Lerman et al. BMC Complementary and Alternative Medicine 2012, 12(Suppl 1):P99
http://www.biomedcentral.com/1472-6882/12/S1/P99

BMC Complementary & Alternative Medicine

POSTER PRESENTATION Open Access

P02.43. A Mediterranean-style, low-glycemic diet plus phytonutrient rich medical food improves cardiovascular risk variables in women with metabolic syndrome

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From International Research Congress on Integrative Medicine and Health 2012
Portland, Oregon, USA. 15-18 May 2012

Purpose

Metabolic syndrome (MetS) is a growing public health concern and effective dietary intervention programs could make a tremendous impact on slowing disease progression. To assess the benefits of a dietary program on cardiometabolic diease risk variables, a 12-week, randomized controlled trial of overweight and obese women with MetS was conducted.

Methods

Participants consumed a Mediterranean-style, low-glycemic-load diet (control arm, n = 44), or the same diet plus a medical food (UltraMeal PLUS 360, Metagenics Inc.) containing phytosterols, soy protein, and extracts from hops and acacia (intervention arm, n = 45). Fasting blood samples were analyzed at baseline, week 8, and week 12 for plasma lipids, apolipoproteins, and homocysteine. Dietary records were collected and analyzed.

Results

Reduction in fat and sugar intake ($p < .001$ for both) was observed and increases in docosahexaenoic acid and eicosapentaenoic acid intake ($p < .001$ for both) were recorded, consistent with the prescribed diet. Regarding MetS variables, decreases in waist circumference, systolic and diastolic blood pressure, and plasma triglycerides in all subjects ($p < .001$ for all) were observed, with no differences between arms. Plasma low-density lipoprotein cholesterol, non-high-density lipoprotein cholesterol, apolipoprotein (apo) B, and apo B/apo A1 were reduced over the 12-wk study, but to a greater extent in the intervention arm ($p < .05$ for all), indicating the medical food had an effect in altering lipoprotein metabolism. Further, medical food intake was associated with reduced plasma homocysteine ($p < .01$), compared to the control arm.

Conclusion

A Mediterranean-style, low-glycemic-load diet effectively reduced cardiovascular risk factors associated with MetS. Addition of medical food resulted in an improved lipoprotein profile and lowered plasma homocysteine.

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Published: 12 June 2012

doi:10.1186/1472-6882-12-S1-P99
Cite this article as: Lerman *et al.*: P02.43. A Mediterranean-style, low-glycemic diet plus phytonutrient rich medical food improves cardiovascular risk variables in women with metabolic syndrome. *BMC Complementary and Alternative Medicine* 2012 **12**(Suppl 1):P99.

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