

عنوان مقاله:

Comparison of Electromyographic Activity of Selected Muscles on One Repetition Maximum in the Sumo and Conventional Deadlifts in National Power-Lifting Athletes: A Cross-Sectional Study

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خلاصه مقاله:

Introduction: Deadlift is an effective exercise to increase the strength of knee and hip extensors. The aim of the present study is to compare the electromyographic activity record during one repetition maximum (1RM) movement in the sumo and conventional deadlifts in national power-lifting athletes. **Materials and Methods:** Eight elite male powerlifters were selected from the Iran' national team. The selected subjects performed Sumo and conventional deadlift motions with an intensity of 80% of 1RM. While performing each exercise, surface electromyographic activity of Gluteus maximus, Vastus medialis and lateralis, and Erector spinae muscles were recorded using wireless electromyography (EMG). For intra-group comparison of muscle activity in two states, paired t-test was administered at a significance level of 0.05. **Results:** The results of the present study showed that the muscle activity was not significantly different between muscle co-contraction pattern in the dominant and non-dominant lower extremities in the Sumo and conventional deadlifts ($P > 0.05$). There was a significant difference between the muscle contraction pattern in 1RM in the Sumo and conventional movements for vastus medialis (dominant leg $P \leq 0.038$, non-dominant leg $P \leq 0.047$) and erector spine muscles (dominant leg $P \leq 0.032$, non-dominant leg $P \leq 0.037$), in contrast to that of vastus lateralis and gluteus maximus ($P > 0.05$). **Conclusion:** According to the results, both vastus medialis and erector spine muscles can be specifically strengthened in the Sumo and conventional deadlift movements. To design a training protocol for corrective and rehabilitation purposes in the deadlift movement, trainers and therapists must pay attention to these changes in the electromyographic activity of the muscles.

کلمات کلیدی:

Power-lifting, Electromyography, Sumo deadlift, Conventional deadlift

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