

## Early Psychiatric Symptoms and Illness Progression in Behavioral Variant Frontotemporal Dementia

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**State of the art:** Neuropsychiatric symptoms (NPS) are key features of early stage behavioral variant frontotemporal dementia (bvFTD). However, the association between NPS in early stage bvFTD and illness progression is not well understood. The primary aim of this study is to evaluate the association between certain NPS and the trajectory of illness in early stage bvFTD.

**Methodology:** Data are from 354 subjects with bvFTD across 549 visits enrolled in the North American ALLFTD study. Psychiatric states were derived from the NPI-Q and the NACC UDS Form B9f and coded as binary variables. Cox regression models were used to examine associations between early NPS and illness severity during follow-up as measured by CDR® plus NACC FTLN global score (CDR FTLN). Regression models controlled for age at onset, gender, education, and disease duration at initial visit. Statistical significance was defined as p value <0.05.

**Results:** Within this sample, 145 subjects had mild early disease, defined as a CDR FTLN global score  $\leq 1$  at the initial visit. Of those with mild early disease, depression, anxiety, and hyperorality during the first 3 years of follow-up was associated with progression to a CDR FTLN global score  $> 1$  by year 5 of follow-up. Those with a combination of anxiety and/or depression were most strongly associated with progression with a hazard ratio of 3.2 (p<0.001, CI [1.7 – 5.9]).

**Conclusion:** We observed faster illness progression in early stage bvFTD subjects who had NPS, and especially among those who had anxiety and depression.

### Conflicts of interest

None