

Joint Event
15th World Congress on
Pediatrics, Clinical Pediatrics and Nutrition
&
28th International Conference on
Nursing Practice

November 28-29, 2018 | Dubai, UAE

Impact of medical simulation on Pediatric R1 trainee under Saudi commission for health specialty

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Crew Resource Simulation was introduced in the aviation industry during NASA workshop in 1979, designed as a training program to improve air safety and reduce the increasing number of fatal accidents attributable to human error. The primary cause of the majority of aviation accidents occurring at that time were due to human error 85% and the leading causes of which were failures of interpersonal communication, leadership, and decision making in the cockpit. David Gaba, American anaesthetist, trained as a pilot recognized similarities in high stake environment of the operating theatre and cockpit and so developed anaesthesia crises simulation resources management. Medical simulations aim to imitate real patients, anatomic regions, clinical tasks, virtual reality devices and electronic manikins or to mirror real-life situations in which medical services are rendered. Simulation – based learning (SBL) applies these modalities. Benefits of medical simulation includes safe environment, mistake forgiving, trainee focused vs. patient focused, controlled, structured, proactive clinical exposure, reproducible, standardized, debriefing, deliberate and repetitive practice. Medical simulation can assess professional competence as patient care, medical knowledge, practice-based learning & improvement, communication skills, professionalism and systems-based practice. Patient safety priorities are at the forefront of health providers' concerns. Best summarized by "simulators have the potential to take the early and dangerous part of the learning curve away from patients". Simulation has rapidly evolved as a learning tool and technology. From June 2017- May 2018 an condensed simulation course for pediatric R1 training resident under Saudi commission for health specialty was conducted once per month at CRESENT, KFMC, the course is 5 days include the following simulation sessions: pediatric airway management with crew resource management, central line insertion under US guidance, chest X-ray and ABG interpretation, Lung Ultrasound, thoracocentesis, bone marrow aspiration and biopsy, lumbar puncture, basic to advance cardiac simulation session. Total of 125 candidates

were involved, in which all of them had undergone pre course knowledge and clinical assessment test followed by post course knowledge and clinical assessment test at the end of the course (similar to the pre test) plus the candidates had retention assessment test 6 months later with similar to pre and post assessment tests. The preliminary result showed 100% improvement in the scores at post knowledge and clinical assessment test compared to pre assessment test and non had decline results. The retention assessment test is pending but the preliminary result is promising as till now the scores were above precourse assessment test. 100% of them found these courses are enjoyable, safe, not stressful and very useful training methods, 97% enjoyed it mostly because it is repetitive and mistakes are forgiven with zero hazards to patients. 100% feels video debriefment following medical scenarios is very helpful as it clarify areas for improvement much better than conventional training. In conclusion, although Simulation courses is expensive but it plays important role in patient safety so at the end it is cost effective so would encourage to make it mandatory in the curriculum for pediatric residents and fellows.

Speaker Biography

Sawsan Alyousef is a Senior Consultant of Pediatric Intensive Care at King Fahad Medical City & Professor at King Saud Bin Abdulaziz University and Health Science in Riyadh, Saudi Arabia. She is a Medical Doctor by background and qualification, she completed her Bachelor's degree in Medicine and Surgery in 1991 from King Saud University, Riyadh (Saudi Arabia) where then she joined pediatric residency program at Security Forces Hospital (SFH) and successfully got her PhD with the Arab and Saudi Board in Pediatric (1997). Her strong fervor in the field of medicine propelled her for further academic pursuits so she gained fellowship in clinical and research pediatric critical care from the University of Western Ontario in London, Canada and Pediatric Pulmonary training at Sick Kids Toronto, Canada (2003). Since then She has been assigned as Pediatric Intensive care and pulmonology consultant at King Fahad Medical City (KFMC) and appointed as Director of PICU fellowship program at KFMC and Director of Post graduate Simulation Department at KFMC. She had directed, organized and lectured in several conferences, courses and workshops and served as a Saudi Board examiner, and also headed the examination committee for PICU fellowship at Saudi Council for Health Specialties. She had various speakership engagements in numerous forums and conferences, locally and internationally.

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