



EFFECT OF SINGLE OR COMBINED CAFFEINE AND L-THEANINE SUPPLEMENTATION ON SHOOTING AND COGNITIVE PERFORMANCE IN ELITE CURLING ATHLETES: A DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY.

Yilmaz, U ; Buzdagli, Y ; Polat, ML ; Bakir, Y ; Ozhanci, B ; Alkazan, S ; Ucar, H
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In curling, cognitive performance and precise physical coordination are of paramount importance. Caffeine is commonly used by athletes for its enhancement of physical performance, whilst research into the use of theanine in sports nutrition is limited. The aim of this double-blind, randomised, placebo-controlled crossover trial, including 22 elite curling athletes, was to evaluate the efficacy of single doses of caffeine (6 mg/kg), L-theanine (6 mg/kg) or both on the shooting and cognitive performance of curling athletes. Outcome measures were the STROOP cognitive performance test and shooting performance in 3 different shot types. Shooting performance was enhanced in all 3 intervention groups, although for 2 shot types this only reached statistical significance in the combined caffeine plus theanine group. Cognitive performance was also better after all active supplementations compared to placebo, but for all reaction times and error rates this only reached statistical significance with caffeine plus theanine.

Based on these findings, it has been demonstrated in this study that the best shooting scores and cognitive performance were achieved, particularly with the combined intake of CAF and THE.

EFFECTS OF A DIETARY MICROALGAE (ARTHROSPIRA PLATENSIS) SUPPLEMENT ON STRESS, WELL-BEING, AND PERFORMANCE IN WATER POLO PLAYERS: A CLINICAL CASE SERIES.

La Mantia, I, Maniaci, A, Scibilia, G, Scollo, P
Nutrients. 2024;16(15)

Dietary supplementation has become a popular strategy among athletes to enhance physical performance, reduce fatigue, and accelerate recovery. Spirulina (Arthrospira platensis), a blue-green microalga, has gained attention due to its high protein content, essential amino acids, vitamins, minerals, and antioxidant properties. The primary aim of this study was to investigate the impact of the spirulina and copper supplement on stress, well-being, and performance in water polo players. This was a clinical case series involving 20 male water polo players. The participants were divided into two groups: one group received the spirulina supplement, while the other group received a placebo. Results showed that the spirulina group showed a significant increase in their Athlete's Subjective Performance Scale (ASPS) scores from baseline to follow-up, compared to the placebo group, which saw a slight decrease. Additionally, there was a positive correlation between spirulina supplementation and reduced severity of ASPS scores. However, the levels of creatine phosphokinase (CPK), a biomarker for muscle damage, showed only slight differences from baseline to follow-up in the spirulina group. The authors concluded that a dietary supplement containing spirulina and copper may improve subjective performance measures and reduce muscular tension in water polo players. However, larger, randomised controlled trials are needed to confirm these findings.



QUERCETIN SUPPLEMENTATION PROMOTES RECOVERY AFTER EXERCISE-INDUCED MUSCLE DAMAGE: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS.



Rojano-Ortega, D, Peña-Amaro, J, Berral-Aguilar, AJ, Berral-de la Rosa, FJ With Expert Review from Daniel Quinones
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Quercetin is a flavonoid found in apples, onions, berries, tomatoes, red grapes, leafy greens and tea and has demonstrated its antioxidative, anti-inflammatory, anti-mutagenic, and anti-carcinogenic properties. Intense physical exercise may lead to an increase in reactive oxygen species, oxidative stress and exercise induced muscle damage (EIMD). This systematic review and meta-analysis aimed to determine the effect of quercetin supplementation on EIMD including muscle soreness, inflammation, antioxidant capacity and oxidative stress after intense exercise.

It was found that quercetin supplementation significantly reduced perceived muscle soreness, creatine kinase levels and oxidative stress following exercise. Authors conclude that quercetin at 1,000mg daily has the potential to support muscle recovery, reduce muscle damage and soreness and reduce oxidative stress following exercise.



ENERGY AVAILABILITY AND NUTRITIONAL INTAKE DURING DIFFERENT TRAINING PHASES OF WHEELCHAIR ATHLETES.

Hertig-Godeschalk, A, Ruettimann, B, Valido, E, Glisic, M, Stoyanov, J, Flueck, JL
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To maintain a long-term and successful career, elite athletes try to prevent health problems and maximize training adaptations. This includes not only managing training volume and intensity, along with recovery, but also tailoring nutrition to individual needs. The aim of this study was to assess dietary intake, energy availability (EA), and blood biochemical parameters at four consecutive time points during the pre-competition and competition phases in elite wheelchair athletes participating in a pilot feasibility study. This study was a secondary analysis of a randomised controlled trial. In the main study the participants were athletes who received either daily probiotic or prebiotic supplementation for four weeks, followed by a four-week washout period, and another four weeks of daily supplementation with another supplement.

Results showed that: a) neither EA nor energy intake (EI) displayed significant differences across the various time points; b) all athletes experienced low EA for at least one day, indicating how difficult fuelling is for elite athletes; and c) daily macronutrient intake and timing were frequently suboptimal, with athletes not adjusting EI to accommodate higher training loads. Authors concluded that their findings highlight the need for specific nutritional guidelines tailored to wheelchair athletes, as well as the importance of continuous education and guidance from qualified sports nutritionists.

