

Six new genetic variants linked to type 2 diabetes discovered in South Asians

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An international team of researchers led by Imperial College London has identified six new genetic variants associated with type-2 diabetes in South Asians. The findings, published in *Nature Genetics*, give scientists new leads in the search for diagnostic markers and drug targets to prevent and treat this major disease.

People of South Asian ancestry are up to four times more likely than Europeans to develop [type 2 diabetes](#), which is a major risk factor for heart disease and stroke. Around 55 million South Asian people are affected worldwide, and the number is projected to rise to 80 million by 2030.

This new study is the first to focus on genes underlying diabetes amongst people originating from South Asia (India, Pakistan, Sri Lanka and Bangladesh). The researchers from around the world examined the DNA of 18,731 people with type 2 diabetes and 39,856 healthy controls. The genomes of the participants were analysed to look for locations where variations were more common in those with diabetes. The results identified six positions where differences of a single letter in the [genetic code](#) were associated with type 2 diabetes, suggesting that nearby genes have a role in the disease.

Dr John Chambers, the senior author of the study, from the School of Public Health at Imperial College London, said: "Type 2 diabetes is more common in South Asian populations than any other ethnic group, but the reason for this increased risk is unclear. Although [lifestyle](#)

[factors](#) such as unhealthy diet, [physical inactivity](#) and obesity are important causes of diabetes in South Asians, these are only part of the explanation. [Genetic factors](#) have been widely considered to play a role in the increased risk of type 2 diabetes in Asians, but to date have not been systematically explored in this population."

"Our study identifies six new genetic variants linked to type 2 diabetes in South Asians. Our findings give important new insight into the genes underlying of diabetes in this population, which in the long term might lead to new treatments to prevent diabetes."

Professor Jaspal S Kooner, from the National Heart and Lung Institute at Imperial College London, the lead author for the study said: "This is the first genome-wide association study in South Asians, who comprise one-quarter of the globe's population, and who carry a high burden of the disease and its complications, including heart attack and stroke. We have shown that the genetic variants discovered here in [South Asians](#) also exist and contribute to diabetes in Europeans. Our studies in Asians and European populations highlight the importance and gain in examining the same problem in different ethnic groups."

The collaboration included leading researchers from Imperial College London, University of Oxford, University of Cambridge, the University of Birmingham, and the Peninsular Medical School in the UK, as well National University of Singapore, University of Mauritius, Baker IDI (Australia), Mohan Diabetes Centre (India), University of Kelaniya (Sri Lanka), NCGM (Japan), University of Houston (USA), Aga Khan University (Pakistan) and other institutions.

More information: J.S. Kooner et al. 'Genome-wide association study in people of South Asian ancestry identifies six novel susceptibility loci for type 2 diabetes.' *Nature Genetics*, 28 August 2011.

Provided by Imperial College London

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