

A resuscitation course designed for a psychiatric hospital

Dear Editor,

It is challenging to maintain the resuscitation skills of doctors in a psychiatric hospital. Our study describes a resuscitation course designed specifically for the Institute of Mental Health (IMH) in Singapore to address competency gaps, which proved to be relevant and helpful to the trainees.

The IMH is the only tertiary psychiatric hospital in Singapore. It does not provide acute medical care. When a patient is in cardiac or respiratory arrest and code blue is activated, 2 on-call doctors and a designated nursing team respond and perform advanced cardiac life support (ACLS) before the arrival of the ambulance team and the subsequent transfer of the patient to a general hospital.

The on-call doctors are non-specialists rotated to different departments within IMH or other hospitals once every 6 months. They attend an ALCS course once every 2 years. Despite such training, it is a challenge to maintain their resuscitation skills because of the low volume of code blue situations in IMH.

The code blue committee oversees the training of IMH staff to manage code blue situations. The committee conducts code blue drills 6 times a month to expose IMH staff to simulated code blue situations and identify gaps in the management. The committee identified several competency gaps comprising poor airway management, lack of familiarity with the defibrillator used in IMH and an inability to lead resuscitation efforts.

In July 2015, the code blue committee developed a resuscitation course for the IMH setting to address the gaps in the doctors' competency. This compulsory 3-hour course is conducted 6 times per year outside official working hours to minimise disruption to the doctors' clinical work. It is compulsory for doctors who have to respond to code blue to attend this course once every 6 months.

During the course, the trainees are divided into groups of 4. Trainers are emergency physicians from various emergency departments in Singapore who will interact and rotate through several training stations with the trainees. A considerably small trainer to trainee ratio (1:4) aims to keep trainees engaged and training hours optimal. While resource-intensive, the course

has been sustainable due to the goodwill of the senior management, nurses and emergency physicians.

The training stations include (1) watching a video demonstrating an ideal code blue response in IMH, (2) a hands-on session to learn airway management techniques including how to use Magill forceps to remove foreign body from the throat and the use of a laryngeal mask airway, (3) operation of the defibrillators used in IMH, (4) recognition and management of cardiac arrest rhythms, (5) familiarisation with the emergency drugs used in IMH, and (6) a code blue drill.

The video of an ideal code blue response was filmed in IMH to demonstrate the resuscitation process in the practicable setting. Thirty percent of code blue situations in IMH are related to choking especially for patients with intellectual disability who have the tendency to grab and swallow food quickly. Airway management is an important component in this course.

Familiarisation with equipment which are different from those used in general hospitals (defibrillator and emergency drug kit) are emphasised, including the burette (micro-drip) for slow infusion of medication as infusion pumps are only available in the isolation wards.

The code blue drill during the resuscitation course emphasises practical leadership skills through designated roles and instructions for each team member.

In 2017, a study on the effectiveness of the resuscitation course was done through quantitative and qualitative evaluation.

Quantitative data were collected with consent from 107 doctors via self-rated feedback forms before and after the course. Most trainees found the resuscitation course relevant in preparing them for code blue situations in IMH (Table 1).

For 72% of these doctors, their last medical rotation (emergency medicine, internal medicine or anaesthesia) was more than a year ago.

Most trainees found the resuscitation course relevant in preparing them for code blue situations in IMH, especially for certain components of the training—the video on the resuscitation process, demonstration of the use of AED/Defibrillator in IMH, showing contents of emergency drug kit and teaching how to lead a resuscitation team and give clear instructions. (Table 1)

Table 1. Feedback on whether various aspects of the resuscitation course were helpful to the trainees (N=107)

Resuscitation course in IMH more pertinent than the ACLS course outside IMH?	n	%
No	10	9.3
Yes	85	79.4
Missing data	12	11.2
Video on a resuscitation process shown during the course in IMH helpful?	n	%
No	6	5.6
Yes	97	90.7
Missing data	4	3.7
Use of the Nihon Kohden AED/defibrillator is demonstrated and the participants given the opportunity to operate the AED/defibrillator helpful?	n	%
No	1	0.9
Yes	103	96.3
Missing data	3	2.8
The content in the emergency kit shown and explained to the participants helpful?	n	%
No	0	0
Yes	104	97.2
Missing data	3	2.8
Did the instructors teach you how to lead and give clear instructions during resuscitation?	n	%
No	0	0
Yes	104	97.2
Missing data	3	2.8
Instructors providing the answers and explanation to the questions in Short Answer Questions helpful?	n	%
No	0	0
Yes	104	97.2
Missing data	3	2.8
Training adequate for you to manage code blue in IMH?	n	%
No	4	3.7
Yes	100	93.5
Missing data	3	2.8

ACLS: advanced cardiac life support; AED: automated external defibrillator; IMH: Institute of Mental Health, Singapore

Qualitative data were collected by conducting semi-structured interviews with 15 doctors, 3 months after the training. Two main themes emerged from the data. Awareness and relevance of the course and the challenges of responding to code blue in a psychiatric hospital. Participants highlighted the relevance of the course as a refresher given that code blue situations are rare. Hands-on and scenario-based training by knowledgeable and experienced trainers using defibrillators specific to those used in IMH, drills

and emphasis on managing common incidences of choking at the institution are aspects that participants found useful, in addition to ACLS knowledge and algorithms.

The study has some limitations and points of novelty. The performance of the trainees in a code blue situation was not monitored after the course. The feedback forms were not based on a validated instrument, as the investigators were unable to find a validated instrument relevant to a psychiatric hospital.

Ready competence of doctors is critical in managing code blue situations. Resuscitation skills tend to decay significantly after 6 months, and retraining is required to maintain knowledge and skills.¹⁻⁶ This course is a localised approach to address competency gaps unique to IMH, which are not addressed in an ACLS course.

During the COVID-19 pandemic, movement across institutions by doctors in Singapore was restricted. This meant that the IMH resuscitation course could not be conducted in its usual format with the emergency physicians from various general hospitals as trainers. However, a small group of IMH doctors who regularly attended the IMH resuscitation course had gained confidence and experience to conduct training for most of the unique-to-IMH hands-on stations.

Institutions that have a low volume of code blue situations may consider sending their response team for the ACLS course to build initial basic life support skills, but augment this with a resuscitation course localised for their environment. During a pandemic where cross-institutional movement is restricted, this localised course can allow institutions to maintain the resuscitation skills of their response team within their premises.

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