concerning for possible behavioral variant FTD. That said this could reflect limitations of the sample and/or study design, and further exploration is therefore needed. Recommendations for future studies of neuropsychological/behavioral variables in B-ALS as well as development of more targeted instruments for use in this population are discussed.

Categories: Multiple Sclerosis/ALS/Demyelinating Disorders
Keyword 1: amyotrophic lateral sclerosis
Keyword 2: dementia - other cortical
Keyword 3: academic achievement
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34 Verbal Memory as a Language Function: Phonological Processing Contributes to Word List Recall in Persons with Multiple Sclerosis

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Objective: Verbal memory deficits are present in multiple sclerosis (MS), but neither inflammatory T2 lesion volume nor cerebral atrophy (generalized or localized hippocampal atrophy) fully explain disease-related verbal memory changes. Importantly, the hippocampus does not function in a vacuum; memory encoding and retrieval requires interactions between the hippocampus and cortical areas where information is processed and represented. Indeed, we have previously shown that lexical access speed (a language function assessed by rapid automatized naming) independently predicted delayed recall of verbal information (word list) for persons with MS, even when controlling for total learning. Informed by this work and recent ultra high field (7.0 Tesla) MRI research reporting high cortical lesion count in regions associated with phonological processing (e.g., plenum temporale, superior temporal gyrus), we assessed whether phonological processing independently explains verbal memory deficits in persons with MS.
Participants and Methods: Analyses were performed on a clinical sample of persons with MS aged 18 to 59 years (n=60: 49 relapsing, 11 progressive). Word-list memory was assessed by the Hopkins Verbal Learning Test, Revised (HVLT-R), which yielded scores for Total Learning (TL) and Delayed Recall (DR). Phonological processing was assessed with WIAT-4 Phonemic Proficiency. WIAT-4 Sentence Repetition was utilized as a non-phonological language control task, and WIAT-4 Word Reading was administered to control for premorbid verbal ability. CANTAB Paired Associate Learning served as a nonverbal memory comparison. Performance on tasks was standardized using published age-adjusted norms. Primary analyses used partial correlations to assess relationships between Phonemic Proficiency and (a) HVLT-R TL and DR controlling for WIAT-4 Word Reading, and (b) HVLT-R DR controlling for WIAT-4 Word Reading and HVLT-R TL. To assess specificity to phonological processing, the same partial correlations assessed relationships between Sentence Repetition and HVLT-R variables, and between Phonemic Proficiency and nonverbal memory (CANTAB PAL).
Results: When controlling for premorbid verbal ability, Phonemic Proficiency performance accounted for 7.8% of the variance in HVLT-R TL ($r_{partial}$=0.28, p=0.031) and 16% of the variance in HVLT-R DR ($r_{partial}$=0.40, p=0.002). Moreover, when additionally controlling for HVLT-R TL, Phonemic Proficiency still accounted for 10% of the variance in HVLT-R DR ($r_{partial}$=0.32, p=0.016). Showing specificity to phonological processing ability, performance on Sentence Repetition was not significantly related to HVLT-R DR when controlling for premorbid verbal ability (WIAT-4 Word Reading) and HVLT-R TL ($r_{partial}$=0.09, p=0.510). Showing specificity to verbal memory, neither Phonemic Proficiency nor Sentence Repetition performance were reliably related to CANTAB PAL for any variance in performance in nonverbal memory (Ps>0.9).
Conclusions: Results suggest that language ability, specifically phonological processing, contributes to delayed recall of word lists independent of premorbid verbal ability and initial total learning scores in persons with MS. These findings demonstrate contributions of language ability to verbal memory and highlight the need for further research into language ability changes in persons with MS. This may have implications for verbal memory rehabilitation in MS.

35 The Association Between Social Support and Cognition in Older Adults with Multiple Sclerosis

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Objective: Research has shown that social support has protective effects against cognitive decline in older adults. No study to date has examined the relationship between social support and cognition in older adults with Multiple Sclerosis (MS). Advances in treatments for MS have resulted in a growing number of aging individuals with MS, making it imperative to identify modifiable risk factors that affect cognition, such as social support. Therefore, this study was designed to examine the association between social support and cognition in older adults with MS and healthy controls.
Participants and Methods: Participants were older adults with MS (N = 70; M age = 64.71, SD + 3.86 years; 62.9% female) and community-residing older adults (N = 74; M age = 68.42, SD + 5.96 years; 58.1% female). Perceived social support was assessed using the Medical Outcomes Study Modified Social Support Survey (MSSS), which measures emotional/informational support, tangible support, affectionate support, and positive social interaction. Cognition was assessed with the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS), which measures immediate and delayed memory, attention, language, and visuospatial abilities. Linear regressions stratified by group status (MS vs. control) assessed the association between perceived social support and cognition.
Results: Linear regressions controlling for age, gender, education, and medical comorbidities showed that higher total MSSS scores were related to higher RBANS scores in the MS group (β = 0.243, p = .046) and marginally in the control group (β = 0.239, p = .053). Examination of MSSS domains showed that emotional/informational support (β = 0.246, p = .044) and positive social interaction (β = 0.279, p = .023) were significant predictors of RBANS performance in the MS group. Positive social interaction (β = 0.262, p = .011) was a significant predictor of RBANS performance in the control group. Analyses that further adjusted for depression scores showed that positive social interaction remained a significant predictor of RBANS performance in the control group (β = 0.361, p = .005). In contrast, depression scores attenuated associations between all aspects of social support and RBANS performance in the MS group (p > .05).
Conclusions: Among older adults, the association between social support and cognition varied as a function of MS status. Overall perceived social support, emotional/informational support, and positive social interaction were significantly associated with cognition in the MS group. However, depressive symptoms attenuated these associations. In contrast, positive social interaction was the key driver of the association between social support and cognition among the healthy controls, and notably, this association remained significant even after adjusting for depressive symptoms.

36 Assessing the Effect of Multiple Sclerosis and Aging Using an Ecological test of Prospective Memory

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