

INTISARI

Tujuan. Penelitian ini dilakukan untuk mengetahui dampak latihan aerobik dan resistensi berbasis rumah terhadap kapasitas fungsional dan kualitas hidup pasien kanker payudara tipe reseptor hormon (*hormone receptors*, HR) positif.

Metode Penelitian. Rancangan penelitian ini adalah *one group pre- dan post-test quasi-experimental* dengan merekrut 36 pasien kanker payudara tipe HR positif dari Instalasi Kanker Terpadu Tulip, RSUP Dr Sardjito. Subjek dipilih dengan metode *consecutive sampling*. Dilakukan pengukuran kapasitas fungsional (VO_2 maks) menggunakan tes *treadmill* dengan protokol Bruce modifikasi dan penilaian kualitas hidup dengan instrumen European Organization for Research and Treatment of Cancer (EORTC QLQ-C30). Latihan aerobik yang diberikan berupa jalan kaki dengan alat ukur pedometer dan latihan resistensi dilakukan dengan karet resistensi selama 2 hari per minggu. Intervensi latihan aerobik dan resistensi yang sudah dilakukan dicatat pada buku harian aktivitas fisik. Uji *paired t-test* atau *Wilcoxon signed rank test* digunakan untuk mengetahui dampak intervensi aktivitas fisik terhadap kapasitas fungsional dan kualitas hidup.

Hasil. Dari 48 subjek yang memenuhi kriteria inklusi, 36 subjek bersedia mengikuti penelitian (rekrutmen 75%). Setelah 12 minggu 32 subjek menyelesaikan intervensi 12 minggu, 4 subjek *drop out*, dan 1 subjek mengalami kontraindikasi pemeriksaan kapasitas fungsional pasca intervensi (retensi 89%). Cakupan data jumlah langkah harian pada penelitian ini cukup tinggi yaitu 92%. Ketaatan terhadap latihan resistensi pada penelitian ini adalah 78%, sementara ketaatan terhadap latihan aerobik yaitu 53%. Intervensi aktivitas fisik secara signifikan meningkatkan durasi latihan sebanyak 1,1 menit dan kapasitas fungsional (VO_2 maks) sebanyak 2,3 ml/kg/menit dengan nilai $p=0,001$ dan 0,043. Tidak terdapat perbedaan yang signifikan secara statistik pada skor kualitas hidup setelah dilakukan intervensi aktivitas fisik.

Kesimpulan. Intervensi latihan aerobik dan resistensi berbasis rumah meningkatkan kapasitas fungsional (VO_2 maks) pasien kanker payudara tipe reseptor hormon positif.

Kata Kunci. Kanker payudara; Latihan aerobik; Latihan resistensi; Kapasitas fungsional; Kualitas hidup

ABSTRACT

Objectives. This study aimed to analyse the impacts of home-based aerobic and resistance training on functional capacity and quality of life of patients with hormone receptors (HR) positive breast cancer.

Methods. A one group pre- and post-test quasi-experimental design study recruited 36 HR positive breast cancer patients from Tulip Cancer Clinic, RSUP Dr. Sardjito using consecutive sampling. The functional capacity ($VO_2\text{max}$) was assessed using treadmill test with modified Bruce protocol and the quality of life was assessed with European Organization for Research and Treatment of Cancer (EORTC QLQ-C30) questionnaire. The aerobic training in this intervention was brisk walking measured by pedometer-based steps per day and the resistance training was conducted using resistance band twice a week. The home-based aerobic and resistance training intervention was recorded in self-reported physical activity diary. The paired t-test and Wilcoxon signed rank test were used to analyse the impacts of physical activity intervention on functional capacity and quality of life.

Results. From 48 eligible patients, 36 subjects agreed to participate in this study (recruitment rate 75%). After 12-week intervention, 32 subjects completed the intervention, 4 subjects drop-out from the study, and 1 subject was contraindicated for post-intervention treadmill test (retention rate 89%). The availability of steps per day data in this study was high (92%). The adherence to resistance training in this study was 78%, while the adherence to aerobic training was 53%. This home-based aerobic and resistance training intervention significantly increased treadmill test duration by 1.1 minutes and functional capacity ($VO_2\text{max}$) by 2.3 ml/kg/minutes with *p*-value 0.001 and 0.043, respectively. No statistically significance difference of all quality-of-life scores after physical activity intervention.

Conclusion. The home-based aerobic and resistance training intervention increased functional capacity ($VO_2\text{max}$) of patients with HR positive breast cancer.

Keywords. Breast cancer; Aerobic training; Resistance training; Functional capacity; Quality of life