Julia M W Wong, J Nutr Food Sci 2014, 4:5
http://dx.doi.org/10.4172/2155-9600.S1.012

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3rd International Conference and Exhibition on
Nutrition & Food Sciences
September 23-25, 2014 Valencia Convention Centre, Spain

Effect of a plant-based low-carbohydrate diet on body weight and blood lipids in hyperlipidemic adults

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High protein, low-carbohydrate diets increase intake of animal protein and fat for weight loss,but may also result in an undesirable blood lipid profile and increased cardiovascular diseaserisk. The exchange of protein and fat for those of vegetable origin has not been examined. Weconducted a trial to determine the efficacy (metabolic) and effectiveness (ad libitum) of a diethigh in vegetable protein and oil ("Eco-Atkins") on body weight and blood lipids. Overweighthyperlipidemic men and women were randomized to consume either a low-carbohydrate vegandiet or a high-carbohydrate lacto-ovo vegetarian diet for a 1-month metabolic phase, followed bya 6-month ad libitum phase. A total of 47 participants started the metabolic phase with 39participants continuing on the ad libitum phase. All study foods were provided at 60% of theirestimated energy requirements during the metabolic phase. Participants were then advised tofollow their respective diet during the ad libitum phase. On the metabolic phase, despite similarweight loss for both diets (~4.0 kg), reductions in LDL-C and the ratios of TC:HDL-C andapoB:apo AI were significantly greater for the low-carbohydrate compared with the high carbohydrate diet (−8.1% [P=.002], −8.7% [P=.004], and −9.6% [P=.001], respectively). On the ad libitum phase, weight loss continued to -6.9 kg on the low-carbohydrate and -5.8 kg on thehigh carbohydrate diet (p=0.047). Significant differences between the two diets persisted inLDL-C, TC:HDL-C, and apoB:ApoA1. In conclusion, a low-carbohydrate plant-based diet haslipid-lowering and weight-reducing advantages over a high-carbohydrate diet for cardiovasculardisease risk reduction.

Biography

Julia M W Wong is currently an Instructor at the New Balance Foundation Obesity Prevention Center, Boston Children's Hospital and a Research Associate at the Risk Factor Modification Centre, St.Michael's Hospital. She is trained as a registered dietitian and completed her PhD in Nutritional Sciences at the University of Toronto and a postdoctoral fellowship at Boston Children's Hospital. She has been the recipient of a number of training and research awards. She has also co-authored over 25 publications in peer-reviewed journals and has presented her research at numerous national and international conferences. Her current research focuses on the mismatch between "modern" diets and human metabolism resulting in the rise in chronicdiseases (CVD, type 2 diabetes, obesity).

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