analysis was performed using the Statistical Package for the Social Sciences (SPSS – 26.0), with a significance level set at P = 0.05.
Results: A significant reduction in HR was observed in the TRLB+RFS +IMT protocol when comparing pre-intervention to 10 minutes post-intervention and immediately post-exercise to 10 minutes post-intervention. In the TRMB+IMT protocol, there was also a reduction at 10′ post when compared to pre-intervention, with no intergroup differences observed. In the TRLB+RFS+IMT protocol, systolic blood pressure (SBP) decreased when comparing pre vs. 10′ post-intervention and immediately post vs. 10′ post-intervention across all three protocols. Diastolic blood pressure (DBP) did not show significant intergroup differences; however, the Friedman ANOVA test indicated a significant reduction in the TRLB+RFS+IMT protocol between pre-intervention vs. 10′ post and immediately post vs. 10′ post.
Conclusion: RT, associated with IMT, with or without BFR, promoted a hypotensive effect on SBP and a decrease in HR. However, the TRLB+RFS+IMT was the only protocol that showed a hypotensive effect on DBP. Therefore, further studies are needed to evaluate the chronic effects of these protocols to identify the long-term efficacy of the intervention.
Implications: The reduction in BP and HR provided by RT associated with IMT, with or without BFR, was able to optimize gains in the clinical rehabilitation of COPD, as exercise tolerance and functional capacity increased.
Keywords: COPD, BFR, Diastolic blood pressure

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DUKE ACTIVITY STATUS INDEX: CORRELATION WITH FUNCTIONAL MEASURES IN CHAGAS DISEASE PATIENTS FROM AN ENDEMIC REGION

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Background: Chagas disease is a neglected tropical disease that can progress to a chronic cardiac form, leading to functional impairment and reduced exercise tolerance. Assessing functional capacity in this population is essential for guiding rehabilitation strategies. The Duke Activity Status Index (DASI) is a questionnaire-based tool commonly used to estimate functional capacity, but its correlation with other objective and subjective functional measures in Chagas disease remains unclear.
Objectives: To evaluate the correlation between the DASI and functional performance measures, including the Human Activity Profile (HAP), the Sit-to-Stand Test (STS), and handgrip dynamometry, in patients with Chagas disease.
Methods: A cross-sectional study was conducted with 50 patients diagnosed with Chagas disease (66±8 years) in an endemic area for Chagas disease. Participants completed the DASI and HAP questionnaires and underwent physical performance tests, including the STS (5-repetition, 10-repetition, 30-second, and 1-minute protocols) for lower limb strength and endurance, as well as handgrip dynamometry for overall muscle strength. Correlation analysis was performed using Pearson's or Spearman's correlation coefficients, depending on data distribution.
Results: The mean DASI score was 25.3 ± 9.4. The DASI showed a significant correlation only with the maximum (r = 0.714; $p < 0.001$) and adjusted HAP scores (r = 0.635; $p < 0.001$), suggesting an association with self-reported physical activity levels. However, DASI did not correlate with the STS or handgrip strength, indicating that it may not reflect actual lower limb strength or endurance in patients with Chagas disease.
Conclusion: The DASI showed a strong correlation with self-reported physical activity levels but did not correlate with objective functional tests, suggesting it may not fully reflect the physical performance of patients with Chagas disease. These findings highlight the importance of combining subjective and objective measures for a more comprehensive assessment of functional capacity in this population.
Implications: These findings suggest that the DASI may not fully capture the functional performance of patients with Chagas disease, particularly regarding muscle strength and endurance. While the DASI correlates with subjective measures of activity levels, its lack of association with objective tests highlights the need for complementary functional assessments in clinical practice. Therefore, incorporating performance-based tests such as STS and handgrip strength alongside self-reported questionnaires may provide a more comprehensive evaluation for guiding rehabilitation programs in this population.
Keywords: Chagas disease, Cardiac Impairment, Functional Assessment

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ASSESSMENT OF PERIPHERAL MUSCLE STRENGTH OF PEOPLE WITH DIFFERENT LEVELS OF POST-COVID-19 DYSFUNCTION

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Background: The late impact of Covid-19 has proven to be significant, largely affecting the functionality, ability to perform daily activities and the quality of life of its survivors. In Brazil, more than 39 million people have recovered from Covid-19, however, many of them still face persistent symptoms and are referred to rehabilitation programs. Muscle weakness is one of the post-Covid changes that causes concern, given the range of problems inherent to the loss of muscle strength for global health, especially among the elderly and in people with chronic illnesses.
Objectives: To evaluate the peripheral muscle strength of people undergoing post-COVID-19 rehabilitation, with different levels of post-COVID-19 dysfunction. in the post-covid period, point to the discriminatory aspect of this scale in the assessment and assertive therapeutic prescriptions for this population.
Methods: Sectional study with a convenience sample composed of adults recovered from Covid-19. The degree of post-Covid dysfunction was assessed on admission using the post-Covid-19 Functional Status (PCFS) scale, in grades I to IV, characterized by the presence of persistent symptoms (grade I), with limitations in usual tasks (grade II), or with inability to perform some activities (grade III), and even severe dysfunctions including self-care (grade IV). Muscle strength was obtained by the handgrip strength (HGS) test in

