

Musicality in frontotemporal dementia: results from the MELODIA project

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State of the art

Brain regions that are important for music perception are affected in behavioral variant frontotemporal dementia (bvFTD), and relatively spared in Alzheimer's disease (AD) (van't Hooft et al., 2021). Metrics of musical abilities might improve diagnostics of bvFTD.

Methodology

MELODIA is an ongoing study of musicality in bvFTD and young-onset AD. From this study we included patients with bvFTD and AD based on consensus criteria, and participants with subjective cognitive decline as healthy controls (HC). Participants were excluded if they had self-reported hearing problems or used hearing aids. Musicality was assessed with the short version of the Profile of Music Perception Skills (Mini-PROMS)(Zentner & Strauss, 2017) and the Musical Emotion Discrimination Task (MEDT)(Macgregor & Müllensiefen, 2019). We tested differences in musicality between clinical groups with linear models, adjusting for age, sex, MMSE, and musical training.

Results

A total of 57 participants were included (mean age 64.5 years, 45.6 % female), of which 13 with bvFTD, 16 with AD and 28 HC. There were no group differences in age, disease severity, and musical training. Compared to controls and AD, bvFTD patients performed worse on the Mini-PROMS and MEDT. The difference between HC and bvFTD on the Mini-PROMS score was driven by the Melody, Tempo and Accent subscales. AD individuals scored intermediate between bvFTD and HC, which was significant for the MEDT ($p = .048$).

Conclusion

Musicality metrics are performed worse in bvFTD compared to both controls and AD. This suggests alterations in musicality in bvFTD, with implications for diagnostics.

Conflicts of interest

N/A