

Clinical Study to Assess the Efficacy and Safety of a Citrus Polyphenolic Extract of Red Orange, Grapefruit, and Orange (CitriTrim) on Weight Management and Metabolic Parameters in Healthy Overweight Individuals

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The present study investigated the efficacy and safety effects of CitriTrim (polyphenolic citrus dry extract) in weight management; metabolic parameters; and inflammatory, glycemic and oxidative status. In a 12-week, randomized, double-blind, placebo-controlled trial, CitriTrim was given to overweight subjects twice daily with meals in the tested group (N= 47) versus a placebo group (N= 48). Waist and hip circumference and abdominal fat were decreased in the CitriTrim group as compared with the placebo group ($p < 0.0001$) (-5.71% vs -1.56% for waist, -4.71% vs -1.35% for hip and -9.73% vs -3.18% for fat). Inflammatory markers were reduced (C-reactive protein: -22.87% vs +61%; fibrinogen: -19.93% vs -1.61%, $p < 0.01$). Oxidative

stress was lowered as seen by the reduction of malondialdehyde (-14.03% vs 2.76%) and the increase in superoxide dismutase and glutathione (17.38% vs 2.19% and 4.63% vs -2.36%, respectively, $p < 0.01$). No adverse effects were observed. Kidney, liver, and lipid panels remained unchanged. These results indicated that CitriTrim supplementation is a viable option for reducing abdominal fat, waist and hip circumference, and body weight and for improving inflammatory, glycemic, and oxidative status in healthy overweight individuals.
