

中文題目：重症患者之嚴重度評估與醫療費用關連性之探討

英文題目：The relationship between severity score and costs of patients with mechanical ventilator in medical intensive care unit in Taiwan

作者：蔡忠榮^{1,2}黃明賢^{1,2}張碧玉³

服務單位：高雄醫學大學附設中和紀念醫院 內科部¹

高雄醫學大學呼吸治療學系²高雄醫學大學行政管理中心³

Objectives: The development of critical care improves the patients' outcomes but the costs also are increasing simultaneously. For critical ill patients, severity score play an important role in predicating their mortality. APACHE-II (Acute Physiology And Chronic Health Evaluation II) and SOFA(Sequential Organ Failure Assessment)score are the most popular severity scores in medical intensive care unit (MICU). However, there are limited results about relationship of severity scores and the costs of critical ill patients. The aim of study is to analysis the relationships of different severity scores and costs of medical ICU patients.

Methods: Between 2009-Jan and 2010-Dec in Kaohsiung Medical University Hospital in southern Taiwan, 462 MICU patients with mechanical ventilator were included. We recorded age, gender, severity scores (APACHE-II and SOFA), clinical outcomes (ICU length of stay (LOS), hospital LOS, ventilator days and mortality) and medical fee. Data is expressed as mean \pm SD or n (%). Differences in continuous variables or categorical variables between two groups were tested using independent t test or χ^2 test or ANOVA. We divide patients to 3 parts equally according to the APACHE-II and SOFA scores. Besides, we use logistic regression analysis to explore any potential confounder for ICU mortality of patients.

Results: Total 462 patients (male: 62.9%) were included in this study. The average age was 65 ± 16 years-old (range: 24-96). The mortality patients had higher daily cost as compared to survival patients significantly ($19,031 \pm 15409$ vs. $15,290 \pm 18438$ NTD, $p=0.031$). The length of hospital stay and ICU stay were shorter in mortality group as

compared to survival group (14.5 ± 12.7 vs. 17.0 ± 12.1 $p=0.037$; 5.9 ± 5.6 vs. 7.3 ± 5.4 $p=0.01$, respectively). The mortality group also had higher portion of high APACHE-II and SOFA scores significantly. The daily cost of highest tertile of APACHE-II and SOFA was higher significantly than lowest tertile and also had positive trend as severe score increasing. On the contrary, the length of hospital stay had inverse trend as APACHE-II and SOFA score increasing. Multivariate models had shown middle tertile and highest tertile of APACHE-II and SOFA score had 2 and 3-4 times odd ratio respectively as compared to lowest tertile significantly.

Conclusion: The severity score may be a powerful predictor of ICU cost for ventilator support patients in addition to its prediction of mortality.