

## INTISARI

### PENGARUH PROGRAM LATIHAN FISIK DI RUMAH DENGAN SUPERVISI TELEMONTOR MEDIA SOSIAL PADA PROGRAM REHABILITASI JANTUNG TERHADAP KADAR PENANDA NT-PROBNP PASIEN GAGAL JANTUNG DENGAN FRAKSI EJEKSI MENURUN

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**Latar Belakang:** Program latihan fisik pada rehabilitasi jantung di rumah dan kombinasi rumah-rumah sakit mempunyai profil keamanan yang sama dengan latihan fisik di rumah sakit pasca-rawat inap. Era pandemi menciptakan inovasi baru yaitu rehabilitasi jantung dengan bantuan teknologi telemonitor media sosial (panggilan video Whatsapp) yang belum pernah dilakukan di Indonesia

**Tujuan:** Uji klinis randomisasi yang menilai pengaruh latihan fisik di rumah dengan supervisi telemonitor media sosial dibandingkan dengan kombinasi latihan fisik di pusat rehabilitasi jantung rumah sakit dan di rumah dalam menurunkan kadar NT-ProBNP pasien gagal jantung dengan fraksi ejeksi menurun.

**Metode:** Subjek sejumlah 25 orang pascahospitalisasi (2-6 bulan), kelas fungsional NYHA I dan II, fraksi ejeksi <40% dialokasikan secara acak ke kelompok rumah (perlakuan, n=13) dan kombinasi (kontrol, n=12). Kelompok perlakuan latihan jalan 5x per minggu di rumah dengan telemonitor panggilan video Whatsapp. Kelompok kontrol 2x per minggu di RS dengan supervisi petugas dan 3x di rumah dengan panggilan video. Titik akhir adalah selisih kadar NT-ProBNP pada minggu ke 4 perlakuan.

**Hasil:** Karakteristik dasar kelompok perlakuan dan kontrol tidak berbeda signifikan. Penurunan NT-ProBNP pada kelompok perlakuan dan kontrol terjadi secara signifikan ( $2834,26 \pm 1546,39$  pg/mL vs  $3340,66 \pm 1853,18$  pg/mL). Perubahan rerata NT-ProBNP antara kedua kelompok tidak berbeda secara signifikan,  $p=0,979$ . Variabel lain tidak ada yang berpengaruh secara signifikan setelah dilakukan analisis multivariat.

**Simpulan:** Latihan fisik jantung di rumah dengan supervisi telemonitor media sosial mempunyai pengaruh yang sama dengan kombinasi latihan fisik jantung di pusat rehabilitasi jantung rumah sakit dan di rumah dalam menurunkan kadar NT-ProBNP pasien gagal jantung dengan fraksi ejeksi menurun.

**Kata Kunci:** Gagal jantung; Program latihan fisik; Media sosial; NT-ProBNP; Kapasitas fungsional;

## ABSTRACT

### THE EFFECT OF HOME BASED SOCIAL MEDIA SUPERVISED TELEMONTORING CARDIAC REHABILITATION PHYSICAL EXERCISE PROGRAMS ON NT-PROBNP LEVELS AMONG HEART FAILURE PATIENTS WITH REDUCED EJECTION FRACTION

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**Background:** The physical exercise program in cardiac rehabilitation at home and in combination hospitals has the same safety profile as physical exercise in a post-hospitalized hospital. The pandemic era created a new innovation; cardiac rehabilitation with supervision of social media telemonitor technology (Whatsapp video calls), which has never been done in Indonesia.

**Objective:** A randomized clinical trial assessing the effect of physical exercise at home under social media telemonitor supervision compared to a combination of physical exercise at a hospital cardiac rehabilitation center and at home in reducing the NT-ProBNP levels in heart failure patients with reduced ejection fraction.

**Methods:** 25 post-hospitalization subjects (2-6 months), NYHA I and II functional classes, ejection fraction <40% randomly allocated to the home (intervention, n = 13) and combination (control, n = 12) groups. The intervention group walked 5x per week at home with a Whatsapp video call telemonitor. Control group twice per week in the hospital with supervision of officers and 3 times at home with video calls. The end point is the difference in NT-ProBNP levels at week 4 of treatment.

**Results:** The baseline characteristics of the intervention and control groups were not significantly different. The NT-ProBNP levels in the intervention and control groups reduced significantly ( $2834.26 \pm 1546.39$  pg / mL vs  $3340.66 \pm 1853.18$  pg / mL). Changes in the NT-ProBNP mean between the two groups did not differ significantly,  $p = 0.979$ . None of the other variables had a significant effect after multivariate analysis.

**Conclusion:** Cardiac exercise at home under the supervision of social media telemonitors has the same effect as the combination of cardiac exercise in cardiac rehabilitation centers and at home in reducing the NT-ProBNP levels in heart failure patients with reduced ejection fraction.

**Keywords:** Heart failure; Physical exercise program; Social media; NT-ProBNP; Functional capacity;