



Service Priorities and Programmes
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Enhancing Nurse Competency in ECMO Service with a Structured Training Model

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Introduction

Utilization of Extracorporeal Membrane Oxygenation (ECMO) to support critically ill patients with severe respiratory or cardiac failure is gaining popularity in intensive care. Building an ECMO nursing team and maintaining member competency in management of clinical emergencies are equally important. Traditional methods of training include didactic lecture, ECMO circuit priming and wet-drills. This model is appropriate at beginner level but lack realism. Training in animal laboratory facilitates team collaboration but is limited by class size and availability of training venues. Simulation-based training provides an active-learning environment for advanced learners but establishment and maintenance of a simulation centre can be cost prohibitive for some hospitals.

Objectives

To establish a sustainable training model for ECMO nursing service in intensive care settings.

Methodology

Different training models were explored. A two-tier training model was developed to meet the needs of different level learners. For novice ECMO nurses, our programme targeted at equipping them with the fundamental knowledge and technical skills essential to ECMO management. As for advanced ECMO nurses, the foci were on critical thinking and maintaining competencies especially in low patient volume seasons. We made use of existing ECMO toolkits, real medical equipment, manikin and vacant bed units to create a mobile simulation-based training unit comprising of seven different scenarios. Debriefings by experienced instructors were conducted after each session with standardized training materials.

Result

This training model was piloted in late 2011. Eight training sessions including lectures, hand-on workshops and wet drills were conducted, with an attendance of 142 nurses from various clusters. In 2012, seven other in-service training sessions were held to

train 48 another nurses and simulation was utilized in three events for advanced learners. Evaluations from participants in simulation-based training were positive. Over 90% rated the programmes as good or excellent, and all agreed that introduction of simulation elements in ECMO training helped them to develop cognitive and psychomotor skills for different crisis situations. A certificate course was held with three other clinical departments with ECMO experience in late 2012 and more than 80 nurses from different hospitals participated. Future development is under exploration with regards to provision of accredited training to support nurse credentialing and privileging in ECMO service.