

Multi-country dementia study shows women's greater risk may be linked to disadvantage

February 15 2023



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A large international study of dementia risk involving almost 30,000 people from 18 countries covering all six continents suggests that social

and economic disadvantage may explain the higher risk of the condition in women.

Although there was almost no evidence of sex differences in most of the known risk factors for developing dementia, the higher likelihood of women developing the condition was more pronounced in [poorer countries](#).

Lead author Jessica Gong, from The George Institute for Global Health, said that while previous research had shown women have a greater lifetime risk of developing dementia than men, partly because they tend to live longer, age alone may not fully account for this difference.

"Most research estimating dementia incidence to date has been conducted in [high-income countries](#), with very little data available in the countries that actually bear the greatest burden," she said.

"We found that when adjusted for age, rates of dementia were highest among low- to lower-middle income countries, and higher in women than men."

The number of people living with dementia is projected to exceed 150 million by 2050 worldwide, three times the 2019 estimate of 50 million. Rates are increasing most rapidly in low- and middle-income countries (LMICs) that are less able to manage the significant economic and societal impact of this devastating disease.

In 2020, The Lancet Commission Report estimated that as much as 40 percent of dementia risk could be attributed to 12 modifiable risk factors, many of which are more common in LMICs. They include less education, hypertension, obesity, diabetes, depression, hearing impairment, smoking, [excessive alcohol consumption](#), physical inactivity, low social contact, [traumatic brain injury](#), and air pollution.

"When we looked for sex differences in these [risk factors](#), we found that, older age, diabetes, depression, hearing impairment and having a certain [genetic variation](#) involved in fat metabolism in the brain—known as APOE4—were associated with a greater risk of dementia in both women and men," Gong said.

"While more years of education, higher hip circumference, current alcohol use (versus never drinking) and high physical activity (versus none to minimal activity) were associated with a lower risk of dementia in both sexes."

"But there was moderate evidence for a sex difference with years spent in education, indicating a stronger protective association for men than women."

The authors argued that women, particularly in LMICs, have not had equal educational and occupational opportunities to men, and higher educational attainment and mentally stimulating occupations have been shown to be protective against dementia.

Associate Professor Sanne Peters, a Senior Lecturer at The George Institute for Global Health UK in partnership with Imperial College London and part of the research team, said that institutional factors restricting women's opportunities, reduced access to appropriate healthcare and risk management programs, as well as other factors such as [domestic violence](#)—particularly for women from lower socioeconomic settings—can lead to [psychological stress](#) and leave them in worse financial positions, affecting their late-life cognitive health.

"In general, the geographical patterns that we saw for increased dementia risk in [women](#) seemed to echo those of gender disparity," she said.

"These findings justify support for programs to improve gender equity in

brain health throughout the life-course, particularly in populations that have been previously underrepresented in [dementia](#) research."

The study is published in the journal *Alzheimer's & Dementia*.

More information: Jessica Gong et al, Sex differences in dementia risk and risk factors: Individual-participant data analysis using 21 cohorts across six continents from the COSMIC consortium, *Alzheimer's & Dementia* (2023). [DOI: 10.1002/alz.12962](https://doi.org/10.1002/alz.12962)

Provided by George Institute for Global Health

Citation: Multi-country dementia study shows women's greater risk may be linked to disadvantage (2023, February 15) retrieved 3 May 2024 from <https://medicalxpress.com/news/2023-02-multi-country-dementia-women-greater-linked.html>

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