

(ASC) treatment has been shown to reduce tremor and improve upper limb (ULL) performance in people who have PD. In recent years, virtual reality has been introduced as a therapeutic tool in neurorehabilitation. Additionally, non-immersive VR exergames have been verified as safe and effective therapies for improving motor skills. On the other hand, the effects of using Immersive Virtual Reality (IVR) through the QUEST 2 device in the treatment of people with PD were not evaluated, especially on tremor and cognition.

**Objectives:** This study aims to evaluate the effectiveness of immersive virtual reality training, through exergames from Quest 2 device, compared to ASC training on resting tremor, UL performance and cognition of people with PD.

**Methods:** This is a randomized, blinded, controlled clinical trial, with a protocol based on the checklist CONSORT. Will be recruited a sample of 36 people with a diagnosis of PD, on stable treatment with Levodopa, classified in stages I to III of the Hoehn & Yahr classification, aged between 50 and 85 years, with classic Parkinsonian tremor type 1, according to the Movement Disorders Society consensus statement, with normal or corrected visual and hearing acuities and with a minimum of 4 years of formal study. Participants will be randomized to IVR (n=18) and ASC (n=18) groups. The protocol of interventions will last 8 consecutive weeks, divided into two weekly sessions, lasting 60 minutes. The primary outcome will be assessed with the Unified Parkinson's Disease Rating Scale (UPDRS) parts II and III and with the application "Study my tremor". Secondary outcomes will be evaluated with the Nine-hole peg test, Box and block test, Trail Making Tests, REY list and Parkinson's Disease Questionnaire-39 (PDQ-39). The evaluations will be carried out prior to the interventions, at the end of the interventions and 30 days after the end of the interventions.

**Results:** Considering that, currently, the options for the treatment of tremor in PD are based on the use of medication and invasive surgical procedures, it is expected that the spontaneous information in the study can elucidate the benefits of conventional training, inspired to maximize the possible therapeutic approaches of that population.

**Implications:** The effects of IVR training compared to ASC on the outcomes have not yet been evaluated in patients with PD. This study will help physiotherapists in the decision-making process, regarding the most effective resource for this population, as it will provide the background for weighing the clinical viability between these two resources.

**Keywords:** Parkinson's Disease, Tremor, Immersive Virtual Reality

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## GROSS MOTOR FUNCTION-FAMILY PREPORT (GMF-FR) - MEASUREMENT PROPERTIES

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**Background:** Cerebral Palsy has several characteristics that can influence gross motor performance, the activities and participation of children and adolescents with this health condition. Knowing that family-centered assessment instruments are essential in the assessment of these patients, the Gross Motor Function – Family Report (GMF-FR) was developed, which is a self-reported instrument, easy to apply clinically and that assesses gross motor performance for this population.

**Objectives:** Analyze GMF-FR measurement properties.

**Methods:** Methodological study. The GMF-FR was applied remotely with parents to validate measurement properties. The test-retest reliability was analyzed using the Intraclass Correlation Coefficient (ICC), for which a period of 7-30 days was respected: homogeneity by Cronbach's alpha. The discriminative validity between the GMF-FR and the Gross Motor Function Classification System (GMFCS) was observed by Spearman-rho correlation (rho) and One-way ANOVA, with post-hoc Tukey. A significance level of  $\alpha=0.05$  was considered.

**Results:** 146 children and adolescents with a mean age of 6.8 years (3,437) participated, covering all levels of functioning measured by the Gross Motor Function Classification System (GMFCS), with 50% level I, II and III and 50% level IV and V. Of these participants, 66.4% had bilateral impairment and 75.3% used some assistive technology. The GMF-FR was preferably answered by mothers (90.4%). Respondents had an average age of 37.3 years (SD=XX) and 52.7% had access to higher education. High homogeneity ( $\alpha=0.99$ ) and excellent reliability (ICC=0.99;  $0.98 \leq 95\%CI \leq 0.99$ ) were observed. The GMF-FR showed a strong negative correlation with the GMFCS ( $\rho=-0.92p<0.001$ ) and was able to discriminate gross motor performance between all GMFCS levels (Between Level I and II  $p<0.015$ ; and between all other levels  $p<0.001$ ).

**Conclusion:** The GMF-FR is a valid and reliable instrument to assess gross motor performance and capable of discriminating by level of GMFCS the children and adolescents with CP.

**Implications:** The GMF-FR is a new reliable instrument for assessing the gross motor performance of children and adolescents with CP, in addition to being accessible and easy to apply clinically, directly impacting the practice of health professionals during the assessment of key goals for treatment of children and adolescents with CP

**Keywords:** Cerebral Palsy, Gross Motor Function Measure, GMFM

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## PERCEPTION OF PHYSIOTHERAPISTS ABOUT THEIR WORK MARKET

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**Background:** In Brazil, the distribution of professionals between regions is influenced by the process of interiorization and urbanization, making it a challenge for the management of health resources, therefore, a poor distribution of professionals can lead to changes in professional satisfaction. In the current scenario,