

Does a rabbit have feathers or fur? Development of a 42-item semantic memory test (SMT-42)

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State of the art

Exploring semantic memory function is a complex issue. Several tests are available to distinguish semantic variant primary progressive aphasia (svPPA) from other language variants, but a validated rapid screening tool is lacking in current practice. We present the SMT-42, a test assessing semantic memory that aims to distinguish the svPPA from logopenic (IPPA) and non-fluent/agrammatic (naPPA) variants.

Methodology

Our test consists in retrieving the conceptual characteristics of items belonging to different lexical categories. In the first study, the SMT-42 was administered to a population of healthy subjects and to patients with svPPA matched to a subgroup of healthy subjects. In the second study, four groups (svPPA, IPPA, naPPA, and Alzheimer's disease [AD]) were included to investigate its ability to differentiate patients with svPPA from other patients.

Results

In the first study, 109 healthy subjects were recruited, 15 of whom were matched with 15 svPPA subjects. In the second study, 12 svPPA, 6 naPPA, 9 IPPA and 21 AD patients were included. SMT-42 scores discriminated svPPA patients (svPPA: mean=30.0(5.9); IPPA: mean=37.8(3.3), $p=0.002$; naPPA: mean=39.8(1.9), $p=0.001$; AD: mean=38.5(2.4), $p<0.001$)

Conclusion

The SMT-42 is a screening tool to help the clinician identify a semantic disorder. Its design avoids some of the pitfalls found in other semantic memory tests and explores not semantic regulation but the semantic stock. The SMT-42 is simple, quick to administer (3 minutes on average), easy to score and has good sensitivity. It seems to be an efficient tool for semantic screening in routine clinical practice.

Conflicts of interest

N/A