Comparison of Cardiometabolic Biomarkers in Two Groups of US Adults Using Multiple Dietary Supplements: A Cross-Sectional Study

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ABSTRACT

Objective: The aim of the present study is to compare cardiometabolic biomarker levels (MARKERS) from a cohort using multiple (2+) dietary supplements (MDS) manufactured by Shaklee Corporation for 3-5 yr (SHAKLEE) to those from the age-matched MDS users from NHANES 2007-10 (NHANES).

Methods: Each subject from SHAKLEE [n=58; mean age: 48 yr (22-79 yr)], using MDS manufactured by Shaklee Corp for 3-5 yr, voluntarily signed the IRB approved informed consent form before the study participation. Body mass index (BMI), systolic and diastolic blood pressures (SBP and DSP) were measured, and approximately 30 mL of 12-h fasting blood sample was collected. Pregnant women and people with a history of cancer were excluded. MARKERS from SHAKLEE were compared to those from NHANES [n=1,952; mean age: 51 yr (22-79 yr)]. MARKERS included total cholesterol (TC), HDL-c, TC/HDL-c ratio, LDL-c, triglycerides (TG), high sensitivity C-Reactive Protein (CRP), glucose, hemoglobin A1c (HbA1c), and Insulin levels in the blood as well as BMI, SBP, and DBP. Statistical analyses were performed using independent samples *t*-tests, and $p<0.05$ was considered significantly different between groups.

Results: SHAKLEE had significantly lower TC (189 vs. 201 mg/dL), TC/HDL-c ratio (3.1 vs. 4.0), LDL-c (103 vs. 118 mg/dL), TG (81 vs. 131 mg/dL), glucose (93 vs. 107 mg/dL), HbA1c (5.1 vs. 5.7%), insulin (8.3 vs. 13.4 mIU/L), BMI (26.7 vs. 29.0), and SBP (110 vs. 122 mmHg), and higher HDL-c (69 vs. 55 mg/dL) but had higher DBP (76 vs. 71 mmHg) than NHANES. There was no significant difference in CRP although CRP was slightly lower in SHAKLEE than NHANES (2.9 vs. 3.8 mg/L).

Conclusion: The present study showed that 3-5 yr MDS users from the Shaklee cohort had healthier pattern in cardiometabolic biomarkers than the age-matched MDS users from NHANES 2007-2010.

Keywords: Dietary Supplements, Cardiometabolic Biomarkers