

Abstract

Hyperlipidemia is a major modifiable risk factor for cardiovascular disease, and green tea catechin (GTC) supplementation may improve lipid profiles. This study evaluated the effects of GTC supplementation on total cholesterol (TC), low-density lipoprotein cholesterol (LDL-C), high-density lipoprotein cholesterol (HDL-C), and triglycerides (TG), in hyperlipidemic adults. Secondary outcomes included anthropometric parameters and dietary intake. Secondary data from a randomized, double-blind, placebo-controlled trial involving Taiwanese adults with elevated cholesterol levels were analyzed. Fourteen participants were included, with seven assigned to the intervention group and seven to the placebo group. Lipid profiles, body composition, and dietary intake were assessed during a 14-week study, including a 12-week intervention and a 2-week washout. Statistical analyses were performed using non-parametric tests, including the Mann–Whitney U test, Friedman test, and Spearman correlation analysis. No statistically significant differences were observed between groups for LDL-C, which was 154.3 ± 39.21 mg/dL in the intervention group and 162.4 ± 25.52 mg/dL in the placebo group ($p = 0.34$) and TG was 117.2 ± 59.47 mg/dL vs 91.0 ± 63.48 mg/dL ($p = 0.31$). TC, HDL-C, anthropometric parameters, and dietary intake showed no significant differences ($p > 0.05$). Correlation analyses demonstrated no significant associations between lipid profile and anthropometric or dietary variables. Future research with larger sample sizes, improved control of lifestyle factors, and increased statistical power is necessary to better evaluate the efficacy of green tea catechin supplementation.

Keywords: *Green tea catechins (GTC), Hyperlipidemia, Lipid profile, Cholesterol*