



Consortium of Multiple Sclerosis Centers

Biographical Information

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Ms. Bednarik offers her services at The University of Pittsburgh Multiple Sclerosis Clinic and serves on the Clinical Advisory Committee of the Allegheny District Chapter of the National Multiple Sclerosis Society. Ms. Bednarik's clinical interests are directed toward education and evaluation and treatment of functional living skills for people living with MS.

CONSIDERATIONS IN THE EVALUATION OF COGNITION IN MULTIPLE SCLEROSIS

The incidence of documented cognitive abnormalities (per neuropsychological assessment) is 40% - 65% in people with Multiple Sclerosis (MS). Cognitive abnormalities in MS have been shown to correlate with decreased quality of life. What remains less understood is the extent to which standardized testing protocols reflect cognitive functioning in day-to-day living. Several factors, such as the testing environment and limitations of traditional tests as well as aggravating co-morbid and environmental conditions may bear some responsibility for this enigma.

Formal assessment does not always predict efficiency of cognitive functioning in the "real world". The testing environment itself is contrived and artificial. External distracters or interruptions are eliminated or minimized during the testing session. Patients are provided with instruction on to how to perform a task and are presented with one task at a time. Stimulus presentation may occur only when the patient is ready or has finished responding to previous stimuli. The patient receives verbal and visual cues from the examiner that the current task is terminated and a new one will begin. Responses from the examiner during tasks will be sparse and neutral or polite in nature. Unfortunately, the "real world" is less ideal.

The testing battery itself may not be optimally comprehensive. This may be due to issues such as fatigue on the part of the patient and time constraints imposed on the clinician. Of particular note, peripheral hearing and central auditory processing skills are routinely not evaluated. In the case of executive functioning, testing occurring in a quiet, controlled environment does not necessarily reflect an accurate profile of those skills in unpredictable, dynamic situations.

Depression and anxiety may create a situation in which cognitive performance is worse than actual cognitive abilities. Sleep disturbance and fatigue (which commonly occur in MS) are well documented to effect cognitive functioning even in cognitively intact individuals. Many other factors such as medication effects, pain, nutritional status, bladder symptoms and hormonal changes may also negatively impact cognitive performance.

Environmental factors may be detrimental to cognitive performance. Heat and humidity can exacerbate many MS symptoms. Visual and auditory distractions can impair attentional efficiency. Reactions or expectations of family, friends, co-workers and employers to actual or perceived cognitive deficits can have a profound impact on the patient's ability to competently utilize cognitive skills and successfully employ adaptive strategies.

Cognitive testing alone does not always accurately reflect cognitive competency for the challenges of real life. Clinicians must be mindful of the limitations of traditional assessment and aggravating comorbid and environmental conditions and their impact on cognitive functioning in order to select effective and appropriate interventions.

Administrative Office

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