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The Effects of Total Resistance Exercises Suspension Exercises Program on Physical Performance in Healthy Individuals

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Abstract : Introduction: Each exercise in suspension exercises offer the use of gravity and body weight; and is thought to develop the equilibrium, flexibility and body stability necessary for daily life activities and sports, in addition to creating the correct functional force. Suspension exercises based on body weight focus the human body as an integrated system. Total Resistance Exercises (TRX) suspension training that physiotherapists, athletic health clinics, exercise centers of hospitals and chiropractic clinics now use for rehabilitation purposes. The purpose of this study is to investigate and compare the effects of TRX suspension exercises on physical performance in healthy individuals. Method: Healthy subjects divided into two groups; the study group and the control group with 40 individuals for each, between ages 20 to 45 with similar gender distributions. Study group had 2 sessions of suspension exercises per week for 8 weeks and control group had no exercises during this period. All the participants were given explosive strength, flexibility, strength and endurance tests before and after the 8 week period. The tests used for evaluation were respectively; standing long jump test and single leg (left and right) long jump tests, sit and reach test, sit up and back extension tests. Results: In the study group a statistically significant difference was found between prior- and final-tests in all evaluations, including explosive strength, flexibility, core strength and endurance of the group performing TRX exercises. These values were higher than the control groups' values. The final test results were found to be statistically different between the study and control groups. Study group showed development in all values. Conclusions: In this study, which was conducted with the aim of investigating and comparing the effects of TRX suspension exercises on physical performance, the results of the prior-tests of both groups were similar. There was no significant difference between the prior and the final values in the control group. It was observed that in the study group, explosive strength, flexibility, strength, and endurance development was achieved after 8 weeks. According to these results, it was shown that TRX suspension exercise program improved explosive strength, flexibility, especially core strength and endurance; therefore the physical performance. Based on the results of our study, it was determined that the physical performance, an indispensable requirement of our life, was developed by the TRX suspension system. We concluded that TRX suspension exercises can be used to improve the explosive strength and flexibility in healthy individuals, as well as developing the muscle strength and endurance of the core region. The specific investigations could be done in this area so that programs that emphasize the TRX's physical performance features could be created.

Keywords : core strength, endurance, explosive strength, flexibility, physical performance, suspension exercises
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