

中文題目：復健治療對慢性阻塞性肺病人使用呼吸器天數之影響

英文題目：The effect of rehabilitation on the ventilator duration of patients with Chronic Obstructive Pulmonary Disease

作者：陳欽明^{1,2,3}

服務單位：¹奇美醫療財團法人奇美醫學中心加護醫學部，²品質管理中心，³嘉南藥理科技大學休閒保健管理系

Background: To examine the effect of rehabilitation therapy on mortality in patients with chronic obstructive pulmonary disease (COPD) in intensive care units (ICUs), which were seldom discussed in Taiwan.

Methods: The study was a retrospective investigation. We enrolled 105 COPD patients with acute respiratory failure requiring mechanical ventilation who were hospitalized in intensive care units between 1 January to 31 December, 2011. The basic characteristics were analyzed between these two groups in age, sex, body mass index (BMI), Acute Physiology and Chronic Health Evaluation II (APACHE II), therapeutic intervention scoring system score (TISS score), initial Glasgow coma scale (GCS), COPD stage, rehabilitation therapy, the duration of mechanical ventilation, ICU and hospital length, medical expense, and comorbidity.

Results: During the study period, 35 COPD patients received rehabilitation and 70 patients did not receive rehabilitation in ICU. The patients receiving rehabilitation had the higher GCS scores (13.1 ± 3.04 vs 11.5 ± 3.36 , $P = 0.021$), more comorbidities (1.26 ± 0.85 vs 0.76 ± 0.71 , $P = 0.002$), higher hemoglobin level (12.0 ± 2.2 vs 11.0 ± 2.0 , $p = 0.018$) than patients without rehabilitation. In contrast, these two groups had similar APACHE II score, TISS scale, COPD stage, cause of intubation, system of respiratory failure, and most of the laboratory findings and respiratory parameters. The outcome analysis showed that the group with rehabilitation had higher survival rate, a higher rate of successful extubation, shorter MV duration, shorter hospital stay, less medical expense and significantly shorter ICU stay than those without rehabilitation. Furthermore, by using hierarchical regression model, rehabilitation therapy was significantly associated with shorter MV duration ($p = 0.037$).

Conclusion: We found that patients with COPD in intensive care units had better survival if

rehabilitation was applied. Patients with older age, less BMI, and septic shock had higher mortality.

To improve the outcome of COPD patients, a regular rehabilitation program should be mandatory.

Keywords: rehabilitation, mechanical ventilation, intensive care unit, chronic obstructive pulmonary disease