that 15 individuals used a wheelchair (88.89%) and 11 performed physical activity (61.11%). Regarding SF-36, it is noteworthy that the domains with the highest average were Limitation due to Emotional Aspects (100 ± 49.6) and Mental Health (86 ± 16.5), in addition, the total average of SF-36 was 59.88 ± 27.79. Regarding FIM, the total mean obtained was 110.41, with the self-care item obtaining the highest mean (51.23 ± 2.82), on the other hand, the item with the lowest mean was locomotion (5 ± 4.24).
Conclusion: The levels with the highest mean of functionality and quality of life may be related to participation in physical activity, since the majority practice some type of activity, in addition to having a considerable level of education. In addition, the value of self-care suggests more autonomy and rehabilitation practices after the injury. Implicationns: The SF-36 and the MIF are measures that help in the evaluation of people with SCI as an additional tool to Physiotherapy treatment, enhancing therapeutic strategies for functionality and quality of life. However, studies with a greater number of people with SCI should be carried out to further strengthen evidence-based practice aimed at Physiotherapy.
Keywords: Spinal Cord Injury, Quality of life, functional independence

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IS READINESS-TO-CHANGE DIFFERENTLY AMONG PATIENTS WITH CHRONIC LOW BACK PAIN DISTINCT PAIN PHENOTYPES?

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Background: Phenotypes can help classify Chronic low back pain (CLBP) into nociceptive, neuropathic, and nociplastic types based on the underlying pain mechanisms. This categorization aids in identifying the main type of pain and tailoring treatments, including behavior change, pain education, medications, and psychosocial support. The Pain Stages of Change Questionnaire (PSOCQ) can assess a patient's readiness for self-management. Different pain phenotypes may show varying levels of readiness for change; however, it was not previously reported in the literature.
Objectives: To identify differences in readiness for change between pain phenotypes in participants with CLBP.
Methods: This is a cross-sectional study that utilizes secondary data. The sample comprised participants with CLBP, both sexes, aged between 18 and 60 years, divided into subgroups by pain phenotype: nociceptive (G1), neuropathic (G2), nociplastic (G3) and mixed (G4). Participants answered the PSOCQ questionnaires to assess readiness for change covering four subscales (Precontemplation, Contemplation, Action and Maintenance), the score obtained is through a 5-point Likert scale, which ranges from "completely disagree" to "completely agree", and is calculated by averaging the responses, ranging from 1 to 5, Central Sensitization Inventory (CSI) 25 items and Pain Detect Questionnaire. For statistical analysis, one-way analysis of variance (ANOVA) was performed, followed by LSD post-hoc test ($p < 0.05$).
Results: A total of 150 participants, G1= 48, G2= 59, G3 = 8, G4 = 35 (97 women and 53 men with mean, standard deviation [SD] age of 41.07, SD = 11.55 years; mean weight of 76.70, SD = 16.75 kg and height of 1.67, SD = 0.09 m) were recruited for this study. The ANOVA revealed a significant difference in the scores of the PSOCQ between pain phenotypes only for the Pre-contemplation domain ($F(3, 146) = 2.89$, $p = 0.037$). The neuropathic (mean[M] = 3.07) showed significant higher scores for the pre-contemplation domain of the PSOCQ when compared to nociceptive (M = 2.45, p = 0.02) and nociplastic subgroups (M = 2.55, p = 0.04). In addition, the mixed group (M = 2.77) also showed higher score for pre-contemplation domain than the nociceptive group (M = 2.45, p = 0.03).
Conclusion: The results suggest readiness for change is influenced for pain phenotypes particularly for the Precontemplation stage. Patients with neuropathic pain and mixed pain phenotypes showed less readiness to change beliefs than patients which pain is classified as nociceptive.
Implications: Understanding differences in readiness for change between pain phenotypes can assist physical therapists in adjusting their therapeutic methods. Patients with nociceptive pain profiles appear more willing to participate in active treatments such as exercise, where modifying lifestyle is part of the therapy. We encourage physical therapists to categorize patients based on their pain phenotype profiles.
Keywords: Low back pain, Transtheoretical Model, Pain Management

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EFFECT OF PHOTOBIOMODULATION ON MYOFASCIAL PAIN IN THE TRAPEZIUS: A RANDOMIZED, DOUBLE-BLIND CONTROLLED TRIAL

