Heart disease-protective diabetes drug not used equitably, study finds

December 17 2021

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A medication typically used for treating diabetes, glucagon-like peptide-1 receptor agonists (GLP-1 RA), could also be used to prevent cardiovascular disease and major cardiovascular events, but a new study

showed inequities in its use based on race, ethnicity, and socioeconomic status. Looking at four years of data, researchers from the Perelman School of Medicine at the University of Pennsylvania saw that the odds of using this medication were as much as 41 percent lower for some groups that are historically underserved by health care. This research was published in *JAMA Health Forum* today.

"Cardiovascular disease is the leading cause of death among patients with type 2 diabetes and GLP-1 receptor agonists have been shown to reduce major adverse cardiovascular events," said the study's lead author, Lauren Eberly, MD, a clinical fellow in Cardiovascular Disease. "Our study demonstrated significant inequities in use among Black, Latinx, and Asian patients, as well as patients of lower economic status being less likely to be prescribed this therapy. Given well-documented racial disparities in the burden of diabetes and cardiovascular disease, we feel that the differences in utilization of this therapy must be addressed to prevent worsening inequitable outcomes."

GLP-1 RAs are prescribed for diabetes because they help restore blood sugar balance in the body, activating receptors for the GLP-1 hormone in the pancreas to boost insulin while also tamping down the mechanisms that release blood sugar. In addition to improved blood sugar control, the medication helps patients manage their weight. Recent studies have added a new facet to this medication's benefits: reductions in heart health issues, especially those related to increased blood pressure. In fact, the American Diabetes Association recommends the use of GLP-1 RAs by patients with atherosclerotic cardiovascular disease, heart diseases caused by build-up and blockages in arteries.

Knowing that patients who are Black have been shown to have higher prevalence of diabetes and heart disease mortality risk, Eberly and her fellow researchers—including the study's senior author, Srinath Adusumalli, MD, an assistant professor of Clinical Medicine in

Cardiology and assistant program director of the Cardiovascular Disease fellowship—examined data on GLP-1 RA prescription and use under the lens of race, ethnicity, and economic status. The goal was to shed light on whether uptake of this potentially life-saving medication has been equitable.

The researchers accessed de-identified data on more than one million patients with commercial health insurance who were diagnosed with type 2 diabetes between October 2015 and the end of 2018. That period was chosen because it captured a time when the cardiovascular benefits of GLP-1 RA use were established and well-known. All of the study's patients had continuous insurance coverage for at least a year before and six months after they were diagnosed with diabetes, which was important because a significant lapse in insurance could impact whether a patient could pay for a prescription.

To establish the "usage rate" of GLP-1 RA, the researchers considered an insurance claim for a prescription fill by a patient a "use" of the medication. So those who were considered to not be using GLP-1 RA either weren't prescribed the medication in the first place or hadn't followed up to fill it.

Overall, the usage rate of GLP-1 RA increased during the study period—although it remained low—rising from 3.2 to 10.7 percent. Among patients who had been diagnosed with atherosclerotic cardiovascular disease, the rate of use increased similarly, climbing from 2.8 to 9.4 percent.

Increases in prescription use were seen once data was broken down further, too. Among Black patients, an increase was seen from 2.9 to 10.4 percent, 2 to 6.4 percent among Asian patients, 2.9 to 10.8 percent among Latinx patients, and 3.6 to 11.7 percent among white patients.

But a deeper analysis showed that inequities were prevalent. Compared to white patients, Black patients were 19 percent less likely to have a GLP-1 RA prescription, Latinx patients were 9 percent less likely, and Asian patients were 41 percent less likely.

"While we are unable to ascertain exactly the reasons behind inequitable use, these results persisted after we adjusted for numerous variables, including clinical factors, socioeconomic factors, and even engagement with specialty care—including cardiology and endocrinology," Eberly said. "Therefore, the results reveal biases in health care delivery, which must be rectified. We feel these results are reflective of structural racism, and unfortunately are one of many examples of how healthcare systems fail to deliver quality care for non-white patients."

In addition to the racial and ethnic factors, patients with household incomes of more than $100,000 were 13 percent more likely to use GLP-1 RA than those below that income.

When use of the medication itself was examined, the researchers found that it more than tripled the likelihood that a patient had more than one visit with an endocrinologist in a year.

"A visit to the endocrinologist was the strongest predictor of GLP-1 RA use," Eberly said. "However, the majority of patients with diabetes are not cared for by an endocrinologist and, furthermore, there are barriers to obtaining specialty care among marginalized patient groups. Therefore, it is important for all providers who care for patients with diabetes to recognize the cardioprotective benefit of GLP-1 RA and take steps in their own practice to achieve more equitable utilization of it."

More information: Lauren A. Eberly et al, Racial, Ethnic, and Socioeconomic Inequities in Glucagon-Like Peptide-1 Receptor Agonist Use Among Patients With Diabetes in the US, *JAMA Health Forum*

(2021). DOI: 10.1001/jamahealthforum.2021.4182