

Knee Scoring Scale), postural control during stair ascent and descent (force platform), quadriceps muscle activation (electromyography), and quadriceps strength (isometric dynamometer). Both groups performed the same exercises: bilateral squats, lunges, single-leg squats, and at the fourth week, single-leg squats on an inclined platform (25°), executed at the participant's most comfortable angle. Three sets of each exercise were performed, with up to 15 repetitions per set, over 12 sessions, twice a week, for a total treatment duration of six weeks. Statistical analysis was conducted using intention-to-treat analysis, effect size calculation, and generalized estimating equations (GEE) model. A generalized estimating equation (GEE) model, using specific syntax, was employed to compare the variables of anxiety and sleep. Multiple comparisons were conducted using the Bonferroni post hoc test. All analyses were performed using IBM-SPSS software, with a significance level set at 5%.

Results: Initially, the groups did not show differences in age, body mass index, physical activity level, or pain level ($P > 0.05$). Pain, functional capacity, postural control, and muscle strength were similar between the groups at all three assessment points ($P > 0.05$), with improvements in pain and functional capacity after treatment ($P < 0.05$; $d > 1$). Muscle activation results were inconclusive, G1 showed less activation of the rectus femoris and greater activation of the vastus medialis at follow-up. No differences in pain during exercise execution were found ($P = 0.79$).

Conclusion: The results indicate that treatment protocols for PFP using PVO or resisted exercises with an external load of 20% of body weight similarly improved pain and functional capacity.

Implications: The use of PVO and resisted exercises proved to be effective therapeutic options for improving pain and functional capacity in women with patellofemoral pain.

Keywords: Patellofemoral pain, Vascular Occlusion, Exercise

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

Funding: CAPES - Finance Code 001.

Ethics committee approval: CAAE: 68578023.3.0000.5142.

Registration: Not applicable.

<https://doi.org/10.1016/j.bjpt.2025.101506>

244

EFFECT OF THE MAT PILATES METHOD ASSOCIATED WITH FRENCH AURICULOTHERAPY IN POST-COVID-19 PATIENTS – A RANDOMIZED CLINICAL TRIAL

Sandra Aparecida Dias, Caroline Lima de Farias, Claudilene Pereira, Giovana Eduarda Paulino, Vitória da Conceição Corrêa Braga, Andressa Cristine da Silva Ramos, Andréia Maria Silva Vilela Terra, Adriana Teresa Silva Silva

Universidade Federal de Alfenas (UNIFAL), Alfenas, MG, Brazil

Background: Post-COVID-19 syndrome is characterized by the persistence of symptoms for more than three months after infection, affecting multiple body systems.

Objectives: To evaluate the effects of Pilates and auriculotherapy on body image, cardiac autonomic function, energy profile, anxiety, brain electrical activity, sleep quality, and quality of life in post-COVID-19 patients.

Methods: The sample included 25 volunteers with post-COVID-19 syndrome. Functionality was assessed using the post-COVID-19 Functional Status (PCFS) Scale, body image with the Body Dysmorphic Disorder Examination (BDDE), sleep quality with the Pittsburgh Sleep Quality Index (PSQI), quality of life with the WHOQOL-BREF, and anxiety with the State-Trait Anxiety Inventory (STAI) and salivary amylase levels. Cardiac autonomic function, energy profile, and brain waves were also evaluated. The Pilates Group (PG)

performed Mat Pilates twice a week for 50 minutes over five weeks. The Pilates and Auriculotherapy Group (PAG) followed the same protocol, with the addition of weekly auriculotherapy sessions.

Results: A reduction in body dissatisfaction was observed in the Pilates group, as well as a decrease in anxiety levels and a positive impact on heart rate variability, suggesting improved autonomic balance. Quality of life improved in the group that combined both interventions. Although sleep quality and salivary amylase levels did not show statistical significance, changes in brain electrical activity and energy profile reinforce the positive effects of the applied therapies.

Conclusion: This study demonstrated that, although the Pilates Group showed more evident and significant results in several variables, the combination of Pilates with Auriculotherapy also provided benefits, albeit in a more subtle manner. These two approaches can indeed be complementary, as both aim to promote the physical and emotional balance of post-COVID-19 patients. However, the results suggest that the combined intervention did not have as strong an impact as Pilates alone, highlighting the need for further research with larger samples.

