Official Title: The Impact of Stationary Combined Exercise on Adiponectin and High-Sensitivity C-Reactive Protein Levels in Overweight Women

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Study Protocol Overview

This document describes the full study protocol and statistical analysis plan for the research titled “The Impact of Stationary Combined Exercise on Adiponectin and High-Sensitivity C-Reactive Protein Levels in Overweight Women.” The study was approved by the Research Ethics Committee of Chongqing College of International Business and Economics (Approval No. K2016038) on January 15, 2024. It was conducted between January 20, 2024, and April 10, 2024, with 22 overweight female participants randomly assigned to either an exercise or a control group. The exercise intervention consisted of an eight-week circuit-based combined training program performed four times per week at 70–90% of maximum heart rate. Measurements included serum adiponectin and hs-CRP concentrations (ELISA), as well as body composition and VO■max assessments at baseline and 48 hours post-intervention. Statistical analysis included paired t-tests for within-group changes, ANCOVA for between-group comparisons, and Pearson correlation for associations between biomarkers. Significance was determined at $P < 0.05$ using SPSS version 17.