ABSTRACTS

Oral Presentations

Improving Working Environments for Critical Care Nurses: A Blended Training Solution - An Erasmus + Project

Evanthia Georgiou

Ministry of Health, Nursing Services, Educational Sector, Cyprus; egeorgiou@ns.moh.gov.cy

Background: Healthy work Environment (HWE) is a key factor for enhanced patient outcomes and nurses’ work satisfaction.

Aim: To support Critical Care Nurses and their trainers to develop the relevant soft and hard skills required for creating HWEs in the Critical care Unit (CCU), fostering increased motivation and wellbeing, staff retention and better patient care.

Methods: A cross-sectoral partnership involving Critical Care Nurses (CCN), field of soft-skills development was formulated to design a blended training course on HWEs. The six dimensions of HWE (i.e. communication, collaboration, leadership, decision-making, recognition and staffing) as proposed by the American Association of Critical Care Nurses provided the conceptual framework of the project. The main project proposal activities, involve content development, testing, improvement, translation and dissemination.

Results/Findings: The blended training course consists of 4 modules. The training content was customised to best answer training needs and can be delivered both face to face and online as a free Open Educational Resource (OER) in six languages. The first module familiarizes trainers involved in the continuous professional development (CPD) of CCU nurses with the notion of HWE and the relevant knowledge, skills and competences required for HWEs. The second module is a toolbox with a comprehensive set of methods and tools to assist trainers to design HWE training curricula. The third module provides the trainers with complete, ready-to-use lesson plans and the fourth module includes assessment and recognition tools to assess learning for trainers becoming professionals in HWE and CCN taking part in HWE training.
Conclusions: The blended training course proposed, will enable CCN and their trainers to develop the relevant knowledge, skills and competences required for HWE and by that mean fostering employability, improved quality of care and socio-educational and professional development in the Critical Care Nursing field, which is strategic for smart economic and social development.

Infusion Alarm Fatigue: The Size of The Problem and Mitigation Strategies

James Waterson
Becton Dickinson, United Arab Emirates; redheroes67@icloud.com

Background: Smart pump medication libraries, and their reporting software, record medication and dose selections made by users, as well as cancellations of selections.

Aim: To establish, in a reproducible and reliable study, baseline data on the set-up and initial programming phase of intravenous medication administration from review of medication library reports from infusion pumps used across three facilities in the Middle East. Analysis of user-initiated corrections of common ‘death-by-decimal point’ errors of incorrect dose/concentration selection, and of wrong medication selection related to medication-name ‘lookalike-soundalike’ issues. The study also focused on the time taken for clinicians to self-remedy the error.

Methods: A twelve-month review of medication library reports from 4341 infusion pumps used in 15 disciplines across the Middle East obtained metrics on the set-up phase of intravenous medication administration. The reporter software used in this study records cancelled infusions and resolutions of infusion alerts by the user. Decision times of clinicians were calculated from the time-date stamps of the pumps’ logs.

Results: Incorrect medication selections were 12.1% of all medication library alerts and 70.2% of the cancelled infusions. Of these cancelled medications c. 30% would require two-nurse checking dependant on local policy. Wrong dose selection was responsible for 6.1% of all alarms and 29.8% of infusion cancellations. Average error recognition to cancellation and correction time was 27 seconds [+/-22.3] for medication error correction, and 26.5 seconds [+/- 24.7] for dose corrections.

Conclusions: The study identified a great number of lookalike-soundalike near miss errors. The value of an infusion pump having the capability to show the entire medication name, complete with TALLman lettering on the interface matching that of medication labelling is supported by these findings. The study indicates that even with standardised doses being available to clinicians the risk of programming error still exists.

Combination Of Chest Compressions and Interposed Abdominal Compressions in A Swine Model of Ventricular Fibrillation.

Marios Georgiou
American Medical Center Cyprus, Cyprus; mariogrn@spidernet.com.cy

Background: The compression-related cardiac output is one of most critical determinants of cardiopulmonary resuscitation (CPR) efficacy and survival after cardiac arrest.

Aim: To investigate the effects of the combination of chest compressions and interposed abdominal compressions (IAC-CPR) in a swine model of ventricular fibrillation (VF).

