

# Non-traditional risk factors illuminate racial disparities in type 2 diabetes

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(Medical Xpress)—Two surprising risk factors – diminished lung function and low serum potassium levels - appear to have nearly the same impact as obesity in explaining why African-Americans are disproportionately prone to developing type 2 diabetes, researchers at Duke Medicine report.

The finding, published in the February print edition of the *Journal of General Internal Medicine*, clarifies some of the large [racial disparities](#) associated with [diabetes](#) risk and provides potential new avenues for developing treatments.

According to estimates from the National Health and Nutrition Exam Survey (NHANES), the prevalence of diabetes is 70 percent higher among African-Americans than non-Hispanic whites. Traditional [risk factors](#) such as obesity, socio-economic status, diet and behavioral factors account for some of the racial disparities, but not all.

"Other environmental, cultural, metabolic, and genetic factors are likely to contribute to the increased risk of [type 2 diabetes](#) among African-Americans," said lead author Raneer Chatterjee, M.D., MPH, assistant professor of general internal medicine at Duke.

"More recently, non-traditional risk factors have been identified, including dietary factors, markers of chronic inflammation, metabolic abnormalities, genetic markers and others," Chatterjee said. "The impact of these non-traditional risk factors on people of different races has not

been studied, so we set out to see what proportion of the risk they might account for in African-Americans and whites."

Chatterjee and colleagues analyzed data from nearly 11,200 people with type 2 diabetes, including 8,840 whites and 2,322 African-Americans. Among the African-Americans, many well-known distinctions emerged: there were more women; they were heavier; they had higher blood pressure; and they were more likely to have lower incomes.

Those and other known risk factors accounted for about 42 percent of the increased tendency for type 2 diabetes among African-Americans.

Other, less well-known factors also surfaced, notably low [lung function](#) and lower serum [potassium levels](#) among the African-Americans who developed diabetes. Compared to obesity, which accounts for a 22 percent increased risk of developing diabetes, low lung function (measured as forced vital capacity) was nearly equally culpable, accounting for a 21.7 percent increased risk among the African-American diabetes patients. Low serum potassium levels accounted for 17.7 percent of the increased risk.

Chatterjee said it is unclear what role reduced lung function and low potassium levels might play in type 2 diabetes; whether they are markers, causes or consequences of the disease needs additional study. She said both factors are typically different among African-Americans and whites.

"We were surprised at the findings," Chatterjee said. "It's not clear how these non-traditional risk factors mediate the racial disparities in diabetes risk, but they suggest there are additional biological or environmental causes driving this disparity.

Identifying the mediators of the racial disparities in type 2 [diabetes risk](#)

may indicate where we need to focus research and development of interventions."

Provided by Duke University

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