

## Abstract

**Background:** Apathy is common in patients with Alzheimer’s disease (AD) and is associated with older age, faster progression of cognitive and functional deficits, higher level of impaired activities of daily living and greater burden for caregivers. It should be differentiated from depression because of its different potential treatment. Apathy is a rather under-researched area. Most apathy assessment tools do not delineate whether the presence of apathy is due to premorbid personality or change after onset of AD.

**Aims:** This study aims at validating an informant-based apathy measure that is specifically designed for patients with AD — the Chinese version of the Dementia Apathy Interview and Rating (C-DAIR). Important clinical correlates of apathy in patients with AD are also explored.

**Methods:** Seventy-five AD patients and their caregivers were recruited. The C-DAIR was administered and the result was compared against the consensus diagnostic criteria of apathy proposed by the task force with members from various scientific associations and experts in the field. The Cantonese version of Mini-Mental State

Examination, Clinical Dementia Rating, Cornell Scale for Depression in Dementia, the Chinese version of the Disability Assessment for Dementia, Extrapyrarnidal Symptom Rating Scale, and the Chinese version of the Zarit Burden Interview were also administered to study the relationship between the C-DAIR and important clinical correlates.

**Results:** The C-DAIR had good internal consistency ( $\alpha = 0.892$ ), test-retest reliability (ICC = 0.988) and inter-rater reliability (ICC = 0.909). The optimal cut-off point of the C-DAIR was  $\geq 0.780$ . Apathy was associated with older age, more severe cognitive impairment, lower daily functioning, and higher caregiver burden. It was not associated with depression.

**Conclusion:** The C-DAIR is a valid and reliable tool to assess apathy in local Chinese patients with AD.

*Keywords:* Alzheimer's disease, apathy, Chinese