

Lowering systolic blood pressure below 120 mmHg may reduce dementia risk among Black, Latino populations

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A new study suggests that reducing systolic blood pressure below the clinically safe threshold of 120 mmHg over time may produce slight

health-protective benefits against late-life dementia and help reduce racial and ethnic disparities in both hypertension and hypertension control.

Hypertension is one of the most modifiable risk factors for [dementia](#), but most research on dementia risk reduction through [blood pressure control](#) is limited to White participants, even though Black and Latino populations disproportionately experience both conditions.

A new study led by Boston University School of Public Health (BUSPH) and UCLA Fielding School of Public Health fills in this knowledge gap with findings that suggest lowering systolic blood pressure (SBP) in midlife may slightly reduce a person's chances of developing dementia, particularly among Black and Latino individuals.

Published in the journal [Alzheimer's & Dementia](#), the study found that middle-aged adults who lower their [systolic blood pressure](#) by medication or any other intervention may gain modest health protection against dementia in older age. Black and Latino individuals had the greatest reduction in risk.

Among nearly half of Americans who have [high blood pressure](#), only 1 in 4 adults have their hypertension [under control](#), and these rates are even lower among Black and Hispanic people, who [face](#) multiple barriers to diagnosis and treatment. SBP (the top number in a blood pressure reading) refers to the pressure in the arteries when the heart contracts, and it is generally considered elevated above 120 mmHg, and high above 130 mmHg. This study is the first to estimate the sustained effect of lower SBP on dementia risk across racial and [ethnic groups](#) after adjusting for time-varying factors, and the findings underscore the benefits of blood pressure-lowering treatments and how these interventions can help mitigate racial and ethnic disparities in dementia risk.

"Despite the increase in hypertension rates, minoritized groups are less likely to benefit from blood pressure reduction interventions, through health policies or access to medicine," says study senior and corresponding author Dr. Marcia Pescador Jimenez, assistant professor of epidemiology at BUSPH. "We hope that findings like these encourage policymakers and health practitioners to increase access to treatment for blood pressure control for these populations to reduce disparities in hypertension and, subsequently, in dementia rates."

Utilizing [medical records](#), [death certificates](#), and [demographic data](#), Dr. Pescador Jimenez and colleagues from UCLA Fielding School of Public Health and Wake Forest School of Medicine applied novel modeling to examine the effects of hypothetical sustained blood-pressure-lowering interventions and dementia risk over a span of 19 years among Black, Chinese American, Latino, and White middle-aged and older adults. The 6,814 participants were part of the [Multi-Ethnic Study of Atherosclerosis](#), an ongoing study led by the National Heart, Lung, and Blood Institute.

For the study, Dr. Pescador Jimenez, lead author Dr. L. Paloma Rojas-Saunero, a postdoctoral scholar at UCLA Fielding School of Public Health, and colleagues conducted multiple analyses to account for the effect of potential mortality when assessing the participants' [dementia risk](#). They included any type of blood pressure-lowering intervention into the analyses, such as medication, diet, and other health behavior changes.

During the 19-year study period, the overall risk of dementia among the participants was 8.8 percent. About half of the participants needed an intervention to successfully lower their SBP below 140 mmHg during the study period, while 86 percent required some form of intervention to achieve an SBP under 120 mmHg.

Compared to participants with no blood pressure-lowering interventions,

each analysis found that blood pressure-lowering interventions among Latino and Black participants would have a slightly greater chance of lowering their risk of late-life dementia, compared to White participants. Surprisingly, the estimates showed a slightly harmful, rather than health-protective effect on Chinese American participants, but the researchers believe this finding may be a result of the small sample size and fewer dementia cases among this population within the [study group](#).

In alignment with continued [federal efforts](#) to reduce disparities in high blood pressure, the team hopes that these findings encourage further research in racial and [ethnic disparities](#) in effective hypertension control.

"Next, we plan to investigate the robustness of these results in other representative samples of minoritized populations, particularly in studies where dementia ascertainment is not different across racial and ethnic groups," Dr. Pescador Jimenez says.

More information: L. Paloma Rojas-Saunero et al, Racial and ethnic differences in the risk of dementia diagnosis under hypothetical blood pressure–lowering interventions: The Multi-Ethnic Study of Atherosclerosis, *Alzheimer's & Dementia* (2024). [DOI: 10.1002/alz.13894](#)

Provided by Boston University

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