Methods: Twenty Landrace-Large White pigs with average weight of 20±1 kg (aged 19±21 weeks) were the study subjects. At the end of the eighth minute of VF, animals in the control group (Group A) received chest compressions at a rate of 100/min, while animals in the second group received chest compressions and simultaneous interposed abdominal compressions (CC-IAC –
Group B), both at a rate of 100/min. Both groups received intravenous adrenaline 0.02 mg/kg at the onset of CPR. Successful resuscitation was defined as ROSC with a mean aortic pressure (MAP) of at least 60 mm Hg for a minimum of 5 minutes. After ROSC, the animals were monitored closely and mechanically ventilated for 6 h. The primary end point of the experiment was ROSC. Secondary outcomes were 48-hour survival rate and 48-hour neurologic outcome.

**Results:** No significant difference was observed in ROSC between the two groups, as 6 animals (60%) from Group A and 9 animals (90%) from Group B achieved ROSC (p=0.121). No significant differences were observed in baseline and 8-minute untreated VF haemodynamic parameters between the 2 groups. There was a statistically significant difference in systolic aortic pressure, MAP, right atrial pressures, and ETCO2 between the two groups during the first cycle of CPR, while during the second cycle, diastolic aortic pressure was significantly higher in Group B. Coronary perfusion pressure (CPP) values in group B were significantly higher compared with those in Group A during the first and second cycle of CPR. Neurologic examination was significantly better in the animals of Group B (75.00 ± 10.00 vs. 90.00 ± 10.00, P=0.037).

**Conclusion:** We found a statistically significant difference in haemodynamics between the two groups during the first cycle of CPR, while CPP in IAC-CPR-treated animals was significantly higher compared to animals treated with standard CPR.

---

**Family-Centered Care in The Paediatric Intensive Care Unit: From Giving Parents A Voice and Engagement to Reducing Sound Pollution**

*Muna Zahir Al Shaqsi*

Royal hospital, Oman; munazahir@gmail.com

The family experience high anxiety and complicated grief in PICU. Effective partnership between family and staff will help in redesigning health care safety and quality. It will lead to better outcome, enhance efficiency and cost-effectiveness. In order to implement FCC, PICU started with phase one analysis, with one-on-one interview in order to explore family’s needs and challenges. After exploring parents’ needs, PICU established FCC program with dramatic change in nursing practice and strict adherence in Arabic communication with integrated learning sessions provided to the staffs. The challenge of allowing parents to cuddle their intubated child and being involved with care was extremely difficult as the child may get self extubated and may have potential complications. However, after a year of transformation, it resulted to a high satisfaction rating from the parents and was fully-embraced by the nurses as well. After sustaining phase one project, phase two project was started for continuous improvement. Parent’s Satisfaction Survey has been established consisting open and close-ended questions. Family gave major concern on high noise in PICU. An audit tool was started to measure the noise level in PICU using a Sound detector with 80db of noise level detected. The World Health Organization (WHO) recommends that noise levels in the hospital environment should not exceed 35 decibels (dB) during the night and 40 (dB) during the day. Subsequently, Quiet Time was implemented in PICU. The goal of the Quiet Time is to promote adequate rest and healing to our vulnerable critical patient, to lower the noise level, to avoid disturbance during the sleep cycle of the patient and increase parent’s satisfaction. Sound level monitoring has been conducted before, during and after quiet time periods. After implementing FCC phase one project, parent’s satisfaction achievement rate was 96%. Quiet time project in phase two shows that, an average sound level dropped to 45-46 (dB) sound level. A secondary
outcome was less deterioration of patient and medication errors.

Validation & Development Of “Battle” Approach to Combat Alarm Fatigue

Pooja Nair

P.D. Hinduja Hospital & MRC college of nursing, India; pooja.jayannair@gmail.com

Introduction: “Alarm Fatigue” is a major healthcare concern, ranking fourth on the Emergency Care Research Institute (ECRI). It is described as sensory overload that occurs when clinicians are exposed to an excessive number of alarms, which can result in desensitization to alarms and missed alarms as stated in AACN. Desensitization to alarms is a serious patient safety concern and must be dealt promptly. Hence the present study aimed at development and Validation of Alarm Management guideline - BATTLE approach to combat Alarm Fatigue among Critical Care Nurses.

