

Background: The Comprehensive Motor Coordination Scale (CCS), developed with the purpose of analyzing the coordination of multiple body segments in individuals with neurological lesions, based on observational kinematics, assesses the quality of movement in patients with neurological dysfunctions.

Objectives: To perform the cross-cultural adaptation and measurement properties of CCS evaluation in patients with neurological disorders. Specifically, it is intended to evaluate the construct validity, inter-rater and intra-rater reliability, and responsiveness, of the Brazilian Portuguese version of the CCS in individuals with stroke.

Methods: The translation and comprehension analysis of the Portuguese-Brazil version was verified by specialists. The CCS will be applied to individuals with stroke, in conjunction with the graduation scale of this health condition, the Fugl-Meyer Scale, which grades the severity of this health condition. Each individual will perform 3 evaluations. Evaluators were trained by means of video for correct scale application and analysis. Two evaluators will apply the CCS to analyze inter-rater reliability in the first evaluation. Videos of all CCS tests will also be recorded for later scoring if two evaluators are not present. In the second evaluation, up to 5 days after the first, the CCS will be reapplied by one of the previous evaluators, allowing the analysis of intra-rater reliability. In the third application of the CCS, responsiveness of the scale will be evaluated after 10 physiotherapy sessions. Concurrent analysis will use the Box and Blocks Test and the 10-meter walking test (applied in the first and third evaluation).

Results: So far, data from 33 patients have been collected, with a mean age of 53.9 years (SD = 14.2), with the diagnosis of stroke, all chronic. Of this, 15 (45%) are female. Regarding education level, most patients had completed high school (27.3%). 57.6% of patients have predominantly left hemiparesis and 42.4%, right hemiparesis. Regarding the degree of stroke impairment, the mean Fugl Meyer score was 161.7 points (SD= 31.2).

Conclusion: We expect that the Brazilian version of the CCS will achieve good inter- and intra-evaluator reliability, strong positive correlation with patient severity and good responsiveness. The validation of video analysis should be confirmed.

Implications: The results of this study will provide information about the measurement properties of this new motor coordination assessment scale. Based on this information, implementation in clinical practice will be direct, allowing clinicians to use a valid tool, based on observational kinematics, both in-person and via video. The CCS will allow the assessment of motor coordination in patients with neurological disorders for clinical decision making and monitoring of recovery process after injury.

Keywords: Motor coordination, Evaluation, Motor performance

Conflict of interest: The authors declare no conflict of interest.

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IDENTIFICATION OF PRETERM INFANTS AT HIGH RISK OF CEREBRAL PALSY: PRELIMINARY DATA

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Background: The increase in the survival rate of preterm newborns is associated with a high risk of delay or changes in neuropsychomotor development, among them, cerebral palsy (CP), the most common childhood disability in the world. Although diagnosis has been traditionally made late, between the ages of 12 and 42 months, the use of tools that allow early detection of this health condition is recommended. The use of results from neuroimaging, from Hammersmith Infant Neurological Examination (HINE) and from general movements assessment (General Movements - GMs) in a combined way allows detecting infants at high risk of CP before 5 months of corrected age.

Objectives: Early identification of preterm infants between the ages of 2 and 4 months who are at high risk of CP.

Methods: This is a cross-sectional observational study carried out between February and December 2022. The sample consisted of preterm infants, born in the maternity of a university-hospital, with gestational age < 34 weeks and/or weight ≤ 1500 grams, who were referred for follow-up at a preterm children's outpatient clinic in the university-hospital complex. The criteria considered as a high risk of CP were the presence of peri-intraventricular hemorrhage (PIVH) grades III and IV on cranial ultrasound (US); HINE total score ≤ 56; and abnormal classification (mildly abnormal or definitely abnormal) in GMs.

Results: In the present study, were assessed 26 preterm infants, 65.4% male, with a mean age of 99.88 days (±22.28), mean gestational age of 31.19 weeks (±2.45), and mean birth weight of 1491.92 grams (±455.99). Seven infants (26.9%) presented a HINE total score ≤ 56 points. Five infants (19.2%) had abnormal classification in GMs, 3 were classified as definitely abnormal and 2 as mildly abnormal. Twelve (46.2%) infants did not present PIVH, grades I and II were identified in 14 (53.8%) infants and none of them presented grades III and IV.

Conclusion: The use of GMs and HINE in a follow-up service of preterm infants provided early detection of infants at high risk of CP and referral for early intervention in a timely manner. However, US results should be interpreted with caution in this population, suggesting further investigation of this tool in future research.

Implications: Early detection of CP can facilitate diagnosis and enable referral for early intervention in the period of greater brain neuroplasticity, allowing better functional outcomes. In addition, it is important to emphasize that it can also contribute to coping and the family's mental health, reducing stress, anxiety and depression and increasing well-being.

Keywords: Prematurity, Early detection, Cerebral Palsy

Conflict of interest: The authors declare no conflict of interest.

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