



Academy of Aphasia 2011

Verbal Fluency Tasks: Does Time Matter for Identification of Executive Functioning and Lexical-Semantic Deficits Following Right Brain Damage?

Nicolle Zimmermann^a, Lilian Scherer^{a,*}, Bernadette Ska^b, Yves Joanette^b, Rochele Fonseca^a

^a Pontifical Catholic University of Rio Grande do Sul

^b University of Montreal

Background

Verbal fluency tasks are one of the most widely used tools to assess verbal components of executive functions (Kavé, Heled, Vakil, & Agranov, 2010). This paradigm is classically applied in one minute trials, but versions with a larger time interval have been developed in order to increase their sensitivity to the identification of deficits, such as the tasks from *Protocole Montréal d'Évaluation de la Communication (Protocole MEC, Joanette, Ska, & Côté, 2004)*. Nevertheless, as far as we know, there are no studies that investigate the possible differences in sensitivity to deficits between brief and extended versions. The aim of the study was to verify if there are differences in sensitivity between these two forms of evaluation in a sample of right-brain-damaged individuals.

Method

Forty-eight Brazilian individuals with right vascular brain damage were assessed with unconstrained (UVF), phonemic (PVF) and semantic verbal fluency (SVF) tasks of the Brazilian version of the *Protocole MEC* (Fonseca, Parente, Côté, Ska, & Joanette, 2008). Separate means and standard deviation from the normative scores were calculated through time intervals according to duration of interest: one minute (all tasks), two minutes and a half (unconstrained task) and two minutes (semantic and phonemic tasks). A descriptive analysis was made through Z-score aiming to obtain evidence of deficits. A deficit was suggested if the Z-score was equal or below -1.5 (Kavé et al., 2010), but a deficit alert score was also considered if the Z score ranged from -1.0 to -1.49.

Results

Results demonstrated that of 48 cases, five showed differences on the rates of deficits level in the UVF between the brief and extended forms, such that four of them had a more severe deficit in the extended version; 10 had differences on PVF, but the distribution of severity dominance was equal between versions; and 11 had differences on SVF, seven with more severe deficits in the extended and four, in the standard version.

Discussion

The results suggest that the time of generation of words is important to diagnose deficits in executive, mnemonic and lexical-semantic processes in right brain damaged individuals. More specifically, findings indicate

* Corresponding author.

E-mail address: lilian.scherer@gmail.com.

that the last blocks of time in the unconstrained and semantic tasks seemed to be essential for the understanding of the real performance of this clinical sample. Notwithstanding, the last blocks of time did not seem to be as important in the diagnosis of phonemic lexical generation ability in this sample.

References

Fonseca, R. P., Parente, M. A. M. P., Côté, H., Ska, B., & Joannette, Y. (2008). *Bateria Montreal de Avaliação da Comunicação–Bateria MAC*. São Paulo, Brasil: Pró-fono.

Joannette, Y., Ska, B., & Côté, H. (2004). *Protocole Montréal d'Évaluation de la Communication (Protocole MEC)*. Isbergues, France: Ortho Édition.

Kavé, G., Heled, E., Vakil, E., & Agranov, E. (2010). Which verbal fluency measure is most useful in demonstrating executive deficits after traumatic brain injury? *Archives of Clinical and Experimental Neuropsychology, iFirst*, 1-8.