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Inter-Rater and Intra-Rater Reliability of Quantitative Upper Limb Spasticity Evaluation based on Modified Ashworth Scale Tool

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Abstract

Clinical assessments of muscle spasticity are done by physiotherapists with the help of assessment scales. The gold standard is by using Modified Ashworth Scale (MAS), in which the scale quantifies the level of muscle spasticity by measuring resistance to passive movements. However, this scale is highly subjective to the assessors' opinions and experiences. Therefore, we proposed Muscle Spasticity Assessment System (MSAS) as an attempt to add objective weights to the current spasticity assessment method. In this study, inter-rater reliability of MSAS and its intra-rater reliability with MAS are presented. 46 subjects with neurological disorders participated in this study. Inter-rater reliability for clinical and MSAS assessment method gives substantial to excellent (Kappa value 0.82) and excellent (Kappa value 0.99) respectively. For both methods, intra-rater proved to give excellent result. MSAS are accurate and reliable in assisting the physiotherapist to quantify the spasticity of the upper limbs.

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Author Keywords: Muscle spasticity; Reliability; Modified Ashworth Scale

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