Method: To ascertain need for Alarm Management Guidelines, Alarm fatigue Risk Assessment questionnaire was administered to 60 critical care nurses (CCNs) with minimum one year of ICU experience from 5 multispecialty hospitals after obtaining permission from authority and informed consent from individual respondent. Followed by this, Delphi technique was implemented with an aim to bring expert’s consensus about incorporation of strategies in BATTLE approach. Total 4 Delphi rounds undertaken with 9 experts from Intensive Care, Medicine & Nursing.

Results: Survey findings revealed that majority (56%) CCNs had an experience between 1-5 years. Majority (51.7%) CCNs were at severe risk of alarm fatigue while 48% of CCNs were found to be at moderate risk of alarm fatigue. 44% & 24.47% CCNs reported that poor placement of electrodes and probe and inadequate staff training about monitor handling contribute to Alarm fatigue respectively. Validated Alarm Fatigue Management Guidelines were named as BATTLE APPROACH after achieving expert’s consensus which is enumerated as follows; BASELINE DATA Assessment, ANALYZE data, TROUBLESHOOT false Alarms, TAKE SMART ROUNDS, LOCATE default setting, ENCOURAGE: Positive Deviant.

Conclusion: BATTLE APPROACH has potential for global implementation as feasible, comprehensive & full proof strategy to combat Alarm Fatigue.

Health and Well-Being: Self-Care Tips for The Bedside Nurse

Vilma Arcangel Cristobal

Nepean hospital, Nepean blue mountains local health district, New South Wales, Australia; vcristobal68@gmail.com

Background: In addition to personal problems and challenges, nurses are generally considered at high risk of work-related stress due to long working hours, a wide range of tasks, and complicated relationships with patients and their families, doctors, and other colleagues. The high rate of exhaustion of nurses affects patients and patient care delivery. Nurses who suffer from burnout, or who are perceived as unhappy or unhealthy by patients may not be able to meet the demands of patient care delivery or those presenting to healthcare services. It is therefore imperative that nurses develop or adopt self-care techniques to ensure their health and well-being.

Aim: To provide some self-help care tips to fellow nurses and other healthcare professionals based on the strategies employed during difficult and stressful times in my nursing career and personal life.

Methods: This paper employs a phenomenological approach to provide a narrative of my personal experiences that impacted my life, relationships, and career, and to describe some strategies employed on how I overcome those challenges.

Results/Findings: From my own experiences, having endured many challenges, problems, and
stresses in life, I found that resilience, strong determination and hard work, open-mindedness and positive outlook to life are qualities paramount to an individual’s capacity to cope. I found that these qualities can be learnt and would help a great deal if a person opens his/her mind to possibilities and opportunities for change. Through the years, I have engaged myself in mind-body-spirit enriching activities such as mindfulness meditation, yoga and reiki, which are helpful to minimise the negative effects of stress such as anxiety, depression, sleeplessness, and/or anorexia/bulimia. Eating a balanced diet and regular exercises are also important to maintain good health and well-being.

Conclusions: An individual’s intrinsic qualities such as resilience, patience, strong determination, and hard work are important coping mechanisms when faced with problems and challenges. Also, mind-body-spirit enhancing activities such as mindfulness meditation, yoga, reiki, balanced diet and exercise are essential in overcoming the negative effects of stress.

Needs of Family Members of Critically Ill Patients Admitted to Intensive Care Unit and Emergency Wards at Mbarara Regional Referral Hospital

Tugume Daniel and Kasozi Jane Nammaga

Mbarara University of Science and Technology, Uganda; jkasozi@must.ac.ug

Introduction: Admission of a critically ill patient to an intensive care unit or emergency ward places considerable stress to family members. Most often, critical illness occurs without warning and the stress associated is not anticipated. Since critically ill patients are part of the family unit, it is essential to attend to their needs within a framework of the concept of holistic patient care.

Objective: To identify information, proximity, assurance, comfort, and support needs of family members of critically ill patients at Mbarara Regional Referral Hospital.

Methods: A descriptive cross-sectional study design was used to collect data from (n=80) respondents. Convenience sampling strategy was employed in the study. The Critical Care Family Needs Inventory tool was used to collect data which was analyzed using descriptive statistical analysis and ANOVA.

