

# REDUCING THE RISK OF DEMENTIA



Could correcting vision impairment prevent cognitive decline?

BY FRANCESC MARCH DE RIBOT, MD, PHD, FEBO, AND ALPER BILGIC, MD, FEBO

## LONGITUDINAL CHANGES IN HEARING AND VISUAL IMPAIRMENTS AND RISK OF DEMENTIA IN OLDER ADULTS IN THE UNITED STATES

Hwang PH, Longstreth WT Jr, Thielke SM, et al<sup>1</sup>

Industry support: None

### ABSTRACT SUMMARY

A prospective cohort study evaluated whether dual sensory impairment (DSI) was associated with incident dementia in older adults. For 8 years, 2,927 adults without dementia who were 65 years of age or older were observed and assessed for development of the condition.

Most participants (72.9%) did not develop a sensory impairment, but 4%, 12%, and 10% developed DSI, vision impairment, and hearing impairment, respectively. Compared to individuals with no sensory impairment, the risk of dementia was 2.60, 1.53, and 1.23 higher in patients with DSI, hearing impairment, and vision impairment, respectively. DSI was associated with an increased risk of all-cause dementia compared to no sensory impairment, and each additional year of DSI was associated with a 30% increased risk of all-cause dementia.

### DISCUSSION

According to the World Health Organization, 94 million people have moderate or severe vision impairment or blindness due to cataracts.<sup>2</sup> The benefits of cataract surgery on cognitive function are difficult to evaluate, but the procedure may delay

## STUDY IN BRIEF

- ▶ A large prospective cohort study found that patients with hearing and vision impairment who were 65 years of age and older were at increased risk of dementia. The greatest risk was experienced by individuals who had dual sensory impairment.

### WHY IT MATTERS

Evaluating the hearing and vision of adults aged 65 years and older may help identify those at increased risk of dementia. Because cataract is a leading cause of vision impairment worldwide, cataract surgery may have a role in preserving cognitive function in patients with dementia.

the onset of dementia and alleviate its symptoms by improving visual acuity and sensory stimulation and allowing an active lifestyle that includes more cognitive tasks.<sup>3-5</sup> The studies by Hwang et al<sup>1</sup> and others<sup>3-5</sup> highlight the importance of testing the hearing and vision of individuals who are 65 years of age and older. The research also suggests that performing cataract surgery when appropriate in this population may help reduce the risk of dementia. Given the considerable clinical and economic implications of dementia, further research demonstrating the cognitive benefits of cataract surgery would help support the procedure's cost-effectiveness.

## ADDITION OF VISION IMPAIRMENT TO A LIFE-COURSE MODEL OF POTENTIALLY MODIFIABLE DEMENTIA RISK FACTORS IN THE US

Ehrlich JR, Goldstein J, Swenor BK, Whitson H, Langa KM, Veliz P<sup>6</sup>

Industry support: None

### ABSTRACT SUMMARY

A cross-sectional cohort study used data from the year 2018 of the University of Michigan Health and Retirement Study—a longitudinal project—to assess a US adult population aged 50 years and older for dementia risk factors, including vision impairment. The probability

sample included 16,690 individuals. Investigators calculated the estimated population attributable fractions (PAF) of dementia associated with 12 risk factors (limited education, hearing loss, hypertension/high cholesterol, obesity, alcohol use, head injury, smoking, depression, social isolation, physical inactivity, diabetes, and air pollution). The PAF represented the number of cases of dementia that could be prevented if a risk factor were eliminated.

The 12 dementia risk factors in the PAF model were associated with an estimated 62.4% of dementia cases. Hypertension was the risk factor with the highest weighted PAF for dementia (12.4%).

The PAF of vision impairment was 1.8%, suggesting that more than 100,000 dementia cases in the United States could have been prevented if the individuals had healthy vision. Given that many cases of vision impairment can be treated with cost-effective but underused interventions, correcting vision impairment may represent an opportunity to slow cognitive decline and prevent dementia.

### DISCUSSION

The enormous impact of dementia on patients, families, and society makes its prevention a priority. Identifying

▶ THE LITERATURE

## STUDY IN BRIEF

▶ A population-based cross-sectional study examined dementia risk factors and found that vision impairment was associated with 1.8% of dementia cases.

### WHY IT MATTERS

The study suggests that improving the vision of older adults could reduce their risk of dementia. This supports the implementation of new public health initiatives and models to assist people with low vision.

potentially modifiable dementia risk factors is vital. Several risk factors in the PAF model are preventable.<sup>7,8</sup>

Past research on the role of sensory impairment in the development of dementia focused on hearing loss. The study by Hwang et al, however, identified vision impairment as a risk factor for accelerated cognitive decline and incident dementia.<sup>1</sup> ■

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