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NEONATOLOGY AND PEDIATRICS

&

World Congress on

NURSING RESEARCH AND EVIDENCE BASED PRACTICE

February 25-26, 2019 | London, UK

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Keynote Forum



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Monika Tukacs

Columbia University Irving Medical Center, USA

Extubation during extracorporeal membrane oxygenation therapy in adults: A qualitative study on experts' perceptions

Statement of the Problem: Extracorporeal membrane oxygenation (ECMO) is a modification of intraoperative cardiopulmonary bypass used in adults for severe cardiac, cardiopulmonary or respiratory failure. Used as salvage therapy for decades, its application proliferated fourfold, and the number of ECMO centers threefold over the past 10 years. 1 Additionally, while invasive mechanical ventilation (IMV) during ECMO therapy has been the mainstay in airway management, the practice of liberation from it is growing, especially as removal of the endotracheal tube (extubation). 2, 3 However, the timing and the process leading to extubation remains a conundrum. 4, 5 Moreover, the literature lacks any extubation

Themes and Definitions	Subthemes	Examples
1. Guideline <i>Recommended practice that streamlines the extubation process during ECMO, yet allows discretion in its use</i>	1.1 Elements of a guideline	1.1 ... there is no evidence-based guidelines that'll tell you when to extubate someone on ECMO... (4/15)
	1.2 Perceptions about the usefulness of a guideline	1.2 If you knew this was valuable, if you knew getting the patient extubated is really important because outcomes are better if you do this, then I would be more willing to take the risk... If I knew... I'm taking some risk here, but I know there's evidence that says, by doing this, we're gonna get, you know, 20 percent more survivors. But I don't know. We don't have that right now. (1/17)
2. Culture <i>A theory or attitude that acts as a guiding principle for behavior regarding ECMO</i>	2.1 Institutional	2.1 One, we intubated, like, an hour and a half afterwards, and we didn't want to. We were kind-of forced. ... our program is like building a second floor on an older house. And, so we're having to do a lot of, like, okay, the pipe comes up over here, and the wires come over there, and we're not allowed to choose where the wires and the pipe are coming up... (1/7)
	2.2 Unit-based	2.2 The hardest thing for that (ECMO cannulation without intubation) is, probably, just sticker shock... say I want to cannulate this patient for VA ECMO and not intubate him. (1/11)

Table 1. Extraction from content analysis. Most diverse and challenging themes that were identified, with subthemes and relevant examples of experts' quotes.

guidelines applicable for ECMO in adults and is scarce for the rising need of clinicians. 5 The aim of this study was to better understand perceptions of expert clinicians regarding extubation during ECMO in adults, and utilization of a guideline/algorithm.

Methodology & Theoretical Orientation: A qualitative study was utilized, including purposeful sampling, a homogeneous approach and focus group discussions. It was conducted at an international conference with a dedicated focus group room at the conference venue. Discussions were recorded and transcribed verbatim, followed by qualitative content analysis performed concurrently and independently by both co-researchers.

Findings: Participation in this study was global and included experts in ECMO. Experts described managing airway during ECMO differently and having difficulties in achieving extubation. Of the ten themes identified, two were the main focus of discussions: extubation guideline and work culture. Fifteen percent of experts reported having a guideline, and all described it as desired. The culture was labelled to be powerful with variations in approach to extubation during ECMO.

Conclusion & Significance: Experts unanimously agree on the usefulness of an Extubation guideline/algorithm for the majority of ECMO patients. The study suggests collecting data on evidence-based practice, as a prospective cohort research study.

