Concordance of Cardiovascular Risk Factors and Behaviors in a Multiethnic Nationwide Cohort of Married Couples and Domestic Partners

Background

- Couples often share similar environments, behaviors, and characteristics, but the extent of similarity between cardiovascular (CV) risk factors and behaviors was unknown.
- The American Heart Association (AHA) has identified 7 modifiable risk factors and behaviors that are metrics of CV health, and termed the group Life's Simple 7 (LS7).
- LS7 metrics include blood pressure, total cholesterol, blood sugar, physical activity, healthy diet, body mass index, and smoking. AHA has also defined poor, intermediate, and ideal level for each metric.[1]
- **Objective:** The investigators of this study evaluated the similarity of CV risk factors and behavior among married couples and domestic partners.

Methods

- This cross-sectional analysis included couples participating in a Quest Diagnostics nationwide health risk assessment program (2014-2015).
- LS7 status was evaluated by questionnaires, biometric measurements (eg, height, weight, blood pressure), and laboratory tests (eg, cholesterol, glucose).
  - For each participant, the LS7 risk factors and behaviors were scored 2 for ideal, 1 for intermediate, or 0 for poor.
  - A CV health score was calculated as the sum of the scores.
  - Couples were categorized as concordant when both were in the ideal category or both were in a non-ideal category for a risk factor or behavior.
  - Within-couple concordance was also examined by ethnicity, socioeconomic status, and geographic location.
- The association between 1 member of a couple being in the ideal category of a CV risk factor or behavior and the other member also being in the ideal category was assessed by logistic regression models that adjusted for age and sex.

Results

- The study included 10,728 (5,364 couples) employees and spouses (or domestic partners), with all 50 states represented.
  - 54% were White, 21% Asian, 11% Hispanic, and 7% African American; the median age was 50 years among men and 47 years among women.
- Most couples were concordant for each LS7 risk factor or behavior (ie, both members were in the ideal category or both were in a non-ideal category).
  - For the CV health score, 79% of couples were both in the non-ideal category.
- Except for total cholesterol, when 1 member of a couple was in the ideal category, the other member was likely to also be in the ideal category (*P*≤0.001).
- Within-couple concordance for specific LS7 risk factors and behaviors varied according to ethnicity, socioeconomic status, and geographic location, largely reflecting the prevalence of LS7 risk factors and behaviors in these subpopulations.

Conclusions

- Within-couple concordance was high for non-ideal CV risk factors and behaviors.
- These data may inform and improve public health initiatives that focus on modifying the lifestyles of couples.