Transference Of Kettlebell Training To Traditional Olympic Weight Lifting And Muscular Endurance

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PURPOSE: Kettlebells are commonly used across a broad spectrum of strength and conditioning programs, from novice or beginner recreational users to elite level athletes. Many of the movements conducted with kettlebells are of a ballistic nature, similar to that of Olympic lifts. Since kettlebell training and Olympic lifts display some similarities regarding the technique, we hypothesized that training with kettlebells would translate into a resultant improvement in strength and power during Olympic style lifts. This may be of significance when deciding proper training regimens or seeking an alternative to traditional lifting. The research data purporting the efficacy of kettlebell training is, to our knowledge, scarce, and scientific examination as to whether this exercise modality positively correlates to Olympic lift strength/power is nonexistent. The purpose of this study was to examine the translational effect that a10 week Kettlebell training program would have on strength, power and endurance for Olympic style barbell lifts and bodyweight exercises. METHODS: Using a standard periodization model, 15 subjects, age range (20-72 years) with various levels of experience in physical fitness regimens underwent a 10 week, 2 day per week program using only kettlebells consisting of group (class) training sessions. Each subject was tested prior to (T1) and after the completion of the 10-week session (T2). To determine changes in strength, power and endurance subjects were tested on a barbell clean and jerk (3 rep max), barbell bench press (3 rep max), a vertical jump and a 900 back extension to failure. RESULTS: Statistical analysis using paired t-tests were conducted on all dependent variables. Kettlebell training results in a translation of strength, power and endurance measured in traditional lifting techniques. Data demonstrate significant differences in bench press strength (51.7 ± 25.0 kg vs 56.4 ± 27.1 kg, $p < .05$) and back extension endurance (45 ± 5.7 reps vs 54 ± 9.3 reps, $p < .05$). Kettlebell training produced a highly significant difference in the traditional clean and jerk, (30.8 ± 16.7 kg vs 38.5 ± 17.1 kg, $p < .001$). No differences were apparent in the vertical jump. CONCLUSIONS: These data suggest a significant improvement of strength, power and endurance as a result of kettlebell training. Although gains in the traditional Olympic lifts were greater than that seen in lower extremity power, kettlebells proved to have a considerable transferability to traditional weight training and bodyweight exercises. PRACTICAL APPLICATIONS: Our findings indicate that kettlebell training provides a measurable improvement of strength, power and endurance as measured by barbell and body weight exercises. Taking into consideration that our subject demographic was broad in regards to training experience and age, our data suggest that kettlebells can be used as an effective method for improving fitness and is not restricted to either highly skilled or elite level athletes. While further investigation into this subject is recommended, our data suggests that due to the positive translation of kettlebell training to that of Olympic lifts, the use of kettlebells as a training implement is an excellent alternative to traditional weight lifting.