Presentation of New Screening Tools to Detect Lexico-Semantic Disorders in Minor Neurocognitive Disorder and in Alzheimer’s Disease

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Introduction

Episodic memory impairment in Alzheimer’s Disease (AD) has been widely studied. Recently, the interest of researchers also focused on the semantic deficit. Recent studies demonstrated an early breakdown of semantic memory in the prodromal stage of AD. This phenomenon notably results into lexico-semantic difficulties affecting retrieval of words and their meaning. This deterioration also occurs in the Minor Neurocognitive Disorder (MND), but to a lesser extent. However, there are still few quick screening tools in French that may demonstrate the naming and semantic deficit in MND and AD.

Our research aims at proposing four quick tools allowing the screening of semantic memory impairment in MND and AD.

Methods

Material

- 8 preliminary tests/scales: MMSE, RL/RI-16, FAB, ADL, IADL, GAI, GDS, Sensory questionnaire
- 2 references tests: PPTT, Mini-SKO
- 4 experimental tests: Mini-PMMSS, ECCS, SNT, ADL

Participants

- Sample (N = 52): Healthy controls (N = 30), MND (N = 5), AD (N = 17)
- Healthy Controls, MND, AD: Chi-squared test or Kruskal Wallis test

Results

- Table: Mini-PMMSS, Mini-SKO, SNT, ADL, ECCS, and PPTT
- P-values: < .001, .001, .01, .02, .03, .04, .05, .06, .07, .08, .09, .10, .11, .12, .13, .14, .15, .16, .17, .18, .19, .20, .21, .22, .23, .24, .25, .26, .27, .28, .29, .30, .31, .32, .33, .34, .35, .36, .37, .38, .39, .40, .41, .42, .43, .44, .45, .46, .47, .48, .49, .50, .51, .52, .53, .54, .55, .56, .57, .58, .59, .60, .61, .62, .63, .64, .65, .66, .67, .68, .69, .70, .71, .72, .73, .74, .75, .76, .77, .78, .79, .80, .81, .82, .83, .84, .85, .86, .87, .88, .89, .90, .91, .92, .93, .94, .95, .96, .97, .98, .99, 1.0

Discussion

The four quick tools make it possible to detect lexico-semantic disorders between the healthy controls and AD participants but also between the MND and AD participants. However, the Mini-PMMSS and SNT-AD do not allow for lexico-semantic disorders detection between the healthy controls and MND participants. While the mini-SKO and the ECCS allow for this detection.

=> In the clinical setting, these tests can be effective screening tools prior to more in-depth evaluation.

Limits

There is significant difference between the three groups in terms of age, education, depression, and anxiety. Furthermore, our groups are not equally balanced.

Further research should include equivalent and matched groups.

References


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