

Abstract

Background: This study aimed to investigate the changes in cognitive profiles and the effect of age and education on such changes in a community cohort of elders over a five-year period.

Methods: A random sample of 787 non-demented Chinese elders in Hong Kong was recruited for a prospective comprehensive cognitive assessment at baseline, in the second and fifth year.

Results: 454 subjects were successfully assessed at the fifth year. For subjects with normal cognitive function at baseline, 186 (56.9%) remained cognitively normal, 115 (35.2%) had mild cognitive impairment (MCI), and 26 (7.9%) became demented. For subjects with MCI at baseline, 28 (22%) reverted to normal, 59 (46.5%) remained as MCI, 40 (31.5%) became demented. Assuming a uniform rate of progression, the annual conversion rate was 1.6% and 6.3% for baseline normal and MCI subjects respectively. The decline in scores of Cantonese Mini-Mental State Examination (CMMSE) was significant over the years, the rate of decline was greater beyond the second year. Combining longitudinal CMMSE and category verbal fluency test (CVFT) performance in two years may serve as cognitive predictors for future decline with 91.5% sensitivity and 91.0% specificity. By logistic regression, age and education had significant predictive effect on progression to dementia. Age was a significant factor contributing to cognitive decline over time, while the protective effect of education on cognitive decline was lost in subjects already suffering from MCI at baseline.

Conclusions: A decline in cognitive profile took place before the clinical diagnosis of dementia. The protective effect of education on cognitive function appeared to be lost when the person started to have MCI. The impact of age and education on cognitive decline in normal and MCI subjects gave insight as to how screening and timely intervention may be modeled for the best effect.

Keywords: Cognitive profile, mild cognitive impairment, dementia