CENTRO DE REFERENCIA ESTATAL DE ATENCIÓN AL DAÑO CEREBRAL

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RESPONSIVENESS OF THE SPANISH VERSIONS OF THE BESTEST, MINI-BESTEST AND BRIEF-BESTEST IN INDIVIDUALS WITH ACQUIRED BRAIN INJURY

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1. BACKGROUND

Assessing responsiveness is essential to determine whether balance measures can detect changes over time following rehabilitation in individuals with acquired brain injury (ABI).

The BESTest and its shortened versions (Mini-BESTest and Brief-BESTest) are widely used tools for balance assessment, but their responsiveness in ABI populations requires further investigation.

2. OBJECTIVE

To evaluate the responsiveness of the Spanish versions of the BESTest, Mini-BESTest and Brief-BESTest in individuals with acquired brain injury.

3. METHODS

Design	Longitudinal study.
Participants	**n = 116** individuals with ABI. Mean age: 56 ± 12 years. Subacute and chronic phases.
Outcome measures	BESTest, Mini-BESTest, Brief-BESTest.
Responsiveness analysis	ES, SRM, MDC_{95}.

- Responsiveness was evaluated using ES and SRM.
- MDC_{95} determined whether changes exceeded measurement error.

Related study (validation):
Fernández-Hontoria et al., Neurologia, 2025
DOI: 10.1016/j.nrleng.2025.501929.

4. RESULTS

Flow diagram

Participants assessed for eligibility (n = 116) CEADAC

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Baseline assessment (V0)

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Rehabilitation follow-up
6-month follow-up (n = 60)

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Included in responsiveness analysis
(n = 60)

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Responsiveness analysis
(ES, SRM, MDC_{95})

Responsiveness results

Scale	ES	SRM	MDC_{95}	% > MDC_{95}
BESTest	0.42	0.88	4.37	68.3%
Mini-BESTest	0.54	0.99	1.53	76.7%
Brief-BESTest	0.30	0.59	1.57	55%

Cochran's Q = 9.556; p = 0.008.
Mini-BESTest vs Brief-BESTest: Holm-adjusted p = 0.012.

Responsiveness (ES and SRM)



- These tools allow clinicians to detect changes in balance over time.
- They can be used to monitor rehabilitation outcomes.
- The Mini-BESTest showed the greatest responsiveness and the highest proportion of participants exceeding the MDC_{95}.

5. CONCLUSIONS

All three BESTest versions detected longitudinal improvements in balance performance in individuals with ABI. The Mini-BESTest showed the largest standardized change and the highest proportion of participants exceeding the MDC_{95}, although this proportion differed significantly only from that of the Brief-BESTest.

CLINICAL IMPLICATIONS

Useful tools to detect changes in balance over time in individuals with ABI.

Can be used to monitor rehabilitation outcomes.

The Mini-BESTest may be a useful option for monitoring balance-related changes, although clinically meaningful change thresholds remain to be established.