

Potassium levels possible key to racial disparity in Type 2 diabetes

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Lower potassium levels in the blood may help explain why African-Americans are twice as likely to be diagnosed with type 2 diabetes as whites, according to a new study by Johns Hopkins researchers.

The findings, if confirmed, suggest that part of diabetes prevention may someday prove as easy as taking a cheap potassium supplement.

"This research doesn't mean people should run out and start taking potassium supplements," says Hsin-Chieh "Jessica" Yeh, Ph.D., an assistant professor of medicine at the Johns Hopkins University School of Medicine and an author of the study, which appears in the [American Journal of Clinical Nutrition](#). "But we now know lower serum potassium is an independent risk factor for diabetes and that African-Americans have, on average, lower potassium levels than whites. What remains to be seen is if increasing potassium levels through diet or supplementation can prevent the most common form of diabetes."

Yeh and her colleagues analyzed data from more than 12,000 participants in the Atherosclerosis Risk in Communities Study (ARIC), information collected from 1987 and 1996. The more than 2,000 African-Americans in the study had lower average serum potassium levels than the more than 9,000 whites in the study, and they were twice as likely to develop type 2 diabetes. The incidence of diabetes among study participants went up as potassium levels went down.

[Type 2 diabetes](#) affects more than 8 percent of Americans, or 23.6

million people, and the burden of the disease falls disproportionately on African-Americans. Many factors are thought to contribute to the greater prevalence of diabetes in African-Americans, including differences in socioeconomic status, diet, obesity and genetics. But researchers say these do not account for the entire disparity.

Serum potassium, Yeh and her colleagues found, appears to be a novel risk factor for the disorder that may explain some of the racial disparity in diabetes risk, and one that may be as important as obesity. A recent study found that the racial disparity in diabetes prevalence has widened the most in normal-weight and overweight people rather than the obese, suggesting that additional factors other than weight contribute to the risk.

Yeh notes that low potassium levels have been linked in healthy people to higher insulin and higher glucose levels — two hallmarks of diabetes.

Previous studies have shown that African-Americans get less potassium in their diets than whites in the United States, on average just half of the government recommended 4,700 milligrams per day. Potassium comes from many sources such as bananas, melons, lentils and yogurt.

Determining whether a patient is potassium deficient would be simple to do, Yeh says, as part of a basic set of metabolic tests routinely ordered by primary care doctors.

Yeh says she would like to see clinical trials developed to examine whether manipulating [potassium levels](#) — either through diet changes or the addition of supplements — would reduce diabetes risk for some groups.

"That is to be determined," Yeh says. But "if this works," she adds, "this would be a very low-cost, practical way to prevent diabetes."

Provided by Johns Hopkins Medical Institutions

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