

**TACSM Abstract – *Please do not change any fonts, font sizing, or spacing!***

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**Effect of Omega-3 Fatty Acids on Lipoprotein Profile and Particle Size in Hispanic Women**

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ABSTRACT

The effect of increased  $\Omega 3$  fatty acids on lipoprotein sub-fractions has not been well studied in Hispanic women, a group with a high prevalence of dyslipidemia and metabolic syndrome. The purpose of this randomized, placebo-controlled trial was to examine the effect of a 90-day (90D) combined EPA+DHA supplementation on lipoprotein profiles of Hispanic women. Twenty-seven non-diabetic women were randomly assigned to the  $\Omega 3$  group (n=17, 1.9 g/day EPA+DHA) or the placebo group (n=10, 2 g/day oleic acid). At baseline (0D) and 90D a fasting blood sample was drawn for determination of lipoprotein profile and lipoprotein particle sub-fractions. For the  $\Omega 3$  group, total cholesterol increased 6.5%, triglycerides were reduced 14.8%, LDL concentration increased 5.6%, and total LDL particle size concentration increased 8.2% ( $P < 0.05$ ). Large LDL particle size concentration increased 16% from 0D to 90D, this change was not significant ( $P = 0.051$ ). At 90D, total cholesterol, LDLs, and LDL particle concentration were higher in the  $\Omega 3$  group compared to placebo ( $P < 0.05$ ). Omega-3 supplementation resulted in reduced plasma TGs and an increase in large LDL particle size concentration, yet had no effect on HDL particle size or concentration. Further research is necessary to examine the effects of increased  $\Omega 3$  fatty acid intake in Hispanic women on dyslipidemia and related co-morbidities.