

Editorial



Dementia Incidence on the Decline in Korea: Lessons Learned and Future Directions

Seong-Jin Cho and Jae Myeong Kang

Department of Psychiatry, Gil Medical Center, Gachon University College of Medicine, Incheon, Korea

OPEN ACCESS

► See the article “Decline in the Incidence of All-Cause and Alzheimer’s Disease Dementia: a 12-Year-Later Rural Cohort Study in Korea” in volume 34, number 44, e293.

Received: Oct 31, 2019

Accepted: Nov 5, 2019

Address for Correspondence:

Seong-Jin Cho, MD, PhD

Department of Psychiatry, Gil Medical Center,
Gachon University College of Medicine,
21 774-gil, Namdong-daero, Namdong-gu,
Incheon 21565, Republic of Korea.
E-mail: sjcho@gilhospital.com

© 2019 The Korean Academy of Medical Sciences.

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ORCID iDs

Seong-Jin Cho
<https://orcid.org/0000-0002-8814-5807>
Jae Myeong Kang
<https://orcid.org/0000-0003-0803-9332>

Conflict of Interest

The author has no potential conflicts of interest to disclose.

Park et al.¹ have shown that the incidence of dementia has decreased in Korea over the recent 12 years. This is a very positive and promising result for a rapidly aging society like Korea. There are an estimated 705,473 people with dementia, which is 10% of all people aged 65 or older, according to the National Institute for Dementia in 2018. Dementia is one of the major neuropsychiatric disorders and is the fifth most common cause of death, with 43.8 million patients worldwide.² Unfortunately, there is no cure for dementia. However, the efforts that have been applied to detect and manage its risk factors enabled the incidence of dementia to decrease, especially in high-income countries including the United States, United Kingdom, and European countries.^{3,4}

One of the attributable factors for such a decline of dementia incidence seems to be educational level, according to this study.¹ The authors assumed that the incidence of dementia declined because of high educational attainment, with a hazard ratio of educational year for the incidence of dementia of 0.9 (95% confidence interval, 0.8–1.0, $P < 0.05$). In agreement with this result, a previous study found that the incidence of dementia continued to decrease significantly only in highly-educated groups.⁴ The effect of education is related to cognitive reserve, which refers to the ability to make better use of neurons in the brain.⁵

This study also suggests that the baseline cognition only affects the incidence of dementia when adjusted with age, sex, and years of education. In addition, patients with mild cognitive impairment, the prodromal stage of dementia, were four times more likely to have dementia than the elderly with normal cognition. It is well known that early cognitive decline is a risk factor for dementia. In a recent study, it is accepted that forgetfulness, subjective cognitive decline without objective cognitive deficit, is also a risk factor for dementia.⁶ Thus, the incidence of dementia can be lowered by maintaining, sustaining and utilizing the brain so that cognition does not degrade with age.

What about the vascular factors? In this study, their effect on the incidence of dementia was minimal. A previous study has shown that the prevention of vascular factors such as diabetes mellitus, cardiovascular disease, and cerebral infarction reduces the incidence of dementia.⁷ However, the prevalence of obesity and diabetes mellitus has not significantly reduced in developed countries,⁴ and the prevalence of hypertension, diabetes mellitus, and obesity

has increased steadily in elderly people aged 65 and older according to the Korea National Health and Nutrition Examination Survey. Despite the declined incidence of dementia in Korea, these increased vascular risk factors may have a negative influence on the incidence of dementia in the near future.

Non-modifiable factors related to Alzheimer's disease include age, sex, apolipoprotein status, amyloid and tau pathology. These factors, believed to be the causative pathology, cannot be modified by human efforts to date. The present study was conducted in the community setting without measuring the neuroimaging and serum biomarkers. In a previous study using a large cohort including clinic attendants, age, sex, and apolipoprotein did not seem to have a significant effect on the change of dementia incidence.⁴

Approximately half of Alzheimer's disease cases are found to be potentially attributable to the modifiable risk factors such as midlife hypertension, diabetes mellitus, midlife obesity, smoking, depression, cognitive inactivity, and low educational attainment.⁷ Managing these factors can reduce the incidence of dementia. According to the present study, some efforts to reduce dementia have been achieved in Korea. Reducing vascular risk factors may have better results due to their higher prevalence in Korea as mentioned above.

Recently, dementia prevention centers, established nationwide by the government, have made it possible to apply these multi-component lifestyle interventions and reduce the risk factors related to dementia. Furthermore, awareness about dementia is also increasing among both the public and professionals. Therefore, researchers should identify the effects of these modifiable multicomponent interventions on dementia and develop cognitive health promotion programs as well as strategies of applying the interventions for a lifetime. National initiatives should investigate the current epidemiology of dementia regularly, and discover potential candidates of the risk factors for incident dementia. It is obvious that healthcare finance should support these research activities. The collaborative efforts of research communities, public and private institutions, and government agencies could potentially lower the incidence of dementia eventually.

REFERENCES

1. Park JE, Kim BS, Kim KW, Hahm BJ, Sohn JH, Suk HW, et al. Decline in the incidence of all-cause and Alzheimer's disease dementia: a 12-year-later rural cohort study in Korea. *J Korean Med Sci* 2019;34(44):e293.
[CROSSREF](#)
2. Nichols E, Szeoke CE, Vollset SE, Abbasi N, Abd-Allah F, Abdela J, et al. Global, regional, and national burden of Alzheimer's disease and other dementias, 1990–2016: a systematic analysis for the global burden of disease study 2016. *Lancet Neurol* 2019;18(1):88-106.
[PUBMED](#) | [CROSSREF](#)
3. Lee Y. The recent decline in prevalence of dementia in developed countries: implications for prevention in the Republic of Korea. *J Korean Med Sci* 2014;29(7):913-8.
[PUBMED](#) | [CROSSREF](#)
4. Satizabal CL, Beiser AS, Chouraki V, Chêne G, Dufouil C, Seshadri S. Incidence of dementia over three decades in the Framingham heart study. *N Engl J Med* 2016;374(6):523-32.
[PUBMED](#) | [CROSSREF](#)
5. Stern Y. What is cognitive reserve? Theory and research application of the reserve concept. *J Int Neuropsychol Soc* 2002;8(3):448-60.
[PUBMED](#) | [CROSSREF](#)

6. Jessen F, Amariglio RE, van Boxtel M, Breteler M, Ceccaldi M, Ch  telat G, et al. A conceptual framework for research on subjective cognitive decline in preclinical Alzheimer's disease. *Alzheimers Dement* 2014;10(6):844-52.
[PUBMED](#) | [CROSSREF](#)
7. Barnes DE, Yaffe K. The projected effect of risk factor reduction on Alzheimer's disease prevalence. *Lancet Neurol* 2011;10(9):819-28.
[PUBMED](#) | [CROSSREF](#)