complaints in people with MS. However, the complaints are not yet understood well enough to develop effective rehabilitation strategies to reduce the impact of the visual complaints.

Participants and Methods: Visual complaints were assessed using the Screening Visual Complaints questionnaire. 68 people with MS with visual complaints, and 37 with hardly any visual complaints received a standard visual function assessment and a neuropsychological assessment. Correlations between the visual complaints, visual functions and cognitive functions were calculated. In addition, correlations were calculated between several visual functions and a composite score of the neuropsychological assessment.

Results: Only some specific visual measures related to visual complaints, with small to moderate effect sizes. While most specific cognitive functions did not show correlations, measures indicative of overall cognitive capacity in people with MS (such as motor speed) consistently correlated with different kinds of visual complaints. Additionally, visual functions that related to visual complaints also correlated with the composite score for cognitive functioning.

Conclusions: Our study serendipitously showed that in developing or composing effective rehabilitation strategies for visual complaints, we should look beyond a person's visual functioning: first, the overall cognitive capacity should be taken into account. Second, visual functioning and cognitive functioning are closely related. These results indicate that visual complaints may be a result of a general decline of the visual and/or cognitive system as one. When treating these complaints, low vision rehabilitation and neuropsychological rehabilitation strategies may be combined. Strategies should not focus on specific visual or cognitive functions, but at making the visual world more easily accessible, or more easily visible, to reduce the impact on the visual system and cognitive capacity. Strategies could range from applying more contrast in the environment to psycho-education. Future research should focus on developing rehabilitation programs and assessing their effectiveness in people with MS or with other types of non-acquired brain injuries.

Categories: Cognitive Intervention/Rehabilitation
Keyword 1: multiple sclerosis

Keyword 2: cognitive rehabilitation
Keyword 3: cortical visual impairment

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81 Developing and Validating for Cognitive Screening Tools for Identifying and Intervening Dementia among Older Persons in Rural Uganda.

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Objective: The study aimed to develop, validate and field test the cognitive screening tool for use in outpatient departments within health facilities in Uganda.

Participants and Methods: In the rural eastern region of Uganda, twenty-three (23) purposively selected health facilities and administered a scientifically derived cognitive screening tools to all eligible older persons. We conducted an inter-rater reliability in all the health facilities using three raters. Diagnosis of dementia (DSM-IV) was classified as a major cognitive impairment and was quality checked by physiatrist who were blinded to results of the screening assessment.

Results: The area under the receiver operating characterizes (AUROC) curve in health facilities was 0.912. The inter-rater reliability was good (Intra-class correlation coefficient of 0.692 to 0.734). the predictive accuracy of the tool to discriminate between dementia and other cognitive impairment was 0.892. In regression modal, the cognitive screening tool, didn't appear to be biased by age.

Conclusions: The cognitive screening tool if performed well among the older persons, can be proved useful for screening dementia in other developing countries.

Categories: Cognitive Intervention/Rehabilitation
Keyword 1: aging disorders
Keyword 2: cognitive screening

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82 Heart Rate Variability Biofeedback for Mild Traumatic Brain Injury

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Objective: Heart rate variability (HRV) can be an indicator of the flexibility of the central and autonomic nervous systems. Heart rate variability biofeedback (HRV-BF) has been shown to validate the neuro-peripheral relationship and enhance the interaction between top-down and bottom-up processes. Few previous studies have focused on the treatment outcomes of HRV-BF in traumatic brain injury, and such studies have been mostly limited to pilot studies or case reports. The purpose of this study is to investigate the efficacy of HRV-BF for neuropsychological functioning in patients with mild traumatic brain injury (mTBI).
Participants and Methods: Forty-one patients with mTBI were referred from the neurosurgery outpatient program and randomly assigned to a psychoeducation group or a HRV-BF intervention group. The psychoeducation group received standard medical care and one 60-minute psychoeducation session after brain injury. The HRV-BF group received standard medical care and one 60-minute session of the HRV-BF intervention weekly for 10 weeks. All participants received performance-based and self-reported neuropsychological measures of memory, executive function, mood, and information processing at week 1 of injury (pretest) and week 12 (posttest).
Results: Participants in HRV-BF improved significantly after the intervention compared with the psychoeducation group on the Verbal Learning Test, Frontal Assessment Battery, Verbal Fluency Test, Paced Auditory Serial Addition Test, Trail Making Test, Dysexecutive Questionnaire, Depression Inventory, and Checklist of Post-concussion Symptoms.
Conclusions: HRV-BF was found to be an efficacious and efficient intervention for improving neuropsychological functioning in patients with mTBI and a potential candidate for mTBI rehabilitation.

Categories: Cognitive Intervention/Rehabilitation
Keyword 1: concussion/ mild traumatic brain injury
Keyword 2: neuromodulation
Keyword 3: cognitive functioning
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83 Efficacy of a Tablet-Based Cognitive Flexibility Intervention in Youth with Executive Function Deficits

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Objective: Executive functions (EFs) are considered to be both unitary and diverse functions with common conceptualizations consisting of inhibitory control, working memory, and cognitive flexibility. Current research indicates that these abilities develop along different timelines and that working memory and inhibitory control may be foundational for cognitive flexibility, or the ability to shift attention between tasks or operations. Very few interventions target cognitive flexibility despite its importance for academic or occupational tasks, social skills, problem-solving, and goal-directed behavior in general, and the ability is commonly impaired in individuals with neurodevelopmental disorders (NDDs) such as autism spectrum disorder, attention deficit hyperactivity disorder, and learning disorders. The current study investigated a tablet-based cognitive flexibility intervention, Dino Island (DI), that combines a game-based, process-specific intervention with compensatory metacognitive strategies as