

## Experts develop new genetic risk score for heart disease in South Asia

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Bengaluru based MedGenome Labs, India's leading genomics and clinical data-driven diagnostics and research company, has conducted a first-ever study on Indian population that validates a novel 'CAD-PRS' (coronary artery disease-genome-wide polygenic risk score) to precisely predict the risk of developing a coronary artery disease/myocardial infarction (MI) using a person's genetic makeup.

MedGenome Labs collaborated with researchers from Broad Institute of MIT and Harvard; Massachusetts General Hospital, Boston; Narayana Health, Bangalore; Eternal Hospital, Jaipur; Madras Medical Mission, Chennai; KMCH, Coimbatore and a few other institutes to conduct this first-ever research capturing the PRS of disease for South Asia populations and its findings are now published in the *Journal of the American College of Cardiology (JACC)*.

"Looking at all the available scientific evidence and our study results we are convinced that there exists a good opportunity to combine both clinical and genetic risks (polygenic risk score based) and significantly improve the primary prevention of coronary artery disease (CAD). We firmly believe that incorporating validated genetic risk scores would help in better stratification of high-risk individuals if implemented at population level," said Dr. Vedam Ramprasad, CEO, MedGenome Labs.

This unique study is based on the principle of Genome-wide Polygenic Risk Score (PRS) which uses a genome-wide analysis of an individual to quantify the risk of developing heart disease.

It was conducted on the south Asian population in 1800 confirmed CAD cases and 1163 control samples from five centres across the country with a median age between 54 and 55 years.

The findings of this study have helped develop a CAD PRS that integrates information from millions of sites of common DNA variation into a single metric that can be calculated from birth and validate a scalable polygenic score framework in India.

This finding lays the scientific and operational foundation for clinical implementation not just for CAD but for other diseases.