

# Open-label clinical assessment of a traditional chinese medicine supplementation for cardiovascular health improvement

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## ABSTRACT

Cardiovascular disease is the foremost contributor to global mortality and represents a major component of the non-communicable disease (NCD) burden. Although conventional therapies reduce morbidity and mortality, a significant residual risk persists. Traditional Chinese Medicine (TCM), particularly multi-herb formulations, has long been used for circulatory health and may provide adjunctive benefits through lipid modulation, vascular support, and anti-inflammatory mechanisms. This study evaluated the cardiovascular effects of a standardised aqueous extract comprising eight TCM herbs: *Alternanthera sessilis*, *Astragalus membranaceus*, *Zingiber officinale*, *Glycyrrhiza uralensis*, *Panax notoginseng*, *Salvia bowleyana*, *Codonopsis pilosula*, and *Ligusticum chuanxiong*. Fifty adults received daily supplementation for 12 weeks. Clinical and biochemical assessments were performed at baseline and at monthly intervals, including blood pressure, heart rate, lipid profile, and salivary cardiac biomarkers. Patient-reported outcomes were measured using the visual analogue scale (VAS) for perceived cardiovascular health and the HeartQoL questionnaire for disease-related quality of life. Supplementation led to significant reductions in triglycerides (-38.1%,  $p < 0.001$ ) and low-density lipoprotein cholesterol (-14.1%,  $p < 0.05$ ). Salivary biomarkers also showed marked decreases in high-sensitivity C-reactive protein (-8.6%,  $p < 0.01$ ) and matrix metalloproteinase-9 (-25.6%,  $p < 0.001$ ), with a concurrent non-significant downward trend in creatine kinase-MB isoenzyme (-9.2%). Patient-reported outcomes improved significantly, with VAS scores increasing by 16.5% and HeartQoL total and subscale scores by 13.8% (both  $p < 0.001$ ). This standardised multi-herb extract demonstrated favourable effects on lipid parameters, inflammatory and myocardial stress biomarkers, and patient-reported cardiovascular outcomes. These findings suggest potential clinical value as an adjunctive therapy in cardiovascular risk management.

**Keywords:** Cardiovascular Disease (CVD), Non-communicable Disease (NCD), Traditional Chinese Medicine (TCM), Lipid Profile, Inflammation