

0071

A study The Effect of Energy Restriction Diet and Phenolic acids Supplementation on Cardiometabolic Risk Factors in Overweight and Obese Adults

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Abstract

Background: Poor obesity control is a risk factor for cardiovascular diseases and type 2 diabetes complications. Reducing body weight with pharmacotherapy can be challenging. This study aims to explore the effect of energy restriction diet (ERD) and Phenolic acids (PAs) Supplementation on Cardiometabolic Risk Factors in Overweight and Obese Adults.

Methods: A prospective, 12-week randomized, double blind, placebo-controlled, parallel group study conducted at University Hospital in Yemen between January 12, 2020, and May 28, 2020. In total 87 healthy non-athlete overweight and obese subjects (58% women; mean age, 42 years; with body mass index (BMI) $\geq 27 \text{ kg/m}^2$) were assigned randomly to treated group 47 to receive PAs, 25mg/d after energy restriction diet daily ($\leq 100\text{k kcal/day}$, and 40 to receive placebo as control. Additionally, anthropometric measurements, blood pressure, body composition, plasma lipoproteins, lipids, fasting blood sugar (FBS), insulin sensitivity and hormone peptides of both groups were measured before the beginning of treatment and 12 weeks after treatment. **Results:** Compared to the control group, body weight, body fat %, body mass index (BMI), triglyceride, low-density lipoprotein(LDL), blood pressure, and insulin sensitivity significantly decreased in the treated groups while insulin sensitivity and adiponectin hormone level were increased ($P < 0.05$). However, no significant changes occurred in FBS, high-density lipoprotein (HDL), total cholesterol (TC), and waist circumference (WC) ($P > 0.05$). **Conclusions:** The study shows that ERDs and PAs treatment was effective in attenuating cardiovascular risk factors such as blood pressure, glycemic control and lipid management, and it may provide a novel treatment for improving dual cardiovascular risk factors.

Funding and Conflicts of Interest

None