Changing shape of Nursing practice in Resuscitation: Role expansion of Nurses in Department of Cardiothoracic Surgery Intensive Care Unit (CTSD ICU)

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Introduction
Life threatening rhythm like ventricular fibrillation, pulseless ventricular tachycardia and bradycardia with low cardiac output can be commonly occurred in cardiac dysfunction patients. Early defibrillation and temporary cardiac pacing given within five minutes can increase survival rate. Since surgeons in CTSD of Queen Mary Hospital usually busy with long and packed surgeries in operation theatre, nurses play a vital role in initiation of resuscitation. Nurse-led defibrillation and cardiac pacing are crucial. Nurse roles should be expanded to higher professional standard.

Objectives
- To set up a simulation based program for training and audit in order to increase nursing staff competency in carrying out nurse-led procedures
- To enhance patient safety and nurses response time on life threatening rhythm

Methodology
A retrospective study for a simulation scenario based resuscitation program of nurse-led early defibrillation and temporary cardiac pacing in CTSD ICU from mid November 2013 to mid February 2014. Staff who have at least 2 years CTSD ICU experience and qualification on ACLS and Post Registration Certificate Course in Cardiac Surgical Nursing were recruited. A software SimMan was used as the simulator to control the hemodynamic changes of the Manikin. One- day program included refresh lecture with review of CPR, defibrillation and cardiac pacing, pre and post written tests, hand on demonstration and return demonstration of defibrillator and pacing, simulation scenario and case discussion, audit and evaluation.
**Result**

There were 38 CTSD staff qualified to join the program. Male were (n=8, 21%) and female were (n=30, 79%). Average mark in pre-test was (17.8/28, 64%) while average mark in post-test was (24.2/28, 86%). There is 22% improvement in the written test after the training. (38/38, 100%) were passed in the post training audit. All of them were able to recognize the life threatening rhythm in the first minute and perform appropriate resuscitation. They carried out early defibrillation or temporary cardiac pacing promptly within five minutes. They all (n=38, 100%) enjoyed and thought that the simulation scenario based training was useful for their practical use and knowledge enhancement. They(n=38, 100%) strongly agreed and agreed that the program can give them clear concept and make them more confident in performing nurse-led procedures. Early defibrillation and cardiac pacing in resuscitation are important to increase the survival rate and improve the recovery rate after cardiac arrest. Therefore, nurse-led defibrillation and cardiac pacing is the golden trend for patient benefit. Simulation based training will be arranged annually for the staff to keep the life-saving standard.