

Genetic risk for obesity found in many Mexican young adults

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As many as 35 percent of Mexican young adults may have a genetic predisposition for obesity, said a University of Illinois scientist who conducted a study at the Universidad Autónoma de San Luis Potosí.

"The students who inherited [genetic risk factors](#) from both parents were already 15½ pounds heavier and 2 inches bigger around the waist than those who hadn't. They also had slightly higher fasting [glucose levels](#)," said Margarita Teran-Garcia, a U of I professor of food science and [human nutrition](#).

In the study, 251 18- to 25-year-olds were tested for risk alleles on the [FTO gene](#) as part of the Up Amigos project, a collaboration of scientists at the U of I and the Mexican university. The researchers are following the 10,000 yearly applicants to the Universidad Autónoma de San Luis Potosi to learn how changes in students' weight, [body mass index](#) (BMI), and eating and [exercise habits](#) affect their health over time.

According to Teran-Garcia, the FTO gene is associated with a predisposition to obesity, increased BMI, and increased [waist circumference](#). These traits can in turn contribute to many health-related problems, including cardiovascular disease and diabetes.

Of the young adults tested in the study, 15 percent had inherited the genetic risk from both parents—in other words, they carried two copies of the risk allele. Another 20 percent had inherited risk from one parent, meaning they had one copy of the risk allele. Sixty-five percent of the

students in the study did not carry the risk allele.

"If young people realize early that they have this predisposition, they can fight against it. If they are at risk for obesity, eating a healthy diet and getting regular exercise is even more important for them," Teran-Garcia said.

She noted that 85 percent of Hispanics in the United States are of Mexican origin.

Although FTO markers and analysis are available for large groups of Caucasians, Asians, and African-Americans, few studies have examined the effects of this gene in Mexican and Mexican- American populations.

"This is the first study to target young adults in Mexico, although one other study has followed older Mexican adults who had already been diagnosed with diabetes, obesity, and obesity-related diseases," she said.

Scientists hypothesize that "fat" genes may be influenced by epigenetic modifications, she said. "So even if you have this predisposition, you may be able to change the way those genes behave by eating the right foods and getting more exercise. These good habits are especially important for young people who have a genetic risk for obesity."

More information: "FTO genotype is associated with body mass index and waist circumference in Mexican young adults" is available online in the Open Journal of Genetics (2013, 3, 44-48).

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