

## Abstract

Stroke is the primary cause of adult disability in Sri Lanka. About 1/3 of stroke survivors experience aphasia. Inability to understand spoken and written language can have a negative impact on activities of daily living. Understanding the nature and extent of comprehension problem requires assessments which become the foundation for delivering effective interventions. Culturally and linguistically appropriate language comprehension assessments for post-stroke aphasia in Sri Lanka are lacking. The general objective of the current study was to develop and validate a Sinhala language comprehension assessment, for adults with post-stroke aphasia. Phase One studied the current language comprehension assessment used by 30 speech-language pathologists (SLPs) in Sri Lanka and recommendations were obtained for developing standardized language comprehension assessment to Sri Lanka via semi-structured questionnaire. Results were analyzed using thematic analysis. Phase Two developed culturally and linguistically appropriate reading comprehension tasks based on; suggestions from SLPs (Phase One), literature review and recommendations from a Delphi group of language experts (n=10). Normative data for the developed assessment was obtained in Phase Three using 120 typical adults distributed equally across gender, age, and education variables. The assessment was then administered to a group of 60 stroke patients with aphasia in Phase Four. Based on Phase Three and Phase Four results, sensitivity, specificity, reliability and validity of the developed assessment were determined. The primary outcome of this study was the development of the Reading Comprehension Assessment for Aphasia-Sinhala Language (RCAA-Sinhala), consisting of a Perceptual skills (5 subtests with 25 items) and a Core assessment (9 subtests with 90 items). The normative group had 100% accuracy on all perceptual skills subtests and a mean total score of  $88.57 \pm 2.46$  (out of 90) on the nine core assessment subtests. There were no significant age or gender difference in total scores on the core assessment, but subjects with higher education levels performed significantly better. There were significant differences in total time for age and education variables. Needed minor revisions were identified based on item analysis and Delphi group input. For the aphasia sample, the total mean total scores for the Perceptual and Core skills assessments were  $21.25 \pm 3.41$  and  $51.20 \pm 19.44$  respectively. Validity and reliability were established, and preliminary analyses of sensitivity (98%) and specificity (92%) were determined to be strong. Research limitations and future research needs were identified.