



Use of simulation to enhance toxicology education and multidisciplinary training

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Objective: To demonstrate how simulation-based training can be used to enhance toxicology education and multidisciplinary training. To review “Siriraj Sim Tox”, an in-house, simulation-based training program, developed and run by the author since October 2014.

Methods: A retrospective review of Siriraj Sim Tox, as performed through 2016, is conducted. Evaluation of the program as experienced through learners, instructors and supporting staff, is revealed.

Results: Simulation-based education and training in toxicology at the Faculty of Medicine Siriraj Hospital, Mahidol University (Siriraj Sim Tox) has been implemented since October 2014. Teaching staff includes an instructor (the author), current toxicology fellows, a medical educator, 3 nurses, 6 specialists in poison information (SPIs) and 3 simulation specialists. Essential skills required of the simulation instructor include both expert content knowledge and simulation skills. Learners involve registrars, medical students, SPIs, toxicology lab technicians, emergency medical technicians, and undergraduate students outside of medicine. Simulation-based training sessions are comprised of 3 parts - an introduction, the scenario encounter, and a lesson debriefing with the students. Teaching improvements are developed through a preparation meeting prior to each lesson, and a team debriefing after each lesson. The lessons cover topics throughout curriculum that are appropriate to each learner group. The training was performed at Siriraj Medical Simulation Center for Education and Training (SiMSET), and in an in situ environment. High fidelity and low fidelity manikins as well as standardized patients were used as appropriate. The activities were designed to enhance technical knowledge and skills, and non-technical skills such as communication and crisis resource management, which are critical for effective medical practice and patient safety. In order to evaluate the effectiveness of the simulation-based training, a self-administered survey was conducted in August 2016. Respondents consisted of teaching staff and learners who had participated in the activity at least once. A total of 33 respondents participated in the survey. Most were female (69.7%), learners (72.7%) and registrars (69.7%). All participants indicated that the training was very helpful in providing toxicology knowledge, and in application to their work, and commented that they were very satisfied with the simulation training.



Conclusion: As demonstrated by the response to Siriraj Sim Tox, simulation-based training is a useful and effective tool to enhance toxicology education and multidisciplinary training. Simulation-based training can be implemented in many environments including low resource countries.