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A55. PULMONARY REHABILITATION: NON-CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ORGANIZATION OF CARE

Effects Of Respiratory Physical Therapy In Patients With Lower Respiratory Tract Infection

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Effects Of Respiratory Physical Therapy In Patients With Lower Respiratory Tract Infection

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Background: Respiratory physical therapy (RPT) has shown to be effective in the treatment of chronic respiratory conditions. Despite its potential to decrease patients symptoms and improve function recovery in chronic conditions, studies exploring its effectiveness in acute respiratory diseases, such as lower respiratory tract infections (LRTI), are still lacking.
Methods: Patients with LRTI were recruited following hospital admission at the emergency department and treated with antibiotherapy plus RPT. The RPT protocol was carried out 3 times per week for 3 weeks and included breathing retraining, airway clearance techniques, thoracic mobility and flexibility exercises and aerobic training. Data were collected before and after the RPT and included: the 6 minute walk test (6MWT) as the primary outcome measure to assess functional capacity, dyspnea and peripheral oxygen saturation (SpO_2) (at rest and after exertion) and lung function (forced expiratory volume in the first second percentage predicted – FEV_1pp, forced vital capacity percentage predicted - FVCpp and the ratio FEV_1/FVC). Comparisons were explored with Paired-Samples t Tests using the PASW Statistics 18.0 software (SPSS Inc, Chicago, IL, USA). The significance level was set at $p<0.05$.
Results: Nineteen patients (58.0% males, mean age 51.5±4.6 years old), diagnosed with pneumonia (63.2%), acute exacerbation of a chronic obstructive pulmonary disease (18.2%), acute asthma (9.1%) and acute bronquitis (5.3%), enrolled in this study. The six minute walk distance (6MWD) increased significantly after RPT (p=0.003) and in 47% of the patients, improvements were above the minimal clinically important difference [()]. Furthermore, after RPT significant improvements in FEV1pp (p=0.011) and FVCpp (p=0.001), dyspnea at rest (p=0.001) and after exertion (p=0.020) and in SpO_2 at rest (p=0.001), were observed (see Table 1).

Table 1 - Analysis of primary and secondary outcome measures.

	Before RPT protocol M±SD	After RPT protocol M±SD	p
6MWD (m)	416.1±86.9	458.9±100.3	0.002*
6MWD pp	67.7±2.1	72.5±2.5	0.003*
Dyspnea at rest (MBS)	1.9±1.6	0.6±1.1	0.001*
Dyspnea after exertion (MBS)	3.4±2.2	2.3±1.7	0.020*
SpO_2 at rest (%)	94.9±2.1	96.8±1.8	0.001*
SpO_2 after exertion (%)	94.6±3.7	96.3±2.4	0.077
FEV_1 pp	67.7±21.2	79.0±15.2	0.011*
FVC pp	73.1±18.8	87.4±15.4	0.001*
FEV_1/FVC ratio	76.3±12,8	74.4±9.2	0.533

Conclusion: Significant improvements in the perception of breathless, lung function and functional capacity of the LRTI patients were found after RPT. These findings suggest that the implementation of RPT may be relevant to improve the health status and functionality of these patients. Studies with larger samples and involving a control group are needed to confirm these findings.

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