hospitalized for COVID-19 can identify the persistence of symptoms and exercise intolerance.
Objectives: To compare the exercise capacity and physiological responses of individuals hospitalized for COVID-19 using the 6MST, at 30 days and 12 months after hospital discharge.
Methods: A longitudinal study was conducted with individuals hospitalized for COVID-19 and evaluated at two-time points: 30 days after hospital discharge and 12 months after hospital discharge. The 6MST was applied with monitoring of vital signs (blood pressure - BP, heart rate - HR, and peripheral oxygen saturation - SpO2) and recording of perceived pain/fatigue in the lower limbs and respiratory fatigue. At the end of the test, the number of steps executed was recorded to establish the individual's exercise capacity and to identify the percentage of the number of steps achieved according to predicted values for sex, age, height, and weight.
Results: Twenty-three individuals were evaluated, and a significant difference was found in the 6MST performance ($p \leq 0.05$), with a higher number of steps recorded in the evaluation after 12 months of hospital discharge in 82.6% of individuals. Regarding vital signs, there was a statistically significant difference ($p \leq 0.05$) in SpO2 at the peak of the 6MST, with better saturation in the evaluation performed after 12 months of hospital discharge. There was a moderate positive correlation ($R=0.420$, $p \leq 0.046$) between a worse 6MST performance (evaluated by the number of steps) in individuals who required intensive care. There was no statistically significant difference ($p \leq 0.05$) in HR and SpO2 at the peak of the test and in the first minute of recovery.
Conclusion: The exercise capacity verified by the 6MST performance in individuals who were hospitalized and received intensive care due to COVID-19 is significantly lower in the first days after hospital discharge, compared to a period of 12 months after discharge. The 6MST performance was better after 12 months of hospital discharge, indicating improvement in exercise tolerance in 82.6% of individuals. The mean SpO2 measured at the peak of the 6MST was lower in the evaluation at 30 days compared to the assessment at 12 months after hospital discharge. It may be related to lower exercise capacity in individuals affected by COVID-19.
Implications: It is necessary to monitor these individuals affected by COVID-19, and when indicated, they should be included in a pulmonary rehabilitation program with individualized physical training prescription, promoting improvement in exercise capacity and reduction of persistent symptoms.
Keywords: COVID-19, Physiotherapy, Step Test

Conflict of interest: The authors declare no conflict of interest.
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IMPACT OF PHYSICAL ACTIVITY LEVEL ON RESPIRATORY MUSCLE STRENGTH IN PATIENTS WITH POST-COVID-19 SYNDROME

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Background: Patients who survive COVID-19 may experience manifestations after the acute phase of the disease. This condition is known as "long COVID syndrome" and can occur due to complications from hospitalization, sequelae from the acute phase, and other related mechanisms. Patients who are hospitalized, both active and sedentary, may experience loss of muscle mass, including the respiratory muscles. It is known that active individuals have values of Maximal Inspiratory Pressure (MIP) above the population average, which can minimize the damage of muscle loss during hospitalization.
Objectives: To verify if the level of physical activity prior to hospitalization has an impact on the inspiratory muscle strength of patients with long-term COVID-19.
Methods: This is a retrospective study based on a database of a rehabilitation project for patients with long-term COVID-19. The sample consisted of adults from the Midwest region in Brazil diagnosed with COVID-19 who presented persistent symptoms for at least 4 weeks after the onset of symptoms. The patients considering the physical activity were classified as sedentary, irregularly active, and active. MIP was obtained through manovacuometry according to the protocols of the European Respiratory Society/American Thoracic Society. The values obtained were compared with those predicted by Pessoa et al. Normality was evaluated by the Shapiro-Wilk test. The Kruskal-Wallis test was used to assess the difference between the median of the physical activity level groups.
Results: Data from 47 patients were evaluated, with 59.6% female (n=28), mean age of 54.3 ± 10.9 years, weight of 82.2 ± 14.9 kg, height of 163.8 ± 9.3 cm, and 24.2 ± 18.7 days of hospitalization. 63.8% (n=30) of patients were sedentary, 17.0% (n=8) were irregularly active, and 19.1% (n=9) were physically active. The mean MIP obtained was 76.7 ± 25.6 (85.0 ± 28.5% of predicted). There was no difference between the groups in the MIP obtained (p= 0.80) and in the percentage of predicted (p=0.90).
Conclusion: The level of physical activity prior to hospitalization did not impact the respiratory muscle strength of patients with long-term COVID-19. Other factors, such as the number of days hospitalized and physiotherapeutic intervention during hospitalization, have an impact on the maintenance or loss of respiratory muscle strength. As a limitation of the study, the number of days for evaluation after the initial infection is highlighted.
Implications: This analysis reinforces the need to prescribe respiratory muscle training in the hospital environment for all patients, regardless of ess of their prior physical activity history.
Keywords: Maximal Respiratory Pressures, Post-Acute COVID-19 Syndrome, Sedentary Behavior

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CLINICAL-EPIDEMIOLOGICAL PROFILE OF HOSPITALIZED CHILDREN IN PEDIATRIC INTENSIVE CARE UNIT WITH PHYSIOTHERAPY

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