Functional Abilities in Adults with Chronic Brain Injury

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Purpose

To examine functional abilities of individuals who are in the chronic stages of brain injury recovery.

Introduction

- An acquired brain injury such as a traumatic brain injury, stroke, or tumor results in significant impairments that negatively impact daily function (Corrigan, Selassie, & Orman, 2010).
- Impairments are often found in physical, cognitive, and/ or daily functional domains.
- Despite making significant gains in the initial stages of recovery (e.g. six-months post-brain injury), long-term outcomes, especially home and community integration are limited (Whitnall, McMillan, Murray, and Teasdale, 2006).
- Therefore, researchers and clinicians are beginning to recognize the benefits of integrative approaches to mitigate chronic long-term functional outcomes.
- Little is known of the relationship between domains of cognition, physical health, and more importantly, participation in performance in daily life activities.
- A recent study found positive correlations between cognitive performance (attention, verbal fluency measures) and physical performance (motor speed and balance) (Sarajuuri et al., 2013).
- The current pilot project proposes to examine the correlation between cognitive, physical, and daily functionality.

Methods

Participants:

- N=7, adults (20-65 years of age) living with chronic brain injury. Types of brain injury included: brain tumor resection, stroke, and TBI.
- Inclusion criteria: native-English speaking, brain injury at least 6 or more months ago, minimum of high school education, and demonstrate functional ambulation.
- Exclusion criteria: Uncorrected hearing or vision deficits, currently experiencing major psychiatric illness, and/or a pre-existing condition such as neuromuscular degenerative disease, autism, epilepsy, learning disability, or cerebral palsy.

Procedures:

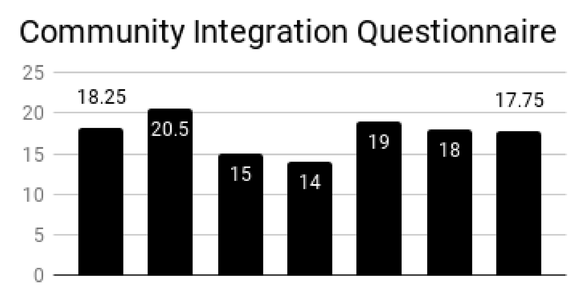
- The current posters reflects only functional assessments.
- Functional assessments: Community Integration Questionnaire (CIQ), Barthel Index, and the Satisfaction with Life Scale.
- The CIQ measures the roles and community interaction of individuals with acquired brain injuries.
- The Barthel Index measures the individual's ability to complete basic activities of daily living such as grooming, bathing, and toileting.
- The Satisfaction with Life Scale is a subjective global satisfaction measure.
- Cognitive measures include parts of Woodcock Johnson Cognitive and Oral battery (TWU Dept of Psychology).
- Physical assessments include motor assessments of manual muscle testing, Berg Balance Scale, Functional Gait Assessment, and Community Balance and Mobility Scale (TWU Dept of PT).

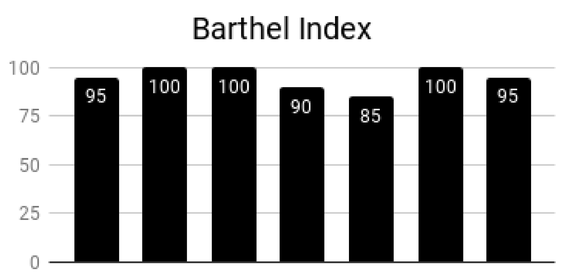
Results

- Based on the descriptive statistics, these individuals are still experiencing functional deficits long after the acute stages of injury.

	M (SD)	Min-Max
Current age (years)	45.6(12.9)	22.4-62
Time since brain injury (years)	6.4(5.2)	1.2-16.1

	M (SD)	Min-Max
Satisfaction With Life	22.86(6.28)	10-30
CIQ	17.5(2.26)	14-20.5
Barthel	95(5.77)	85-100





Discussion

- An individual's ability to integrate into the community, resume social roles, perform basic activities of self-care, and feel an overall satisfaction with life remain impacted due to the injury.
- Healthcare practitioners can use this information to influence their treatment and provide care into the chronic stages of healing for individuals with a brain injury.
- Since this study is a subset of a larger study, "Cognitive-Physical-Functional Correlates in Adults with Chronic Brain Injury" we anticipate that the direction of the relationship between the three domains of cognition, physical, and daily function can be clinically informative. Specifically, we hope that the findings would guide therapists toward integrative therapies. For example, physical exercises (e.g. aerobics) could be integrated into cognitive therapies.

Acknowledgements

The research team would like to thank The Woodcock Institute at Texas Woman's University and The Brain Injury Network of Dallas for their partnership with this ongoing study.

References

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