

# **Translation, cross-cultural adaptation, and validation of Dysphagia Handicap Index (DHI) into Sinhala language.**

Karunarathne, I.L.P.<sup>1\*</sup>, Panterliyon, N.A.<sup>2</sup>

<sup>1</sup>*Department of Disability Studies, Faculty of Medicine, University of Kelaniya, Sri Lanka*

<sup>2</sup>*Department of Speech and Swallowing, National Hospital, Sri Lanka*

\* [lakshanipro123@gmail.com](mailto:lakshanipro123@gmail.com)

**Background:** Dysphagia Handicap Index (DHI) is one of the self-evaluation instruments used for assessing patients with dysphagia. It is a reflection of the patient's quality of life in physical, emotional, and functional aspects. Although it is well-known and most used among English-speaking people, there is no available Sinhala version to be used in Sri Lankan context. The aim of this study was to translate, cross-culturally adapt and validate the DHI into the Sinhala Language.

**Objective/s:** The objectives of this study are to translate and cross-culturally adapt the original version of the DHI from English to Sinhala, to evaluate the internal consistency of the Sinhala Dysphagia Handicap Index (S-DHI) and to evaluate the content validity of the S-DHI.

**Methods:** This study comprised two phases. Phase 1 translation and cross-cultural adaptation of the DHI. It was explained under five stages such as forward translation of the DHI from English to Sinhala, synthesis of the translation, back translation of DHI from Sinhala to English, expert committee review, and pre-testing. Phase 2 involved evaluating the psychometric properties of the scale that was included testing the reliability and validity of the scale. Purposive sampling was the sampling method. A cross-sectional was conducted with 125 adults (above 20 years) with dysphagia (target group) and 125 adults without dysphagia (control group). The target group was recruited from four dysphagia clinics at government hospitals in Sri Lanka (District hospitals of Gampaha, Ragama Rehabilitation, and Wathupitiwala). The control group was recruited from Mahara Niladhari Division. Cronbach's alpha coefficient was implemented to measure the internal consistency of the DHI. The expert panel performed the content validity, including nine speech and language pathologists with three years working experience with dysphagia disorder. The convergent validity of the DHI was assessed using hypothesis testing.

**Results:** The S-DHI and all subscales (physical, emotional, functional) showed higher internal consistency (Cronbach's alpha 0.975, 0.96, 0.979 0.991) respectively. The S-DHI scores between the target group and the control group were significantly different ( $p < 0.05$ ). Content validation test revealed higher validity scores for the degree of relevance, degree of cultural appropriateness, and degree of simplicity (I-CVI= 0.99, 0.98, 0.98).

**Conclusion/s:** The S-DHI has achieved higher internal consistency, convergent validity, and content validity. This scale can be used in both clinical and research settings in Sri Lanka.

**Key words:** *Dysphagia, Handicap, Quality of life, Patient-reported outcomes, Sinhala version*