Biography

Monika Tukacs has her expertise in extracorporeal membrane oxygenation (ECMO), its physiology and clinical application, and is passionate about evidence-based research in ECMO. Her pioneering in early recognition of the importance of liberating from invasive mechanical ventilation during ECMO is fundamental. The paucity in literature has led her to perform a qualitative study on experts' perceptions about ECMO and Extubation in adult patients. This ground-breaking investigation has already raised an interest of researchers internationally. She has recently been asked to join in developing and conducting a multi-center prospective research study on the topic. Her contribution to this innovative application of ECMO therapy trailblazes the path towards the future of contemporary ECMO

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Kathleen Diatta

Capella University, USA

A student’s journey: Examining the efficacy of the academic preparation of BSN students and readiness to enter practice

The concept of critical thinking (CT) has perplexed employers and researchers in the field of nursing for decades. The nursing profession is under intense pressure to hire clinicians who exhibit CT skills. A review of the literature has shown that the divide between bedside clinicians and nursing faculty has led to the separation of academic educators from clinical practices. As a result, new graduates come into the clinical setting inadequately prepared to meet the clinical demands of today’s hospitalized patients. The purpose of this study was to explore the experience of new graduate nurses from a Baccalaureate program and their transition into clinical practice. A generic qualitative approach sought to describe and understand the topic of interest, with respect to nurses’ preparedness to meet the demands of their profession. The results of the study found that the new graduate nurses did not feel confident entering the workforce of the nursing profession. Study participants reported the lack of skills training as the major reason for their feelings of being ill-prepared in the clinical setting. Collaboration between academia and hospital settings must focus on shared responsibilities for meeting the learning needs of new graduates. In so doing, this will enhance the quality of care provided and patient safety.

Themes Identified

	Students in a Traditional Program	Students in an Accelerated Program
Clinical rotation	30	49
Simulation	15	20
Ability to transition	7	19
Classroom instruction and instructors	12	30

Biography

Dr. Diatta is an experienced clinician and leader with 32 years of nursing experience including twenty years of direct bedside experience plus 12 years of progressive leadership. She earned her BSN from SUNY Brockport (Magna Cum Laude) and her PhD in Philosophy with a concentration in Adult learning and Postsecondary Education (Graduating with Distinction). She is a Transformational leader and mission driven. She has great experience in curriculum development, training, and teaching. Her experience with creating Training Scenarios & Clinical Simulations, motivating nursing staff to “want” to achieve Strategic initiatives, and the deep-rooted experience of working with research processes, implementation methods, outcome measures, and finding clinical evidence that speaks towards Nursing Theory and utilizes Adult Learning Practices. She has managed as many as 135 staff members as a leader and career successes include motivating nursing staff to embark on and secure Beacon silver and Gold status.

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Diane Baruch

New York Presbyterian Hospital, USA

Effects of glycemic control, graft choice, BMI, and diabetes on the development of sternal wound infections in cardiac surgical patients

Background: A complication of cardiac surgery, the sternal wound infection (SWI) rate in our organization has risen in three years to twice the state benchmark. The internal mammary arteries are routinely used in our institution for its long-term patient survival benefit, which can increase SWI risk. The biochemical effect of stress hyperglycemia in critically ill patients is a contributing factor to the development of infection. Glycemic control reduces infection risk by avoiding the body's metabolic syndrome. The purpose of this study was to determine if there is a difference in glycemic index, graft choice, BMI and diabetes in cardiac surgery patients who have developed SWI and those who did not.

Methodology: Our longitudinal study was a retrospective medical record review conducted in an academic medical center. 130 cardiac surgery patients developing a SWI were matched with 130 patients who did not. Regression analysis compared differences in glycemic index, graft choice, BMI, and diabetes.

Results: The majority of the sample were male (61%) white (62%), and obese (52%); 76% underwent a coronary artery bypass graft procedure. Patients were 2.8 times more likely to develop a SWI ($p < .001$) when their mean blood glucose on the day of surgery was above 160 mg/dl. Mean blood glucose on post-operative day #1 ($p = .70$) and #2 ($p = 1.00$) were not significant. No differences were found in the relationship of graft choice and SWI ($p = .61$). Females were two times more likely to develop a SWI than males ($p = .02$). 72% of the sample with a BMI of 30 and above developed a SWI ($p = < .001$). There was no difference ($p = .19$) in the relationship of history of diabetes and SWI.

