

Perbandingan antara latihan yoga dengan back exercise terhadap intensitas nyeri, kekuatan otot trunk dan disabilitas fungsional (studi intervensi pada obesitas dengan nyeri punggung bawah mekanik kronik) = Comparison of yoga with back exercise on pain intensity, trunk muscle strength and functional disability (interventional studies on obesity with chronic low back pain)

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Abstrak

Tesis ini disusun untuk mengetahui efektivitas latihan back exercise dan yoga terhadap intensitas nyeri, meningkatkan kekuatan otot trunk dan disabilitas fungsional. Penelitian menggunakan desain uji eksperimental Randomized Control Trial. Subjek penelitian merupakan pasien overweight dan obesitas derajat I dengan nyeri punggung bawah mekanik kronik, yang dibagi menjadi 2 kelompok yaitu kelompok back exercise dan yoga. Semua subjek dari kedua kelompok mendapatkan latihan standar berupa latihan aerobik dengan ergocycle sesuai dengan prosedur di Poliklinik Obesitas Departemen Rehabilitasi Medik RSCM Jakarta yang dilakukan dua kali seminggu selama enam minggu. Sebagai tambahan, kelompok back exercise mendapatkan latihan senam punggung dan kelompok yoga mengikuti kelas yoga yang dilakukan 45 menit per sesi, dua kali seminggu, selama enam minggu. Hasil keluaran penelitian ini berupa skala nyeri (Visual Analogue Scale), kekuatan otot fleksor dan ekstensor trunk yang diukur menggunakan handheld dynamometer dan disabilitas fungsional (Oswestry Disability Index). Analisis statistik dilakukan untuk membandingkan perubahan intensitas nyeri, kekuatan otot trunk, dan disabilitas fungsional sesudah intervensi pada kelompok perlakuan dan kontrol. Hasil penelitian menyatakan bahwa tidak terdapat perbedaan intensitas nyeri, kekuatan otot trunk, dan disabilitas fungsional setelah intervensi diberikan selama enam minggu. Median selisih total penurunan VAS pada kelompok back exercise dan yoga masing-masing sebesar 2 (1-3) dan tidak didapatkan perbedaan signifikan dengan nilai $p = 0,054$. Rerata peningkatan kekuatan otot fleksor trunk pada kelompok back exercise dan yoga masing-masing sebesar 4.45 ± 2.84 kg dan 5.91 ± 2.20 kg dan tidak didapatkan perbedaan signifikan dengan nilai $p = 0,139$. Rerata peningkatan kekuatan otot ekstensor trunk pada kelompok back exercise dan yoga masing-masing sebesar 7.56 ± 3.73 kg dan 7.06 ± 3.97 kg dan tidak didapatkan perbedaan signifikan dengan nilai $p = 0,520$. Rerata perubahan skor ODI pada kelompok back exercise dan yoga masing-masing sebesar 4.64 ± 4.11 dan 4.57 ± 4.33 dan tidak didapatkan perbedaan signifikan dengan nilai $p = 0,965$. Dapat disimpulkan bahwa back exercise dan yoga memiliki efektivitas yang sama dalam menurunkan nyeri, meningkatkan kekuatan otot trunk dan mengurangi disabilitas fungsional pasien overweight dan obesitas derajat I dengan nyeri punggung bawah mekanik kronik. Diperlukan penelitian lebih lanjut untuk menilai efektivitas latihan back exercise dan yoga terhadap aktivitas otot trunk secara lebih spesifik menggunakan Surface Electromiography (sEMG) yang menggambarkan rekrutmen motor unit otot.

.....This thesis was aimed to determine the effectiveness of back exercise and yoga exercises on pain intensity, increase trunk muscle strength and functional disability. The study used an experimental randomized control trial design. The subjects were overweight and obese patients with chronic mechanical low back pain, which were divided into 2 groups: back exercise and yoga. All subjects from the two groups

received standard training in the form of aerobic exercise with ergocycle in accordance with the procedures at the Obesity Polyclinic of the Department of Medical Rehabilitation at the RSCM Hospital, which was conducted 2x / week for 6 weeks. In addition, the back exercise group received back exercises and the yoga group attended a yoga class conducted 45 minutes / session, 2x / week, for 6 weeks. Statistical analysis was performed to compare changes in pain intensity (Visual Analogue Scale), trunk muscle strength (using handheld dynamometer), and functional disability (Oswestry Disability Index) after the intervention in the treatment and control groups. The results of the study stated that there were no differences in pain intensity, trunk muscle strength, and functional disability after the intervention was given for 6 weeks. The median difference in total VAS reduction in the back exercise and yoga groups was 2 (1-3) respectively and no significant difference was found with a value of $p = 0.054$. The mean increase in flexor trunk muscle strength in the back exercise and yoga groups was 4.45 ± 2.84 kg and 5.91 ± 2.20 kg, respectively, and no significant difference was found with a value of $p = 0.139$. The mean increase in extensor trunk muscle strength in the back exercise and yoga groups was 7.56 ± 3.73 kg and 7.06 ± 3.97 kg and no significant difference was found with the p value = 0.520. The mean changes in ODI scores in the back exercise and yoga groups were 4.64 ± 4.11 and 4.57 ± 4.33 , respectively, and there were no significant differences with $p = 0.965$. It can be concluded that back exercise and yoga have the same effectiveness in reducing pain, increasing trunk muscle strength and reducing functional disability of overweight and obese patients with degree I with chronic mechanical low back pain. Further research is needed to assess the effectiveness of back exercise and yoga exercises on trunk muscle activity more specifically using Surface Electromyography (sEMG) which illustrates the recruitment of motor muscle units.