Implications: This study contributes to the understanding of the effects of Pilates and Auriculotherapy in the post-COVID-19 context but also highlights the need for future research with larger samples to further explore the potential of these combined therapies and their implications for patient rehabilitation.

Keywords: Body Image, Pilates Method, Auriculotherapy

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

Funding: CAPES - Finance Code 001.

Ethics committee approval: CAAE: 45528821.6.0000.5154.

Registration: Not applicable.

<https://doi.org/10.1016/j.bjpt.2025.101507>

245

CONSTRUCT VALIDITY AND RESPONSIVENESS OF THE DA PAIN CATASTROPHIZING SCALE IN INDIVIDUALS WITH ROTATOR CUFF-RELATED SHOULDER PAIN

Felipe Marques da Silva, Gabriel Alves dos Santos, Bruna Gabriella Nascimento Bezerra, Mayara Ribeiro Da Silva, Marlison Douglas Nascimento Silva, Valéria Mayaly Alves De Oliveira, Danilo Harudy Kamonsek, Paula Rezende Camargo

Department of Physical Therapy, Universidade Federal da Paraíba (UFPB), João Pessoa, PB, Brazil

Background: Rotator cuff-related shoulder pain (RCRSP) is a common complaint in the general population. Pain catastrophizing plays a crucial role in the experience and management of chronic musculoskeletal pain, including rotator cuff-related shoulder pain (RCRSP). The Pain Catastrophizing Scale (PCS) is widely used to assess catastrophic thinking related to pain, but its construct validity and responsiveness in individuals with RCRSP require further investigation.

Objectives: To evaluate the construct validity and responsiveness of the PCS in individuals with RCRSP.

Methods: This was a cross-sectional study approved by a research ethics committee. This study included individuals aged 18 years or older, with shoulder pain for at least 3 months, and pain intensity of 3 or higher on an 11-point numerical rating pain scale (NPRS) during arm elevation. The construct validity was analyzed through hypothesis testing. This study hypothesizes that the rumination, magnification, and helplessness subscales and total score of PCS are moderately ($r > 0.40$) and positively associated with pain intensity,

upper limbs disability (quick version of Disabilities of the Arm, Shoulder, and Hand (QuickDASH) questionnaire), and fear of movement (Tampa Scale for Kinesiophobia (TSK)). . Validity was deemed acceptable if = 75% of the hypotheses were confirmed. Responsiveness was analyzed in individuals treated for eight weeks using effect size (ES), standardized response mean (SRM), and area under the curve (AUC-ROC). ES and SRM values were interpreted as small (< 0.50), moderate (0.50–0.80), or large (> 0.80). The Global Rating of Change (GROC), used as an external anchor, classified individuals as having "significant improvement" or "mild/no improvement" (cut-off = 4). AUC > 0.70 indicated adequate responsiveness. Statistical analyses were conducted using SPSS 23.0, with a significance level of 0.05.

Results: The validity analysis included 64 participants, while the responsiveness analysis involved 59. The mean age was 37.5 ± 12.3 years for validity and 37.7 ± 12.6 years for responsiveness. The mean symptom duration was 12.0 ± 6.27 months in both analyses, and the mean pain intensity was 6.9 ± 2.0 for validity and 6.9 ± 1.9 for responsiveness. Construct validity analysis showed that the PCS met 83% of the proposed hypotheses. The PCS exhibited a significant moderate correlation with TSK, NPRS, and QuickDASH, except for the rumination and magnification subscales, which showed a weak correlation. The rumination, helplessness subscales, and total PCS score demonstrated a large effect size and responsiveness, while the magnification subscale showed a moderate effect. All subscales and the total PCS score had an AUC above 0.7, indicating good responsiveness.

Conclusion: The PCS demonstrated adequate construct validity and responsiveness in assessing individuals with chronic RCRSP.

Implications: The PCS demonstrated adequate validity and responsiveness for assessing pain catastrophizing in individuals with chronic RCRSP. Its use can aid clinicians in identifying maladaptive pain-related thoughts and monitoring treatment progress.