Results: Family members identified needs from the assurance sub scale / dimension as the very important and support needs as the least important. Thirteen needs showed statistically significant difference with demographic characteristics of family members. All analytical analyses were considered significant at the level of 0.05. Two additional needs specific to this sample group were identified related to resource constraints.

Conclusion: Most of the very important needs of family members consisted of needs from the assurance dimension while the least important ones are related to the support dimension. The findings will help nurses to plan for meetings with family members to identify needs that might reduce psychological burden during hospitalization of their patients in the intensive care unit and emergency wards.

Pressure Injury Challenges Related to Prone Position for Covid Patients in Critical Care Units

Iman Ateeq

Dubai Health Authority, United Arab Emirates; imatiq@dha.gov.ae

Background: A novel beta-coronavirus, named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV-2), Covid 19 was identified in China in 2019 and rapidly spread to pandemic in
2020 resulting disease was called Coronavirus Disease 2019 (COVID-19). COVID-19 has a broad spectrum of clinical presentations, ranging from asymptomatic to extremely severe forms. And patient develops the acute respiratory distress syndrome (ARDS) therefore patient required critical care for mechanical ventilation and prone position to manage ARDS complication. However, turning patients to prone induced important complications such as pressure injury. A study revealed that prone positioning is associated with higher incidence of HAPI compared with supine positioning. Pressure injuries are localized damage to the skin and underlying soft tissue usually over a bony prominence or in relation to a medical device. COVID-19 ARDS management requires prone positioning for extended periods of time, and therefore, using appropriate support surfaces and pillows and patient repositioning as soon as feasible are key preventive strategies recommended by the guidelines to prevent pressure injuries.

**Aim:** The aim of this abstract is to describe the prevalence and characteristics of prone positioning pressure injuries, and to highlight the importance using appropriate support surfaces and pillows as pressure injury preventive measures.

**Method:** Patient with covid 19 and placed on mechanical ventilator and required to position them on prone position and minimal handling as part of ARDS management. Braden score used to assess patient at risk of pressure injury development and skin assessment done on admission, regular basis and before placing the patient on prone position by critical care nurses these patients developed Hospital Acquired Pressure Injury (HAPI) on March and reported through Datix system as incident report for (HAPI) and patients examined and assessed by wound management team and in addition result displayed of confirmed cases of HAPI due to prone position.

**Result:** Patient characteristics resulted age (51.6 mean), Braden score (mean 11) and length of hospital stay (mean 34.1). Confirmed (HAPI) cases n= (18) from critical care due to prone position and minimal handling, Male n=(14), Female (4). The most affected pressure injury location was nose (9), penis (7), cheek (6) and lip (6). Patient discharge status for those with HAPI at the time of the study: discharged from hospital (7), present in hospital (6), and expired (5).
Poster Presentations

**Cypriot Intensive Care Nurses’ Knowledge and Attitudes Regarding Fever and Antipyresis**

*Veronika Kotanidi and Nicos Middleton*

Cyprus University of Technology, Cyprus; nktanidi022@gmail.com

**Background:** Fever is common in critically ill patients during their hospitalization in the Intensive Care Unit (ICU). Fever may represent either an indicator of illness severity or a marker of a protective host mechanism to the severe illness but usually causes fear and the urgent need to suppress it. Nursing personnel care for patients with fever and thus fever has a significant role on decision making about patient management.

**Aim:** To explore a) self-evaluated and actual (number of correct answers) level of knowledge and b) attitudes regarding fever and antipyresis among Greek-speaking ICU nurses in Cyprus.

**Method:** Descriptive cross-sectional correlation study. From October 2019 to February 2020 a convenience sample of ICU nurses employed in 4 public and 2 private ICUs in Cyprus were invited to complete anonymously a previously validated, self-administered questionnaire that assessed knowledge and attitudes towards fever and antipyresis.

**Results/Findings:** 113 nurses participated in the study [Response Rate: 66%]. Regarding their knowledge, 66% of the participants self-evaluated it as adequate although their actual knowledge score was only moderate on average (Mean: 5.1±1.7; Scale Range: 0-10) with those working at private ICUs recording higher levels of knowledge (p=0.003). Nursing personnel expressed moderately negative attitudes towards fever and moderately positive attitudes towards antipyresis [Mean: 30.8±3.3, Scale Range: 10-50 and Mean: 26.4±3.6, Scale Range: 20-50 respectively (higher values reflect more negative attitudes)]. Nurses employed in private ICUs expressed more positive attitudes regarding antipyresis (p=0.014). No correlation was found between knowledge and attitudes.

