

Abstract

Sedentary Behavior and Cardiovascular Disease Risk among Racial Groups in the US

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Background: Sedentary behavior has been shown to have a significant association with cardiovascular disease (CVD). However, research is limited on actual estimates of this association according to race. Investigation into this relationship by race would help public health professionals in packaging health promotion messages to make the most impact. **Methods:** The 2013/2014 National Health and Nutrition Examination Survey (NHANES) was used to conduct this research. A total of 5,262 subjects who were 18 years or older were analyzed. The outcome variable was any CVD which comprised of self-reported physician diagnosis of any of the following: congestive heart failure, coronary heart disease, myocardial infarction, and stroke. The predictor variable was sedentary activity and was assessed by self-reported number of minutes of sedentary activity in a day, not including hours spent sleeping. Covariates included in this study were age, gender, race, body mass index, education, household income, nutritional status, blood pressure, smoking status, physical activity, marital status, and possession of health insurance. All analyses were performed using SAS Version 9.3 (SAS Institute., Cary, NC), at $\alpha=0.05$. **Results:** 462 (9%) of the study participants had CVD. In the entire study group sedentary activity did not have significant effect on CVD risk. However, among Hispanics CVD risk was significantly increased for those who reported more than 540 minutes, compared to those who reported less than 240 minutes, of sedentary activity per day, after adjustment for potential confounders, including physical activity (OR= 5.07, 95%CI= 1.77-14.5, $p=0.007$). This association remained significant for Hispanics when physical activity—a potential effect modifier—was not adjusted for in the model (OR= 4.61, 95%CI= 2.06-10.34, $p<0.002$). Without adjusting for physical activity, the risk of CVD also became significant for Non-Hispanic Whites who reported more than 540 minutes, compared to those who reported less than 240 minutes, of sedentary activity per day (OR= 1.97, 95%CI= 1.22-3.18, $p<0.005$), while African Americans were not significantly affected. **Conclusion:** Racial differences were observed for the association between sedentary activity and CVD risk. These findings indicate a potential need for education on sedentary activity, especially among Hispanics.

Advocacy for health and health education Chronic disease management and prevention Epidemiology Public health or related education Public health or related research Social and behavioral sciences

