Adaptation of the Goal Management Training in children for the rehabilitation of executive functions

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Objective.– Goal Management Training (GMT) is a rehabilitation method of executive functioning used in adults. The aim of this pilot multicentric study was to adapt GMT to children and to assess its effectiveness in children with traumatic brain injury (TBI) in order to improve their daily executive functioning.

Methods.– Inclusion criteria: age 9 to 16, with no pre-injury neurological or psychiatric diagnosis, at least 2 years post-injury, and ongoing severe problems in daily executive functioning. GMT was simplified and made more child-friendly.

An e-booklet for parents and teachers was created, so that children could practice with them the notions learnt throughout the week. Sessions of practical applications were added to promote generalization, especially to school tasks. A single subject design with multiple baselines was used, with assessment of executive functions twice prior to treatment (baseline), post-treatment and 3 months later. Assessment included paper and pencil tests, questionnaires to parents and teachers (DEX-C, BRIEF and Conners) and the ecological Cooking Task. Progress was monitored by a prospective memory task, consisting of sending text messages, three times a week. Finally, 3 to 5 personalized and realistic goals were identified for each child using goal attainment scaling.

Results.– Five children aged 9 to 14, 3 to 11 years post severe TBI were included. All had a severe disexecutive syndrome. Fifteen weekly individual rehabilitation sessions were performed. The program is still ongoing and the final assessment will take place in June 2011.

Discussion.– GMT is efficient in adults and seems promising in children as a therapy to improve executive functioning in everyday life and thus reduce impairment and improve participation.

Further readings


Research made with the support of SOFMER-IPSEN.


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Motor function measure: Construction of a short form (MFM-20) for children with neuromuscular disease aged between 2 and 6

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Background.– The natural history of each neuromuscular disease must be known to measure objectively the impact of new therapeutics in clinical trials especially for young children.

The motor function measure (MFM) is a validated tool designed for neuromuscular diseases, applicable whatever the severity in ambulant and non-ambulant patients. MFM was not validated for the youngest before 6 years. The objective was to adapt it to children aged 9 to 14: removing notions which are too abstract (eg: present-mindedness), too difficult to apply (eg: relaxation), or that are not part of the child’s preoccupation (eg: regrets about a past decision), simplifying the vocabulary (eg: “Slips” translated to “Oops errors”), and actualizing it (eg: there are no longer “blackboards” in schools so the “mental blackboard” concept was changed to “mental note book”).

– simplify and order the modules differently, maintaining the key notions after discussing them with teams using GMT in clinics and in research in Glasgow and Cambridge, and analyzing the literature that tested particular components of the GMT;
– make the method more fun and child-friendly: replacing exercises by games (eg: ‘Simon says’ for Slips), and using drawings instead of the written text;
– improve awareness by changing the stories so that the child could identify better with the heroes;
– make the child an actor of his rehabilitation by weekly “missions” to be performed between sessions, some of which involving prospective memory;
– integrate Ylvisaker’s principles of school management for children with TBI;
– promote generalization by adding practice modules involving cooking, school-like work and multiple errands type tasks;
– fit each module to the French standard 45 minutes rehabilitation session time;
– promote transfer to activities not trained by the rehabilitation and to different contexts by regularly sending a chapter of an e-booklet to parents, teachers and school aids explaining the content of each module and how to apply it.

Further readings


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