

Research suggests exercise reduces disease risk among Hispanic population

December 24 2013, by Rebecca Ayer

(Medical Xpress)—Over time, exposure to stress can cause wear and tear on the body. Referred to as allostatic load, this measure of stress exposure can indicate an increased risk for a number of chronic diseases such as diabetes and heart disease. University of Georgia researchers found physical activity reduces those risks among a Hispanic population.

In a study recently published online in the *Journal of Immigrant and Minority Health*, Dr. Jennifer Gay, an assistant professor of health promotion and behavior at the UGA College of Public Health, examined whether regular [physical activity](#) was able to counteract the accumulation of allostatic load in high-risk Mexican-Americans.

"Instead of looking at blood pressure, cholesterol, or inflammation individually, allostatic load allows us to examine these markers together in order to get a more comprehensive picture of what someone's risk for disease is," Gay said.

Gay and her team used data collected as part of the Cameron County Hispanic Cohort. CCHS is a randomly selected, community-recruited study of more than 2,000 Mexican-American adults aged 18 or older living on the Texas-Mexico border in Brownsville, Cameron County.

A combination of risk factors was used to score each person's allostatic load: high [blood pressure](#) risk, which indicates risk for heart disease; metabolic risk can signal a risk for diabetes; and inflammatory risk.

"Mexican-Americans, particularly those living in this region of south Texas, have a disproportionately higher rate of diabetes and obesity when compared to the general population in the U.S. That puts them at additional risk for various [chronic diseases](#)," Gay said. "We wanted to see if getting enough physical activity would overcome these disease markers."

Specifically, CCHC participants are much less physically active than the rest of the U.S. population and have been found to have twice the rate of Type 2 diabetes as the rest of the country.

"Some folks have signaled that this area of south Texas might be the canary in the coal mine for the rest of the country, giving us a warning about what the country might look like in 20 years if we don't make the appropriate behavior changes," she said.

The study confirmed previous evidence that CCHS participants who engaged in 150 minutes or more of activity per week, as prescribed by the 2008 Physical Activity Guidelines for Americans, had lower allostatic load and were at lower risk for disease than comparable CCHS participants who did not exercise.

"We also found in this population that inflammation was the marker that could be most affected by physical activity," Gay said. "This is important because inflammation is looked at as a precursor to diabetes and heart disease. If we can reduce levels of inflammation by increasing physical activity, then we might have a chance of reducing rates of diabetes and [heart disease](#) in the population."

This inflammation marker may also offer a key to a better understanding of why U.S. Hispanics, despite higher rates of [diabetes](#) and obesity, tend to outlive non-Hispanic whites by several years, Gay said. The cause for this phenomenon, called the "Hispanic Paradox," is a mystery but current

hypotheses look to a more physically active lifestyle as playing a major role.

More information: "Meeting Physical Activity Guidelines is Associated with Lower Allostatic Load and Inflammation in Mexican Americans." Jennifer L. Gay, Jennifer J. Salinas, David M. Buchner, Shaper Mirza, Harold W. Kohl III, Susan P. Fisher-Hoch, Joseph B. McCormick. *Journal of Immigrant and Minority Health*, November 2013. [DOI: 10.1007/s10903-013-9950-1](https://doi.org/10.1007/s10903-013-9950-1)

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