

Early identification of modifiable risk factors for cognitive decline

December 11 2014

Signs of cognitive decline related to aging populations, and even the severe cognitive losses seen in Alzheimer's disease and neurodegenerative disorders, may emerge many years earlier, according to a report presented today at the American College of Neuropsychopharmacology annual meeting in Phoenix (Arizona). The study suggests that early signs of cognitive decline are already present for some individuals during midlife, and that they are linked with risk factors such as elevated blood pressure. It is possible that if these risk factors are identified and modified early on, it will be possible to help detect and prevent the progression of cognitive deficits later in life.

As the population in developed countries ages, dementia and other conditions related to significant [cognitive decline](#), and neurodegenerative disorders, such as Alzheimer's disease and Parkinsonism are becoming the major causes of disability in the elderly, and are a major public health concern. Although many of these conditions take decades to develop, a key step to prevent the downward spiral of cognitive decline is to identify [risk factors](#) earlier in life, so that they can be targeted and modified.

Studying a cohort of 3,499 biracial adults (the Coronary Artery Risk Development in Young Adults Study (CARDIA), who were followed since early adulthood (ages 18-30 years) through midlife (ages 43-55 years), Kristine Yaffe and colleagues at the University of California San Francisco examined the role of chronic exposure to [cardiovascular risk factors](#) (e.g. high [blood pressure](#) and fasting glucose levels) and lifestyle

behaviors (e.g. diet, exercise) as predictors of cognitive decline during midlife. They found that the cumulative exposure to some of these risk factors, including clinical subthreshold (that is, within the normal range), but elevated, blood pressure, and low physical activity over the 25 years of the study was associated with worse cognitive performance in midlife, based on tests such as the Stroop Interference Score, the Digit Symbol Substitution Test and the Rey Auditory Verbal learning Test.

What is unique about these findings is that they provide evidence that changes in cognition can be detected during midlife (or even in young adults), and that they are associated with cumulative exposure to modifiable risk factors. Thus, these findings suggest that prevention strategies should target these risk factors to stop or reduce the progression of cognitive decline as early as possible.

These studies represent a critical step in the identification of antecedents of diseases of aging, in this case, [cognitive impairment](#) and neurodegenerative disorders, many years before they are diagnosed. The understanding that processes of cumulative risk for cognitive diseases of aging start early in adulthood provides a real opportunity for early identification and the use of prevention interventions for those at risk. Dr. Yaffe plans to continue imaging this CARDIA cohort for another 5+ years, to examine predictors of cognitive decline and correlations with brain findings.

Provided by American College of Neuropsychopharmacology

Citation: Early identification of modifiable risk factors for cognitive decline (2014, December 11) retrieved 10 May 2024 from <https://medicalxpress.com/news/2014-12-early-identification-factors-cognitive-decline.html>

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