

data. To assess kinesiophobia, the Brief Fear of Movement Scale, a reduced version of the Tampa Kinesiophobia Scale, was administered. This scale consists of 6 statements which relate symptom intensity to fear of movement. Subsequently, a kinematic assessment of the lower limb was performed during the sit-to-stand test. The images were processed using Kinovea® software. For statistical analysis, Pearson correlation test was applied, considering a significance level of $p < 0.05$.

Results: Knee flexion ($p=0.005$, $r=0.776$) and knee valgus ($p=0.006$, $r=-0.303$) angles during the sit-to-stand movement are associated with the level of kinesiophobia in women with KOA.

Conclusion: Women with KOA may alter their movement patterns when performing daily tasks as an attempt to avoid pain, due to fear of movement.

Implications: Kinesiophobia is a cognitive-behavioral factor that significantly affects the functionality of women with KOA, leading to kinematic alterations as an attempt to avoid pain. Given the high prevalence of kinesiophobia among older adults with musculoskeletal conditions, understanding the relationship between kinesiophobia and lower limb kinematics during functional movements highlights the importance of biopsychosocial approach in the physiotherapeutic treatment of individuals with KOA. To make treatment more personalized for this population, it is essential to provide education on the factors related to KOA and to progressively introduce individualized functional goals for each individual.

Keywords: Arthritis, Biomechanical Phenomena, Fear of Movement

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AGE AND ANXIETY WERE ASSOCIATED WITH INEFFICIENT PAIN MODULATION IN PATIENTS WITH MUSCULOSKELETAL PAIN

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Background: Conditioned pain modulation is a crucial physiological mechanism for regulating pain perception. Age, body mass index, and psychosocial status (i.e., symptoms of anxiety, social isolation, perceived stress, catastrophizing, kinesiophobia, and symptoms of depression) may influence the efficiency of this mechanism. However, these elements are commonly investigated separately.

Objectives: The current study evaluated the relationship between demographic features and psychosocial status and the efficiency of conditioned pain modulation in participants with and without musculoskeletal pain. We also investigated the same relationship stratifying by health condition (participants with musculoskeletal pain and asymptomatic individuals).

Methods: A cross-sectional study was conducted with 100 patients with musculoskeletal pain and 100 asymptomatic individuals. Participants answered questionnaires about sociodemographic characteristics and psychosocial status (Brief Screening Questions and Brief Psychological Screening Questions). The cold pressor test was the

psychophysical method used to assess conditioned pain modulation. The difference between pre-and post-test pressure pain threshold values calculated conditioned pain modulation efficiency. Negative values indicated conditioned pain modulation inefficiency, while null or positive values were considered a typical conditioned pain modulation response. A logistic regression model was fitted to examine the relationship between independent variables (demographic features and psychosocial status) and the conditioned pain modulation efficiency.

Results: The mean age of the sample was 33.17 (± 16.78) years, and the mean body mass index was 25.75 (± 5.46) kg/m². The symptomatic group had significantly higher age [symptomatic = 40.53 $\pm$ 19.51, asymptomatic = 25.74 $\pm$ 8.58; $p < 0.001$] and body mass index [symptomatic = 26.56 $\pm$ 5.81, asymptomatic = 24.93 $\pm$ 4.98; $p = 0.035$] than the asymptomatic group. Conditioned pain modulation was inefficient in 43 (21.50%) of the sample. Age (OR = 1.03; 95% CI: 1.01–1.05) was the only variable associated with inefficient pain modulation, considering the total group. Symptoms of anxiety (OR = 3.99; 95% CI: 1.05–15.1) and age (OR = 1.03; 95% CI: 1.00–1.06) were associated with inefficient pain modulation among the symptomatic group.

Conclusion: Increasing age and greater levels of anxiety higher the likelihood of presenting inefficient pain modulation in participants with musculoskeletal pain. The findings suggest that symptoms of anxiety are the strongest psychosocial predictor of pain response.

Implications: Psychosocial status should be incorporated into pain management in clinical practice, allowing for more individualised approaches. In addition, addressing symptoms of anxiety may be crucial for contributing to regulating pain perception.

Keywords: Diffuse Noxious Inhibitory Control, Musculoskeletal Pain, Observational Study

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

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IMPACT OF AURICULOTHERAPY WITH LASER BIOPHOTOMODULATION ON THE GENERAL HEALTH OF PATIENTS WITH TEMPOROMANDIBULAR DYSFUNCTION

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Background: The auriculotherapy with laser biophotomodulation is a technique used to promote the body's balance and treat several conditions. Individuals with Temporomandibular Disorder (TMD) often have compromised general health. The impact of this therapy on the health of these patients is not yet fully understood.

Objectives: Evaluating the effects of auriculotherapy with LASER biophotomodulation on the general health of individuals with TMD.

Methods: A randomized crossover clinical trial was conducted with 25 participants, divided into a Placebo Group (PG, $n = 14$) and an Experimental Group (EG, $n = 11$). The groups were assessed using the Patient Health Questionnaire (PHQ) before and after the intervention. The EG received treatment with LASER (100 mW, 602 nm, 5

J/cm²), twice a week for four weeks, while the PG received treatment with the device turned off. After 15 days, the groups were crossed over. Independent t-tests and paired t-tests were performed for statistical analysis.

