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Effect of whey protein isolate supplementation on fasting levels of endocannabinoids, inflammatory factors and weight in non-menopause women with obesity on a weight-loss diet

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Besides the effects of dietary long chain Polyunsaturated Fatty Acids (PUFA) on circulating endocannabinoids concentration, the impact of other nutrients on these system is not known and whether changes in plasma endocannabinoids levels correlated with changes in body composition and biochemical metabolic risk factors in obese individuals however, still remains to be characterized. Sixteen obese women for two months randomized clinical trial. All subjects followed a hypocaloric diet of 800 kcal below estimated energy needs. For the intervention group, isocaloric weight loss diet and whey protein powders (30 g/day) were given. Anthropometric, demographic, physical activity and nutrient intakes data were obtained from each subject. Three subjects in the intervention group and one participant in the control group were lost to follow. But, all analyses were performed by using the intention to treat principle. There were no significant differences in energy and macronutrient intakes, except Monounsaturated Fatty Acids (MUFA) intake, among the study groups at baseline and the end of study ($p>0.05$). Results of analysis of covariance didn't show significant reductions in body weight and BMI of the intervention group compared to the control group ($p>0.05$). Whey supplementation in intervention group significantly decrease levels of AEA, 2-AG and TNF- α compared to the control group in obese women after two months intervention (tested by ANCOVA after adjusting for covariates). Due to strong association between endocannabinoids level and metabolic diseases and obesity, we showed the other benefits of whey protein supplementation on health, by mechanisms other than weight loss can reduce endocannabinoids and metabolic risk factors.

Recent Publications:

1. Haidari F, Aghamohammadi V, Mohammadshahi M and Ahmadi-Angali K (2017) Effect of whey protein supplementation on levels of endocannabinoids and some of metabolic risk factors in obese women on a weight-loss diet: A study protocol for a randomized controlled trial. Nutrition Journal 16(1):70.
2. Sedaghat F Akhoondan M, Ehteshami M, Aghamohammadi V, Ghanei N, Mirmiran P and Rashidkhani B (2017) Maternal dietary patterns and gestational diabetes risk: a case control study. Journal of Diabetes Research DOI: 10.1155/2017/5173926.
3. Aghamohammadi V, Gargari B P and Aliasgharzadeh A (2011) Effect of folic acid supplementation on Hcy, serum total antioxidant capacity and MDA in patient with T2D. Journal of the American College of Nutrition 30(3):210-215.
4. Gargari B P, Aghamohammadi V and Aliasgharzadeh A (2011) Effect of folic acid supplementation on biochemical indices in overweight and obese men with T2D. Journal of Diabetes Research and Clinical Practice 94(1):33-38.
5. Pourghassem Gargari B and Aliasgharzadeh A (2011) Effect of folic acid supplementation on indices of glycemic control, insulin resistance and lipid profile in patients with type 2 diabetes mellitus. Iranian Journal of Endocrinology and Metabolism 13(4):354-360.

Biography

Vahideh Aghamohammadi is a PhD candidate in Nutrition Sciences, Ahvaz Jundishapur University of Medical Sciences. Completed her B.Sc: Nutrition science; Tabriz University of medical sciences, M.Sc: Nutrition science; Tabriz University of medical sciences.

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