SWACSM Abstract

Combined Grape Seed Extract and L-Citrulline Supplementation and Improves Cycling Time Trial Performance

EDWIN MARQUEZ, MARIAH YAGGI, SAMUEL HERNANDEZ, KARINA MACIAS, NATALIE NAWFAL, JOHNNY HUATRAN, & JONG-KYUNG KIM

Department of Kinesiology, California Baptist University, Riverside, CA

ABSTRACT

Studies have shown that L-Citrulline alone improves nitric oxide (NO) production which is beneficial for vasodilation or increasing skeletal blood flow. Grape seed extract (GSE) also has been shown to increase the production of NO via activation of NO synthase, reducing peripheral resistance during exercise. **Purpose:** The aim of this study was to determine if acute administration of the combined GSE and L-Citrulline supplements had a greater effect on exercise performance compared to taking either supplement alone. **Methods:** In a randomized cross-over design, 12 healthy male subjects aged between 18 to 30 years were divided into four groups: Placebo (starch), L-Citrulline, GSE, and GSE and L-Citrulline combined. They performed a timed trial (8 km) using a cycle ergometer to evaluate exercise performance after taking each supplement. **Results:** There was no significant difference in heart rate (HR), systolic blood pressure (SBP), diastolic blood pressure (DBP), and ratings of perceived exertion (RPE) across supplementations. Combined GSE and L-Citrulline supplementation significantly lowered a time trial compared to other supplements (placebo: 19.9±1.0 min; GSE: 19.3±1.0 min; L-Citrulline:19.6±0.9 min; GSE+L-Citrulline; 18.9±1.0 min. **Conclusion:** our results suggest that acute supplementation with combined GSE and L-citrulline appears to be an ergogenic aid that can improve exercise performance.