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RELIABILITY OF THE NEUROPHYSIOLOGY OF PAIN QUESTIONNAIRE IN CHRONIC LOW BACK PAIN: PRELIMINARY RESULTS

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Background: Chronic low back pain (CLBP) is a prevalent condition affecting individuals of all ages. CLBP is characterized by persistent pain symptoms lasting more than three months and is associated with significant impacts on functioning. Pain Science Education (PSE) is recommended for managing CLBP by helping patients reconceptualize non-adaptive beliefs about pain. Nevertheless, assessing the effectiveness of pain education interventions requires instruments that address the construct of pain neurophysiology understanding, such as the Neurophysiology of Pain Questionnaire (NPQ). The NPQ is useful, but data on its reliability in the Brazilian population with CLBP are limited.

Objectives: To provide preliminary data on the reliability of the revised Neurophysiology of Pain Questionnaire (rNPQ-Br) in CLBP patients.

Methods: This study presents initial data regarding the measurement properties of the rNPQ-Br in patients with chronic low back pain (CLBP). Participants were assessed for sociodemographic characteristics, pain intensity using the Numerical Pain Rating Scale (NPRS), which ranges from 0 (no pain) to 10 (worst pain imaginable), and disability using the Oswestry Disability Index (ODI), which ranges from 0 (no disability) to 100 (maximum disability). The questionnaires were administered in two sessions with a one-week time interval. The clinical stability of the patients was monitored by evaluating the intensity of pain in both sessions; patients not stable were excluded from the study (variation in the NPRS score > 2). Test-retest reliability of the rNPQ-Br was analyzed using Intraclass Correlation Coefficient (ICC). The ICC (2,1) was calculated using a two-way random effects model with absolute agreement. ICC values = 0.70 were interpreted as acceptable reliability, according to Consensus-based Standards for the selection of health Measurement Instruments (COSMIN) criterion for good quality of reliability.

Results: Fifty participants with non-specific CLBP participated in this study, including 28 women and 22 men. The mean age was 22 years (standard deviation [SD] = 37.31) for men and 28 years (SD = 45) for women. Mean weight was 83 kg (SD = 10.88) for men and 76.75 kg (SD = 15.66) for women, while mean height was 173 cm (SD = 7.24) for men and 164 cm (SD = 7) for women. Mean pain duration was 7.45 years (SD = 7.56) for men and 9.18 years (SD = 10.44) for women. Mean NPRS scores were 5.31 (SD = 1.35) for men and 6.35 (SD = 1.55) for women, and mean ODI (0-100) scores were 29.00 (SD = 7.42) for men and 28.89 (SD = 8.79) for women. The data showed an ICC(2,1) = 0.5 (95% CI: 0.12–0.72), indicating no acceptable reliability for the rNPQ-Br total score in CLBP.

Conclusion: The rNPQ-Br total score can assess patients' understanding of the neurophysiology of pain in chronic musculoskeletal conditions. However, in CLBP, the reliability was below acceptable levels (< 0.50). This preliminary study's findings should be interpreted with caution.

Implications: At this time, rNPQ-Br total score shows insufficient levels of reliability, and its use in clinical practice cannot yet be recommended.

Keywords: Low Back Pain, Pain Measurement, Psychometrics

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DOES KINESIOPHOBIA INFLUENCE LOWER LIMB KINEMATICS DURING UPHILL WALKING IN WOMEN WITH PATELLOFEMORAL PAIN?

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Background: Patellofemoral pain (PFP) consists of pain around or behind the patella that is accentuated during overload activities, such as jumping. The cause of PFP is multifactorial and recent studies have reported kinesiophobia as a possible factor associated with high rates of functional disability in this population. Understanding how fear of movement can contribute to biomechanical alterations observed during functional tasks can help guide treatment strategies for people with PFD.

Objectives: To investigate the influence of kinesiophobia on lower limb movement patterns during uphill walking in women with patellofemoral pain.

Methods: Twenty-two women with PFP, aged between 18-35, were selected. Initially, the Tampa Kinesiophobia Scale and the Pain Catastrophizing Scale were applied. Next, a kinematic assessment of the lower limb was carried out during uphill walking on a treadmill. The volunteers walked on the treadmill at a 10% incline for three minutes. Photo-reflective markers were placed on the affected lower limb at specific anatomical points (anterior superior iliac spine bilaterally, greater trochanter of the femur, lateral condyle of the femur, midpoint of the patella, lateral malleolus, midpoint between the malleoli, dorsal region between the first and second metatarsals). The angles of hip flexion, knee flexion and ankle dorsiflexion were calculated. Pearson's correlation test was used for statistical analysis, with a significance level of $p < 0.05$.

Results: The knee flexion angle during uphill walking was negatively associated with the level of kinesiophobia ($r = -0.341$, $p = 0.040$) and pain catastrophizing ($r = -0.482$, $p = 0.023$). There was no correlation for the other angles evaluated.

Conclusion: Kinesiophobia reduces knee flexion during uphill walking in women with PFP.

Implications: The findings show that kinesiophobia can alter the movement pattern, especially of the knee joint, during uphill walking. Less knee flexion can be a strategy to reduce pain when performing the task, but it increases the ground reaction forces applied to the joint and, in the long term, can lead to joint damage. It is important to consider kinesiophobia in the treatment of PFP, recommending interventions aimed at reducing it, together with physical exercise, which can reduce pain and improve functionality.

Keywords: Knee Pain, Kinesiophobia, Walking Uphill

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HEALTHCARE COSTS OF NECK PAIN: A SYSTEMATIC REVIEW

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