

# **Abstract**

## *Background*

Clinicians must obtain consent before undertaking health care interventions on a person, but the consent would not be considered valid unless the person has the capacity to make the decision. Older adults with cognitive impairment may have impaired capacity to make treatment decisions, and capacity may change over time.

## *Objectives*

In order to gain further understanding on the validity of consent and the proper timing for capacity assessment, this study aimed to achieve the following objectives: 1) to examine the mental capacity in Chinese older adults with normal cognitive function, very mild dementia and mild dementia; 2) to examine the correlates of mental capacity, 3) to compare the proportional change of mental capacity over 9 months in subjects with different cognitive statuses; and 4) to explore cognitive predictors of change in mental capacity.

## *Methods*

This study comprised of a baseline cross-sectional evaluation and a prospective observational study. Ninety-six Chinese older adults over the age of 60 years were recruited from residential homes and community centres in Hong Kong and were evaluated by trained geriatric psychiatrists. Thirty-eight subjects had CDR 0 (not demented) at baseline, 32 with CDR 0.5 (very mild dementia) and 26 with CDR 1 (mild dementia). The mental capacity to make treatment decision was evaluated, at baseline and at 9-month follow-up, using the MacCAT-T with dementia as the pre-defined treatment condition. Norm-based cutoffs of the MacCAT-T summary scores were used to determine impairment in decision-making capacity.

The cognitive function of the subjects was evaluated at both time points with CMMSE, Delayed Recall, ADAS-Cog, category verbal fluency and backward digit span.

## *Results*

The norm-based MacCAT-T cutoffs correlated with independent clinician ratings with Kappa of 0.79. At baseline, 25% of CDR 0.5 subjects and 65.4% of CDR 1 subjects had impaired capacity, as compared with 5.3% of normal subjects (CDR 0). Significant correlation was found on education and cognitive test performance with MacCAT-T summary scores ( $p < 0.05$ ), and education and ADAS-cog total score were associated with impairment in decision-making capacity. 74 subjects (77.1%) completed follow-up assessment at 9-month. Of the 49 subjects (27 with CDR 0, 16 with CDR 0.5 and 6 with CDR 1) who were mentally competent at baseline, 8 (16.3%) had deterioration in capacity. A trend of higher proportion of capacity deterioration in subjects with more severe cognitive impairment was observed. Logistic regression found significant association of performance on category verbal fluency at baseline and change in backward digit span with deterioration in decision-making capacity over 9 months ( $p < 0.05$ ).

## *Conclusion*

Significant proportion of Chinese older adults with very mild and mild dementia had impaired medical decision making capacity. Cognitive abilities were correlated with mental capacity. As a substantial proportion of the initially competent elderly with mild dementia became incompetent at 9-month follow-up, this highlighted the significance of appropriate timing for advance health planning in the older community when cognitive impairments are prevalent.