Predictors of Incident Mild Cognitive Impairment and Its Course in a Diverse Community-Based Population

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Study Question
What are the sociodemographic and medical predictors of incident mild cognitive impairment (MCI) and its course?

What Is Known and What This Paper Adds
While adults with MCI are at risk of developing dementia, not all thus diagnosed progress to dementia. This study’s results show that almost half of individuals with incident MCI diagnoses are classified as cognitively normal at follow-up and that predictors of incident MCI differed from those of subsequent MCI course.

Methods
This longitudinal community-based study uses data from 2,903 participants ≥65 years old with intact cognition at baseline from the Washington Heights-Inwood Columbia Aging Project (WHICAP). Participants were recruited in 3 waves in 1992, 1999, and 2009 by random sampling of those ≥65 years and eligible for Medicare from 3 census tracts in Northern Manhattan, New York, NY. Each visit, scheduled every 18–24 months, included medical and neurologic evaluations, neuropsychological tests, and questionnaires assessing socioeconomic factors and functional abilities of the participants. MCI was diagnosed using Petersen criteria: subjective memory complaint; objective cognitive impairment in at least 1 cognitive domain; preserved daily functioning; and no consensus diagnosis of dementia at that visit. Dementia diagnosis was made by consensus using DSM-III-R criteria. Cox regressions estimated hazard ratios of several predictors associated with incident MCI. Modified Poisson regressions estimated relative risks associated with predictors of diagnostic status at follow-up after incidence.

Results and Study Limitations
During the average follow-up of 6.3 (SD = 4.5) years, 752 participants developed MCI. Presence of APOE 4 and higher medical burden increased risk of incident MCI, while more years of education, more leisure activities, and higher income decreased this risk. Of the people with incident MCI, after an average of 2.4 years follow-up, 12.9% progressed to dementia, 9.6% declined in functioning but did not meet the clinical criteria for dementia, 29.6% continued to meet MCI criteria, and 47.9% no longer met MCI criteria. The functional decline group had more difficulties with instrumental daily activities at follow-up and therefore no longer met MCI criteria, but did not yet meet dementia criteria by consensus. Multi-domain MCI, presence of APOE e4, depressive symptoms and antidepressant use increased the risk of progression to dementia. A limitation of the current study is the smaller proportion of participants with follow-up visits after MCI diagnosis.

Study Funding and Competing Interests
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Figure Flow Diagram of Incident MCI and Its Course in WHICAP

A draft of the short-form article was written by M. Dalefield, a writer with Editage, a division of Cactus Communications. The corresponding author(s) of the full-length article and the journal editors edited and approved the final version.

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