

## ABSTRACT

### EFFECT OF CREATINE LOADING WITH ACUTE CAFFEINE INGESTION ON UPPER BODY MUSCULAR STRENGTH AND NEUROMUSCULAR FUNCTION

**Purpose:** Ten resistance-trained subjects participated in an investigation aimed to examine the impact of creatine loading with acute caffeine ingestion (CC) on upper body muscular strength (MS) and the associated neuromuscular function (NF). **Methods:** MS was determined from the number of repetitions completed in the supine bench press (SBP) with a load equivalent to 87.5% of a previously predicted 1 repetition maximum (RM). NF during the SBP sets was evaluated from surface electromyographic (EMG) records obtained from the right long head of the triceps brachii (TRI) and the right pectoralis major (PM) muscles. From these records, the median power frequency (MedPF), mean power frequency (MeanPF), and EMG signal amplitude scores (IEMG) were derived. **Results:** Paired Sample T-tests revealed no significant difference ( $p > 0.05$ ) in the number of repetitions completed, MedPF, MeanPF, and IEMG scores between CC and PL treatments. **Conclusions:** CC supplementation does not seem to significantly affect upper body muscular performance, as well as the frequency, type, and magnitude of motor unit activation during periods of short-term, high-intensity resistance exercise.

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