



Huge study of diverse populations is a major step in understanding Type 2 Diabetes risk in South Asians.

Hyderabad, 12th May, 2022: A world-wide study of diverse populations has shed new light on how genes contribute to Type 2 Diabetes. The study named DIAMANTE (DIAbetes Meta-Analysis of Trans-Ethnic association studies) co-led by Prof. Andrew Morris at the University of Manchester is now published in Nature Genetics.

The global prevalence of Type 2 Diabetes, a familial disease with severe morbidity has increased 4-fold over the last 3 decades. South Asia, especially India and China are major hubs of this spurt. It is thought that Indians are especially at risk of Type 2 Diabetes because they are centrally obese meaning fat around the abdomen – indicative of fat around their visceral organs, and are more insulin resistant right from birth. This is in contrast to the Europeans who are overall fat in a generalised manner. Despite this fact, the largest studies to understand genetic basis of Type 2 Diabetes have mostly been conducted on populations of European ancestry.

Dr. Giriraj R Chandak, Chief Scientist at CSIR – Centre for Cellular and Molecular Biology (CSIR – CCMB) and one of the lead investigators from India highlighted this study as a landmark event where scientists from different parts of the world put together their minds to understand similarities and differences in genetic susceptibility to Type 2 Diabetes in different populations. His group had earlier provided evidence of greater genetic heterogeneity in Indians compared to Europeans, which compromises our ability to predict Type 2 Diabetes risk in the Indian populations using European data.

This recent study compared genomic DNA of 1.8 lakh people with Type 2 Diabetes against 11.6 lakh normal subjects from five ancestries – Europeans, East Asians, South Asians, Africans and Hispanics, and identified large number of genetic differences (Single Nucleotide Polymorphisms or SNPs) between patients and the normal subjects. “The study found population-specific differences in genetic susceptibility to Type 2 Diabetes. These results pave the way towards development of ancestry-specific genetic risk score for risk prediction in different populations and has immense implications for Indians, where every sixth individual is a potential diabetic,” said Dr. Chandak.

“This study sets up the stage for further investigating South Asian population for genetic susceptibility to Type 2 Diabetes and extend the journey on the path of precision medicine,” said Dr Vinay Nandicoori, Director, CCMB.

NOTES FOR EDITORS

The paper *Multi-ancestry genetic study of type 2 diabetes highlights the power of diverse populations for discovery and translation* is published in Nature Genetics

For media enquiries contact:

Dr Somdatta Karak

Science Communications and Outreach Officer
CSIR – Centre for Cellular and Molecular Biology
Habsiguda, Uppal Road,
Hyderabad - 500007
040 27192829
somedattakarak@ccmb.res.in