Social disparities and unhealthy lifestyles increase risk of dementia, particularly at a young age

Cognitive impairment and dementia have become serious problems for public health systems. In 2020, over 55 million people worldwide had dementia, and most of them were in low-income and middle-income countries.[1] This number is expected to reach 78 million by 2030 and 139 million by 2050.[1,2] The *Lancet* dementia prevention, intervention, and care Commission[3] identified 12 modifiable factors for dementia. However, the cause of nearly 60% of dementia cases is still unknown. For such cases, studies investigating risk factors for cognitive decline and dementia are of utmost importance from a public health perspective so that effective preventive measures can be implemented. This need might be even more pronounced for dementia arising at a young age compared with late-onset dementia in those aged 65 years and older. Early-onset dementia refers to a heterogeneous group of diseases with first symptoms that arise before the age of 65, with an unavoidably substantial effect on the lives of patients and their families and on health systems.[4]

For these reasons, the study by Rui Li and colleagues[5] is particularly valuable. The prospective cohort study assesses the association of socioeconomic status and lifestyle health on both early-onset dementia and late-onset dementia incidence based on an exceptionally large and carefully investigated dataset.[5] Using data from the UK Biobank, findings indicate that low socioeconomic status has a greater effect on early-onset dementia incidence compared with late-onset dementia incidence. This finding was also observed for individual components of socioeconomic status, namely educational attainment, occupational status, and household income.

Similarly, a healthy lifestyle, as assessed through a score based on smoking status, alcohol consumption, physical activity, and dietary pattern, showed a strong inverse association with early-onset dementia risk. The roles of socioeconomic status and lifestyle seem to be independent, the associations having been confirmed after mutual adjustment and through sets of sensitivity analyses. Therefore, the individuals with the combination of low socioeconomic status and unhealthy lifestyle have the greatest disease risk.

This study highlights that both social disparities and unhealthy lifestyles could have detrimental effects on overall dementia risk. Finally, data reveal that these factors are particularly relevant to early-onset dementia risk.

The study is also particularly important as most dementia literature considers late-onset dementia, while fewer studies focusing on environmental and lifestyle factors have investigated the causes of early-onset dementia.[6,7] Nonetheless, some of the study findings are in line with the *Lancet* Commission report about dementia risk factors. Among the 12 modifiable factors, the report indicates that unhealthy lifestyles including smoking and physical inactivity are more relevant to overall dementia risk in late life, and hypertension, alcohol misuse, and obesity are more relevant in midlife.[3] In particular, excessive alcohol intake and unhealthy dietary habits have been suggested as potentially detrimental risk factors for early-onset dementia.[7,8]

Among the limitations of the study is the absence of consideration of dementia subtypes, such as Alzheimer's disease and frontotemporal dementia, which could be associated with very different and even contrasting risk profiles.[6,9,10] In addition, the study was done in an almost entirely White population. The low diversity hampers generalisation to other countries and populations characterised by different genetic ancestry, social determinants, and lifestyles, which suggests caution about the external validity of findings and a need to further investigate this topic.

Overall, Li and colleagues' study confirms the importance of promoting healthy lifestyles from a young age, along with the independent role of factors including socioeconomic status in early-onset dementia and overall dementia incidence. These findings suggest that efforts to reduce social disparities are strongly warranted to decrease dementia incidence, which is relevant to all countries.

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