

# Researchers identify the 3 killer indicators that are even worse than high cholesterol

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Researchers at the University of Warwick have identified a particular combination of health problems that can double the risk of heart attack and cause a three-fold increase in the risk of mortality.

The team, led by Assistant Clinical Professor of Public Health at Warwick Medical School Dr Oscar Franco, has discovered that simultaneously having obesity, high [blood pressure](#) and high [blood sugar](#) are the most dangerous combination of health factors when developing [metabolic syndrome](#).

Metabolic syndrome is a combination of medical disorders that increase the risk of developing cardiovascular disease and diabetes. The main five health problems normally associated with metabolic syndrome are abnormal levels of blood pressure, high cholesterol, high triglyceride levels (the chemical form in which fat exists in the body), too much sugar in the blood and central obesity (excess of fat around the waistline).

In his study, published in the American Heart Association journal *Circulation*, Dr Franco has identified the most dangerous combination of these conditions to be central obesity, high blood pressure and high blood sugar. People who have all three of these conditions are twice as likely to have a heart attack and three times more likely to die earlier than the general population.

His team looked at 3,078 people to track the prevalence and progress of

Metabolic Syndrome as part of the Framingham Offspring Study.

He said: "Metabolic syndrome is a highly prevalent condition that is increasing dramatically and affects a large portion of the middle-age population. Not all individuals enter the syndrome with identical combination of factors. Certain combinations confer higher risks of incident cardiovascular disease and mortality."

Dr Franco said the combination of high blood pressure, central [obesity](#) and hyperglycemia (high blood sugar ) showed a significantly higher risk compared to the others.

He added: "Intense efforts are needed to identify populations with these particular combinations and to provide them with adequate treatment at the early stages of disease."

More information: The study, 'Trajectories of Entering the Metabolic Syndrome: the Framington Heart Study' is published online in *Circulation*.

Source: University of Warwick ([news](#) : [web](#))

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