A Technology-Based Adaptive Intervention to Promote Cardiovascular Health after Completion of Cardiac Rehabilitation (Mobile4Heart)

Linda G. Park, PhD, MS, FNP-BC, FAAN, FAHA

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Statistical Analysis

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P-values for baseline tests were calculated from two-sample t-tests (or Wilcox rank-sum test if skewed) or chi-squared tests.

We analyzed the primary outcome of step count difference between the two groups over 60 days fitting linear mixed-effects models with the step count for each day in R (version 3.6.0). For a more precise estimate of the treatment effect, we used a step-wise procedure to include potential covariates impacting the outcome (age, gender, working status, college or higher education, relationship status, depression, self-efficacy, and self-reported PA), including only terms that were significant in the model. The 2-sided significance level was established a priori at an alpha of 0.05. We employed an intention-to-treat analysis approach. We tested our secondary outcome of the standardized change score in 6MWT from baseline and 2 months also using linear mixed models, with the same approach. The covariate association of depression and self-efficacy for step count difference and 6MWT were also considered to be secondary questions of interest.

Since our analysis included a small amount of missing data for the covariates (education missing on 8%, all other covariates <4%), our analyses used multiple imputation by chained equations, using 5 imputations. Results differed very little compared to complete case analysis.