INFLUENCE OF EXTRA LOAD IN COUNTER MOVEMENT JUMP PERFORMANCE
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Introduction: It added a different weight and carried out counter movement jump exercise. By these methods, jumping height is applied as simple and easy methods to assess event characteristics and physical abilities widely. Therefore jumping height investigated the cause from decreasing with increase of weighting. In other words a purpose of this study added different load (0, 10, 30, 50kg) to counter movement jump and inflicted investigation about influence to cause to the jumping height.

Methods: The subject was healthy adult man eight people to 18-28 years old. By this study, we used force platform (AMTIco.ltd) and derived an electrical signal of a floor reaction of a vertical direction and we went through analog to digital conversion and stored it in a personal computer. From data achieved in force platform, we calculated jumping height, peak power and a negative work and a positive work. Jump exercise carried different load (0, 10, 30, 50kg) on its shoulder with a barbell and it used reaction on force platform and tried vertically jumping exercise three times at random each. It carried out the counter movement jump to carry a different weight on its shoulder with a barbell on a force plate at random. The flight time was used in calculating the change in height of the body’s center of gravity. Among the amount of jump achieved in three times of trials, the amount of highest jump did an achieved thing with an analysis subject. In addition to above it put in enough rest to a trial and excluded influence of fatigue.

Results and discussion: It was 48.4 ± 11.6cm at 0kg, and it was 41.5 ± 9.6cm at 10kg, and, in addition, it was 29.2 ± 7.1cm at 30kg, and jumping height for extra load was 21.4 ± 5.4cm at 50kg. We compare it in jumping height in 0kg by increase of weighting load and decreased each, and it is (p<0.01). About maximum peak power, there was not the significant difference regardless of increase of weighting load (p<0.01). In other words it was thought that maximum peak power was unaffected by a weighting load condition. It tried investigation about positive work and negative work by weighting load. As a result, for positive work with no load, it was found to increase with 10, 30, each 50kg, increase of weighting load significantly (p<0.01). On the other hand, a significant correlation was observed in a the relationship between positive work and negative work (p<0.01).

Conclusion: Based upon the foregoing, A positive work and a negative work increased the influence of extra load in counter movement jump by increase of extra load. Conclusion, influence of extra load caused depression of center of gravity rise velocity, and depression of jumping height may have been conducted.

Reference:
Keywords: Testing, Jumping, Exercise Training