

INTISARI

PENGARUH PROGRAM LATIHAN FISIK DI RUMAH DENGAN SUPERVISI BERBASIS MEDIA SOSIAL PADA PROGRAM REHABILITASI JANTUNG TERHADAP KAPASITAS FUNGSIONAL PASIEN GAGAL JANTUNG DENGAN FRAKSI EJEKSI YANG MENURUN

Rosalinda, V., Arso, I.A., Anggrahini, D.W.

Latar Belakang: Program latihan fisik awal pasien gagal jantung pasca hospitalisasi aman dilakukan dan efektif meningkatkan jarak uji latih jantung jalan 6 menit. *Home-Based Cardiac Rehabilitation* (HBCR) dan kombinasi rumah sakit dan rumah sama amannya dengan *Center-Based Cardiac Rehabilitation* (CBCR). *Home-Based Telemonitored Cardiac Rehabilitation* (HTCR) merupakan terobosan terbaru rehabilitasi jantung berbasis rumah dengan memanfaatkan kemajuan teknologi. Penelitian menggunakan metode telemonitor whatsapp dan *video call* belum pernah dilaksanakan di Indonesia.

Tujuan: Penelitian ini adalah uji klinis randomisasi untuk mengetahui efek program latihan fisik di rumah dengan supervisi berbasis media sosial pada program rehabilitasi jantung terhadap kapasitas fungsional pasien gagal jantung dengan fraksi ejeksi menurun.

Metode: Dua puluh lima subjek pasca hospitalisasi (2-6 bulan), fraksi ejeksi $<40\%$, HR istirahat <100 x/menit, kelas fungsional NYHA I dan II, 6MWT *entry test* > 100 m, secara acak dibagi menjadi kelompok kombinasi (kontrol) ($n = 12$) dan kelompok rumah (perlakuan) ($n = 13$). Kedua kelompok mendapatkan program latihan 5x/minggu, intensitas sedang, durasi 30 menit setiap sesi selama 4 minggu. Kelompok perlakuan (latihan aerobik 5 kali/minggu di rumah dengan supervisi telemonitor *video call* whatsapp). Kelompok kontrol (latihan aerobik 3 kali/minggu di rumah dengan supervisi telemonitor *video call* whatsapp, 2x/minggu di rumah sakit supervisi petugas rehabilitasi). *Endpoint* adalah perubahan 6 *minutes walk distance* (6MWD) pada minggu ke-4 sebagai penanda peningkatan kapasitas fungsional.

Hasil: Karakteristik dasar kedua kelompok tidak berbeda signifikan. Terdapat peningkatan selisih 6MWD pada kelompok perlakuan dan kontrol secara signifikan ($29,92 \pm 30,95m$ vs $69,75 \pm 75,68m$, $p = 0,005$ vs $0,009$), perubahan rata-rata 6MWD pada kelompok kontrol lebih tinggi dibandingkan kelompok perlakuan, namun secara statistik tidak signifikan, $p = 0,225$. Setelah intervensi 6MWD kelompok perlakuan $340,92 \pm 109,38m$ dan kelompok kontrol $378,42 \pm 142,69m$, $p = 0,401$. Analisis multivariat, diketahui tidak ada variabel lain yang berpengaruh secara signifikan terhadap selisih jarak 6MWT.

Simpulan: Latihan fisik jantung di rumah dengan supervisi telemonitor media sosial terbukti mempunyai efektifitas yang sama dengan kombinasi latihan fisik jantung di pusat rehabilitasi jantung rumah sakit dan di rumah dalam meningkatkan kapasitas fungsional pasien gagal jantung dengan fraksi ejeksi yang menurun.

Kata Kunci: Gagal jantung; Program latihan fisik; Media sosial; Kapasitas fungsional; 6MWD

ABSTRACT

THE EFFECTS OF HOME BASED TELEMONTORED CARDIAC REHABILITATION EXERCISE PROGRAM WITH SOCIAL MEDIA-BASED SUPERVISION ON FUNCTIONAL CAPACITY AMONG PATIENTS WITH REDUCED EJECTION FRACTION HEART FAILURE

Rosalinda, V., Arso, I.A., Anggrahini, D.W.

Background: The initial physical exercise program for heart failure patients after hospital discharge is safe and effective in increasing the 6 minute walking distance. Home-Based Cardiac Rehabilitation (HBCR) and a combination of hospital and home are just as safe as Center-Based Cardiac Rehabilitation (CBCR). Home-Based Telemonitored Cardiac Rehabilitation (HTCR) is the latest breakthrough in home-based cardiac rehabilitation by leveraging advances in technology. Research using the whatsapp telemonitor method and video call has never been implemented yet in Indonesia.

Objectives: This study is a randomized clinical trial aimed to investigate the effects of a home exercise with social media-based supervision on a cardiac rehabilitation program to the functional capacity of heart failure patients with reduced ejection fraction.

Methods: We randomly recruited 25 subjects with systolic heart failure, left ventricle ejection fraction <40%, early after acute heart failure hospitalisation, resting heart rate <100 bpm, NYHA class I and II, and 6MWT entry test > 100 m. Subjects were allocated into combination of hospital and home group (Control Group/CG) (n = 12) and the home group (Intervention Group/IG) (n = 13). Both groups got an exercise program 5 times / week, moderate intensity, duration of 30 minutes per session for 4 weeks. Aerobic exercise 5 times / week at home under the supervision of whatsapp video call telemonitor (IG). Aerobic exercise 3 times / week at home under the supervision of whatsapp video call telemonitor and 2 times / week at the hospital supervised by rehabilitation officers (CG). The endpoint is a change in 6 minutes walk distance (6MWD) at week 4 as a marker of increased functional capacity.

Results: The two groups have similar basic characteristics. The 6MWT distance increased significantly in both groups (6MWT changed IG and CG) ($29.92 \pm 30.95\text{m}$ vs $69.75 \pm 75.68\text{m}$, $p = 0.005$ vs 0.009), the mean increase in CG was higher than that of IG, but not statistically significant ($p = 0.225$). Post-intervention 6MWD result of the IG group was $340.92\text{m} \pm 109.38\text{m}$, and the CG group was 378.42 ± 142.69 , $p = 0.401$. In the multivariate analysis, it is known that there are no other variables that significantly influence the 6MWT difference.

Conclusion: Home based telemonitored cardiac rehabilitation with social media supervision on rehabilitation programs has been shown to have the same effectiveness as the combination of cardiac exercises in cardiac rehabilitation centers in hospitals and at home in increasing the functional capacity of heart failure with reduced ejection fraction

Keywords: Heart failure; Exercise program; Social media; Functional capacity; 6MWD