

Crucial differences found among Latino populations facing heart disease risks

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Latinos are not all the same when it comes to risk of heart disease, and a new study by a Columbia University researcher shows key differences among Hispanic populations that doctors should take into account in trying to stem the risk of cardiovascular disease in this large and growing subset of the U.S. population.

Among the new findings published in the January 19, 2009 *Journal of the American College of Cardiology* are that Caribbean-origin Hispanics have greater prevalence of hypertension than Mexicans, whom among all the Hispanic subgroups tended to be more susceptible to diabetes, lead cardiologist/researcher Carlos Rodriguez, M.D., MPH, of Columbia University Medical Center and his colleagues have found.

Hispanics are the largest minority ethnic group in the United States, numbering 46 million people or 16 percent of the U.S. population. Sixty-seven percent of Hispanics in the United States are of Mexican origin, 19 percent come from the Caribbean (principally from Puerto Rico, Cuba, and the Dominican Republic), and 14 percent originate from Central and South America, according to federal data.

The study examined left-ventricular hypertrophy and cardiac "remodeling" patterns with the help of [magnetic resonance imaging](#) (MRI) in Hispanic subgroups compared with non-Hispanic whites participating in the Multi-Ethnic Study of Atherosclerosis or MESA, which was conducted in six cities across the United States. Dr. Rodriguez conducted this research as a scholar with the Harold Amos

Medical Faculty Development Program, a national program of the Robert Wood Johnson Foundation.

Cardiac remodeling refers to the changes in size and shape, of the heart when it is subject to repeated stress from [high blood pressure](#) or diabetes or volume overload. Cardiac hypertrophy and remodeling have been shown to be a strong risk factor for future heart attacks, stroke and death.

With higher rates of hypertension, Caribbean-origin Hispanics have a higher prevalence abnormal hypertrophy compared with non-Hispanic whites, the study found. A higher prevalence of cardiac hypertrophy and abnormal left-ventricular remodeling was also observed among Hispanics from Mexico, despite a lower prevalence of hypertension in that population, Dr. Rodriguez and his colleagues demonstrate. These results persisted after adjustment for high blood pressure and diabetes suggesting that these risk factors only partially explain these findings.

"An important finding that doctors should take note of is that Hispanics are not monolithic with respect to cardiovascular risk factors," Dr. Rodriguez says. "Different subgroups originating in different geographic areas of Latin America manifest significant differences in the way their hearts handle stress from underlying conditions or disease. It is interesting that despite these differences, a high prevalence of [cardiac hypertrophy](#) and cardiac risk was present among all the Hispanic subgroups."

The research from Columbia, funded in part by the Harold Amos Medical Faculty Development Program of the Robert Wood Johnson Foundation and the National Heart, Lung, and Blood Institute, is the first comparative analysis of Hispanic subgroups in a single cohort to demonstrate differential prevalence of hypertension and diabetes and relate them to cardiac structure across Hispanic subgroups, which

illustrates the heterogeneity of the Hispanic population.

"When considering [heart disease](#) in minority populations, it is important for doctors to weigh crucial distinctions among Hispanic groups," Dr. Rodriguez says. "We need to better appreciate, understand and address differences among Hispanic ethnic subgroups to prevent adverse cardiovascular events in this population."

Provided by Columbia University Medical Center

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