

biofeedback of laser (BFlaser), consisting of pointing a laser as close as possible to the same target used before from the right wrist. The CP position was measured using the force platform for 60 seconds and the CP sway area was computed using the whole trial data in each experimental task. Scales for the assessment of balance confidence and anxiety, consisting of visual scales ranging from 0 to 100, were applied at the end of each task. On the confidence scale, “0”, “50” and “100” mean “no confidence”, “moderate confidence” and “complete confidence”, respectively. On the anxiety scale, “0”, “50” and “100” denote “no anxiety”, “moderate anxiety”, and “complete anxiety”. A one-way analysis of variance (ANOVA) for repeated measures was used to compare the emotional scores and CP sway area among postural tasks, and post hoc comparisons were made with the Tukey HSD test (significance level of 5%).

**Results:** ANOVA ( $F=6.19$ ,  $p<0.01$ ) revealed a smaller balance confidence in BFcp (média±desvio padrão;  $72.88\pm22.41$ ) than EO ( $86.15\pm22.05$ ), while no differences were observed between BFlaser ( $81.34\pm19.82$ ) and the other tasks. For anxiety, ANOVA did not show differences among EO ( $20.76\pm33.21$ ), BFcp ( $27.88\pm25.42$ ), and BFlaser ( $24.23\pm29.78$ ). Moreover, the CP sway area ( $F=33.11$ ,  $p<0.01$ ) was significantly smaller in the BFcp ( $2.27\pm1.27$  cm<sup>2</sup>) than EO ( $3.54\pm2.08$  cm<sup>2</sup>) and BFlaser ( $5.51\pm2.87$  cm<sup>2</sup>), and in the EO compared to BFlaser ( $p<0.01$  in all cases).

**Conclusion:** Balance confidence alterations were identified with BFcp in relation to the other postural tasks. These findings seem to suggest that psychological factors could contribute to explain, even if partially, alterations in the postural stability during the biofeedback; a smaller CP sway area was found in BFcp than EO.

**Implications:** These aspects seem to be little exploited in the clinical environment, in which the knowledge of factors associated with postural stability during biofeedback could assist in improving the evaluation and rehabilitation protocols of postural control.

**Keywords:** Postural balance, Biofeedback, Balance confidence

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### PROGNOSTIC MODELS FOR PEOPLE WITH LOW BACK DISORDERS RECEIVING CONSERVATIVE TREATMENT: A SYSTEMATIC REVIEW

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**Background:** Low back pain is a musculoskeletal condition that affects many people worldwide and although there are several types of conservative treatments, either physiotherapy and/or pharmacological, the patient does not always obtain satisfactory results after treatment. To improve this situation, many prognostic models have been studied, developed, and validated. However, it is uncertain the available evidence about the prognostic models for predicting

the success or failure of patients with low back pain after a conservative treatment.

**Objectives:** Identify and evaluate prognostic models' ability to predict success or failure in patients with low back pain after receiving conservative treatments.

**Methods:** Literature searches were conducted in three different electronic databases (MEDLINE, EMBASE and CINHAL). Prognostic models predicting the success or failure of conservative treatment in adults with low back pain were considered eligible. Studies investigating low back pain related to a severe pathology were excluded. Two independent reviewers performed the study selection and data extraction. The individual performances of the prognostic models were performed descriptively.

**Results:** Searches initially retrieved 13,013 studies. After analysis considering inclusion criteria, 81 studies were included in this systematic review. Of these, 78 (96.3%) developed and internally validated the prognostic models, and only 4 (3.7%) developed and externally validated the models. Regarding the discrimination of the models studied, the c-statistics or area under the curve (AUC) ranged from 0.44 to 0.96. Regarding the calibration, the calibration slope and intercept ranged from 0.74 to 1.06 and from -0.01 to 0.34, respectively. Regarding the sensitivity and specificity of the prognostic models, there was a variation between 31.0% and 94.5% and from 14.9% to 93.7%, respectively.

**Conclusion:** Although prognostic models have been developed, discrimination and calibration, as well as specificity and sensitivity, varied significantly among them. In addition, there were few studies investigating the external validation of these models.

**Implications:** Although some prognostic models have been developed, validated, and are able to predict success or failure in patients with low back pain undergoing conservative treatment, necessary to implement such models in clinical practice due to the lack of evidence regarding external validation.

**Keywords:** Low back pain, Prognostic models, Conservative treatment

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### PREVALENCE OF SARCOPENIA IN BRAZILIAN ELDERLY: AN UPDATE AND SYSTEMATIC REVIEW

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**Background:** The sarcopenia associated with aging is characterized by loss of muscle mass and strength, decline in functionality, independence, and quality of life. With increasing life expectancy in Brazil, the number of elderly is growing, and with this, attention must be paid to changes in sarcopenia prevalence rates over the years.

**Objective:** This systematic review aims to estimate and update data on the prevalence of sarcopenia in Brazilian elderly.

