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Effects of High-Intensity Strength Training on Quality-of-Life Parameters in Cardiac Rehabilitation Patients

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Abstract

Cardiac rehabilitation programs have not consistently been shown to improve the psychological well being of their patients. In our study of 38 cardiac patients (29 men and 9 women), a variety of quality-of-life parameters were assessed before and after they completed either 12 weeks of high-intensity strength training or flexibility training added to their outpatient cardiac rehabilitation aerobic exercise program. The strength-trained patients increased their self-efficacy scores for lifting (29% vs 4%, $p < 0.05$), push-ups (65% vs. 17%, $p < 0.01$), climbing (36% vs 0%, $p < 0.001$), and jogging (100% vs -9%, $p < 0.001$), when compared with the flexibility-trained patients. The strength group also had greater improvements in Profile of Mood States dimensions: total mood disturbance (123% vs 18%, $p < 0.05$), depression/dejection (73% vs 15%, $p < 0.05$), and fatigue/inertia (42% vs 3% $p < 0.05$), than did the flexibility group. The Medical Outcome Survey Short Form 36 role emotional health domain scores were significantly improved in the strength group when compared with the flexibility group (64% vs 0%, $p < 0.05$), and the role limitation scores improved in both groups. Increases in strength were associated with enhanced self efficacy and improved mood and well-being scores ($n = 34$, $r = 0.30$ to 0.53 , $p < 0.05$). High-intensity strength training added to a cardiac rehabilitation program of selected patients leads to improvements in quality-of-life parameters. These data, in conjunction with improvements in strength, strongly support the value of adding high-intensity strength training to cardiac rehabilitation programs.