

Cardiovascular health in Hispanics/Latinos: a reexamination of the Hispanic paradox

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Hypertension is the single most important factor driving the high rates of cardiovascular (CV)-related mortality and healthcare expenditures in the United States (US). Despite the significant burden of hypertension, several decades of research have shown that Hispanics/Latinos, the fastest growing ethnic group in the US, experience lower rates of CV-specific and all-cause mortality relative to non-Hispanic whites. This phenomenon—termed the *Hispanic paradox*—persists despite significantly poorer CV risk profiles (eg, higher rates of obesity, hypoglycemia, diabetes, and lower rates of physical activity) in Hispanics/Latinos compared with non-Hispanic whites.¹

While many theories have been proposed to support or refute this paradox (ie, salmon bias hypothesis, healthy migrant effect, better social support), many have failed to account for the increasing heterogeneity of the Hispanic/Latino population. Instead, Mexican Americans are most often represented in studies of CV disease, potentially obscuring the true burden of hypertension in the diverse Hispanic/Latino subgroups. For example, recent data from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL) indicate that Mexican Americans experience the lowest prevalence of hypertension (21.7%) as compared with those of Cuban, Dominican, and Puerto Rican backgrounds who exhibit the highest prevalence (range: 31.5%–32.2%).² Similar patterns were seen with blood pressure (BP) control with the poorest rates found in participants younger than 40 years (20% BP control) and Central American and Dominican men (12% and 27%, respectively). Individuals of Puerto Rican backgrounds were also significantly more likely to be obese (46.8%), report currently smoking (33.8%), have diabetes (19.2%), and have high depressive and anxiety-related symptoms (38% and 16.8%) as compared with all other Hispanic/Latino groups.² While HCHS/SOL can offer new epidemiologic insights into the significant variation in CV risk across individuals of diverse Hispanic/Latino ethnic backgrounds,

the lack of non-Hispanic comparison groups limits researchers' ability to elucidate the factors driving racial differences in CV morbidity and mortality.

The paper by Rodriguez and colleagues³ in this issue takes several important steps to overcome shortcomings of previous CV studies in Hispanics/Latinos and move toward answering the many questions posed by the Hispanic paradox. In their paper, the authors analyze baseline data from the multicenter, randomized clinical trial, Systolic Blood Pressure Intervention Trial (SPRINT), which examined the appropriate targets for systolic BP to reduce CV morbidity and mortality in a diverse sample of diabetic hypertensive patients older than 50 years. Notably, SPRINT asked Hispanic/Latino participants to identify their ethnicity as being of Puerto Rican, Cuban, Mexican, or other Hispanic background. Clinic recruitment was also conducted in the US and Puerto Rico. Doing so allowed researchers to compare baseline characteristics by Hispanic ethnicity (Hispanic vs non-Hispanic) and by geographic location. Baseline measurements included BP, height and weight, fasting blood and urine samples, electrocardiogram, cognitive function, general health-related quality of life, depressive symptoms, daily functional status, medical history, health behaviors (eg, physical activity, smoking/alcohol use), and medication adherence.

Similar to previous research, the authors found that Hispanic/Latino participants were prescribed fewer antihypertensive medications and more likely to have elevated systolic BP and worse lipid profiles as well as report lower levels of physical activity and smoking than non-Hispanics.⁴ However, as compared with non-Hispanics, Hispanic/Latinos were more likely to report fewer comorbid chronic diseases and similar rates of medication adherence and history of CV diseases. Hispanics/Latinos also reported more depressive symptoms and exhibited lower cognitive functioning despite holding a better perception of their health than non-Hispanics. Comparing data by location, Hispanic/Latinos in Puerto Rico were more likely to have elevated BP, poorer BP control, fewer prescribed antihypertensive medications, and a worse lipid profile despite a lower prevalence of CV diseases

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than US Hispanic/Latinos. Alternatively, while US Hispanic/Latinos reported better health status than Hispanic/Latinos in Puerto Rico, they also reported higher depressive symptoms, worse cognitive functioning, and worse medication adherence.

In all, these findings call into question the validity of the Hispanic paradox. The equivalent rates of CV diseases and worse CV profiles coupled with lower educational attainment, higher rates of being uninsured, and younger age among US Hispanics/Latinos in SPRINT suggest that as this population ages, Hispanic/Latinos may experience higher levels of disability that diminish the advantages in morbidity and mortality documented in previous research of Mexican Americans. Breaking these data down by geographic location further highlights the need to examine Hispanic/Latino CV health from a different lens. In Puerto Rico, physician-level factors, more so than individual-level factors, may be at play as Hispanics/Latinos in Puerto Rico were prescribed fewer antihypertensive medications than their US counterparts even though they were more likely to report being insured and adherent to their medications. Thus, it is difficult to determine whether the lower prevalence of CV diseases in this population is due to a survival advantage or systemic differences in quality of care.

While these data add great insight into our understanding of the variation in CV risk by ethnic background and geographic location, we still lack data on the factors that can explain these differential associations. Preliminary data from this study suggest that psychosocial factors such as depressive symptoms, as opposed to measures of self-reported health, as well as measures of cognitive functioning may play an important role in understanding why this change is occurring and warrant further study.³ These findings also call into question whether we are using the right measures to assess the health of Hispanics/Latinos. Many of the measures administered in previous studies were developed in white individuals of higher socioeconomic status and do not account for the distinct sociocultural makeup of other racial/ethnic minority groups. Balfour and colleagues⁴ aptly raise this point in a discussion about the appropriateness of the Framingham Risk Score for estimating CV risk in Hispanics/Latinos. Questions also remain as to why some subgroups of Hispanic/Latinos receive less aggressive treatment based on their geographic location. Again, as shown in the study by Rodriguez and colleagues,³ measures of patient satisfaction are inadequate markers

of quality of care as they do not account for the cultural values of *simpatia* (behaviors that facilitate pleasant social relationships) and *personalismo* (character trait of “formal friendlessness” that is sought in persons of authority) held by Hispanics/Latinos. Rather, measures of implicit bias, language concordance, and cultural sensitivity may prove to be more powerful predictors of the quality of care received by Hispanics/Latinos. Continued work is also needed to examine how social determinants of health such as lack of health insurance coverage impact the CV health of the diverse subgroups. Research also points to worsening environmental stressors associated with migration such as anxiety about deportation, difficulties in finding work after arrival, and discrimination as factors that drive the declines in Hispanic/Latino health.⁵ Together, these burgeoning areas of research call for developing a socioecological framework to formulate questions that examine the interaction between the protective and adverse factors associated with CV health in the heterogeneous Hispanic/Latino population.

CONFLICT OF INTEREST

There are no competing or financial relationships that may lead to a conflict of interest.

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