

Studies point to role of lifestyle factors in Alzheimer's risk and disparities

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As rates of Alzheimer's disease and other forms of dementia continue to rise in the U.S., new evidence suggests that lifestyle factors such as diet, exercise and sleep play an important role in reducing the risk of developing dementia. Researchers say two new studies offer particular insights into the factors that may contribute to the disproportionate burden of dementia in non-White and low-income U.S. populations.

"Our findings support the beneficial role of [healthy lifestyles](#) in the prevention of Alzheimer's disease and related dementias among senior Americans, including those with socioeconomic disadvantages and a high risk of dementia," said Danxia Yu, Ph.D., assistant professor in the

Division of Epidemiology at Vanderbilt University Medical Center, the study's lead author. "We should recognize that it is challenging for people facing systemic and structural disadvantages to maintain healthy lifestyles or make lifestyle changes. It is critical to establish public health strategies to make lifestyle modifications achievable for all, especially disadvantaged populations."

Yu and her team will present the findings from two studies online at Nutrition 2022 Live Online, the flagship annual meeting of the American Society for Nutrition held June 14-16. The research was published online June 13, 2022, in *Neurology*, the medical journal of the American Academy of Neurology.

The research is from the Southern Community Cohort Study, a long-term research study launched in 2001 to investigate the root causes of various diseases and health disparities. Around 85,000 participants were recruited from community health centers in the southeastern U.S. and two-thirds of participants are Black, giving the study among the highest representation of African-Americans of any large U.S. research cohort. Researchers used Medicare claims data to track Alzheimer's diagnoses among participants over age 65.

For the first study, researchers drew data from 17,209 older study participants, 1,694 of whom were diagnosed with Alzheimer's or related dementias during a median follow-up of 4 years. They assessed five lifestyle factors—smoking, alcohol use, leisure-time physical activity, sleep hours and diet quality—both individually and in combination. The results showed that healthy choices (no smoking, high leisure-time exercise, low-to-moderate alcohol consumption, adequate sleep and a high-quality diet) were individually associated with an 11-25% reduced risk of Alzheimer's disease and related dementias. When combined, a composite score of those five lifestyle factors was associated with a 36% reduced risk in the highest versus lowest quartile. These associations

were independent of participants' age, sex, race, education, income and underlying chronic diseases.

For the second study, researchers drew data from 14,500 older study participants, of whom 1,402 developed Alzheimer's or related dementias. In this group, they analyzed intakes of four major classes of dietary polyphenols—flavonoids, phenolic acids, stilbenes and lignans—and their subclasses, using a validated food frequency questionnaire and polyphenol databases. Polyphenols are a large class of compounds commonly found in tea, red wine, chocolate, berries and other foods and have been associated with a variety of health benefits. In this study, researchers found a significant difference in intake of polyphenols among [racial groups](#), with White participants consuming a median of about twice the amount of total polyphenols as Black participants daily. Overall there was no significant association between total dietary polyphenol intake and incidence of Alzheimer's disease and related dementias in either race; however, certain flavonoids were associated with a [reduced risk](#) among Black participants but not White participants. The findings showed Black participants in the top quartile for tea consumption had a 28% lower incidence of Alzheimer's than Black participants in the lowest quartile for tea consumption.

While both studies are observational and did not assess the mechanisms behind the associations, researchers said that healthy lifestyles, including healthy eating, may help protect brain health by improving glucose and lipid metabolism and reducing inflammation and psychological stress. Yu said more research is needed to further elucidate the relationship between [lifestyle factors](#) and Alzheimer's disease among diverse populations.

"Black Americans and people with [low socioeconomic status](#) are disproportionately affected by the disease but have been largely underrepresented in epidemiologic studies," Yu said. "Identifying

modifiable factors for the prevention of Alzheimer's disease and related dementias among low-income people of different races and ethnicities is a critical public health issue."

More information: Jae Jeong Yang et al, Association of Healthy Lifestyles with Risk of Alzheimer Disease and Related Dementias in Low-Income Black and White Americans, *Neurology* (2022). [DOI: 10.1212/WNL.0000000000200774](https://doi.org/10.1212/WNL.0000000000200774)

Yi Guan et al, Association of Diabetes and Hypertension With Brain Structural Integrity and Cognition in the Boston Puerto Rican Health Study Cohort, *Neurology* (2022). [DOI: 10.1212/WNL.0000000000200120](https://doi.org/10.1212/WNL.0000000000200120)

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