

African-Americans respond better to first-line diabetes drug than whites

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African Americans taking the diabetes drug metformin saw greater improvements in their blood sugar control than white individuals who were prescribed the same medication, according to a new study published in the Endocrine Society's *Journal of Clinical Endocrinology & Metabolism (JCEM)*.

An estimated 26 million Americans have [diabetes](#). African Americans are twice as likely to be diagnosed with diabetes as whites and have a higher rate of complications such as kidney failure, according to the U.S. Department of Health and Human Services' Office of Minority Health.

Metformin is the most common oral medication prescribed for diabetes. It decreases the amount of glucose produced by the liver and helps the body respond better to insulin, the hormone that helps carry sugar from the bloodstream into cells.

"Metformin is normally the first treatment physicians prescribe for [type 2 diabetes](#), but the standard of care is based on clinical trials where the vast majority of participants were white," said one of the study's authors, L. Keoki Williams, MD, MPH, of Henry Ford Health System in Detroit, MI. "We wanted to examine how the drug performed in an African American population. Our findings suggest that African Americans who have diabetes actually respond better to metformin than whites."

The observational study used [medical](#) and pharmacy records from Henry Ford Health System to examine [blood sugar control](#) in 19,672 people

with diabetes who were prescribed metformin between January 1, 1997 and June 2, 2013. Among the participants, 7,429 were African American and 8,783 were white. Using pharmacy records, the researchers estimated each individual's exposure to metformin and other diabetes medications. Each study participant had at least two hemoglobin A1c (HbA1C) blood sugar measurements taken at least four months apart while they were on metformin.

Because the HbA1C test measures a person's average blood sugar level from the past three months, researchers ran an analysis to measure the change in participants' [blood sugar](#) levels in relation to the amount of metformin taken.

The study found the maximum dose of metformin was associated with an absolute decrease in HbA1C values of 0.9 percent among African Americans. In contrast, the same analysis found a 0.42 percent reduction in HbA1C numbers among whites.

"When one considers that the goal HbA1c level for individuals being treated for diabetes is less than 7 percent and that the average starting HbA1c level in our patients was around 7.5 percent, these differences in treatment response are clinically important," Williams said. "Moreover, since African Americans are more likely to suffer from diabetic complications when compared with white individuals, it is heartening to observe that [metformin](#) is likely more effective at controlling blood glucose in the former group."

More information: The study, "Differing Effects of Metformin on Glycemic Control by Race-ethnicity," was published online, ahead of print.

Provided by The Endocrine Society

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