Karolinska Institutet

Institutionen för Neurobiologi, Vårdvetenskap och Samhälle (NVS)

"I don't recognize myself", personality characteristics in subjective cognitive impairment and mild cognitive impairment

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ABSTRACT

Background: Personality changes are common in early stages of many neurodegenerative disorders and often precede cognitive deficits. In individuals with cognitive impairment an increase in feelings of distress and worry (neuroticism) and a decrease in social interpersonal behavior (extraversion) are frequently observed. However, few studies have examined the usefulness of personality assessment in combination with other clinical measurements for the identification of individuals at risk of cognitive decline and dementia. The main aim of the thesis was to examine the significance of personality characteristics in diagnosing prodromal stages of dementia.

Methods: The thesis is based on a sample of patients examined for early dementia symptoms at the Memory Clinic, Karolinska University Hospital. The study groups consisted of 35 patients diagnosed with mild cognitive impairment (MCI), 24 with subjective cognitive impairment (SCI) and 26 controls recruited from the community. *Study I* examined patterns of personality across study groups. *Study II* investigated degree of agreement between self- and informant ratings of personality, in relation to cognitive function, in patient groups and controls. *Study III* explored the usefulness of combining personality and cognitive measurements in discriminating patients groups and controls. *Study IV* investigated differences in cognition, personality and CSF biomarkers between memory clinic patients with varying degrees of cognitive impairment. We also analyzed which variables predict conversion to dementia at follow up after three years.

Results: *Study I*: Patients with MCI and SCI presented specific patterns of personality with higher scores in traits related to anxiety proneness and aggression-hostility and lower in traits of extraversion, compared to controls. *Study II*: Correlations between patient- and informant ratings of patients' personality were fair to moderate on a majority of personality traits. Measures of incongruence between patients and informants were significantly larger in MCI than in controls across personality scales. Incongruence between raters was negatively correlated with a measure of global cognitive function. *Study III*: Combining cognitive and personality measurements resulted in a better discrimination between groups than any of the measurements used alone. Cognitive tests discriminated MCI from SCI and controls, while personality features separated SCI from controls. *Study IV*: Three years before diagnose, converters to dementia showed a profile of cognitive impairment, higher levels of neuroticism, and lower levels of extraversion and Aβ42, respectively. Low levels of Aβ42 and low results in an episodic memory test, but not personality, predicted conversion to dementia.

Conclusions: Patients with MCI and SCI differ in their patterns of personality compared to controls, but not when compared to each other. Disagreement between patients with MCI and their informants may be related to cognitive impairment, indicating an early loss of self-awareness. Combining personality assessment with cognitive measurements improves discrimination of patients at risk of cognitive decline. Personality has an independent role early in the disease process, but does not predict disease progression.

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