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Background: Myofascial pain syndrome is characterized by trigger points (TPs), which cause pain in muscles and fasciae. Low-Level Laser Therapy (LLLT) has shown potential in treating TPs, contributing to pain reduction and the inflammatory process. However, inhibitory doses remain underexplored for this condition. TP formation is associated with a knot in the muscle fiber, leading to local vasoconstriction, but it may also contain inflammatory mediators. This creates a challenge in thermographic characterization, as a TP may present as either a colder region, due to vasoconstriction, or a warmer one, due to inflammation.
Objectives: To assess whether a dosage of 16J of 808nm LLLT induces changes in pain and skin temperature in individuals with TPs in the trapezius.
Methods: This is a double-blind, sham-controlled, randomized clinical trial with 52 volunteers of both sexes (= 18 years old) experiencing spontaneous trapezius pain for over three months and diagnosed with TPs. Sixty participants will be randomly assigned to two equal

groups: LLLT group (LLLTG), treated with an 808nm laser (16J) applied to TPs in the upper trapezius; and Sham group (SHAMG), which will receive the same protocol with a placebo LLLT. The treatment will consist of eight sessions, twice a week, over four weeks, with participants lying in a supine position, with their cervical spine in a neutral position. Pain perception (Numeric Pain Rating Scale), skin temperature (Tsk) (E54 thermographic camera, FLIR, USA), presence of TPs (palpation), and cervical disability index (Neck Disability Index) will be assessed at three time points: before, immediately after, and 48 hours post-protocol. The global perceived effect (GPE) will be evaluated after the final session and 48 hours later. The primary outcomes will be pain and Tsk. Statistical analysis will use linear mixed models in SPSS, and a Q-Q plot will be generated to check for normal distribution of the data.
Results: It is expected that the LLLT treatment protocol with an inhibitory dose of 16J on the trapezius will significantly reduce pain compared to the Sham group. Regarding skin temperature, it may increase if vasodilation is the predominant response to LLLT or decrease if there is a reduction in metabolic activity and inflammatory mediators. Improvements in the Neck Disability Index and global perception of improvement are also expected.
Conclusion: The findings of this study may provide evidence on the effects of the inhibitory dose of LLLT on pain and skin temperature in individuals with TPs. If the therapy proves effective, these results could contribute to the refinement of clinical follow-up and rehabilitation protocols.
Implications: The results may directly impact clinical practice by supporting a more effective treatment for TPs. If LLLT with an inhibitory dose demonstrates positive effects in reducing pain and modulating temperature, its application could serve as an alternative for the management of trigger points, expanding therapeutic options for physical therapists and other healthcare professionals. Meanwhile, thermography may serve as a useful tool for monitoring treatment responses.
Keywords: Pain, Low-Level Laser Therapy, Thermography

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EXPLORING THE RELATIONSHIP OF PAIN, DISABILITY, PSYCHOLOGICAL FACTORS, AND SLEEP QUALITY WITH SHOULDER MOBILITY DEFICITS IN FROZEN SHOULDER

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Background: Shoulder mobility restriction is a central feature in individuals with frozen shoulders, a musculoskeletal condition that significantly impacts the functionality of those affected. Psychological factors such as anxiety, depression, kinesiophobia, and pain catastrophizing, along with sleep quality, have been associated with pain and disability in various chronic pain conditions. However, it remains unclear which of these factors are most strongly associated with shoulder mobility deficits in individuals with frozen shoulder.
Objectives: To analyze the association of pain, disability, psychological factors (anxiety, depression, kinesiophobia, pain catastrophizing) and sleep quality with shoulder mobility deficits in individuals with frozen shoulder.
Methods: A cross-sectional study conducted via video call using Google Meet®. Shoulder mobility was assessed using Kinovea® software, considering flexion, abduction (in degrees), and external rotation (in centimeters) for the painful and non-painful sides. Pain and disability were measured using the Shoulder Pain and Disability Index (SPADI), while self-efficacy was evaluated using the Pain Self-Efficacy Scale (PSEQ-10). Anxiety and depression were assessed using the Hospital Anxiety and Depression Scale (HADS), kinesiophobia with the Tampa Scale for Kinesiophobia-11 (TSK-11), pain catastrophizing with the Pain Catastrophizing Scale (PCS), and sleep quality using the Pittsburgh Sleep Quality Index (PSQI). Data analysis was performed using multiple linear regression with two distinct models. In the first model, the external rotation mobility deficit (difference between painful and non-painful sides) was the dependent variable. In the second, the arm elevation deficit was calculated as the average of the differences in flexion and abduction, and was also a dependent variable. The other variables were considered independent.
Results: Ninety-six individuals participated, with 57 diagnosed with primary frozen shoulder and 39 with secondary frozen shoulder [72 women, mean age = 53.1 $\pm$ 10.8 years, BMI = 26.3 $\pm$ 4.8 kg/m^2]. For external rotation, none of the variables were associated with mobility deficits. However, for arm elevation, pain was significantly associated, contributing 5.5% to the variation in mobility ($f(1,94) = 6.52$, $p < 0.012$, adjusted $R^2 = 0.055$, RMSE = 19.35). Other psychological factors and sleep quality were not significantly associated with shoulder mobility deficits.
Conclusion: Pain was significantly associated with shoulder mobility restriction, particularly in arm elevation, although with a modest contribution. Psychological factors and sleep quality did not demonstrate a relevant association with mobility deficits.
Implications: These findings suggest that while pain has some impact on shoulder mobility, other factors not investigated in this study may have a more significant influence on mobility restriction. Psychological factors and sleep quality should likely not be the primary focus in addressing mobility deficits but could be incorporated as complementary strategies aimed at the patient's overall well-being.
Keywords: Frozen shoulder, shoulder pain, range of motion

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