

POSTER PRESENTATION

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# The effects of ingesting a tribulus containing proprietary supplement with combined resistance training on strength, body composition, and hormonal changes in males

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## Background

To investigate the potential effects in males on body composition, muscular strength, and hormones of a proprietary tribulus fruit extract and vitamin/mineral blend in combination with a resistance training program.

## Methods

Twenty-eight ( $22 \pm 4.48$  yrs,  $179.22 \pm 9.04$  cm,  $83.41 \pm 11.95$  kg,  $15.90 \pm 5.07$  %BF) resistance-trained males between the ages of 18 and 30 were randomly assigned by body weight to ingest either a placebo or tribulus blend (tribulus fruit extract-40% saponins) in a double-blind manner. Subjects participated in a supervised 4-day per week periodized resistance training program split into two upper and two lower extremity workout per week. At baseline (T1), 4 weeks (T2), and 8 weeks (T3), body composition (DEXA), muscular strength (1RM), muscular endurance, and anaerobic power measurements (Wingate) were determined. Venous blood samples were obtained using standard procedures at all time points. Blood analyses included serum and whole blood metabolic profile and the serum analysis of free testosterone, cortisol, and insulin were conducted using standard EIA and ELISA assay protocols. Statistical analyses utilized a two-way ANOVA with repeated measures for all dependent variables ( $p < 0.05$ ).

## Results

Significant main effects for time ( $p = 0.001$ ) were observed for the dependent variables bench press 1RM (T1:  $106.10 \pm 16.41$  to T3:  $112.91 \pm 22.23$  kg), leg press 1RM (T1:  $333.73 \pm 57.36$  to T3:  $441.5 \pm 52.59$  kg), and lean muscle mass (T1:  $66.23 \pm 9.23$  to T3:  $67.08 \pm 9.19$  kg) indicating that the resistance training protocol resulted in significant adaptations. However, no significant interactions were observed on the measures of strength and body composition ( $p > 0.05$ ) indicating that supplementation had no additional benefit. A significant main effect for time was observed for serum insulin ( $p = 0.01$ ), however there was no significant differences between groups. No significant main effects or interactions ( $p > 0.05$ ) were noted on measures of anaerobic power, muscular endurance, RHR & BP, nutritional dietary intake, cortisol, free testosterone, or on the markers of the metabolic/CBC panel.

## Conclusion

Supplementation of a tribulus and vitamin/mineral blend has no effect on the muscular strength and hypertrophy adaptations that occur with resistance training in this double-blinded, placebo controlled clinical trial. Additionally, supplementation had no significant impact on hormonal status and no clinical side effects were observed as indicated by the analysis of a full serum and whole blood metabolic profile.

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