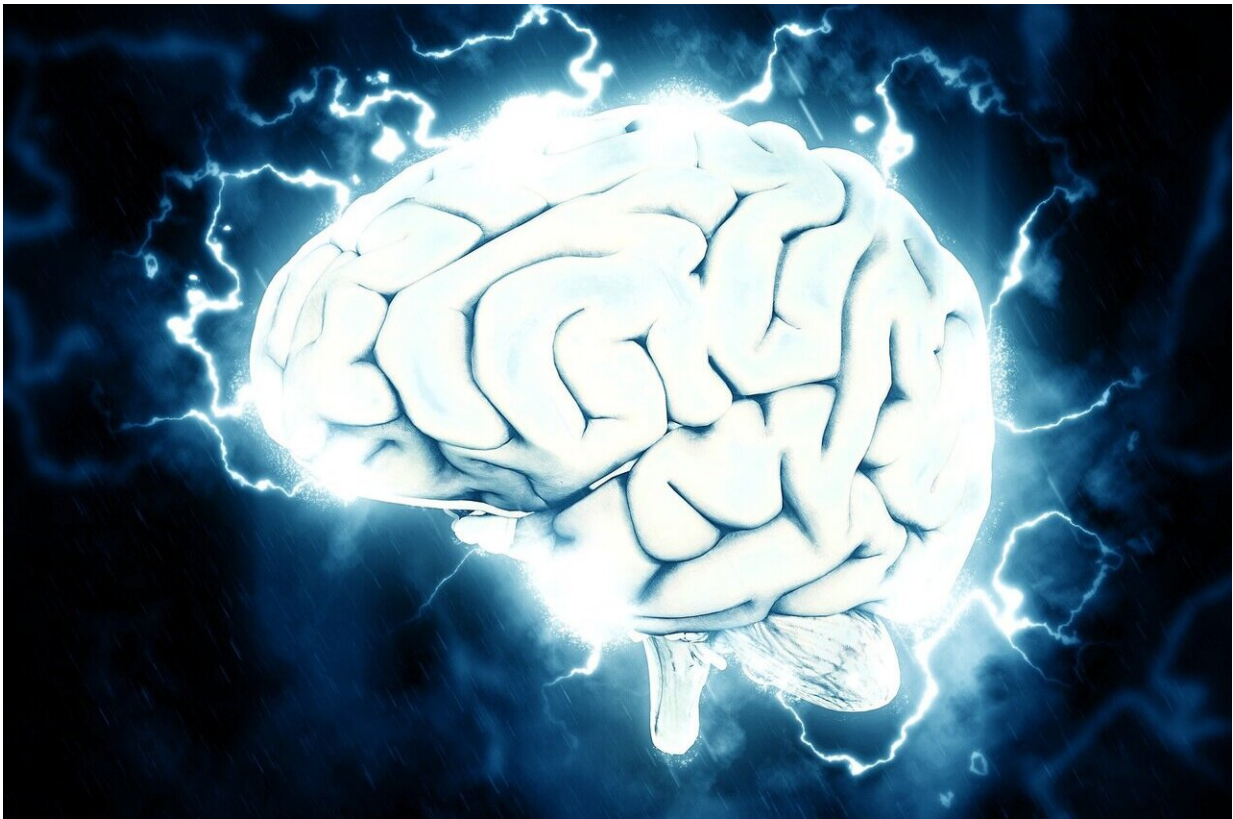


High rate of diabetes, high blood pressure in Puerto Ricans linked to brain changes

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The high rate of diabetes and high blood pressure combined in Puerto Rican people may be linked to structural changes in the brain, according to a study published in the March 30, 2022, online issue of *Neurology*,

the medical journal of the American Academy of Neurology.

"This high prevalence of people who have both diabetes and high [blood pressure](#) may be a key factor contributing to health disparities in [cognitive impairment](#) in Puerto Rican people compared to white people of the same age range," said study author Bang-Bon Koo, Ph.D., of Boston University in Massachusetts. "This research is important because although Hispanic people make up more than 18% of the U.S. population, they are underrepresented in large studies on the prevalence of diseases and have usually been treated as a whole group instead of looking at smaller groups from different backgrounds such as Puerto Ricans, Cubans or Mexican Americans."

The study involved 192 Puerto Rican people from the Boston area who were part of a larger study and were followed for more than 10 years. Participants had [brain](#) scans and took tests of their thinking skills.

They were divided into four groups based on whether they had type 2 diabetes and high blood pressure. A total of 54 people had neither condition; 67 had high blood pressure but did not have diabetes; and 61 people had both conditions. Ten people had diabetes but no high blood pressure. This group was not included in the analysis due to the small number.

The participants were also compared to participants from two other large studies that included both Hispanic and white people.

The study found that about five times as many Puerto Rican people had diabetes as white people, 32% compared to 7%. Twice as many Puerto Rican people had high blood pressure as [white people](#), 67% compared to 39%.

The [brain scans](#) showed that Puerto Rican people with both conditions

had the smallest volume in the hippocampal area of the brain, which plays a role in learning and memory and is affected by Alzheimer's disease.

The people with both conditions also had clear patterns of deterioration in the white matter of the brain compared to the people with neither condition, while the people with high blood pressure only had a lesser amount of deterioration. The people with both conditions also had a larger difference between their actual age and their estimated "brain age," meaning that aging was affecting their brain to a greater degree than for the people who did not have both conditions.

The results were adjusted for other factors such as age, sex and [education level](#).

"The decline in brain health and cognitive capacity in people in the Puerto Rican study who had both diabetes and high blood pressure was comparable to people in another study who had [mild cognitive impairment](#) and progressed to Alzheimer's disease within five years," Koo said. "Our results suggest that the high rate of diabetes and high blood pressure among Puerto Rican people may contribute to the higher risk of Alzheimer's disease within this group."

A limitation of the study was that people with type 2 diabetes who did not have [high blood pressure](#) were not included due to small numbers.

Provided by American Academy of Neurology

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