



Abstract

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The Effect of Combined the Pursed Lips and Lower Costal Breathing Exercise and Chest Mobilization Program on Lung Volume for Acute Exacerbations of Chronic Obstructive Pulmonary Disease.

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Received July 1st, 2022

Accepted July 8th, 2022

Published July 20th, 2022

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ABSTRACT

Introduction: Changes of the structure of the lungs and bronchi in patients with chronic obstructive pulmonary disease and acute exacerbations lead to increased airway resistance and expiratory flow limitation (EFL). This results in increase end expiratory lung volume (EELV) or air trapping in the alveoli. The patient has more symptoms including shortness of breath, cough, and sputum production.

Objective: The aim of this study was to investigate the pursed lips and lower costal breathing exercise and chest mobilization on lung volume and dyspnea in patients with chronic obstructive pulmonary disease after acute exacerbations (AECOPD) and hospitalization.

Methods: Ten patients (7 males; mean age 72 years) diagnosed with AECOPD, who had stable of vital sign (such as SBP between 30-140 mm Hg, DBP between 60-90 mm Hg, SpO₂ > 90%), good cooperation and communication, received the pursed lips and lower costal breathing exercise and stretch anterior chest wall program. Each exercise was performed 10 times/set, 3 sets/day for 2 day consecutively. The slow vital capacity (SVC) and dyspnea were measured before and after treatment period.

Results: The result indicated that the usual care program showed significant improvement in SVC after 2 days of treatment (p=0.03). However, the rating perceived exertion (RPE), heart rate (HR) and pulse oxygen saturation (SpO₂) showed no significant change (p=0.591, p=0.604 and 0.193 respectively).

Conclusion: The results suggest that the pursed lips and lower costal breathing exercise and stretch anterior chest wall program were effective for increasing the SVC and safe among the chronic obstructive pulmonary disease with acute exacerbations during hospitalization.

Keywords: COPD with AE; pulmonary rehabilitation; dyspnea