Results: The PHQ of the EG significantly decreased after the intervention [$t(21) = 2.79$, $p = 0.01$], while in the PG it remained unchanged [$t(24) = 1.24$, $p = 0.20$]. The comparison between groups after the intervention showed no significant difference [$t(47) = 2.00$, $p = 0.05$].

Conclusion: Auriculotherapy with laser biophotomodulation showed positive effects on the general health of participants in the EG, but it was not significantly superior to the placebo treatment. Implications: These results suggest that the technique may have benefits for individuals with TMD, but further studies are needed to validate its clinical efficacy.

Keywords: Auriculotherapy, Temporomandibular Disorder, Patient Health, Rehabilitation

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CAN IMPROVEMENT IN POSTURAL CONTROL BE OBSERVED AFTER FOUR MONTHS OF ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION? PILOT STUDY

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Background: Anterior cruciate ligament (ACL) rupture accounts for 50% of all knee ligament injuries and is related to sports practice in young and active patients. ACL reconstruction (ACLR) contributes to improving knee function, reducing joint instability, and assisting the patient in returning to their activities. However, even after reconstruction surgery and well-structured rehabilitation programs, residual rotational instability may remain in up to 30% of patients, which highlights the importance of assessing stability, balance, and postural control. However, although there are studies showing the impact on joint stability, there is still no knowledge about postural control in different periods of the postoperative period.

Objectives: To establish the differences in bipedal and unipedal postural control before and after 15, 30, 60 and 120 days after ACL reconstruction surgery.

Methods: This is a pilot study evaluating 13 participants with ACL injury and surgical reconstruction who underwent analysis of bipedal and unipedal postural control before and after 15, 30, 60 and 120 days using a force platform. The variables analyzed were the center of pressure area (COP), anteroposterior amplitude (AAP), mediolateral amplitude (AML), anteroposterior velocity (VAP) and mediolateral velocity (VML). Three repetitions in bipedal support and three in unipedal support on the lower limb subjected to ACLR were evaluated. The mean of the attempts was considered as the result. The results were established by Repeated Measures Analysis of Variance. The assumptions were verified using Mauchly's sphericity test and when they were not assumed, an analysis was performed using the Greenhouse-Geisser correction. The F test, if a significant difference was identified, the Bonferroni multiple

correction test was used. Significance was set at 5%. Analyses were performed using IBM-SPSS 29.

Results: The participants were 10 men and 03 women, aged 25.09 (6.44) years, weighed 79.27 (16.67) kilos and measured 170.45 (8.64) centimeters in height. Postural control in the bipedal position showed no differences between the moments evaluated for COP ($P = 0.107$), AAP ($P = 0.217$), AML ($P = 0.269$), VAP ($P = 0.432$) and VML ($P = 0.477$). When the participants were in unipedal support, COP showed significant improvement ($P = 0.025$) with a difference between the preoperative moments (7.76 (2.17)) and after 120 days of surgery (5.93 (1.30)). The variables AAP ($P = 0.085$), AML ($P = 0.089$), VAP ($P = 0.669$) and VML ($P = 0.248$) did not show any changes.

Conclusion: ACLR improves postural control in single-leg stance by reducing the area of the center of pressure 120 days after surgery. These results establish the improvement in lower limb stability after ACLR.

Implications: Residual rotational instability may remain in up to 30% of patients. However, it is noted that ACLR has a beneficial impact on joint stability in different periods of the postoperative period, especially after 120 days of surgery.

Keywords: Anterior Cruciate Ligament Injury, Postural Control, Postural Balance, Physiotherapy

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COMPARISON OF THE SCIATIC AND MEDIAN NERVES NEURODYNAMIC IN ASYMPTOMATIC OLDER ADULTS AND YOUNGER ADULTS: OBSERVATIONAL CASE-CONTROL STUDY

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Background: Healthy peripheral nerves have the ability to adapt to increased neurodynamic tension generated by body movements. However, this adaptive capacity is reduced in pathological conditions. Although peripheral neuropathies are common in older adults, there is an absence of knowledge about the behavior of peripheral nerves in asymptomatic older adults.

Objectives: To compare the behavior of the sciatic and median nerves to neurodynamic tension in older adults and asymptomatic adults.

Methods: Sixty-eight asymptomatic participants (34 older adults and 34 sex-matched adults) were evaluated by ultrasound imaging of the sciatic and median nerves, in two positions with different degrees of neurodynamic tension for each nerve. For the median nerve, the first position kept the participant's right upper limb at 90 degrees of shoulder abduction and external rotation, elbow flexion at 90 degrees, forearm supination with the palm facing the participant, and the wrist and metacarpophalangeal joint in a neutral position. In position 2, the second examiner passively extended the elbow, wrist, and metacarpophalangeal joint until the perception of resistance limits the range of motion. For the sciatic nerve, the hip flexion was maintained at 60° in both positions. In Position 1, the knee was flexed at 90 degrees, and the tibiofibular joint remained neutral. In position 2, the knee was passively extended, and the