Conclusion: Improved blood glucose management targeting a mean blood glucose below 160 mg/dl on the day of surgery may help prevent SWI.

Biography

Diane Baruch DNP MBA RN CCRN-K NE-BC is an experienced manager with over thirty years of experience in the fields of cardiac and critical care. She has worked at both Mount Sinai in NYC and Northwell Health on Long Island, and currently works as the Patient Care Director for the cardiothoracic step-down unit and remote telemetry center for New York Presbyterian Hospital in New York City. She recently graduated from George Washington University in Washington, D.C. with her DNP.

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Michele Roccella

University of Palermo, Italy

Autism spectrum disorders in children affected by Duchenne Muscular Dystrophy

Objective: Duchenne Muscular Dystrophy (DMD) is a progressive neuromuscular condition that has a high rate of cognitive and learning disabilities as well as neurobehavioral disorders, some of which have been associated with disruption of dystrophin isoforms. Recent studies have pointed to an increased risk for intellectual disability and autism among affected males. The aim of the present study was to describe a case series of children with DMD that have also the presence of autism spectrum disorders (ASDs). They have been assessed by means of standardized autism scales and the most appropriate psycho-educational treatment is herein discussed.

Methods and Results: In order to evaluate and identify the presence and intensity of autistic symptoms have been used the childhood autism rating Scale and autism diagnostic Observation Schedule tools. Moreover, in order to assess the intelligence of subjects and their lower limb function, Wisch-r intelligence scale and Vignos function scale were used, respectively. A typical behavior included a preference for being alone, and selective interest in privileged objects used in a stereotyped manner, motor fretting, and attention instability were present in all children. By the administration of these scales was confirmed the presence of ADSs in all subjects.

Conclusion: It is important for clinical practice to consider this association increased.

Biography

Michele Roccella is a Professor and Director of the School of Specialization in Child Neuropsychiatry at the University of Palermo, Italy. He graduated in Medicine and Surgery and Specialization in Child Psychiatry at the University of Palermo. He was the National Secretary of the Italian Society of Pediatrics (SINPI) from 1996 to 1998. Michele Roccella has published more than 450 articles in national and international journals.

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Sawsan Alyousef

King Fahad Medical City, Saudi Arabia

Implementation of medical simulation to improve pediatric health

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. The see one, do one, teach one philosophy certainly should be eliminated. This is 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 over the past 15 years and has been shown to be an effective method for teaching. Despite this, the field of pediatric medicine is still in the primitive stages of adopting simulation. The reasons cited for this include: the high cost of simulators, a dearth of didactic curricula to accompany the psychomotor skill learned on a simulation, the wide variability and/or lack of consistency that exists among the simulation platforms, and a complete absence of large trials showing that this expensive technology actually improves patient outcomes. Despite all this, the Saudi Commission for health specialty now mandated and added certain simulation courses into pediatric R1 curriculum. 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, thoracentesis, chest tube insertion, 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 pretest) 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 debridement 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 all pediatric residents and fellow.

Biography

Sawsan Al Yousef is Director of Saudi Commissioner for Health specialty for PICU Fellowship Examination committee, Saudi Arabia. She is an a assistant Professor in King Saud Bin Abdulaziz University and Health Science, Clinical and Research Pediatric Critical Care fellowship from University of Western Ontario, Canada, 2001, Clinical Pediatric Respiratory, University of Toronto, Canada, Arab and Saudi Board of Pediatrics, 1997. Currently Appointed as Consultant Pediatric Intensive Care and Pulmonary at King Fahad Medical City(KFMC), Chairperson of Post Graduate Simulation Department at Center for research, Education, Simulation enhance training (CRESENT)KFMC.

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