshold IMT ($p = 0.01$).

Conclusion: : There was an increase in functional capacity (VO_{2peak}) in chronic heart failure subjects after combined cardiopulmonary rehabilitation and inspiratory muscles exercise program.

Key words: Threshold Inspiratory muscle training, functional capacity, VO_2 peak, cardiac rehabilitation.