EVALUATION OF CONSTRUCTIONAL IMPAIRMENT IN THE INDEPENDENT ELDERLY POPULATION BASED ON MINI-MENTAL STATE EXAMINATION

Michelle Brennan, Margaret O'Connor, Declan Lyons, Catherine Peters, Elaine Shanahan
University Hospital Limerick, Limerick, Ireland

Background: The mini-mental state examination (MMSE) is a widely used screening test for cognitive impairment in older adults. During observation in clinical practice, a significant proportion of patients were found to have difficulty with the constructional ability question despite being intact in other cognitive domains. The aim of this study was to assess whether the impaired constructional ability noted in routine cognitive screening was reproducible in a formal analysis of older people living independently in the community with no documented dementia history.

Methods: 370 patient records of the Health Inequalities and Aging in the Community Evaluation (HIACE) Study were reviewed after excluding patients with documented dementia. Basic demographics, original MMSE form and score were reviewed and scored according to Folstein guidelines. This was compared to the testers score and if any discrepancies were noted a new MMSE score was calculated. 295 had a completed and scored MMSE.

Results: 62% female, age range 60-92 years, 97% with a Barthel >18. 85% (294) had a documented score of 30. Discrepancies were found between the scoring of the construction question by the tester compared to the MMSE scoring guidelines in 11% (40) cases. 16% (59) incorrectly drew the pentagon. In 10% (37) this was the only incorrect question. Following adjustment for all discrepancies in scoring, 72% (213) actually scored 30/30. Therefore the major source of incorrect scoring was with pentagon analysis.

Conclusion: A significant proportion of older people living independently in the community have impaired constructional ability in the absence of documented cognitive deficit. Does this predict early cognitive decline, is it representative of normal ageing or could visual impairment account for this? A significant number of errors in MMSE pentagon scoring highlight a requirement for training of health care professionals to standardise MMSE scoring and improve inter-observer variability.