kilograms of force (kgf), with a Saehan® hydraulic dynamometer. The values obtained were analyzed in relation to the predicted values and between subgroups with different PCFS levels using the Student's T test, adopting a significance level of 5%.
Results: 68 people were evaluated between May/2021 and July/2022, aged 50 ± 14.7 years, 41 women (60%) and 40 with PCFS grade II (59%), which indicates the presence of persistent symptoms and reduced performance in activities. The post-covid time was 66 days, ranging from 19 to 485 days since diagnosis. Furthermore, 37 individuals were hospitalized for acute Covid (54%), 43 were previously sedentary (63%) and the majority were overweight or obese (83%). The FPP obtained was lower than predicted for the total sample and when distributed by PCFS grades, not differing significantly between the groups by PCFS. Then, HGS was compared between the subgroups of grades I/II with those of grades III/IV, for which there was a similar proportion of sedentary people and those hospitalized for Covid-19. The proportion of women was higher in the subgroup with PCFS III/IV (92% × 53%). BMI (body mass index) was higher in the PCFS I/II group (30.9 × 27.6 kg/m^2; p:0.052). People with PCFS I/II had higher HGS than people with grades III/IV (29.4± 11.2 × 18.23 ± 6.89 kgf, respectively; p:0.0008).
Conclusion: Post-covid HGS was generally compromised, but significantly among people with a higher degree of post-covid dysfunction, as measured by the PCFS scale.
Implications: These findings, in addition to showing the need for monitoring and intervention to recover muscle strength in the post-covid period, point to the discriminatory aspect of this scale in the assessment and assertive therapeutic prescriptions for this population.
Keywords: Post-Acute COVID-19 Syndrome, Functional Status, Muscle Strength

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ASSOCIATION BETWEEN MAXIMAL PHONATION TIME AND SLOW VITAL CAPACITY IN PEOPLE WITH HEART FAILURE HOSPITALISED FOR ELECTIVE CARDIAC SURGERY

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Background: A reduction in lung function in people with heart failure (HF) after cardiac surgery is common and associated with morbidity. In this scenario, lung function is commonly assessed pre- and postoperatively with the slow vital capacity (SVC) measured with a ventilometer. However, new outcomes have been suggested to reflect the impact of surgery on lung function, such as the maximum phonation time (MPT). So far, the association between MPT and SVC has not been studied properly in HF.
Objectives: To investigate the association between MPT and SVC in people with HF hospitalised for elective cardiac surgery.
Methods: This cross-sectional analysis included people with HF evaluated in the hospital before elective cardiac surgery. Sociodemographic data, anthropometric, and clinical characteristics were collected for sample characterisation. SVC was measured in mL with a ventilometer, by asking participants to inhale deeply and exhale slowly and completely into the device after a demonstration. MPT was measured as the maximum time in seconds, recorded with a stopwatch, to sustain the vocalisation of the vowel /i/ (in portuguese), in natural tone and intensity, after a demonstration. For both variables, the greatest result out of three repetitions was used for analysis. Jamovi 2.6.25 software was used to run the statistical tests: Spearman correlation coefficient and Mann-Whitney test. P-values < 0.05 was considered statistically significant.
Results: 74 individuals were included (57% women, 60 ± 11 years, New York Heart Association Functional Classification of 2 ± 1 points). The mean SVC was 2640 ± 874 mL, while the mean MPT was 12.2 ± 9.4 seconds. These two variables showed a weak and non-significant correlation (rs = 0.19; p = 0.10). After dividing the sample in two according to the mean SVC (< or = 2640 mL), no statistically significant difference was observed when comparing MPT between the two groups (10.3 ± 7.8 vs. 13.9 ± 10.5 seconds, respectively; p = 0.18).
Conclusion: In this study, MPT was not associated with SVC in individuals with HF before elective cardiac surgery. Future studies should investigate the same analyses investigated in our study, but in larger samples and at different time points, such as after surgery.
Implications: Despite the ease of measuring MPT, our findings suggest that MPT should not be used to reflect the impact of cardiac surgery on lung function in people with HF when SVC is not available.
Keywords: Cardiac Surgical Procedure, Preoperative Period, Vital Capacity

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ASSOCIATION BETWEEN SMOKING DURATION, PHASE ANGLE, AND CARDIORESPIRATORY CAPACITY IN ELDERLY SMOKERS: PRELIMINARY RESULTS

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Background: Smoking can contribute to the functional decline of elderly individuals, negatively impacting cellular integrity and cardiorespiratory function. Thus, prolonged exposure to harmful cigarette substances may accelerate the decline in functional capacities. Investigating the association between smoking duration and these markers can provide a better understanding of the impacts of smoking on cell healthy and cardiorespiratory capacity.
Objectives: To investigate the association between smoking duration, phase angle, oxygen consumption (VO_2 peak), and forced vital capacity (FVC) in elderly smokers.