

A recent study done by MB Clinical Research (Kevin C. Maki, PhD^{1,2}, Wendy Hasse, RDN, LDN²; Mary R. Dicklin, PhD¹; Marjorie Bell¹; Mary A. Buggia, MD³; Martha Cassens, MSc⁴; Fulya Eren, PhD⁴) showed that corn oil consumption improves the plasma lipid profile vs. coconut oil in men and women with above-desirable levels of cholesterol.

The study with ClinicalTrials.gov Identifier: NCT03202654, is a randomized, crossover, pilot study that included two screening visits and two 4-week test periods, separated by a 3-week washout. Subjects consumed study products providing 4 tablespoons oil/day of either corn oil or coconut oil replacing the same amount of oil in the background diet. Subjects otherwise were encouraged to follow their habitual diet during both treatment periods. They received diet instructions on the incorporation of food substitutions during the test periods to maintain habitual energy intake. Subjects recorded daily study product intake and compliance in a Daily Log. This trial assessed the effects of consuming foods made with corn oil vs. coconut oil on low-density lipoprotein cholesterol (LDL-C) and other aspects of the fasting lipoprotein lipid profile. Changes from baseline for corn oil and coconut oil conditions, respectively, were: LDL-C (-2.7% vs. +4.6%), non-HDL-C (-3.0% vs. +5.8%), TC (-0.5% vs. +7.1%), HDL-C (+5.4% vs. +6.5%), TC/HDL-C (-4.3% vs. -3.3%) and TG (-2.1% vs. +6.0%). Non-HDL-C responses were significantly different between corn and coconut oils ($p = 0.034$); differences between conditions in LDL-C and TC approached significance ($p = 0.062$ and $p = 0.057$, respectively).

These results indicate that, when incorporated into the habitual diet, consumption of foods providing 4 tablespoons/d of corn oil, which contains a higher quantity of plant sterols than other cooking oils and is rich in polyunsaturated fatty acids, produced a more desirable plasma lipid profile and reduced non-HDL-C compared with coconut oil (high in 8-12 carbon saturated fatty acids) in men and women with above-desirable levels of circulating cholesterol, and did not elevate hs-CRP levels.

The study has been submitted to be presented at ASN 2018 meeting

Funding and Disclosures: This study was funded by ACH Food Companies, Inc. (Oakbrook Terrace, IL). The authors disclose that they have received research funding from ACH in the past 12 months.

(Affiliations: ¹Midwest Biomedical Research/Center for Metabolic and Cardiovascular Health, Glen Ellyn, IL; ²Great Lakes Clinical Trials, Chicago, IL; ³MB Clinical Research, Boca Raton, FL; ⁴ACH Food Companies Inc., Oakbrook Terrace, IL)