

## LETTER TO THE EDITOR

## COMMENTARY ON: RELIABILITY AND VALIDITY OF A CHINESE VERSION OF THE LYSHOLM SCORE AND TEGNER ACTIVITY SCALE FOR KNEE ARTHROPLASTY

Asir JOHN SAMUEL, BSc, BPT, MPT, PhD

From the Yenepoya Physiotherapy College, Yenepoya (Deemed to be University), University Road, Deralakatte, Mangalore-575018, Karnataka, India

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Correspondence address: Dr. Asir John Samuel, BSc, BPT, MPT, PhD, Additional Professor cum Vice Principal, Yenepoya Physiotherapy College, Yenepoya (Deemed to be University), University Road, Deralakatte, Mangalore-575018, Karnataka, India

We read the recent article by Huang et al. (1) about the Chinese language translation procedure for 2 patient-reported outcome measures, Lysholm score (LS) and Tegner activity scale (TAS), with interest. However, some discrepancies were observed, which need further clarification from the authors to ensure that the translated versions have high clinical applicability.

The authors explained the translation procedure adopted to translate the LS and TAS into Chinese in a simplified way. However, they have not explained the adopted translation procedure with reference to available standard guidelines (2–4). The translation methodology adopted could be standardized, by application of commonly adopted standard stages; namely, initial translation into Chinese language; synthesis of Chinese translations; back translation into the original English language; expert committee review opinion on the translated Chinese versions; pilot testing of pre-final Chinese translated LS (LS-C) and TAS (TAS-C); cultural context based score weightage; preliminary psychometric testing of the pre-final LS-C and TAS-C with a population sample who could read and understand both English and Chinese; and full psychometric testing of the pre-final LS-C and TAS-C with a population sample with total knee arthroplasty (TKA). However, the above steps were not elaborated in detail.

The second concern regards the validation process. The authors should have explained the content validity (including face validity), structural validity, criterion validity, cross-cultural validity, and construct validity of the LS-C and TAS-C. However, they have only briefly

explained the process of criterion validation while ignoring the other validation process.

The third concern regards the reliability test statistics used. The authors established test and retest reliability under relative reliability, with standard error of measurement and smallest detectable change under absolute reliability with omission of the Bland-Altman plot. However, the authors have added Bland-Altman plots for LS-C and TAS-C with the term, “constant variance” and not under the standard term “level of agreement” between the sessions. In addition, citation of Fig. 2 in the text is missing.

The steps taken by the authors to translate the LS and TAS into Chinese are undoubtedly appreciated. However, based on the above logical concerns, and to comply with criteria for good measurement properties (5) and consensus-based standards for the selection of health measurement instruments (COSMIN) (6), the LS-C and TAS-C should be considered with caution before their clinical utilization.

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The authors of the original article (Huang et al.) were invited to reply to this Commentary, but did not respond.