"disability" and synonyms. The articles were selected in two stages. First, there was selection by means of titles and abstracts based on the objective. The studies were read in the second phase and selected using the eligibility criteria: clinical trials, elderly with CLBP, and exercise. Each item of the measurement instruments was analyzed according to the first level of the CIEZA flowchart (CIEZA et al., 2019), which considers the ICF domains in its composition. Transition to the BPS model was considered if the measurement instruments of the studies had items that assessed body structure and functions with at least one more of the ICF domains described in level 1 of the flowchart. And the biomedical approach when the instrument represented only body structure and functions. The search and selection of the studies were developed by two independent reviewers (D, V), as well as the extraction and analysis of the data (descriptive).
Results: 515 studies were identified, 15 included, with publication year ranging from 2000 to 2020. The primary outcomes of the studies included: pain (intensity, catastrophizing, and perception), kinesiophobia, disability, quality of life, self-efficacy, self-care, physical activity and fear. The secondary ones were fall efficacy, sleep, general health, mobility. Thirty-one instruments were extracted, 23 (74.19%) evaluated concepts linked to the structure and function domain, 18 (58.06%) personal factors, 11 (35.48%) activity and participation, and 4 (12.9%) environmental factors. The distribution of the items of the instruments evaluated according to the CIEZA flowchart indicated that 100% of the studies were making the transition to the BPS model.
Conclusion: There is a transition from the biomedical model to the BPS model in all the studies including elderly people with CLBP. However, there is a predominance of the evaluation of the body structure and function domain, compared to the other ICF domains, in the measurement instruments.
Implications: Although there has been a transition to the BPS model, we suggest using more tools that involve activity and participation domains, environmental factors, and personal factors as outcome measures for exercise studies conducted with older adults with CLBP.
Keywords: Chronic low back pain, Elderly, Disability

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CARDIAC AUTONOMIC FUNCTION AND FUNCTIONAL CAPACITY IN POST-COVID-19 INDIVIDUALS WITH SYSTEMIC ARTERIAL HYPERTENSION

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Background: The COVID-19 is a recent and highly contagious disease. Individuals diagnosed with systemic arterial hypertension (SAH) are considered risk groups and may have a stronger association with higher level of COVID-19 severity and increased mortality. Furthermore, individuals infected with COVID-19 may also have cardiac autonomic dysfunction (CAD), as well as reduced functional capacity (FC) in the recovery period of disease. However, it is unclear whether individuals infected with COVID-19 have impaired CAD, as well as a greater reduction in FC compared to individuals with SAH not infected to COVID-19.
Objectives: We assessed if cardiac autonomic function and FC differ in SAH patients with post-COVID-19 compared to SAH individuals without COVID-19 infection.
Methods: Methods: We evaluated 40 individuals (31 to 80 years old, both sexes) diagnosed with SAH who had or did not have COVID-19. Volunteers were divided into 2 groups: Group 1 (G1), individuals with SAH and COVID-19 and Group 2 (G2), individuals with SAH. Cardiac autonomic function was assessed with heart rate variability (HRV) method. R-R intervals from ECG were recorded at rest in the supine position for 10 minutes. Stable sequences of 256 R-R intervals were chosen and was analyzed using symbolic analysis (SA) as follows: 0V% (patterns with no variation - sympathetic modulation), 1V% (patterns with one variation, - sympathetic and parasympathetic modulation), 2LV% (patterns with two like variations - parasympathetic modulation) and 2UV% (patterns with two unlike variations - parasympathetic modulation) indices. The FC assessment was performed by 6-minute walk test (6MWT). Student t-test or Mann-Whitney test was performed to compare groups. Furthermore, the correlation between SA indices and the 6MWT was tested by Pearson or Spearman correlation test).
Results: The G1 was composed of 21 individuals (53$\pm$13 years; 57% female) and G2 was composed of 19 individuals (53$\pm$11 years; 32% female). The groups were similar in terms of age, anthropometric data, clinical status and medication. The SA did not show significant differences between groups. Regarding the distance covered in meters in 6MWT, G2 showed higher values when compared to G1 (G1: 464.70$\pm$59.41 vs. G2: 522.21 $\pm$77.6, $p<0.05$). There was a positive and moderate correlation between the 6MWT and the 2LV% index only in G2 ($r=0.58$; $p<0.05$). The other variables did not show any significant correlations for both groups.
Conclusion: Individuals with SAH who had COVID-19 walked a shorter distance demonstrating that there was a greater impact on the functional capacity of this population. The SAH together with COVID-19 did not show a worsening in cardiac autonomic function when compared to the SAH group without infection to COVID-19.
Implications: The results of our study can contribute to the clinical applicability of several health professionals, with the aim of guiding rehabilitation programs for these individuals and thus improving their physical capacity.
Keywords: COVID-19, Arterial hypertension, Functional capacity

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PLASTICITY OF SKELETAL MUSCLE AFTER PARTIAL INJURY OF THE ACHILLES TENDON IN RATS

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Background: Skeletal muscle is one of the most dynamic tissues in the human body. Among many adaptations, skeletal muscle plasticity may be related to its extensive structural and metabolic remodeling. However, there are some gaps in the literature on the adaptive response of skeletal muscle to tendon injury.
Objectives: To evaluate the effects of partial injury of the Achilles tendon (CT) on remodeling and plasticity of the gastrocnemius muscle (GM) after partial injury of the Achilles tendon using a mouse model.
Methods: The study was performed on Wistar rats that were divided randomly into five experimental groups (Project Ceua Approved

