Improving air quality associated with slower cognitive decline in women

February 3 2022

industry sunset pollution dusk. Credit: SD-Pictures, Pixabay (CC BY 0, creativecommons.org/share-your-work/public-domain/cc0/)

Improvements in air quality are associated with slower cognitive decline in women, according to a new study led by Diana Younan, of the

University of Southern California publishing February 3rd in the journal *PLOS Medicine*.

Some studies have shown that late-in-life exposure to outdoor air pollution is a risk factor for dementia. However, it was not known whether improving air quality could stave off dementia by slowing the cognitive decline associated with aging. Younan and her colleagues investigated this question using a cohort of 2,232 older women who were free of dementia when they entered the study. The researchers followed the women for up to 20 years, giving them two different cognitive tests annually. They also estimated local changes in air quality and used statistical tests to see if a reduction in air pollution was associated with slower cognitive decline.

The analysis revealed that women living in areas with greater improvements in air quality tended to have a slower decline, as indicated by the results on both cognitive tests. The reduced rate of decline was equivalent to being about one or one and a half years younger, depending on the test.

The new findings reinforce previous studies suggesting that outdoor air pollution contributes to cognitive decline. Cleaner air is already known to improve heart and respiratory health and reduce a person's overall risk of death. But the new work highlights the potential benefits of reducing air pollution levels to maintain brain health as well. Dementia is estimated to cost the U.S. economy $159–$215 billion annually.

Younan adds, "We found that reducing air pollution exposure can promote healthier brain aging in older women by slowing cognitive decline. These benefits were seen in older women of all ages, levels of education, geographic regions of residence, and cardiovascular histories."

Medical Xpress

More information: Younan D, Wang X, Millstein J, Petkus AJ, Beavers DP, Espeland MA, et al. (2022) Air quality improvement and cognitive decline in community-dwelling older women in the United States: A longitudinal cohort study. *PLoS Med* 19(2): e1003893. doi.org/10.1371/journal.pmed.1003893

Provided by Public Library of Science

Citation: Improving air quality associated with slower cognitive decline in women (2022, February 3) retrieved 26 April 2024 from https://medicalxpress.com/news/2022-02-air-quality-slower-cognitive-decline.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.