
Shorter Height Associated with Higher Risk of Coronary Heart Disease



According to a new study led by University of Leicester, the shorter you are, the more is your risk of coronary artery disease. The study has been published in the *New England Journal of Medicine*.

The research was led by Professor Sir Nilesh Samani, British Heart Foundation Professor of Cardiology at the University of Leicester. The researchers used a genetic approach which shows that the association between shorter height and higher risk of coronary heart disease is a primary relationship and is not due to confounding factors such as nutrition or socioeconomic environment.

According to Professor Samani, who is also Head of the Department of Cardiovascular Sciences at the University of Leicester and a Consultant Cardiologist at Leicester's Hospitals, "height has a strong genetic determination and in the last few years a large number of genetic variants have been identified in our DNA that determines one's height. The beauty about DNA is that it cannot be modified by one's lifestyle or socio-economic conditions. Therefore if shorter height is directly connected with increased risk of coronary heart disease one would expect that these variants would also be associated with coronary heart disease and this is precisely what we found."

The research team gathered genetic data through the CARDIoGRAM+C4D consortium on almost 200,000 persons with or without coronary heart disease. They examined 180 genetic variants that affect heart. The analysis showed that for every change in height of 6.5 cm, the risk of coronary heart disease changed on average by 13.5 percent. They also found that those with more height increasing genetic variants carry lower risk of coronary heart disease. The reverse is true for those who are genetically shorter.

Every 2.5 inches of your height affects the risk of coronary artery disease by 13.5 percent. That means that a person who is 5 ft. tall has a 32 percent higher risk of coronary heart disease as compared to a person who is 5 ft. 6inch tall.

The researchers further examined whether shorter height and higher risk of coronary heart disease could be explained by other risk factors such as cholesterol, high blood pressure, diabetes etc. However, they could only find an association with cholesterol and fat levels but that too explained only a small proportion of the relationship between shorter height and coronary heart disease.

Professor Jeremy Pearson, Associate Medical Director at the BHF, which part-funded the study explains that this research is the first of its kind to show that the association between increased height and a lower risk of coronary heart disease is partly due to genetics as opposed to purely nutrition or lifestyle factors. He points out that the exploration of naturally occurring gene variations can help identify new ways to reduce the risk of coronary heart disease.

Professor Samani concluded: "While we know about many lifestyle factors such as smoking that affect risk of coronary heart disease, our findings underscore the fact that the causes of this common disease are very complex and other things that we understand much more poorly have a significant impact."

Source: University of Leicester

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