028/15). The group control consists of animals that were not submitted to partial injury of the Achilles tendon (TC) and four other groups that were submitted to partial injury of the TC and subdivided by the time of tissue collection, namely: 3.1428 and 55 days after the injury. the muscle gastrocnemius was collected and used for the analysis of gene expression, zymography, and morphology. The CTwas collected only to prove the presence of the lesion.
Results: The tendon injury generated a decrease in the expression of genes Vegf, Smad3, Egr and Akt 3 days in skeletal muscle. As well as increased gene expression, Col3a1, Ctgf, Timp- 2 and Bgn. All when compared to the control group. In the period of 14 days after partial injury of the Achilles tendon, a decrease in the Mstn and Smad3 gene content was verified. On the other hand, there was an increase in the expression levels of the Akt and Vegf genes. In the period of 28 days after the injury, there was an increase in the levels of expression of the genes Tgf-b, Vegf, Mstn, Pax7 and Myod1. With the decrease of Smad3 expression, Akt. Finally, 55 days after partial Achilles tendon injury, the Akt, P70s6k, Pax7, Mstn and Atrogin-1 genes showed an increase in their expression. While the levels of Smad3, Timp-2 showed a decrease. As for the zymography analysis of MMP-2 activity in the gastrocnemius muscle, it was demonstrated that MMP-2 pro increased in the 28D and 55D groups when compared to the control group. For morphological analyses, only the 55D group showed an increase in cross-sectional area and diameter.
Conclusion: The project is in the phase of discussing the results, but the partial injury of the Achilles tendon in rats probably affected the homeostasis of the skeletal muscle, disturbing signaling/degradation pathways, in addition to impacting the remodeling process through the communication of the muscular extracellular matrix with the tendon.
Implications: The findings of this study have the potential to improve the understanding of the underlying effects of the muscle-tendon relationship and may provide valuable information for the development of targeted therapies aimed at improving the recovery and rehabilitation of muscle and tendon injuries. Furthermore, the results of this study may help to identify new therapeutic targets and biomarkers for the diagnosis and monitoring of muscle and tendon injuries, allowing for a more personalized and effective treatment.
Keywords: Injury, Muscle-tendon interaction, Remodeling

Conflict of interest: The authors declare no conflict of interest.
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SEDENTARY BEHAVIOR AND PHYSICAL ACTIVITY LEVEL OF OLDER ADULTS DURING AND AFTER THE RESTRICTIVE MEASURES OF THE COVID-19 PANDEMIC

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Background: The COVID-19 pandemic has actively impacted the lifestyle of older adults, interrupting their participation in exercise programs (EP) and consequently increasing sedentary behavior (SB) and decreasing physical activity (PA). However, the flexibilization of the pandemic's restrictive measures is expect that the older adults will return to adopting an active lifestyle.
Objectives: To compare the SB and PA level of older adults during and after the restrictive measures of the COVID-19 pandemic.
Methods: This is an observational and longitudinal study. Older adults ($\geq$60 years old), with preserved ambulation and participants in the multicomponent EP (3x50min during the week) before the COVID-19 pandemic were included. The participants were evaluated 18 months (T1= during the restrictive measures of the pandemic) and 24 months (T2= after the restrictive measures of the pandemic) after the interruption of the EP. SB and PA level were evaluated by the ActivPAL3^{TM} micro accelerometer. SB variables were daily SB time, % of SB time during the day, daily sitting time, number of sedentary bouts $>$ 30min and time spent in sedentary bouts $>$ 30min. The PA level was described by the number of steps per day. To evaluate the effect of time in the SB variables and the PA level, a generalized linear mixed model analysis was used. Time was considered a fixed effect and participants a random factor. Results are presented in estimated marginal means and standard error. Statistical analysis was performed using the JAMOVI software (version 2.3.18) and a significance level of $p < 0.05$ was adopted.
Results: Seventeen older adults were included (75.8 $\pm$ 7.47 years, 76.5% female). No statistically significant differences were observed in the time spent in SB (T1= 8.49 h and T2= 8.85 h, X^2= 1.99, Dif= 0.356, p= 0.158), % of time in SB (T1= 55.9 % and T2= 56.3%, X^2= 0.06, Dif= 0.382, p= 0.793), sitting time (T1= 8.06 h and T2= 7.87 h, X^2= 0.324, Dif= -0.191, p = 0.569), number of sedentary bouts $>$ 30min (T1= 3.85 and T2= 4.14, X^2= 0.941, Dif= 0.293, p= 0.332), time spent in sedentary bouts $>$ 30min (T1= 4.23 h and T2= 3.90 h, X^2= 0.998, Dif= -0.332, p= 0.318) and in the PA level (T1= 9521 steps and T2= 9862 steps, X^2= 0.653, Dif= 341, p= 0.419) of older adults after the flexibilization of the restrictive measures of the COVID-19 pandemic.
Conclusion: No significant changes were observed in the SB and PA level of older adults who participated in an EP after the flexibilization of restrictive measures of the COVID-19 pandemic.
Implications: The findings of this study demonstrate that despite the flexibilization of restrictive measures of the COVID-19 pandemic, the older adults continue to have high rates of SB, demonstrating the need to implement public policies that reduce SB and encourage the practice of PA.
Keywords: Aged, Sedentary Behavior, COVID-19

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RELATIONSHIP BETWEEN SEDENTARY BEHAVIOR, PHYSICAL ACTIVITY LEVEL AND PHYSICAL FUNCTION OF OLDER ADULTS DURING THE COVID-19 PANDEMIC: CROSS-SECTIONAL STUDY

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