Community Mobility Assessment – 2: A reliable and valid tool to see if clients with brain injuries can access the community safely and independently

Background
The Community Mobility Assessment (CMA) is a performance-based, observational assessment developed for use with clients with an acquired brain injury (ABI) in an urban built environment.

The purpose of the CMA is to determine the extent to which an adolescent with an ABI could access his/her community safely and independently.

Since the development of the CMA, urban built environments have become more complex, and communication technology used regularly by youth has advanced dramatically.

These changes prompted a re-examination of the well-validated content of the CMA and creation of a revised version known as the CMA-2.

Objectives
To evaluate the CMA-2's inter-rater reliability and aspects of construct validity.

Methods
Study sample: 27 youth with ABI, ages 12 to 19 years.

Inter-rater reliability: Two trained assessors (PT and OT pair) accompanied youth on a CMA-2 outing. One administered the CMA while the other observed. Scoring was independently completed by each therapist post-outing.

Construct validity: Separate assessment by independent OT assessor with validity measures - 6-minute walk test (6MWT), CAT (cognition, social/cognitive/responsibility domains), and Behavioural Assessment of Executive Function Syndrome (BADS – Child Version) (problem solving, impulsivity, planning, alternating attention).

Analysis: Inter-rater reliability evaluated via intra-class correlation coefficients (ICCs). Pearson correlations (r) for validity evaluations.

Construct validity:
- Adequate construct validity with: - . PEDI-CAT (r=0.44, p<0.03) - 6MWT (r=0.40, p=0.04) - BADS associations (r=0.23, p=0.13) did not reach hypothesized levels of 0.60.

Discussion
- sufficient to move ahead with CMA-2 given reliabilities of cognitive and physical components.
- Physical component reliability was negatively affected by the surprising lack of score spread in this ABI sample.
- Other than power limitations linked with a small "n", unclear why the BADS-C did not show a stronger association.
- Further studies with larger samples are needed to investigate the executive function construct.

Conclusions
- The CMA-2 has sufficient psychometric strength to support clinical use within pediatric ABI programs.
- A youth's CMA-2 results can be shared with families and community partners to guide discussion and recommendations about community safety and return to school.

Knowledge Translation
- Develop and pilot test a Certification Training program for PTs and OTs to support CMA-2 transfer to clinical care and research.
- Design a Simulation Based training program – in situ training (OT and PT participants go into the community on a CMA-2 outing with a simulated patient).
- Build training materials to be housed in a cloud based educational platform.
- In 2019, we will be looking for PTs and OTs to do online training and evaluate the CMA-2 materials.

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