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Background: Musculoskeletal chronic pain is a common condition that can limit daily and professional activities. Individuals with chronic pain may exhibit distinct activity-related behavior patterns. The Activity Management Inventory for Pain (AMI-P) is a 20-item instrument that evaluates behaviors related to rest, alternating and planned activities, as well as goals such as pain reduction, increased activity, and energy conservation. Although used in clinical and research contexts, the questionnaire has not yet been translated, adapted, or validated for the Brazilian population. A culturally adapted version of this instrument could provide a more accurate assessment of chronic pain.
Objectives: To translate and adapt the AMI-P questionnaire into Brazilian Portuguese.
Methods: This is a cross-sectional study that followed the recommendations of Beaton et al., 2000. This study was approved by the Ethics Research Committee. The original version of the AMI-P was translated into Portuguese by two Brazilian translators fluent in English. Subsequently, the translations were synthesized and then back translated into English by two native English speakers. Finally, a panel of experts reviewed all the translations and compared them with the original version to formulate the pretest version. The comprehensibility of the items in the pretest version was evaluated in 30 individuals. The pretesting phase included individuals of both sexes, aged over 18 years, with musculoskeletal low back chronic pain for at least 3 months and an intensity greater than 3 on the 11-point numerical pain scale. Each participant responded to the questionnaire, reported their understanding, and suggested modifications to the instrument. The instrument was considered acceptable if 90% of participants understood all the questions. All statistical analyses were conducted using Excel™ software (Microsoft, version 2019).
Results: The translation and back-translation processes showed no major discrepancies between versions, confirming semantic and conceptual alignment with the original instrument. The expert committee carefully reviewed the pretest version and made minor refinements to improve clarity while preserving the original intent. This version was then submitted to the authors of the original AMI-P, who recommended adjustments to the terms "social activities," "be better able to complete the task," "get more done," "too," "the most," and "predefined time" to ensure greater conceptual consistency with the original scale. Thirty patients participated in the pre-testing phase, with a mean age of 36.3 $\pm$ 17.35 years, body mass index of 25.78 $\pm$ 4.58 kg/m2 and 19 (63, 33%) were women. The majority of participants (73.33%, n = 22) had a higher education level. The participants demonstrated a 90% level of understanding of all items of AMI-P, meeting the established criterion for adequate comprehensibility.
Conclusion: The Brazilian Portuguese version of the AMI-P was considered adequate and clear.
Implications: The Portuguese version of the AMI-P will be an important tool for the assessment of musculoskeletal chronic pain in Brazil. The assessment of the measurement properties is still necessary.
Keywords: Assessment instrument, Chronic pain, Physical activity

Conflict of interest: The authors declare no conflict of interest.
Funding: Not applicable.
Ethics committee approval: CAAE: 77330824.2.0000.5235.
Registration: Not applicable.

https://doi.org/10.1016/j.bjpt.2025.101475

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DOES KINESIOPHOBIA INFLUENCE JUMP LANDING KINEMATICS IN WOMEN WITH PATELLOFEMORAL PAIN?

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Methods: Women aged 18 to 30 years with complaints of PFP participated in this study. Initially, anamnesis was performed, followed by the application of the Tampa Scale of Kinesiophobia. Subsequently, kinematic evaluation of the lower limb was conducted. Reflective markers were positioned on the dominant lower limb at the following anatomical points: anterior superior iliac spine, acromion, greater trochanter of the femur, center of the patella, lateral malleolus, and head of the fifth metatarsal. Volunteers were instructed to step onto a 30 cm box and perform a jump, landing on the ground using only the affected lower limb. The test was performed three times, and the following angles were calculated: hip flexion, pelvic tilt, knee flexion, knee valgus, and ankle dorsiflexion. For statistical analysis, Pearson's correlation test was used, with a significance level of $p < 0.05$.
Results: Knee flexion angles ($p = 0.008$, $r = 0.806$), ankle dorsiflexion ($p = 0.015$, $r = 0.517$), and pelvic tilt ($p = 0.043$, $r = 0.436$) during single-leg jump landing were associated with kinesiophobia levels in women with PFP.
Conclusion: Kinesiophobia alters movement patterns during single-leg jump landing, such that higher levels of kinesiophobia lead to the adoption of biomechanical adjustments in landing kinematics, which may result in greater joint overload.
Implications: This study demonstrated that kinesiophobia levels are related to altered movement patterns during activities that impose high patellofemoral loads. The reduction in knee flexion angle observed in women with PFP and kinesiophobia may represent an attempt to maintain joint stability and reduce pain during movement execution, considering that pain intensifies at greater flexion angles. However, landing from a jump with a stiffer knee, greater pelvic tilt, and reduced ankle mobility may decrease impact absorption and have deleterious effects on the joint in the medium and long term. Therefore, rehabilitation programs for PFP should include patient education strategies aimed at reducing kinesiophobia alongside resistance exercises to achieve more effective outcomes.
Keywords: Biomechanical Phenomena, Quality of Life, Patellofemoral Pain Syndrome

Conflict of interest: The authors declare no conflict of interest.
Funding: Not applicable.
Ethics committee approval: CAAE: 79474424.8.0000.5188.
Registration: Not applicable.

https://doi.org/10.1016/j.bjpt.2025.101476

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CONDITIONED PAIN MODULATION AND DISABILITY IN PATIENTS AFTER TRAUMATIC MUSCULOSKELETAL INJURIES IN THE UPPER LIMB

