

# Avoiding health risks could prevent more than half of all cases of atrial fibrillation

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Reducing cardiovascular risk factors like high blood pressure, smoking, diabetes and being overweight could potentially reduce more than half of all cases of atrial fibrillation, according to research reported in *Circulation: Journal of the American Heart Association*.

More than 2 million Americans live with [atrial fibrillation](#) (AF), an irregular heart rhythm that occurs when the heart's two upper chambers beat erratically, causing the chambers to pump blood rapidly, unevenly and inefficiently. Blood can pool and clot in the chambers, increasing the risk of stroke or [heart attack](#). AF affects about 3 percent to 5 percent of people over age 65 and is related to about 15 percent of all strokes.

"We now know that a significant proportion of all cases of atrial fibrillation can be avoided," said Alvaro Alonso, M.D., M.P.H., Ph.D., co-author of the study and assistant professor of epidemiology and community health at the University of Minnesota School of Public Health in Minneapolis. "Ideally, if individuals were able to maintain a normal blood pressure and healthy body weight and didn't smoke, not only would it reduce their risks for other forms of cardiovascular disease, such as heart disease and stroke, but it also would significantly impact the risk of developing atrial fibrillation in later life."

In the study, 57 percent of the AF episodes were linked to specific risk factors, including high blood pressure, smoking, diabetes, overweight and other heart diseases. Of these risks, [high blood pressure](#) was the strongest predictor, accounting for more than one-fifth of all cases.

The researchers also identified gender and racial differences in risk factor prevalence, with more than 80 percent of African Americans having one or more risk factors compared to 60 percent of whites. Only about 2 percent of African-American men and African-American women had optimal risk factors versus 3 percent white men and 10 percent of white women with optimal risk.

"A lot of work needs to be done to try to ensure that African-Americans in particular achieve optimal levels of blood pressure and diabetes control," said Rachel R. Huxley, D.Phil., lead author and associate professor of epidemiology and community health at the University of Minnesota School of Public Health.

Only 5 percent of participants overall had optimal levels of risk factors for preventing AF. Slightly more than one-fourth were classified as having a borderline risk factor profile and two-thirds of study participants had elevated risk factor levels. Patients with optimal levels of risk factors had one-third of the risk of developing AF compared with those with an elevated risk factor profile.

During the study, 1,520 episodes of AF occurred.

Population risk estimates showed that having one or more elevated risk factor level could explain 50 percent of AF events. In whites, the risk was 50 percent in women and 38.2 percent in men. In African Americans, the risk of AF associated with having one or more elevated risk factors was 94 percent in women and 91 percent in men.

The study comprised 14,598 participants in the Atherosclerosis Risk in Communities Study (ARIC), a prospective study of heart disease among residents of four communities in North Carolina, Mississippi, Maryland and Minnesota. Their average age was 54 years old, 55 percent were women, 75 percent were white and 25 percent were African-American.

The study started in 1987, and follow-up averaged 17 years.

After an initial interview and medical exam, investigators divided participants into one of three groups based on their risk factors for AF: optimal, borderline and elevated. Patients in the optimal-risk group had normal blood pressure and weight, no heart disease or diabetes, and no smoking history.

Patients in the other two groups had increased risks in these categories.

Provided by American Heart Association

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