

**Neuropsychological symptoms and premorbid temperament traits in
Alzheimer's dementia**

by

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Summary

The aim of this study was to investigate the relationship between noncognitive symptoms and premorbid temperament in a group with Alzheimer's disease. The relationship between premorbid temperament and noncognitive symptoms can be used to understand symptom susceptibility and risk, caregiver burdens, as well as providing insights into the neuroanatomical substrates of temperament and noncognitive behaviour. Sixty-three primary caregivers of Alzheimer's patients fulfilled the eligibility criteria for this study. Information regarding the noncognitive symptoms and premorbid temperament was procured from the primary caregivers. In fifty-one cases, a secondary caregiver also provided information about the premorbid temperament of the Alzheimer's patient. The latter was obtained to enhance the reliability of retrospective data. The Behaviour Rating Scale for Dementia, the Formal Characteristics of Behaviour-Temperament Inventory, and the Blessed Dementia scale were used to elicit data on noncognitive symptomatology, premorbid temperament, and current cognitive status, respectively.

Noncognitive symptoms were grouped into two clusters namely neuropsychiatric and neurobehavioural disturbances. The neuropsychiatric cluster included mood and psychotic symptoms and the neurobehavioural cluster included vegetative and overall behavioural dysregulatory symptoms. Results showed that there is a wide spectrum of noncognitive symptom manifestation in patients' profiles and that the neurobehavioural dysregulatory symptoms are more common than the neuropsychiatric symptoms in this Alzheimer's cohort. With regard to symptom manifestation and cognitive status, a Pearson product moment correlational analysis showed that a lower level of cognitive functioning is significantly associated with aggressive episodes and a higher level of cognitive functioning with manifestations of depressive symptoms.

In terms of interrater concordance on premorbid temperament ratings, intraclass correlations were significant for five of the six temperament domains, thus indicating a reliable estimate of premorbid disposition. Canonical correlational analysis yielded two significant variates. The first variate indicated that Alzheimer's disease patients with a proclivity for aggressive behaviours and general behavioural deregulation but lower depressive profiles, were premorbidly more emotionally reactive, had low sensory thresholds (high sensitivity), and greater cognitive deficit. The second variate showed that patients with Alzheimer's disease who tended to manifest with depressive and dysregulatory behaviour appear to have been premorbidly perseverative in temperament with a low sensory threshold (high sensitivity) and the tendency to maintain and attain a low level of activity (stimulation). Taken together, the significant variates revealed a dimensional relationship between depressive symptoms, aggressive symptoms, and behavioural dysregulation; and sensory sensitivity, emotional reactivity, perseverance, and activity, with cognitive status serving as a moderating variable. In conclusion, the study indicated a dimensional relationship between specific premorbid temperament traits and noncognitive symptoms, thereby highlighting the possible predictive influence of premorbid temperament on noncognitive manifestations in Alzheimer's disease patients.

Keywords

Alzheimer's disease, noncognitive disturbances, premorbid temperament, neurobehavioural symptoms, neuropsychiatric symptoms, neuropsychology, Regulative Theory of Temperament, Behaviour Rating Scale for Dementia, Formal Characteristics of Behaviour-Temperament Inventory, Blessed Dementia Scale.