#### Validation of the Cantonese version of the Communication Outcome after Stroke (Can-COAST) scale: A preliminary report Hoi Tsz Karen Kwok, and Wing Sze Winsy Wong\*

<sup>1</sup>Department of Chinese and Bilingual Studies, The Hong Kong Polytechnic University, Hong Kong

#### \*Wing Sze Winsy Wong, winsyws.wong@polyu.edu.hk

#### Introduction

The use of patient-reported outcome measures, which is critical for evaluating the selfperceived impact of aphasia on one's daily communication (Chue et al., 2010), gives important information to clinicians in holistic management of people with aphasia (PWA). The Communication Outcome after Stroke (COAST) scale, developed by Long et al. (2008), is a practical and reliable tool for measuring self-perceived communication effectiveness for PWA and/or dysarthria. Among the five essential constructs in the core outcome set in aphasia research (Wallace et al., 2019), including language, communication, emotional well-being, guality of life and patient satisfaction with treatment and impact of treatment, the available outcome measures for Cantonese-speaking PWA only cover aspects of language (i.e., Cantonese version of the Western Aphasia Battery [CAB; Yiu, 1992], communication (i.e., the Main Concept Analysis, [MCA; Kong, 2009] and Cantonese version of the American Speech-Language-Hearing Association Functional of Communication Skills for Adults [ASHA FACS; Lau, 2001]) . Given the absence of validated self-perceived communication measures for Cantonese-speaking PWA, the study aimed to develop and evaluate the reliability and validity of the Cantonese version of the COAST (Can-COAST) scale.

#### Methods

The original version of COAST scale was retrieved from the Innovation Factory of the University of Manchester (Long et al., 2008) and was translated into a socioculturally adapted Cantonese version. The 20-item scale was presented by speech therapists/trained speech therapy students via verbal means, with the support of written words and culturally appropriate photos/pictures to facilitate PWA's comprehension. A rating scale of 1-5 was used to indicate their responses. Can-COAST, together with CAB and MCA, were then administered to 47 Cantonese-speaking clients with chronic aphasia in two visits three-weeks apart. A dataset containing PWA's responses in Can-COAST, aphasia quotient of CAB, and total MC score of MCA was then compiled for subsequent data analysis. Psychometric properties for assessing the translated scale's validity (including face validity, concurrent validity, and convergent validity) and reliability (including test-rest reliability, internal consistency, inter-rater reliability, and intra-rater reliability) were evaluated.

## Results

The results of Can-COAST scale suggested acceptable validity and reliability. For convergent validity of the 15 items related to functional communication, item-total correlation ranged from .40 to .84 ( $\alpha$  =.89) for the first interview and .61 to .85 ( $\alpha$  = .94) in the second interview. For convergent validity of the five items related to quality of life,

item-total correlation ranged from .73 to .81 ( $\alpha$  =.91) for the first interview and .76 to .85 ( $\alpha$  = .92) in the second interview. For concurrent validity, positive and moderate correlation was found between the scale with MCA (*r* =.46, n= 47, *p* < .001) and CAB (*r* =.46, n = 47, *p* < .001). The intraclass correlation coefficient showed good test-retest reliability (ICC= .77, *p* < .001).

# Conclusions

Can-COAST scale has demonstrated good validity and reliability. Thus, it serves as a feasible means to measure the functional communication and quality of life in Cantonese PWA.

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