慢性阻塞型肺疾病患軀幹體操的立即效果：圓唇吐氣及持續最大吸氣之比較

Immediate effect of trunk exercises in patients with chronic obstructive pulmonary disease-comparison between pursed lip expiration and sustained maximal inspiration.

江玲玲

Lin H.C.;Chiang L.L.;Lin H.C.;Yu C.T

摘要

目的：比較慢性阻塞型肺疾病患 "軀幹彎曲時配合圓唇吐氣"與"軀幹伸直時配合持續最大吸氣"的立即效果，軀幹動作是採用本體感覺神經肌肉誘發的運動型式。方法：１３位慢性阻塞型肺疾病患進入此研究。每一種運動型式作20分鐘，採隨機交叉研究設計。每一次的運動前後皆測量潮氣呼吸及用力呼氣的肺功能和呼吸困難的感覺。結果：病人做"軀幹彎曲時配合圓唇吐氣"的運動之後，用力呼氣的肺活量從 2.20 ± 0.66明顯增加到2.26 ± 0.70公升(p=0.038)；氣喘指數從3.77 ± 0.65明顯減少到2.69 ± 0.62(P <0.0001)。"軀幹伸直時配合持續最大吸氣"運動之後，吐氣末端容積從1.54 ± 0.52明顯增加到1.63 ± 0.52公升(p=0.0007) ，潮氣容積從0.77 ± 0.27 明顯增加到0.87 ± 0.31 公升(p =0.0051)，但肺活量與氣喘指數沒有顯著改變。結論：本研究此結果建議"軀幹彎曲時配合圓唇吐氣"應是比較適合慢性阻塞型肺疾病患，因爲可以改善通氣量及減緩呼吸困難的感覺。

Abstract

Purpose: To compare the immediate effect of “trunk flexion with pursed lip expiration (PLE)” and “trunk extension with sustained maximal inspiration (SMI)” in patients with chronic obstructive Pulmonary disease (COPD). The trunk exercises were modified from proprioceptive neuromuscular facilitation patterns. Methods: Thirteen patients with COPD participated in this study. They performed each type of exercise

strategies for 20 min, in a randomized crossover design. The tidal breathing, forced expiratory spirometry, and breathlessness scale were measured before and immediately after exercise. Results: There were significant improvements in forced vital capacity (FVC), and breathlessness scale after trunk flexion with PLE. FVC increased from 2.20 ± 0.66 to 2.26: ± 0.70 L (p=0.038), Borg scale decreased from 3.8 ± 0.7 to 2.7 ± 0.6 (P <0.0001). A significant change of end expiratory volume (EEV) and tidal volume (TV) after trunk extension with SMI was also found. EEV increased from 1.54 ± 0.52 to 1.63 ± 0.52 L (p=0.0007), and TV increased from 0.77 ± 0.27 to 0.87 ± 0.31 L (p =0.0051). But no significant change of FVC and breathlessness was noted. Conclusion: These results suggest that trunk flexion with PLE might be a good exercise strategy to improve ventilation and relieve dyspnea in patients with COPD.