MASTER'S THESIS

Effects of unilateral and bilateral lower body plyometric training on jump ability and agility performance of young female volleyball players

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ABSTRACT

The purpose of this study was to examine the effects of 8-week unilateral and bilateral plyometric training program on jump ability and agility performance of young female volleyball players. Secondary school female volleyball players (N = 62, age = 14.56 ± 1.45 years, height = 159.14 ± 6.57 cm, weight = 53.55 ± 9.03 kg) were randomized and divided into three groups: the unilateral plyometric training group (UP), the bilateral plyometric training group (BP), and the control group (CON). For the UP and BP, the subjects completed 15 unilateral or bilateral plyometric training sessions over 8 weeks in addition to the regular volleyball training. For the CON, the subjects performed the regular volleyball training only. Pre-test and post-test were performed by all subjects before and after the intervention. The jump ability and agility performance were assessed by countermovement vertical jump (CVJ: double legs, right leg, and left leg), squat jump (SJ), 5 repeated block jumps (RBJ), standing long jump (SLJ), and T agility test. 2-way ANOVAs with repeated measures (3 groups x 2 times) were used to analyze the data. The results indicated that CVJ (right leg and left leg), RBJ, SLJ, and T agility test performance significantly increased ($p < .05$) after 8 weeks for both unilateral and bilateral training, but there were no differences ($p > .05$) between groups. Interaction effects ($p < .05$) existed for the CVJ (right leg), RBJ, and T agility test, indicating that from pre-test to post-test the UP had greater improvement than the CON. The CVJ (double legs) and SJ did not differ ($p > .05$) among types of training or from pre-test to post-test. It can be concluded that both unilateral and bilateral training are effective on improving most of the performance outcomes, but one program is not significantly better than the other in improving the jump ability and agility performance.

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