of 12 minutes over 8 weeks, and completed other assessments of reading, spelling, working memory and intelligence before and after training.

Results: Results revealed in general that the word-picture training and the auditory-visual matching training led to substantial gains in reading and spelling performance in comparison to the working-memory training. Although both children with and without learning difficulties profited in their reading and spelling after the word-picture training, the training program led to differential effects for the two groups. After the word-picture training on the one hand, children with learning difficulties profited more in spelling as children without learning difficulties, on the other hand, children without learning difficulties benefit more in word comprehension.

Conclusions: These findings highlight the need for frequent reading trainings with semantic connections in order to support the acquisition of literacy skills.

Correspondence: Katja Margelisch, M Sc, Psychology, University of Basel, Felixstrasse 8, Bern 3010, Switzerland. E-mail: katja.margelisch@psy.unibe.ch


Objective: Impairments in affective information processing (AIP) and social cognition (SC) have been associated with psychiatric disorders, inadequate social interaction, and lowered self-esteem. Consequently, problems in AIP and SC impede daily functioning and affect quality of life. Promoting improvement of AIP and SC in patient populations has been the subject of many intervention studies during the last two decades. The aim of the current study is to identify effective elements of these interventions.

Participants and Methods: A systematic literature search was performed in PubMed, PsycINFO and Web of Knowledge databases (2003 until 2013). Articles were selected if they described interventions for improving AIP and SC in adult patients with brain damage or neuropsychiatric disorders, and if a pre- and post test design was used. Studies were excluded if a client control group was lacking, outcome measures were not cognitively and behaviorally in nature, the sample size was smaller than 10, or effect sizes were unknown.

Results: The initial search returned 2,439 hits. After detailed inspection of title and abstract, 261 records were identified to be relevant, of which 24 articles met the inclusion criteria. Described interventions were predominantly developed for people with psychotic disorders, autism spectrum disorders, and anxiety/mood disorders. The majority of studies focused on the amelioration of problems in one or more of the following problem areas: emotion perception, social perception, mentalisation/Theory of Mind, attributional style, cognitive skills, and social functioning.

Conclusions: This systematic literature search showed that both targeted and broad based interventions have the potential to improve AIP and SC in neuropsychiatric disorders. However, the different ingredients have still been insufficiently investigated with respect to their unique and combined effects.

Correspondence: Renée Roelofs, Centre of Excellence for Neuropsychiatry, Vincent van Gogh Institute for Psychiatry, Stationsweg 46, Veenray 5950 AC, Netherlands. E-mail: rroelofs@vvgi.nl


Objective: People with neurodegenerative disease may benefit from language and cognitive therapy. However, difficulty traveling may prevent them from accessing such treatment. This study assesses the feasibility and efficacy of remote delivery of treatment for anomia in Primary Progressive Aphasia (PPA).

Participants and Methods: WCH, who has logopenic PPA, and ACR, who has the semantic variant, participated. A subset of the evaluation sessions and all of the treatment and practice sessions took place remotely. 120 nouns that were named consistently correctly (prophylaxis items, Proph) or incorrectly (remediation items, Remed) on three baseline tests were identified and divided among three conditions: reading/writing (RW) treatment, repetition treatment (Rep), and no treatment. Items were matched across conditions for frequency, semantic category, and length. Treatment sessions, conducted using a bidirectional audio/video connection, custom interactive software, and an electronic signature pad for written input, took place semiweekly for the first month and monthly for five months thereafter, and were supplemented by thrice-monthly home practice. Post-testing began one month after treatment ended.

Results: WCH showed a significant decline for untrained Proph items (McNemar’s Test, \( p < .01 \)), but no significant decline for Proph items in either treatment condition. There were no significant effects for WCH’s Remed items, but there was a trend toward improvement in the Rep condition. ACR’s naming of Remed items improved significantly in the Rep condition (\( p < .05 \)). There was a trend toward improvement in the RW condition, and there was no change in the untrained condition. There were no significant changes for ACR’s Proph items.

Conclusions: This study demonstrates the feasibility of a telerehabilitation approach to the treatment of anomia in PPA. The finding of positive treatment effects when treatment is administered remotely holds out hope to homebound patients in need of rehabilitation of cognitive deficits.

Correspondence: Rhonda Friedman, PhD, Neurology, Georgetown University, 207 23rd St, 4000 Reservoir Rd NW, Washington, DC 20057. E-mail: friedmar@georgetown.edu


Objective: Patients admitted to the ICU present cognitive alterations that extend beyond the acute phase and impact on quality of life. In order to prevent or ameliorate these alterations, we develop an early neurocognitive stimulation platform. The platform consists in a monitoring module, that allows the control of the patient’s physiologic state and a stimulation software based on a virtual environment where the patient can walk through in and complete cognitive exercises. In order to explore the technical/functional validity of a neurocognitive stimulation platform for ICU patients, we carried out a proof of concept.

The objective was focused in explore the interaction between the subject and the platform in terms of movement recognition and feasibility of the cognitive exercises.

Participants and Methods: 6 healthy volunteers were selected to test the early neurocognitive platform in ICU-like environment. All participants were monitored for 20 minutes before, during and after the session of cognitive stimulation, and they interact with the stimulation platform for 20 minutes. Technical problems occurred during the stimulation session were also registered. Moreover, each participant completed a 5 point-likert questionnaire composed by 19-items that assessed his/her experience and satisfaction with the platform.

Results: Physiological variables of any volunteer exceeded 20% compared to baseline. Technical problems, such as movement recognition problems and software bugs, were registered. Results of the 5 points-likert Questionnaire are summarized below: Comfort (4.2), Physical fatigue (0.78), Boredom (0.96), Relax (4.13), Interaction (3.65) and General estimation (4.33).

Conclusions: Results of this proof of concept suggest that an early neurocognitive stimulation is feasible for bedridden patients. However, it is necessary to solve technical problems, such as movement recognition difficulties and software bugs, before starting clinical trial with critically ill patients.

Project funded by Fundació la Marató de TV3

Correspondence: Marc Turon, Parc Tauli Hospital, Parc Tauli 1, Sabadell 08208, Spain. E-mail: mturon@tauli.cat