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Eight Weeks of Suspension Systems Training on Fat Mass, Jump and Physical Fitness Index in Female

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Abstract : Greater core stability may benefit sports performance by providing a foundation for greater force production in the upper and lower extremities. Core stability exercises on instability device (such as the TRX suspension systems) were found to be able to induce higher core muscle activity than performing on a stable surface. However, high intensity interval TRX suspension exercises training on sport performances remain unclear. The purpose of this study was to examine whether high intensity TRX suspension training could improve sport performance. Twenty-four healthy university female students (age 19.0 years, height 157.9 cm, body mass 51.3 kg, fat mass 25.2 %) were voluntarily participated in this study. After a familiarization session, each participant underwent five suspension exercises (e.g., hip abduction in plank alternative, hamstring curl, 45-degree row, lunge and oblique crunch). Each type of exercise was performed for 30 seconds, followed by 30 seconds break, two times per week for eight weeks while each exercise session was increased by 10 seconds every week. The results showed that the fat mass (about 12.92%) decreased significantly, sit and reach test (9%), 1 minute sit-up test (17.5%), standing broad jump (4.8%), physical fitness index (10.3%) increased significantly after 8-week high intensity TRX suspension training. Hence, eight weeks of high intensity interval TRX suspension exercises training can improve hamstring flexibility, trunk endurance, jump ability, aerobic fitness and fat mass percentage decreased substantially.

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