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Background: Conditioned pain modulation (CPM) evaluates the endogenous pain inhibitory mechanisms, and its identification may be crucial for understanding pathophysiology and pain mechanisms. Although CPM has been extensively studied in chronic pain conditions, there is still limited evidence in post-traumatic chronic pain conditions, mainly in upper limb injuries.
Objectives: The aim of this study was to investigate the correlation between conditioned pain modulation (CPM) and the upper limb disability in patients after traumatic musculoskeletal injuries.
Methods: Adult patients of both sexes with musculoskeletal trauma in the upper limb were evaluated after 3 months of the traumatic event. The pressure pain threshold assessment (PPT) was conducted using a digital algometer (Wagner Instrument) on the upper trapezius and the Disabilities of the arm, shoulder, and hand (DASH, 0-100) questionnaire was used. The evaluation of CPM was conducted using the painful conditioning stimulus, the Cold Pressor Test. Pain intensity was assessed using the Visual Numeric Scale (VNS), and the pressure pain threshold was measured with an algometer every 30 seconds and immediately after the hand was removed from the water. Pearson correlation was used to measure the strength and direction of the relationship between two continuous variables. Its value ranges from +1, indicating a perfect positive correlation, to -1, indicating a perfect negative correlation. A value of 0 suggests no linear correlation between the variables.
Results: This cross-sectional study evaluated 18 patients, predominantly men (66,7%), with upper limb fractures (88.9%) and complex injury (11.1%) with a mean age of 40,78 (15.3) years, involving the shoulder/arm (n = 55.50%), elbow/forearm (n = 16.70%), and wrist/hand (n = 27.8%). The mean score of DASH was 38.39 (20.6). The pain intensity was slight (3?2.7) in patients after three months of the traumatic musculoskeletal injury. The average hand immersion time in cold water was 83.8 (43.5) seconds. The PPT on the upper trapezius of the affected side was 6.1 (4.4) kg/cm^2 before the hand immersion in cold water and 5.8 (3.9) kg/cm2 after the painful stimulus, i.e., the hand immersion in cold water. The post-pre difference averaged was - 0.3 (2.6) indicating a poor response of the endogenous pain inhibitory mechanisms. There was no correlation between the CPM and DASH score (r = 0.11, p = 0.65).
Conclusion: The endogenous pain inhibitory mechanisms was poor in patients after three months of the injury. However, there is no correlation between the endogenous pain inhibitory mechanisms measured by CPM and upper limb disability measured by DASH in patients after three months of the traumatic musculoskeletal injury.
Implications: This is a cross-sectional study which does not allow for longitudinal analyses with a small sample size. However, the findings might have clinical relevance suggesting better understanding on pain mechanisms that contributes to pain chronification after traumatic injuries.
Keywords: arm injuries, disability, fractures, trauma

Conflict of interest: The authors declare no conflict of interest.
Funding: FAPEMIG - APQ 00444-21.
Ethics committee approval: No.6.204.652.
Registration: Not applicable.

https://doi.org/10.1016/j.bjpt.2025.101477

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EFFECTS OF TRANSCRANIAL DIRECT CURRENT STIMULATION ON ANXIETY AND DEPRESSION IN INDIVIDUALS WITH NEUROPATHIC PAIN: SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Neuropathic pain is a common disorder that may cause physical impairment and has been associated with anxiety and depression. The Transcranial Direct Current Stimulation (tDCS) may assist in managing populations with chronic symptoms. However, findings in the literature remain conflicting, with prior studies reporting small effect sizes and factors that may influence tDCS efficacy.
Objectives: To evaluate the effects of tDCS on anxiety and depression in patients with chronic neuropathic pain.
Methods: A literature search was conducted in the MEDLINE, CINAHL, EMBASE, and CENTRAL databases in February 2024. Included studies were controlled clinical trials involving patients with chronic neuropathic pain undergoing tDCS. The meta-analysis was calculated using the Standardized Mean Difference (SMD) with a 95% confidence interval (CI) and the level of evidence was assessed with GRADE approach.
Results: The search retrieved 1,729 articles. After screening, 9 studies were included and compared the effects of active tDCS versus sham tDCS on depression, with a combined sample of 256 participants, and 8 studies that investigated effects on anxiety, with a total of 216 participants. All studies applied anodal current to the stimulation target. The predominant stimulation site was the Primary Motor Cortex (M1), with current intensity ranging from 1 mA to 2 mA, 5—14 sessions, and session duration of 20—30 minutes each. Low-quality evidence indicated that active tDCS was not superior to sham tDCS in improving depression (SMD = -0.24; 95% CI [-0.55, 0.07]; P = 0.13), with low heterogeneity (I^2 = 32%, P = 0.16). Low-quality evidence showed no superiority of active tDCS over sham tDCS in reducing anxiety (SMD = -0.23; 95% CI [-0.63, 0.17]; P = 0.26), with moderate heterogeneity (I^2 = 50%, P = 0.05).
Conclusion: The meta-analysis indicated that tDCS was not superior to sham interventions for improving anxiety or depression in individuals with neuropathic pain.
Implications: tDCS should not be used for treating anxiety and depression in patients with chronic pain.
Keywords: Systematic Review, Neuropathic Pain, Transcranial Direct Current Stimulation

Conflict of interest: The authors declare no conflict of interest.
Funding: Not applicable.
Ethics committee approval: CAAE: 79684524.7.0000.5188.
Registration: Not applicable.

https://doi.org/10.1016/j.bjpt.2025.101478