

How to prevent Cognitive Decline from Normal or MCI to Dementia

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ABSTRACT

Alzheimer's disease (AD), the leading cause of dementia, has reached epidemic proportions, with major social, medical and economical burdens. With no currently available curative treatments, both the World Health Organization and the G8 Dementia Summit recently identified dementia and AD prevention as a major public health priority.

The diagnostic approach to mild cognitive impairment (MCI) focuses on comprehensive evaluation of cognitive function and identification of treatable or reversible causes of cognitive impairment. The management of dementia and mild cognitive impairment (MCI) includes pharmacological, nonpharmacological and caregiver interventions. Acetylcholinesterase inhibitors and memantine have a small beneficial effect in mild-to-moderate dementia.

Dementia and AD have a wide range of risk factors (genetic, vascular/metabolic and lifestyle-related), which often co-occur and thus interact with each other. Attention has been focused on long-term measures that may prevent, delay or minimize MCI and dementia, including Mediterranean diet, exercise, and early active treatment of hypercholesterolaemia, hypertension, and diabetes starting in midlife and earlier with relatively modest findings. The effect of risk factors depends on age at exposure, indicating that the timing of preventive interventions needs to be carefully

considered. In view of the complex multifactorial nature of AD, as well as its long pre-clinical (asymptomatic) phase, interventions simultaneously targeting multiple risk factors and disease mechanisms at an early stage of the disease is most likely to be effective. High cognitive activity and a high cognitive reserve may prevent or delay the onset of aging-related MCI and dementia.

Three large European multidomain prevention trials have been launched with the goal of preventing cognitive decline, dementia and AD in older adults with different risk profiles. Pharmacological trials are also shifting towards prevention of Alzheimer dementia, by targeting at-risk individuals prior to the onset of cognitive symptoms.

Although the numbers of the elderly with dementia are rapidly increasing worldwide, the incidence of dementia in some countries is decreasing attributable to higher educational levels, decreased vascular risk factors and healthier lifestyles. Prevention of dementia is feasible and reasonable.