

Evidence mounts that four lifestyle changes will protect heart, reduce your risk of death

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A large, multi-center study led by Johns Hopkins researchers has found a significant link between lifestyle factors and heart health, adding even more evidence in support of regular exercise, eating a Mediterranean-style diet, keeping a normal weight and, most importantly, not smoking.

The researchers found that adopting those four [lifestyle behaviors](#) protected against coronary [heart disease](#) as well as the early buildup of [calcium deposits](#) in heart arteries, and reduced the chance of death from all causes by 80 percent over an eight-year period. Results of the study, "Low-Risk Lifestyle, Coronary Calcium, [Cardiovascular Events](#), and Mortality: Results from the Multi-Ethnic Study of Atherosclerosis," are described in an online article posted June 3, 2013 by the *American Journal of Epidemiology*.

"To our knowledge, this is the first study to find a protective association between low-risk lifestyle factors and early signs of vascular disease, coronary heart disease and death, in a single longitudinal evaluation," says Haitham Ahmed, M.D., M.P.H., the lead author who is an internal medicine resident with the Ciccarone Center for the Prevention of Heart Disease at Johns Hopkins.

"We evaluated data on more than 6,200 men and women, age 44-84, from white, African-American, Hispanic and Chinese backgrounds. All were followed for an average of 7.6 years. Those who adopted all four healthy behaviors had an 80 percent lower death rate over that time period compared to participants with none of the healthy behaviors,"

says Ahmed.

[Study participants](#) all took part in the ongoing Multi-[Ethnic Study](#) of Atherosclerosis (MESA), a prospective examination of the risk factors, prevalence and prevention of cardiovascular disease. MESA participants were recruited from six [academic medical centers](#) and did not have a diagnosis of cardiovascular disease when they were enrolled.

All participants had coronary calcium screening using computed tomography (a CT scan) when they were first enrolled in the study to see if there were early signs of calcium deposits in their [heart arteries](#) that are known to contribute to heart attack risk. As the study progressed, the researchers also assessed whether the participants had a heart attack, sudden cardiac arrest, chest pain, angioplasty or died due to coronary heart disease or other causes.

The researchers developed a lifestyle score for each of the participants, ranging from 0 (least healthy) to 4 (healthiest), based on their diet, body mass index (BMI), amount of regular moderate-intensity physical activity and smoking status. Only 2 percent, or 129 participants, satisfied all four healthy lifestyle criteria.

"Of all the [lifestyle factors](#), we found that smoking avoidance played the largest role in reducing the risk of [coronary heart disease](#) and mortality," says Roger Blumenthal, M.D., a cardiologist and professor of medicine at the Johns Hopkins University School of Medicine, director of the Ciccarone Center and senior author of the study. "In fact, smokers who adopted two or more of the healthy behaviors still had lower survival rates after 7.6 years than did nonsmokers who were sedentary and obese."

Blumenthal, who is also the president of the American Heart Association's Maryland affiliate, says the findings "bolster recent

recommendations by the American Heart Association, which call for maintaining a diet rich in vegetables, fruits, nuts, whole grains and fish, keeping a BMI of less than 25, being physically active and not smoking."

The researchers emphasize that their study shows the importance of healthy lifestyle habits not just for reducing the risk of heart disease, but also for preventing mortality from all causes.

"While there are risk factors that people can't control, such as their family history and age," says Ahmed, "these lifestyle measures are things that people can change and consequently make a big difference in their health. That's why we think this is so important."

Provided by Johns Hopkins University School of Medicine

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