

NEUROPSYCHOLOGY

Can the Cognitive Function Index identify cognitive impairment in Latin America?

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Abstract

Background: The Cognitive Function Index (CFI) was developed to identify individuals with Subjective Cognitive Decline (SCD), which is defined by the self-perception of cognitive impairment, not detected in neuropsychological tests. Limited research has been done with this tool in Latin America (LA). We aimed to investigate the association between CFI and global cognition and to investigate whether CFI scores can identify participants with cognitive performance below 1.0 standard deviation (SD) of the sample mean.

Method: The LatAm-FINGERS study is a dementia prevention feasibility study in 12 LA countries. For the present analysis, 815 participants with complete cognitive data (604 women, 74.1%; 436 mestizo 53.5%; mean age=67.5, SD=4.8; mean education = 13.0, SD=3.6; mean GDS=2.7, SD=2.8) were included. The CFI is a 14-item self-report measure of cognitive change; higher scores indicate higher concerns. CFI total score was normalized into a z-score, as some questions were not applicable to all participants and total score differed among them. Cognition was assessed with the Preclinical Alzheimer Cognitive Composite (PACC-5) - Mini-Mental State Examination; Logical Memory Delayed Recall; Free and Cued Selective Reminding Test; Digit Symbol

Substitution Test; and Animal Category Fluency. Participants were classified into those with PACC-5 at or above 1 SD from the mean ($n = 764$) and those below ($n = 51$). Bivariate and partial correlations (controlling for sex, age, education and GDS score) were used to assess the association between the CFI and PACC-5 scores. Receiver operating characteristic (ROC) analyses were used to assess CFI accuracy to identify participants with PACC-5 scores below 1 SD.

Result: CFI and PACC-5 scores were negatively associated with each other ($r = -0.27$; $p < 0.001$; partial $r = -0.12$; $p < 0.001$). ROC analyses indicated an area under the curve (AUC) of 0.71 (sensitivity=0.64; specificity=0.70) with an optimal threshold of 0.36 (Youden Index=0.35) as a suggested cutoff score for the normalized CFI score.

Conclusion: The CFI may be added to cognitive screening protocols to identify individuals who may need further assessment. Integrating the CFI into screening strategies in LA could play a pivotal role in reducing cognitive health disparities and advancing tailored dementia prevention initiatives that address the region's specific sociocultural and healthcare challenges.