

Study Finds Better Predictor for Prediabetes in Latino Youth

Findings could help in the development of a new way to identify at-risk Latino children and teens.

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Latino children in the United States are disproportionately impacted by [prediabetes](#), a precursor to [type 2 diabetes](#). A recent study published in [Diabetes Care](#) identified a new method that may help predict the development of prediabetes in Latino children.

Researchers from the Keck School of Medicine (KSM) identified two metabolites, products of metabolism, that more accurately predicted which children would develop prediabetes or type 2 diabetes compared with looking only at traditional risk factors, such as obesity, blood sugar levels and family history, according to a [KSM news release](#).

Study lead author Jesse Goodrich, PhD, an assistant professor of population and public health sciences at KSM, said prediabetes and type 2 diabetes progress faster and are far more serious among children. What's more, young people may experience permanent damage to blood vessels, nerves and the kidneys in a shorter amount of time than adults with the condition.

While there are existing treatments for type 2 diabetes in adults, they do not work as well in children, according to KSM.

"Preventing the development of prediabetes in these children is crucial, and, unfortunately, it is difficult for doctors to identify which youth are at highest risk of developing diabetes," said Goodrich. "We believe this research helps shed light on a potential new tool to help those children who need intervention most."

This is the first large-scale study to look at metabolites as potential predictors of prediabetes or type 2 diabetes. Researchers used samples from two University of Southern California studies focused on Latino adolescent health. During follow-up exams, about one in three participants had developed prediabetes or type 2 diabetes.

Using advanced machine learning, the research team analyzed all possible metabolites in glucose tolerance test samples from the participants and discovered that allylphenol sulfate, a metabolite related to diet, and caprylic acid, a type of fatty acid, were most predictive of prediabetes when combined with traditional risk factors.

Allylphenol sulfate is an active compound found in fruits and vegetables and is linked to prediabetes, while caprylic acid, which is found in palm oil, coconut oil and the milk of humans and some other animals, may be a marker of insulin resistance.

“The untargeted approach allowed us to look at hundreds of different chemicals and only pick out the ones that are most important,” Goodrich told KMS. “Combining these two methods allowed us to do something that just wasn’t possible only a few years ago.”

Goodrich notes that Latino youth and young adults have long been understudied in the field of diabetes research.

“Including different populations is critically important to making sure that the findings don’t just apply to the people who are traditionally included in research,” said Goodrich. “It helps to improve understanding of disease and to begin to address health inequalities to focus on different populations.”