Keywords: Construct validity, Responsiveness, Pain catastrophizing

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

Funding: CNPq.

Ethics committee approval: CAAE: 79684524.7.0000.5188.

Registration: Not applicable.

<https://doi.org/10.1016/j.bjpt.2025.101508>

246

CAN ACTION OBSERVATION TECHNIQUE RELIEVE PAIN IN FIBROMYALGIA? DEVELOPMENT OF A RANDOMIZED CONTROLLED CLINICAL TRIAL PROTOCOL TO EVALUATE ITS EFFECTIVENESS

Michele Ghilardi, Beatriz Helena Loscher, Eneida Yuri Suda
Universidade Cidade de São Paulo (UNICID), São Paulo, SP, Brazil

Background: Fibromyalgia (FM) is a syndrome characterised by chronic diffuse primary pain associated with fatigue, sleep disturbance, cognitive and somatic complaints. Its presence has a significant impact on activities of daily living, affecting the functionality, emotional well-being and quality of life of this population. The wide variety of symptoms reflects dysfunction in multiple body systems, with central nervous system involvement being a central factor. Central sensitisation of pain is considered the most relevant pathophysiological hypothesis in literature, reinforcing the importance of rehabilitation strategies aimed at its modulation. In addition, FM also impairs motor control and the study of muscular activation patterns and the effect of rehabilitation strategies in muscular activation can also contribute to FM management. Movement representation strategies are

interventions that neurophysiologically evoke the perceptual and cognitive representation of movement through observation combined, or not, with the actual execution of the movement, which can cause an increase in cortical excitability. Therefore, they have the potential to reverse the inhibition produced by physiological processes associated with chronic pain, such as those presented by patients with FM.

Objectives: Development of a treatment protocol based on action observation, a movement representation strategy, to evaluate its effectiveness in reducing pain and the impact of fibromyalgia through tools that can measure whether there are changes in cortical excitability and muscle recruitment patterns.

Methods: This two-arm parallel randomized controlled clinical trial with a blinded evaluator will include eighty-two patients aged between 20 and 75 years who meet the ACR2016 classification criteria for FM. The subjects will be randomized into two groups: an intervention group (IG-I), that will receive a rehabilitation protocol based on exercises associated with action observation technique, and a control group (CG-I) that will receive a booklet with general guidelines on FM. The primary outcome will be pain intensity, and the secondary variables will be the impact of fibromyalgia, pain sensitivity, fatigue level, level of functionality, level of disability, sleep disturbances, and the patient's global perception of change, kinesiophobia, health-related quality of life, encephalographic (EEG) activity and electromyographic (EMG) activity of the trapezius, vastus lateralis and tibialis anterior muscles. A mediation analysis will also be performed to investigate if increased cortical excitability mediates improvement in pain.

Results: The results of this study will provide important information on the effects of movement representation strategies on cortical activation, motor recruitment, intensity and pain perception in FM patients.

Conclusion: It is expected that this study will contribute to the development of more effective therapeutic approaches for the management of fibromyalgia, improving the quality of life of this population.

Implications: This study may clarify whether movement representation techniques can be incorporated into the clinical practice of physical therapists treating patients with fibromyalgia.

Keywords: Action observation, Fibromyalgia, Motor control, Cortical excitability, Chronic pain

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

Funding: CNPq.

Ethics committee approval: No. 4.062.833.

Registration: Not applicable.

<https://doi.org/10.1016/j.bjpt.2025.101509>

247

USE OF HEALTH SERVICES BY PERSONS RESIDENT IN QUILOMBOLA TERRITORY

Josielma da Silva Fernandes^a, Alessandro Leite Cavalcanti^a,
Marcia De Araujo Corcino Fernandes^b

^a Programa de Pós-Graduação em Saúde Pública, Universidade Estadual da Paraíba (UEPB), Campina Grande, PB, Brazil

^b Programa de Pós-Graduação em Fisioterapia, Universidade Federal da Paraíba (UFPB), João Pessoa, PB, Brazil

Background: The Remnant Quilombo Communities are formed by descendants of enslaved black people and maintain a system of social organization related to their ancestry. This population group has presented situations of vulnerability since the historical process of enslavement, resulting in social and health inequalities. This reality highlights the need for studies that verify the use of health