Service Priorities and Programmes

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Submitting author: Ms KWAN WAI SHAN
Post title: Physiotherapist I, Tuen Mun Hospital, NTWC

Implementation of an Early Mobilisation Programme in Intensive Care Units

Kwan WS, Chau HY, Yeung TL, Li KLS, Auw Yang CN
Physiotherapy Department, Tuen Mun Hospital

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Introduction

Immobility is one of the causes for significant long-term impairment in critically ill patients. Several studies indicated that early mobilization in intensive care units (ICUs) was safe and improved functional status at hospital discharge. Therefore, a structured mobility protocol was implemented in local ICU to demonstrate the effectiveness of early mobilization on length of hospitalization and patients' functional status.

Objectives

To evaluate the effectiveness and feasibility of the early mobilisation program.

Methodology

Patients suffering from respiratory failure who were mechanical ventilated for more than 48 hours were recruited. Patients with unstable haemodynamics; frequent desaturation; recent acute myocardial injury or arrhythmia and recent administration and escalation of inotropic agents were excluded. A 4-level exercise protocol was established which embraced progressive regime which ranges from passive range of motion therapy, neuromuscular electrical stimulation (NMES), muscle strengthening exercise to upright activities such as sitting, standing and ambulatory training. The length of stay (LOS) in ICU, total LOS, and mobility status measured by ICU mobility scale (ICUMS) were collected. Any adverse events such as dislodgement of tubes and unexpected change in vital signs were also recorded.

Result

Results: 10 eligible patients were recruited into the programme. This cohort composed of 6 males and 4 females with a mean age of 65.5±8.7 years old. All the recruited patients were independent outdoor walkers before surgery. The median ICU LOS and the median total LOS were 7 days with interquartile range (IQR) 3-15 days and 14 days (IQR 11-35 days) respectively. 80 percent of the recruited patients

attained at least ICUMS stage 6 (Marching on spot) while 20 percent attained stage 8 (walking with assistance of 1 person) upon discharge from ICU; and 90 percent were able to discharge home with premorbid mobility status. Relation between LOS and mobility status was analyzed with Pearson correlation. ICUMS was significantly correlated with the ICU LOS ($R = -0.35$, $p = 0.045$). Patients demonstrated normal haemodynamic changes during exercise within safety limits. Conclusion: This preliminary report demonstrated that early mobilization in ICUs was safe and potentially beneficial to the critically ill patients. Further study with larger sample size and control group comparison was warranted.