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Bedside Coaching Program to Maintain Proficiency of ICU Nurses on ECMO Nursing Care in Clinical Setting

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Introduction

Extracorporeal Membrane Oxygenation (ECMO) is a complex but sporadic technology requiring specialized training and adequate clinical exposure to maintain proficiency in caring for both clinical management and emergency situations. A cross sectional survey was performed in 2014 and 2015 respectively in Department of Intensive Care in PYNEH. The evaluation identified aspects where nursing experiences in caring patients supported with ECMO were limited. The Bedside Coaching Program had been redesigned focusing on hand-on ECMO related nursing skill.

Objectives

1. To facilitate nurse trainees to master ECMO related knowledge and skill under a well-structured Bedside Coaching Program.
2. To optimize ICU nurses' clinical exposure through mutual interaction between trainers and trainees.

Methodology

Since 2015, after receiving a one-day ECMO Simulation training organized by Hospital Authority, the nurse trainees would be assigned to care patient supported with ECMO under the supervision of experienced nurse trainers.

The Bedside Coaching Program served as a concrete guide on ECMO clinical practices. The program included supervisions on basic ECMO circuit care and monitoring, assisting in ECMO cannulation, changing ECMO configuration, patient's transportation and trouble-shooting, etc.

A retrospective cohort review on all ECMO related procedures was conducted in 2015-2016. All nurse participants in ECMO procedures were also studied.

Furthermore, nurse trainees'™ feedbacks were collected through a post program evaluation survey.

Result

Outcomes

There were 39 ECMO patients from 2015 to 2016 accounting for 534 ECMO days. There were 70 (n=70) nurses trained with ECMO during the studied period. The survey showed that 64 nurses had different degree of participations in major ECMO procedures. 52 (74%) nurses escorted ECMO patients for investigations or inter-hospital transferal. 40 (57%) nurses assisted in changing oxygenators. 11 (16%) nurses assisted in converting ECMO configuration into VV-A or VV-V. Moreover, all (100%) nurse trainees reflected that bedside coaching was relevant and was the most important in their training.

Conclusions

In conclusion, Bedside Coaching Program was a well-structured interactive learning model that were mutually beneficial to both nurse trainees and trainers by maximizing their real life experiences on ECMO care and ad-hoc trouble-shootings. Moreover, competency of practices and patient safety could be enhanced through a well-structured bedside coaching framework.