Hindi Translation, Cross-cultural Adaptation and Validation of Chedoke McMaster Stroke Assessment (CMSA) Scale: A Cross-sectional Study

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Introduction: Stroke is one of the leading causes of death and long-term disability worldwide, emphasising the need for effective rehabilitation strategies. The Chedoke McMaster Stroke Assessment (CMSA) is a reliable and valid measure developed in Canada used to assess both impairment and activity levels in persons with stroke. The widespread use of Hindi, there is no Hindi translation of the CMSA. Developing a culturally and linguistically appropriate version of the CMSA for Hindi speakers could enable rehabilitation personnel to evaluate change in the patient's motor control and functional ability.

Aim: This study focussed on translating and adapting the CMSA into Hindi to ensure its relevance and effectiveness for assessing stroke recovery for patients in India by Hindi-speaking rehabilitation specialists.

Materials and Methods: We obtained permission from the original author of the CMSA to translate the tool into Hindi. The translation process adhered to recognise guidelines for cross-cultural adaptation. Two bilingual experts, one with a medical background and the other a linguistic specialist, independently translated the CMSA into Hindi. The translations were combined and back-translated into English by independent translators to ensure consistency with the original tool. To ensure content validity, we used the Delphi method to assess the relevance of each item in the scale. The experts evaluated each item on a 4-point scale, and the Item-Level Content Validity Index (I-CVI) and Scale-Level Content Validity Index Average (S-CVI/Ave) were calculated.

Results: There is an evidence of its criterion validity which demonstrated it as high degree of linguistic and cultural equivalence. The Hindi CMSA achieved an I-CVI of 0.98985, an S-CVI/Ave of 0.98985, and an S-CVI/UA of 0.881944, indicating strong evidence of its validity.

Conclusion: The Hindi CMSA has been culturally adapted and validated for evaluating stroke-related impairments and functional activity in Hindi-speaking healthcare environments. This version will enhance the ability of rehabilitation personnel in conducting clinical assessments and customising rehabilitation strategies for this population.

Keywords: Criterion validity, Rehabilitation startegies, Stroke rehabilitation.