# Abstract

***Background:*** *Behavioural and psychological symptoms (BPSD) are integral features of Dementia in Alzheimer's Disease. They are recognized as important predictors of institutionalisation and major sources of caregiver burden. Prompt assessment and treatment of BPSD will alleviate patient and caregiver suffering. Recent studies suggest that cholinesterase inhibitors may have beneficial effects on BPSD.*

***Objectives:*** *To examine the efficacy of Rivastigmine in the treatment of BPSD in Chinese elderly (aged 65 years or above) suffering from mild to moderately severe Dementia in Alzheimer's Disease, under conditions reflecting normal clinical care. Effects of Rivastigmine on cognition and functional status, and tolerability of Rivastigmine were also assessed.*

***Method:*** *This is a 20-week, prospective, open-label, single-centre study. 24 psychogeriatric clinic patients, who fulfilled DSM-IV diagnosis of Dementia of the Alzheimer's Type and exhibited BPSD, were treated with flexible doses (3, 6, 9, or 12 mg/day) of Rivastigmine, according to an 8-week titration schedule. Efficacy assessments were conducted at baseline, week 10 and week 20. Clinical response was evaluated by the Chinese version of the Neuropsychiatric Inventory (CNPI), the Cantonese version of Mini-Mental State Examination (CMMSE) and the Functional Assessment Staging (FAST).*

***Results:*** *At the end of the study, 10 (41.7%) patients were receiving Rivastigmine 12 mg/day, 6 (25.0%) were receiving 9 mg/day, 6 (25.0%) were receiving 6 mg/day, and 2 (8.3%) were receiving the minimum dose of 3 mg/day. The mean baseline CNPI total score was 34.3 ± 12.3. At week 20, the mean CNPI total score was significantly reduced (-19.5, $p<0.001$). BPSD showing the most robust improvement included delusions ($p<0.001$), depression/dysphoria ($p<0.001$), apathy ($p<0.001$), disinhibition ($p=0.001$), irritability/lability ($p=0.001$), aberrant motor behaviour ($p<0.001$), and night-time behaviour disturbance ($p<0.001$). Clinically relevant reduction in BPSD (defined as ≥30% decrease in CNPI total score) were observed in 20 (83.3%) patients. Treatment efficacy of Rivastigmine on BPSD was estimated to be 33.3%. Percentage change in CNPI total score correlated with percentage change in CNPI-D score (Spearman's rho=0.8, $p<0.001$), but not with Rivastigmine dosage (Spearman's rho=0.004, $p=0.986$), or change in CMMSE score (Spearman's rho=-0.175, $p=0.414$). Improvement in BPSD was evident by week 10 and maintained throughout the 20-week study period. No significant changes in CMMSE and FAST scores were demonstrated. Rivastigmine was well tolerated, but a significant weight loss of 2.1 kg ($p<0.001$) was found.*

***Conclusion:*** *Rivastigmine was well tolerated and effective in improving BPSD in Chinese patients with mild to moderately severe Dementia in Alzheimer's Disease. Its beneficial effect on BPSD was independent of dosage and cognitive response.*

***Declaration of Interest:*** *None*

***Key Words:*** *Rivastigmine; Behavioural and psychological symptoms; Dementia in Alzheimer's Disease; Chinese; Neuropsychiatric inventory*