

# Ethnic Background Matters for Type 2 Diabetes

March 18 2009, By Christe Bruderlin-Nelson

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(PhysOrg.com) -- The prevalence of diabetes is at least twice as high in some ethnic groups as it is in whites, even among people with similar body mass index (BMI) numbers, a large new study finds.

Many studies have shown an association between excess [body weight](#) and physical inactivity in the development of type 2 [diabetes](#). However, in this study, the researchers found that the effects of body weight and diet appear to differ depending on an individual's ethnic background. Moreover, differences in prevalence among different [ethnic groups](#) persisted in normal-weight and underweight participants.

The researchers analyzed data from more than 187,000 people who came from five ethnic groups. They found that overall, those who reported having diabetes made up 11.6 percent of the total. However, when adjusting for age, diabetes prevalence was 16.1 percent in [Native Hawaiians](#), 15.8 percent in Latinos, 15 percent in African-Americans, 10.2 percent in Japanese-Americans, and 6.3 percent in whites.

“It is very difficult for us to understand, but there are different ways for being at high risk for diabetes,” said lead study author Gertraud Maskarinec, M.D., of the Cancer Research Center of Hawaii in Honolulu. “Everyone who is really overweight has a high risk for developing diabetes,” she said.

However, [BMI](#) alone does not tell the whole story. The BMI calculation, which relies on weight and height only, does not account for fat

distribution or the percentage of an individual's body that is lean muscle mass: two factors that may have more influence on the development of diabetes.

The study, published in the winter issue of the journal *Ethnicity & Disease*, used data from the Multiethnic Cohort survey of people from Hawaii and California. Participants answered basic demographic questions, as well as questions about body size and shape, and medical, lifestyle and food consumption behaviors.

“Clearly, genes are involved in allowing [type 2 diabetes](#) to happen,” said Matt Petersen, an American Diabetes Association spokesperson. “Genes allow you to put on the weight, and a lot of different genes can contribute.”

For example, both Maskarinec and Petersen said that Japanese-Americans are more likely to have problems with the beta cells of the pancreas, responsible for insulin production. “They have more weight distributed to the abdomen and have a higher body fat proportion, even though their BMIs are often not over 25,” Maskarinec said. “Yet they still are at high risk of diabetes and, in the pancreas, the beta cells seem to exhaust themselves faster.”

Regardless of ethnic group, avoiding obesity and staying physically active can help stave off type 2 diabetes, but with humans' natural drive to consume calories, that is easier said than done for most. Petersen said we should be careful not to blame people who develop diabetes: “Weight loss is a nearly constant struggle for most people.”

More information: Maskarinec G, et al. Diabetes prevalence and [body mass index](#) differ by ethnicity: the multiethnic cohort. *Ethnicity & Disease* 19(1), 2009.

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