



PULMONARY REHABILITATION OUTCOME IN PATIENTS RECOVERING FROM COVID-19 DISEASE

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Objective:

Introduction

In patients who have recovered from COVID-19, the functional impairment and prolonged symptoms of dyspnea, cough, weakness and fatigue can persist for a long period. The aim of this study was to evaluate functional capacity, respiratory muscle and handgrip strength, pulmonary function tests and pulmonary rehabilitation outcome in patients recovering from COVID-19 disease.

Methods



This study included patients recovering from COVID-19 disease who attended standard in-person pulmonary rehabilitation program (PRP) five days a week, for three weeks. Patients were recruited during six months period, mainly treated on an outpatient basis for acute COVID-19 disease without previously recorded lung disease. The reason for referral to PRP was dyspnea and exercise intolerance. Pulmonary function testing (spirometry, diffusing lung capacity for carbon monoxide, body plethysmography), maximum static inspiratory pressure (Pimax), maximum static expiratory pressure (Pemax), 6-minute walking test (6MWT) and handgrip muscle strength were performed.

Results

This study included 128 patients (66 male and 62 female), with mean age of 54,8 years. Average results of pulmonary function tests and P_e max prior to PRP showed no limitations, with reduced P_i max (74 cmH₂O, 68%) and 6MWT distance (436m, 76%). There were statistically significant difference in 6MWT distance, P_i max and P_e max, hand grip muscle strength prior and after PRP (p<0.05). The correlations between 6MWT distance and pulmonary function test results (FEV₁, DLCO, KCO, VA, Raw), P_i max, P_e max, handgrip muscle strength and age were statistically significant.

Conclusions

Patients in our study had exercise intolerance and decreased inspiratory muscle strength prior PRP with significant improvement after PRP. Our study shows that pulmonary rehabilitation is effective



and important in patients recovering from COVID-19 disease.