Assessment of executive functions in children diagnosed with a developmental dyspraxia: Comparison of conventional neuropsychological approach and a more ecological approach

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Introduction.—The various cognitive models of developmental dyspraxia (DD) are still very controversial (role of perceptive analysis disorders, planning, mental representation, gesture programming). Yet, executive functions play a major role in the child’s cognitive development.

Objective.—To assess executive functions in children diagnosed DD, using a combination of standardized paper-and-pencil neuropsychological tests and ecological tests.

Methods.—Inclusion criteria: children aged 8 years to 12 years 5 months at the time of the study, for who DD had been diagnosed between January 2008 and August 2009. Exclusion criteria: verbal IQ < 70 and dyslexia.

Assessment tools.—Paper-and-pencil neuropsychological tests (Trail Making Test, subtests of the NEPSY: tower, auditory attention, verbal fluency; Marquet-Doléac test of matching items); more ecological “pencil-paper” tests (Six Part Test, 2 sub-tests of the Rivermead Behavioural Memory Test), 2 dysexecutive questionnaires answered by the parents: the Behavior Rating Inventory of Executive Function and the Dysexecutive Questionnaire for Children, and finally an ecological task performed in an open-ended environment: the Children’s Cooking Task (CCT) (Chevignard et al. 2009). In the CCT, children were compared with matched controls.

Results.—13 children participated (11 boys; mean age 10.3 years). In the neuropsychological tests, the group exhibited slow processing speed and impaired performance in visual-spatial tasks, which was expected. Impaired planning and inhibition were found, whereas flexibility was within the normal range. Questionnaires highlighted executive disorders in everyday life in more half of the sample. Finally the results of the CCT were highly significantly impaired, with patients exhibiting significantly more errors than matched controls (P = 0.0001).

Discussion and conclusion.—The assessments used in this study consistently suggest that children with DD suffer executive functions disorders. The ecological tests seem to be more sensitive to a dysexecutive syndrome than the conventional tests, as previously known in adults or children with acquired brain injuries.

Communication impairment in daily living in stroke patients with aphasia


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Although aphasia has been largely studied as a linguistic impairment, little is known about the communication activity limitation that aphasic patients may suffer in daily living.

Aims.—Providing further information about communication activity in stroke patients with aphasia.

Patients and methods.—Prospective, multicentric cohort study of patients with aphasia consecutively included after a first documented stroke. Patients were examined within the first month post-stroke, then 12 to 18 months later at their homes. Assessment included 2 stroke severity scale: the Orgogozo score (OS) and the Barthel Index (BI), a comprehensive and well-known aphasia battery, the BDAE, a communication questionnaire, the ECVB, and a depression scale designed for aphasic patients, the ADRS.

Results.—One hundred and sixty four patients were included. At the date of follow-up, 34 were dead, 19 were lost for follow-up and 11 refused the second assessment. Among the 100 others, 24% suffered a severe aphasia (BDAE severity score 0, 1 and 2), 12% a moderate (BDAE score 3) and 64% a mild aphasia (score 4 and 5) at follow-up. The mean communication score was 64 ± 32 on the ECVB. Talking the first especially with unknown persons, conversation on abstract topics, using a phone, reading and writing administrative documents,