Service Priorities and Programmes

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Submitting author: Dr KAM WAH LAM
Post title: Associate Consultant, Yan Chai Hospital

Improvement of ICU service by enhancing continuity of care

Lam KW, Leung W, Wan WL, Tang WM, Kandamby DH, Kwan A, Chan C, So D
Intensive Care Unit, Princess Margaret Hospital and Yan Chai Hospital

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Introduction

ICU service is labour as well as technology intensive. Therefore, it is important to ensure that the resources allocated to ICU are utilized effectively and efficiently to cater for the increasing demand. Due to manpower constraints, YCH ICU was managed by doctors on rotation basis before July 2015. After July 2015, it was managed by a dedicated team of doctors, consisting of a consultant, an associate consultant and 4 residents. It enables continuity of care and better communication of management plans with other specialties.

Objectives

We evaluated the outcome and performance of our ICU after implementation of new system.

Methodology

There are 8 beds in ICU of YCH. The demographic data and outcomes of ICU patients were captured by HA APACHE system. The following data from 2013 to 2016 was extracted from the APAHCE system: number of ICU admission, ICU mortality rate, hospital mortality rate, risk-adjusted hospital mortality ratio, ICU length of stay (LOS), ICU LOS ratio. The results before and after July 2015 were compared. The statistical significance was calculated by chi-square test.

Result

Before, July, 2015, the mean number of ICU admission was 197 per half year, the mean hospital mortality rate of ICU patients was 18%, the mean risk-adjusted hospital mortality ratio was 0.79, the mean LOS was 136 hours and the mean risk-adjusted LOS ratio was 1.17.
After July, 2015, the mean number of ICU admission was 254 per half year, the mean hospital mortality rate of ICU patients was 14%, the mean risk-adjusted hospital mortality ratio was 0.57, the mean LOS was 97 hours and the mean risk-adjusted LOS ratio was 0.89.
After the implementation of the new system, there was a significant 29% increase in the number of ICU admission (197 vs 254, $p<0.01$). In addition, there was a significant

28% reduction in ICU LOS (136 hours vs 97 hours, $p<0.01$) and a significant 24% reduction in LOS ratio (1.17 vs 0.89, $p<0.01$). However, there was no deterioration of outcome in terms of hospital mortality rate (18% vs 14%).
When the ICU patients were managed by a dedicated team with continuity of care, it resulted in a significant reduction in LOS and an increase in number of ICU admission. Also, there was no deterioration in outcome in terms of hospital mortality.