TACSM Abstract

A Comparison of Functional Movement Between CrossFit Trained, Recreationally Trained and Sedentary Individuals

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ABSTRACT

CrossFit is a prevalent style of exercise training. The exercise style focuses on performance of aerobic and strengthening exercises which incorporate multi-joint, functional movements. These variables combine to enhance athletic performance and improve an individual's ability to perform daily functional movement patterns. A limited amount of research has compared CrossFit with other training groups regarding aerobic capacity, muscular strength and body composition. An even smaller percentage of research has compared functional movement variables. **PURPOSE**: Current research supports that CrossFit athletes demonstrate high symmetry of functional movement patterns. The primary aim of this study was to determine if CrossFit training was significantly more beneficial to functional movement as compared to a standard exercise regimen. **METHODS**: This investigation was an exploratory cross-sectional study. Sixty (28 males, 32 females) healthy adults (age, 25.1±5.4 yr; height, 170.5±10.3 cm; body wt, 79.20 ±20.0 kg; BIA 23.10 ±8.44%) participated in the study. Participants were recruited from the community and assigned to three groups based on their reported exercise lifestyle: CrossFit trained (CF), recreationally trained (RT), and sedentary (SD). Each of the 60 participants underwent a series of tests including a functional movement assessment (FMS components), a maximal strength test (Deadlift 1-Rep Max assessment; kg deadlift/kg body wt), and an estimated aerobic capacity assessment (Astrand-Rhyming Cycle Ergometer Test; LO_2/min). Exclusion criteria, anthropometric data and vital signs were assessed in all patients. **RESULTS**: The CF group (6.97±1.13) was significantly higher than the sedentary group (5.73±1.41) in the FMS components score. The CF group deadlift score (1.90±0.40) was significantly higher than both the SD (1.18±0.36) and RT groups (1.47±0.51). For estimated VO_2max, both the CF (3.09±1.00) and RT (2.84±0.67) groups were significantly higher than the SD group (1.96±1.17). All testing significance was set at $p<0.05$. **CONCLUSION**: In this investigation, CrossFit training consistently provided improved fitness and functional performance parameters as compared to sedentary counterparts. Additionally, for muscular strength, CrossFit was associated with higher scores as compared to recreationally trained individuals. CrossFit and recreationally trained groups scored evenly in terms of aerobic fitness and components of functional movement patterns.