Oral Communication

OC-303

Cog-First: Standardization of a Tablet-Based Self-Administered Cognitive Screening

Topic: Biostatistics

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BACKGROUND

Acquired brain injury can lead to subtle cognitive disorders that can be challenging to detect albeit impacting patients' long-term functional prognosis. Cog-First has been developed as a tablet-based self-administered cognitive screening tool to assess executive function, memory and attention in approximately 20 minutes, in the acute phase following brain injury. The aim of this study was to establish reliable normative data for Cog-First to enable meaningful comparisons between patients and a reference population.

METHODS

Four hundred and six healthy French-speaking healthy volunteers were randomly selected from the Paris Brain Institute's database. Each participant underwent the Cog-First assessment, which comprises seven subtests, in standardized conditions. Ninety-five participants performed the alternative version one month later to assess the test-retest effect. The effects of gender, age, years of education and test version, as well as their two-way interactions, were evaluated by generalized linear models (GLMs). Formulas from the GLMS were extracted to calculate a corrected score that removes the effects of age, sex, version and years of education. This enables us to derive percentiles in a population of healthy volunteers, allowing the development of the standardization process.

RESULTS

The results revealed a significant influence of gender, age, level of education and version on several sub-scores. Based on these results, the standardization process was implemented by calculating the percentiles on the corrected scores in the population of healthy volunteers. Test-retest analyses indicated a learning effect on 4 out of 7 subtests.

CONCLUSION

The standardization of Cog-First resulted in the development of score formulas adjusted for gender, age, education and version, integrated within the software for automated scoring. This study establishes Cog-First's reliable norms, enabling meaningful score interpretation and clinical use, thereby facilitating early detection of cognitive impairments and potentially improving patient outcomes.

Statement of Disclosures

None

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