

# Lowering blood pressure in middle-aged women reduces heart disease risk

January 24 2011

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Large numbers of middle-aged women worldwide could reduce their risk of developing cardiovascular disease (stroke, heart attack and heart failure) and its complications by lowering their blood pressure, researchers report in *Hypertension: Journal of the American Heart Association*.

Researchers found that high [systolic blood pressure](#) (the pressure when the heart contracts) is a powerful risk factor for cardiovascular complications in middle-aged and older women all over the world.

The proportion of potentially preventable and reversible heart disease is almost 36 percent in women compared to 24 percent in men, as measured by 24-hour systolic blood pressure monitoring, researchers said.

Investigators in 11 countries, working on behalf of the International Database on Ambulatory blood pressure in relation to Cardiovascular Outcomes (IDACO), followed 9,357 adults (average age 53; 47 percent women) throughout Europe, Asia and South America for more than 11 years. They analyzed participants for absolute and relative risks of cardiovascular disease associated with systolic blood pressure.

Three major risk factors account for 85 percent of the modifiable (reversible) risk for heart disease in women and men: high systolic blood pressure, [high cholesterol](#) and smoking. High systolic pressure is the most important risk factor.

"I was surprised by the study findings that highlight the missed opportunities for prevention of heart disease in older women," said Jan A. Staessen, M.D., Ph.D., director of the Studies Coordinating Center in the Division of Cardiovascular Rehabilitation at the University of Leuven in Belgium. "We found that a 15 mm Hg increase in systolic blood pressure increased the risk of cardiovascular disease by 56 percent in women compared to 32 percent in men."

Researchers estimated the occurrences of cardiovascular disease in women and men that are potentially preventable by lowering blood pressure. The absolute and relative risks associated with [high blood pressure](#) were assessed using both ambulatory 24-hour blood pressure monitoring and conventional blood pressure measurements in the doctor's office.

Ambulatory blood pressure monitoring involves measuring blood pressure for 24 hours during participants' daily routine and when asleep. The monitor is a small, portable device programmed to record blood pressures at specific intervals. Ambulatory blood pressure readings have less potential for error and better reproducibility, and provide more accurate estimates of usual blood pressure and prognosis for cardiovascular disease than conventional blood pressure readings.

Ambulatory blood pressure also provides information about blood pressure during nighttime sleep and blood pressure variability. Ambulatory daytime readings are recorded at intervals of about 15 to 30 minutes, while nighttime readings are recorded at intervals of about 30 to 45 minutes. Researchers said that nighttime blood pressure readings are a better predictor of [heart disease](#) than daytime readings because readings are more standardized at night than in the daytime. At night, blood pressure is less likely to be influenced by physical activity.

"It is recognized that women live longer than men, but that older women

usually report lower quality of life than men. By lowering systolic pressure by 15 mm Hg in hypertensive women, there would be an increased benefit in quality of life by the prevention of cardiovascular disease in about 40 percent in women compared to 20 percent in men," Staessen said.

He recommends that women and physicians become more aggressive in diagnosing and treating high systolic blood pressure.

Researchers are enlarging the database to include other countries and ethnicities. They are developing risk charts based on ambulatory blood pressure recordings to be used by physicians in day-to-day clinical practice.

Provided by American Heart Association

Citation: Lowering blood pressure in middle-aged women reduces heart disease risk (2011, January 24) retrieved 25 April 2024 from <https://medicalxpress.com/news/2011-01-lowering-blood-pressure-middle-aged-women.html>

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