

Global inter-rater reliability of the Post-stroke Spasticity Referral Tool

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Background and aims

Early identification and treatment of post-stroke spasticity (PSS) are critical for improving patients' functional ability and quality of life after a stroke. The PSS Referral Tool was developed to facilitate early identification and referral of patients with PSS by clinicians involved in stroke rehabilitation. An inter-rater reliability study was performed to validate the utility of the tool in clinical practice.

Methods

This prospective study was conducted in 3 phases: phase A, production of standardized patient clinical assessment videos; phase B, classification of selected videos into referral categories (Urgent Referral, Routine Referral, and Periodic Monitoring) by a PSS expert panel; and phase C, recruitment of clinicians to classify patients' referral needs using the PSS Referral Tool after viewing the videos (**Figure 1**). Clinician participants, including physical therapists, noninjecting physiatrists, and neurologists, were recruited from 6 global regions (Australia, South America, North America, European Union [EU], Nordics, United Kingdom [UK]) and oriented to the PSS Referral Tool before use. For each referral category, 5 patient videos were viewed and rated by the clinicians. Inter-rater reliability was estimated by calculating the intraclass correlation coefficient (ICC) among assessments from all raters using a 2-way random effect, absolute agreement, single-measurement model. ICC values range from 0.0 to 1.0, with higher numbers indicating better reliability.

Results

Fifty clinician participants were recruited in total (Australia, 30%; EU, 32%; North America, 8%; Nordics, 6%; UK, 24%); 70% had no previous experience with the PSS Referral Tool. The ICC for all ratings by clinicians was 0.68 (95% CI: 0.53, 0.84). The percentages of correct ratings for Urgent Referral, Routine Referral, and Periodic Monitoring videos were 69.2% (173/250), 69.2% (173/250), and 88.0% (220/250), respectively (**Figure 2**). The proportion of patient videos classified correctly by a majority of clinicians was 14/15 among clinicians with no PSS Referral Tool experience and 13/15 among clinicians with experience (93.3% and 86.7% sensitivity, respectively).

Conclusion

The PSS Referral Tool can help accurately identify and triage patients at risk for PSS who require referral, even when used by clinicians who have no previous experience with the tool.

Figure 1. Study design

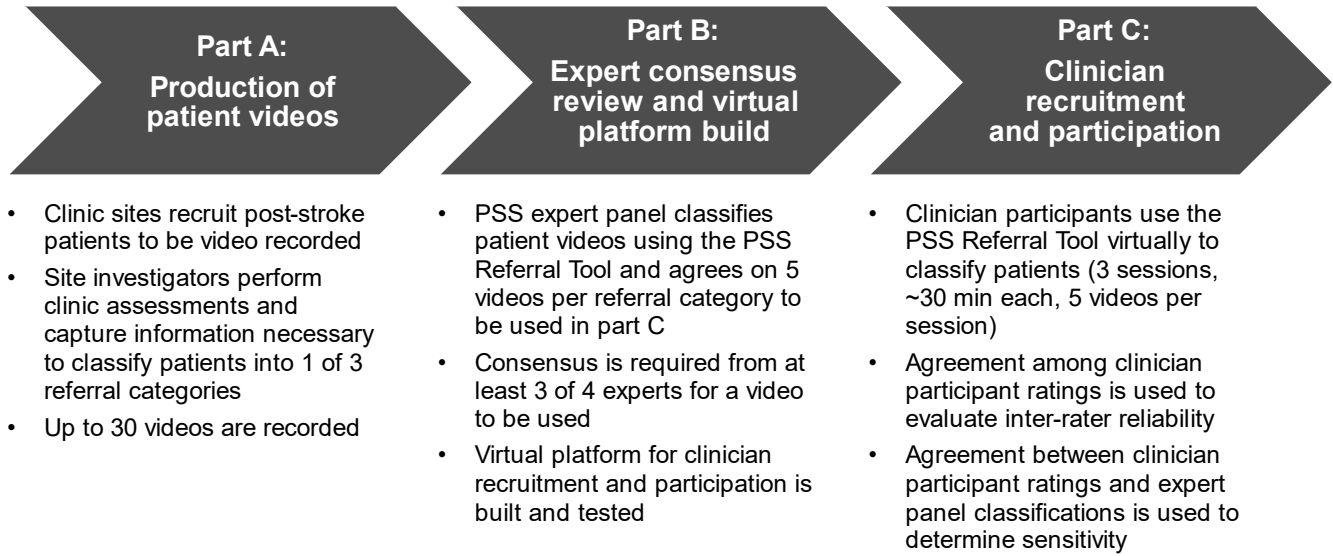
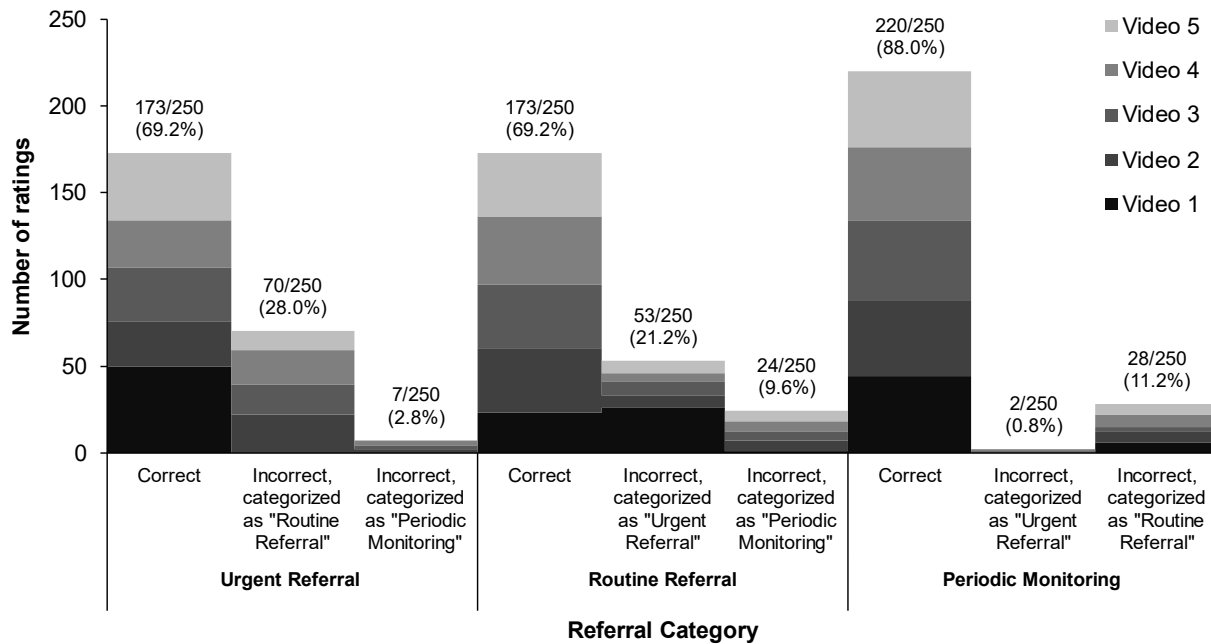


Figure 2. PSS Referral Tool risk classification accuracy*



*A total of 15 patient videos were reviewed and rated (5 per referral category).