**Methods:** Electronic and manual searches of databases, relevant journals and reference lists with no language restriction were performed. English descriptors (mentioned in a previous study<sup>1</sup>) were

used in the detailed search strategy. Cross-sectional, cohort, longitudinal and all studies that reported the prevalence of sarcopenia in Brazilian elderly individuals aged 60 years or older, whether community-based, institutionalized, clinical, outpatient and/or inpatient, were included in the study. The sub-classifications of Sarcopenia investigated were pre or risk of sarcopenia, confirmed sarcopenia, severe or severe sarcopenia. After evaluating titles and abstracts, potential full texts were assessed for eligibility by two independent reviewers (SPC and LACT). Studies that met the eligibility criteria were included. The search strategy used English descriptors related to "prevalence", "epidemiology", "sarcopenia", "elderly", "Brazil" and their variations<sup>1</sup>. Register PROSPERO 2022 CRD42022355825.

**Preliminary results:** A total of 4830 studies were found in databases that included MEDLINE, AMED, CINAHL, EMBASE, LILACS, SciELO, Google Scholar hand search. In addition, a manual search of relevant journals and reference lists of eligible studies was performed, and Brazilian experts in the field were consulted to identify any important studies and previous systematic reviews (November 2022). Of these studies, 152 were duplicate articles, 4678 had their titles and abstracts evaluated, 369 articles were selected for reading in full. Of the total number of studies analyzed, 60 were included, with 18,258 participants. The mean prevalence of sarcopenia was 28.59% [0.3% (minimum value) to 63.2% (maximum value)]. Among the likely factors contributing to the variability in the prevalence of sarcopenia in Brazil are the heterogeneity of diagnostic criteria and the changes in muscle mass, muscle strength, and physical function assessed by different instruments ranging from calf measurements to dual-energy x-ray absorptiometry.

**Conclusion:** Aging-related sarcopenia is an emerging public health problem in Brazil. Updates on the subject show an increase in the prevalence of sarcopenia in the elderly in Brazil. Thus, there is an urgent need for planning health strategies aimed at the prevention of sarcopenia in the elderly population.

**Implications:** Improvement of public health and consequently the functionality of the elderly.

**Keywords:** Sarcopenia, Elderly, Prevalence

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**Ethics committee approval:** Not applicable.

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### DO THERAPIST-ORIENTED HOME REHABILITATION IMPROVE HAND FUNCTION AND HANDGRIP IN WOMEN WITH SYSTEMIC SCLEROSIS?

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**Background:** Systemic Sclerosis (SS) presents peculiar clinical and functional aspects that limit activities of daily living (ADL). The hands are primarily affected, and the functional disability of the hands is one of the main components of their overall disability.

**Objectives:** To evaluate the impact of a therapist-oriented home rehabilitation (TOHR) on the perception of difficulty in performing manual tasks and on peripheral muscle strength.

**Methods:** Prospective quasi-experimental, longitudinal study, including women diagnosed with SS based on the criteria of the

American College of Rheumatology and the European League Against Rheumatism, from the outpatient clinic of the Pedro Ernesto University Hospital. The physiotherapist accompanied the rehabilitation of people with SS at a distance, for a period of 12 weeks. The home exercise program consisted of 3 sessions per week, including flexibility training exercises, muscle strengthening, postural control training and aerobic training and relaxation exercise. To measure the difficulty in manual tasks, the Cochin Hand Function Scale (CHFS) was used, it contains 18 items about ADL that require manual skill. There are six possible answers for each item, according to the difficulty of performing the task (0 to 5). The final score is the sum of all items and ranges from 0 to 90, the higher the score, the greater the difficulty in manual function. And to measure handgrip strength, an isometric hydraulic dynamometer (SH5001, Saehan Corporation, Korea) was used in the hand on the dominant side of the body, the highest value recorded among three measurements being considered for analysis, which followed the standardization of American Society of Hand Therapists. For comparison, the methods were applied pre-TOHR and post-TOHR.

**Results:** From November 2021 to November 2022, 23 women diagnosed with SS were recruited, with 5 patients excluded due to difficulty walking (n = 3) and treatment abandonment during the study protocol (n = 2). Among the 18 patients in the sample, we found a significant drop in the CHFS test score (p = 0.009) between the evaluation [21 (4–38)] and reassessment [13 (5–21)] moments. However, we did not observe significant changes (p = 0.060) in the handgrip measured in the assessment [23 (13–26)] and in the reassessment [24 (15–27)].

**Conclusion:** Alterations in the hands of people with SS, such as progressive thickening of the skin, tendon fibrosis, muscle fibrosis, stiffening of the palmar aponeurosis, can lead to deformities and limit the range of motion. Physical exercise programs increase the efficiency of the muscles, improve joint articulation, in addition to having benefits in blood circulation, in the local inflammatory reaction and in the reduction of tissue stiffness. In this study, this was reflected in the perception of improvement in performing manual tasks, despite we did not objectively identify an increase in handgrip strength.

**Implications:** A therapist-oriented home rehabilitation (TOHR) have a powerful effect on the performance of manual tasks. Thus, they should be recommended as an adjunct to the drug treatment of patients with SS, as they increase physical and functional capacity.

**Keywords:** Hand function, Rehabilitation, Systemic sclerosis

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### DEPRESSIVE SYMPTOMATOLOGY WITH DISABILITY IN OLDER ADULTS DURING THE COVID-19 PANDEMIC: A CROSS-SECTIONAL STUDY

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**Background:** Depressive symptoms are manifested by depressed mood and lack of interest in carrying out activities of daily living. Disability is the term used to explain the negative aspects of the interaction between the individual and their contextual factors,