Preliminary survey in the validation of a new language assessment in acute stage stroke

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Keywords: Aphasia; Assessment; Speech therapy; Stroke

Objectives.– The French health authorities recommend that stroke patients should receive care from therapists as soon as possible. As part of the "Programmes Pilotes Impact Clinique Accident Vasculaire Cérébral", a survey was conducted during the first term of 2011 and we ask French speech therapists about the tools they were using to assess aphasia in the acute stage. We offer to carry out a study of the tests listed by the survey, comparing them with the data extracted from scientific literature about the acute stage and about the metrological conditions a test must fulfill in order to determine whether a new assessment tool should be proposed.

Methods.– A form was sent to speech therapists working with patients in the acute stage of a stroke. It collected information about the type of hospital department the speech therapist works with, the post-onset time for speech therapy intervention, and the tool uses to assess aphasia in the acute stage.

Results.– We collected 90 replies from all over France. Aphasia batteries such as MT-86 (Montréal Toulouse, 1986) or BDAE (Boston diagnostic aphasia examination, 1982) were mentioned by a majority of the repliers. Most of the time, tests needed adaptations and they were often linked with an assessment of specific aspects of language such as naming (DO80) or functional communication (TLC). A wide variety of tools were identified. Almost half of the speech therapists were not satisfied with the tests they were using, most of them complaining about their length and complexity, which were not suitable with the conditions of the patients.

Discussion.– It appears that French speech therapists assess aphasic patients in the acute stage, but do not have suitable tools adapted to both their expectations and scientific literature's recommendations. Speech therapists should be offered a new tool adapted to the acute stage.

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Multimodal computer-assisted therapy with error reduction learning in a case of word-finding disorder

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Background.– Naming disorders are common to all aphasia types and their nature can be explained by current theoretical models of naming. They can arise either from incorrect or incomplete activation of semantic or phonologic processes. If the deficit is located beyond the semantic system, the naming disorder may be due to a failure to the access into the phonological output lexicon; this results in a phonological retrieval deficit or anomia. Phonological facilitation are effective but used alone, they have a short retention time.

Aims.– The aim of this study was to assess the efficacy, maintenance and generalization of a multimodal procedural computerized therapy for naming deficits in a patient showing a word finding disorder.

Outcomes.– An experimental computer-assisted therapy was administered to a 63-year-old patient with non-fluent aphasia one year after stroke. This patient suffered word-finding difficulties. We designed a procedure involved multimodality cues. We used an error reduction learning method. This multimodality therapy of naming disorders contained both spoken and written treatment of words. We hypothesized that the mediation of written language would channel the lexical process. The therapy contained 89 failed words in naming pictures and those were divided into three sets for each treatment step following a progression in the length of the trained words: monosyllabic words (R1), bisyllabic words (R2), and trisyllabic words (R3). The patient performed the therapy three times per week. We tested the efficacy, generalization to untrained words, and its stability.

Results.– After therapy, naming of the 89 trained words ($P < 0.001$) and untrained words ($P < 0.001$) were improved. This demonstrated a global generalization effect for untrained words. Improvements were maintained after five weeks without therapy.

Conclusion.– This study demonstrates the efficacy of a computer assisted-therapy with multimodal procedure using a reduction learning method on trained words, its generalization on untrained words. We claim that the multimodal procedure that we proposed was critical for making the naming therapy efficient.

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