Clinical and Experimental Psychology 2023, Vol 09, Issue 3, 001- 002 Mini Review

How does the FIM+FAM Compare to the ACE-III in an Acquired Brain Injury population?

H Swanepoel, L Cotton, I O'Rourke and Mark Paramlall*

Consultant Neuropsychiatrist at Cygnet Healthcare, United kingdom

Corresponding Author*

Mark Paramlall
Consultant Neuropsychiatrist at Cygnet Health Care
United Kingdom
e-mail: mparamlall@hotmail.com

Received: 7-April-2023, Manuscript No. cep-23-94739; **Editor assigned:** 10-April-2023, PreQC No. cep-23-94739(PQ); **Reviewed:** 12-April-2023, QC No. cep-23-94739 (Q); **Revised:** 27-April -2023, Manuscript No. cep-23-94739(R); **Published:** 30-April-2023, doi: 10.35248/2471-2701.22.9(3).339

Abstract

Acquired Brain Injuries (ABI's) are a diverse neurological conditions that present with heterogeneous deficits. Cognitive outcomes in NHSE Level 1 Rehabilitation Units are measured by the UK Functional Assessment Measure (FIM-FAM), a crude assessment for cognitive disability.

Keywords: Sleep apnea • Snoring • Breath training • Dysfunctional breathing • Neuro-physiology of breathing Neuro-plasticity • Intermittent hypoxia

Introduction

Studies have noted variable correlation between brief cognitive tests and total FIM-FAM scores [1]. Our literature search could not identify work examining whether the Addenbrooke's Cognitive Examination II (ACE III), an objective cognitive testing measure, correlated with the observer rated FIM-FAM cognitive domains. We examined the ACE III, a validated cognitive screening instrument that examines five cognitive domains (attention and orientation, memory, verbal fluency, language, and visuospatial skills), summed to create a total score out of 100 with the FIM-FAM Cognitive screen[2], where the observer grades the patient's safety awareness, comprehension, reading writing, social interaction, emotional status, leisure activity, problem solving, orientation and concentration [3]; these are then calculated as communication as well as cognitive psycho-social sub-scores that are combined to give the FIM+FAM total cognitive sub-score with a maximum score of 98 [4].

Method

Participants: 29 males with moderate to severe ABI admitted in a neuropsychiatry unit in Bristol, between 2020-2022.

Exclusion Criteria: included non-native English speakers, premorbid psychosis and/or expressive aphasia diagnoses.

Within-Subjects Design: Retrospective analysis of participants' ACE-III (standardised cognitive screening tool) scores and FIM+FAM (global measure of functional ability) scores, collected randomly from within the duration of their inpatient stay.

Analyses: Two Spearman's Rho correlation coefficients were conducted on the data to determine the association between:

- ACE-III scores and FIM+FAM Cognitive subtest total scores; and
- Verbal fluency ACE-III subtest total scores and FIM+FAM Cognitive subtest total scores.

Table 1. Patients characteristics.

Patient Characteristics (n=29 , Males, Age Range: 22-72)	
Brain Injury	Sample Size (n)
Traumatic Brain Injury (TBI)	14
Cerebral Vascular Accident /Stroke	5
(CVA) Hypoxic Brain Injury (HBI)	3
Alcoholic Related Brain Damage (ARBD)	4
Other	3

Results

Participants varied in age (20-72), ABI cause, affected sites and chronicity.

- The primary Spearman's rho showed a positive correlation between the ACE-III scores and FIM+FAM Cognitive Subtest Total Scores {Correlation Coefficient 0.63616, p(2-tailed)= 0.00021}.
- The secondary Spearman's Rho showed a positive correlation between the verbal fluency ACE-III scores and FIM FAM Cognitive Subtest Total Scores (Correlation Coefficient 0.493, p(2-tailed) ≤ 0.00658).

Therefore, there was a statistically significant relationship between the FIM FAM Cognitive Subtest total scores and the ACE III verbal fluency scores, and ACE III total scores, respectively. There individuals with a low ACE score typically also presented with low FIM FAM score (Table 1).

Discussion

The results indicate a strong positive correlation between the FIM+FAM and ACE III, indicating concordance between observer rating and objective results. The correlation between FIM-FAM cognitive subscales and the ACE executive function measure was weaker, consistent with previous finding that executive function was not significantly associated with functional improvement [5]. However, the results may be affected by the under-representation of executive function analysis in the cognitive screening used, i.e. examining only one aspect of executive function. As

ABI patients may present with functional limitation and cognitive impairment, tests examining function with cognition may show better correlation with the FIM+FAM and provide an objective prognostic measurement in ABI rehabilitation. We propose that one such test, the Free Cog, a short hybrid cognitive screening instrument with a conversational executive testing element utilising "real world" examples, may have stronger correlation with the FIM+FAM and should be studied in the ABI syndromes [6].

References

1. González-Santos, Josefa, et al. "A Cross-Sectional Study: Determining Factors of Functional Independence and Quality of Life of Patients One Month after Having Suffered a Stroke." *International Journal of Environmental Research and Public Health* 20.2 (2023): 995.
2. Matthew, S., et al. "Addenbrooke's cognitive examination III: psychometric characteristics and relations to functional ability in dementia." *Journal of the International Neuropsychological Society* 24.8 (2018): 854-863.
3. Turner-Stokes, L., et al. "The UK FIM+ FAM: development and evaluation." *Clinical rehabilitation* 13.4 (1999): 277-287.
4. Turner-Stokes, L. The UK FIM+FAM (Functional Assessment Measure). UK FIM+FAM Users Group (2010).
5. Mateen, Bilal A., et al. "The role of impulsivity in neurorehabilitation: A prospective cohort study of a potential cognitive biomarker for fall risk?." *Journal of neuropsychology* 15.3 (2021): 379-395.
6. Larner, Andrew J., and Burns, A. "Free-Cog reformulated: analyses as independent or stepwise tests of cognitive and executive function." *medRxiv* (2023).

Cite this article: Paramlall, M. How does the FIM+FAM compare to the ACE-III in an Acquired Brain Injury population?. 2023, 09 (03), 001-002