

People with metabolic syndrome face higher cardiovascular death risk

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People who have metabolic syndrome are more likely to die from cardiovascular disease than people who do not have the condition, and having diabetes or high blood pressure worsens the risk, according to a new study published in the Endocrine Society's *Journal of Clinical Endocrinology & Metabolism*.

Metabolic syndrome is a cluster of risk factors that raise the chances of developing heart disease, stroke and diabetes, according to the Hormone Health Network. The risk factors include abdominal obesity, high levels of fats in the blood called triglycerides, elevated blood pressure, high fasting blood sugar and reduced high-density lipoprotein (HDL), or good, cholesterol levels.

About 22.9 percent of adults in the United States have metabolic syndrome, according to the Society's [Endocrine Facts and Figures report](#). An adult with metabolic syndrome has total medical costs of \$40,873, on average, for a 10-year period. In comparison, it costs an average of \$33,010 to provide medical care for an adult without the condition over the same period.

"Our research found people who had metabolic syndrome had a 1.6-fold-increase in cardiovascular mortality compared to those who did not have the condition," said one of the researchers, Prof. Ki-Chul Sung, MD, PhD, of Kangbuk Samsung Hospital at Sungkyunkwan University School of Medicine in Seoul, South Korea. "Women who have metabolic syndrome faced a great risk of death from any cause than their

counterparts who did not."

The retrospective study examined the records of 155,971 people who participated in a health screening program at Kangbuk Samsung Hospital between 2002 and 2009. Participants completed questionnaires and had their body weight, body mass index, blood pressure, cholesterol and blood sugar measured.

The researchers measured mortality among the subjects by pulling death records from the Korea National Statistical Office. During the median follow-up period of 3.7 years, 542 of the study participants died.

Among the subjects, 12.6 percent had metabolic syndrome at the time of the initial screening. The analysis showed that people with metabolic syndrome faced a greater risk of death from cardiovascular disease than their counterparts. However, this difference disappeared when people with diabetes or [high blood pressure](#) were excluded from the analysis.

"The analysis tells us diabetes and high blood pressure are significant factors that elevate the risk of death from [cardiovascular disease](#) among people with metabolic syndrome," said another author of the study, Prof. Eun-Jung Rhee, MD, PhD, of Kangbuk Samsung Hospital at Sungkyunkwan University School of Medicine. "Younger people who have [metabolic syndrome](#) should be aware of the risk, particularly those who have [diabetes](#) and high [blood pressure](#)."

More information: The study, "Increased Cardiovascular Mortality in Metabolic Syndrome Is Largely Attributable to Diabetes and Hypertension," will be published online at press.endocrine.org/doi/10.1210/jc.2014-4031, ahead of print.

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