

# 兩種運動訓練模式對慢性阻塞性肺疾病患者成效之探討

## The Effects of Two Exercise Modes in Patients with Chronic Obstructive Pulmonary Disease

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### 摘要

本研究目的在探討兩種運動模式對慢性阻塞性肺疾病(chronic obstructive pulmonary disease;COPD)患者之成效。運動模式包括時間增長型和強度增強型運動訓練兩種。採類實驗設計，共收集 22 位符合收案條件之個案，並隨機分派至兩種運動模式中之一種〈時間增長型 n=10;強度增強型 n=12〉。運動訓練共八週，每週三次，採間歇式運動設計〈每運動 3 分鐘後慢走 1 分鐘〉。運動成效指標包括肺部通氣功能、尖峰攝氧量、最大工作負荷量、呼吸困難、和生活品質五項。以肺功能測試、運動測試和問卷收集資料。研究結果顯示，不論式時間增長型或是強度增強型運動訓練計劃，均能增加 COPD 患者的最大工作負荷量及改善在相同運動負荷下的呼吸困難程度，但對整體呼吸困難程度及生活品質中的生理功能層面的改善，只有強度增強型運動訓練計劃有顯著成效。此外，兩種運動模式均無法顯著改善肺部通氣功能和尖峰攝氧量。進一步比較兩種運動模式成效之差異並無顯著不同，顯示兩種運動訓練模式對 COPD 患者均有助益。

### Abstract

The purpose of the study was to examine the effectiveness of different exercise modes in chronic obstructive pulmonary disease (COPD) patients. Two kinds of exercise modes, duration-increased and intensity-increased exercise programs, were developed in this study. This study utilized a quasi-experimental design. A total of 22 subjects who met the selection criteria were recruited and randomly assigned to either a duration-increased group (n=10) or an intensity-increased group (n=12). The exercise programs were carried out three times per week for 8 weeks. The outcome indicators included FEV1 %pred, VO<sub>2</sub>peak maximal workload, dyspnea level, and quality of life. The lung function test, exercise test, and questionnaires were used for data collection. The results of this study revealed that the maximal workload, and dyspnea level under same exercise workload were significantly improved by means of these two kinds of exercise modes. However, a significant improvement in the scores of Baseline Dyspnea Index and the physical dimension of quality of life was observed in intensity-increased group only. The FEV1%pred and VO<sub>2</sub>peak were not increased by either kind of exercise program.