ACRM
AMERICAN CONGRESS OF REHABILITATION MEDICINE

Archives of Physical Medicine and Rehabilitation

journal homepage: www.archives-pmr.org

Archives of Physical Medicine and Rehabilitation 2021;000: 1–9

ORIGINAL RESEARCH

Linking AM-PAC Cognition to PROMIS Cognitive Function

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Abstract

Objective: To link the Activity Measure for Post-Acute Care (AM-PAC) Applied Cognition to the Patient-Reported Outcomes Measurement Information System (PROMIS) Cognitive Function, allowing for a common metric across scales.

Design: Cross-sectional survey study.

Setting: Outpatient rehabilitation clinics.

Participants: Consecutive sample of 500 participants (N=500) aged ≥18 years presenting for outpatient therapy (physical, occupation, speech).

Interventions: Not applicable.

Main Outcome Measures: AM-PAC Medicare and Generic Cognition short forms and PROMIS Cognitive Function items representing the PROMIS Cognitive Function item bank.

Results: The calibration of 25 AM-PAC cognition items with 11 fixed PROMIS cognitive function item parameters using item-response theory indicated that items were measuring the same underlying construct (cognition). Both scales measured a wide range of functioning. The AM-PAC Generic Cognitive assessment showed more reliability with lower levels of cognition, whereas the PROMIS Cognitive Function full-item bank was more reliable across a larger distribution of scores. Data were appropriate for a fixed-anchor item response theory–based crosswalk and AM-PAC Cognition raw scores were mapped onto the PROMIS metric.

Conclusions: The crosswalk developed in this study allows for converting scores from the AM-PAC Applied Cognition to the PROMIS Cognitive Function scale.

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Cognitive ability is a critical determinant of patient needs and drives health services planning. Defined as the mental processes involved in gaining knowledge and comprehension, including thinking, knowing, remembering, judging, and problem solving,[1] adequate cognition is also a prerequisite for independent living. Cognition includes language, imagination, perceptions, and the planning and execution of complex behaviors. It is not surprising that cognitive impairment can significantly affect quality of life. Moreover, cognitive impairment is a common feature of depressive and anxiety disorders[2-4] and is associated with significant impairment in daily functioning.[5]

Cognitive assessment is important to identify patients who may need further assistance with independent living. Although neurocognitive measures are considered the most precise measurement of cognitive decline,[6] patient-reported cognition scales have demonstrated significant correlations with objective measures of cognitive performance.[7] In addition, patient-reported scales are more practical to administer and provide insight into how cognition is affecting daily life.[8] Selecting the most appropriate instruments for assessing cognitive function depends on the goals of data collection, the clinical setting, and the timing of the assessments.[9] This selection is also dependent on the psychometric properties of the instrument in the population of interest and the ability to measure the full range of cognitive function represented in the clinical setting.

Toward this end, the National Institutes of Health funded the development, evaluation, and distribution of the Patient-Reported Outcomes Measurement Information System (PROMIS) assessment.[10,11] One of the goals of this initiative was to develop, validate, and standardize measures to assess self-reported outcomes

Supported by the University of Pittsburgh Medical Center Wolff Center and the National Institutes of Health (grant no. UL1-TR-001857) for use of Research Electronic Data Capture (REDCap).

Disclosures: none.

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https://doi.org/10.1016/j.apmr.2021.04.012