**Conclusion:** Further research is needed to investigate more factors associated with ICU nurses’ knowledge and attitudes regarding fever and antipyresis such as organizational culture of the hospital.

---

**End-Of-Life Care in The Intensive Care Unit: A Concept Analysis**

*Yuri Sakaki*

The Jikei University Graduate School of Medicine Doctor’s Program in Nursing, Japan; nd2002sakaki@jikei.ac.jp

**Background:** Death is a fact of life. Since nursing deals with people’s health at all developmental stages and at any point in the health-illness continuum, end-of-life care is part of it.

**Aim:** The aim of this concept analysis was to identify the definition of end-of-life care in the ICU.

**Methods:** The method of Walker & Avant was adopted because it identifies the structure and definition of end-of-life care in the ICU, to further evaluate research related to end-of-life in critical care nursing. A manual literature search was conducted followed by a search of PubMed and Scopus of the scientific literature.

**Results/Findings:** These searches extracted six attributes of the concept of end-of-life care in the ICU including communication with patient & family, support of decision making, symptom management, multidisciplinary approach, dignity, and respect for cultural background. Four antecedents included strong dependency on medical equipment, short term, less or no ability of decision making by patients themselves and focusing on family surrogate decision-making. Four consequences included family satisfaction, improved interaction between medical staff and patient/family, normal grief process, and sense of the family being “supported”. The definition of
end-of-life care in the ICU was “the holistic care of critically ill patients and families with dignity and respect for their culture without distress over the short-term. Despite the short time, the care should be provided intensely, and support decision making by families. End-of-life care in the ICU should result in family satisfaction, and finally aim at the patient living their own life well and support the normal grieving process of the family”.

Conclusions: The result of this concept analysis is useful, may support critical care nurses to provide optimal care for dying patients and their families in the ICU and contribute to conducting further research related to end-of-life in critical care nursing.

Early Provision of Buccal Mucosa Swabbing with Colostrum in Preterm Infants - Leads to Sustained Breast Milk & Better Developmental Outcomes

Mini Thomas
Medcare Women & Children Hospital, United Arab Emirates; minithomas@medcarehospital.com

Background: Extremely premature infants/ for very low birth weight (VLWB) infants do not receive oral milk feeds until 32weeks post-conception age, they lack the potential benefit provided by milk (bio factor) and this deficiency could contribute to late-onset sepsis and necrotizing enterocolitis. To close this gap, the practice of early application of oropharyngeal colostrum (OC) was proposed and initiated as a protective strategy by placing a small volume of colostrum directly onto the inside cheeks of preterm infants that may provide immunological and growth factors that stimulate the immune system and enhance growth of the intestine. These benefits could potentially reduce infections, including necrotizing enterocolitis (NEC), thereby improving survival and long-term outcomes.

Aim:
• Achieve 98% Colostrum swabbing for all preterm babies <34 weeks
• Educate mothers on significance of breast milk especially colostrum
• to achieve mothers’ satisfaction, prevent prematurity related complications

Methods: A separate retrospective control cohort of VLBW was completed prior to initiation of colostrum protocol. The oral colostrum protocol was segmented by birthweight, therefore infants weighing <1500 grams received colostrum via swab to each buccal mucosa every 4-hours within 4-6hrs of birth. Mothers were given education on proposed benefits oral colostrum Staff education and training continued.

Results: The median time for Colostrum initiation was within 2-4 hours with a cotton-tipped sterile applicator. 0.2 mL of mother's colostrum is applied to the infant's oropharyngeal mucosa every 6hours for 5 days from birth within 4-6hrs of birth to day 7 of life (intervention). There were no adverse changes in vital signs and no desaturation associated with the application of Colostrum. After the initiation of the project our post discharge breast feeding improved to 90%.

Conclusion: We continue to encourage to provide breastmilk within first 4hrs of delivery. Increasing the exposure of breastmilk in NICU must become standard of practice.

The Development of Decision Aids of Advance Care Planning for Critical Care Patients: Checking Its Acceptability and Usability

Kanako Yamamoto
St. Luke's International University, Japan; ykanako@slcn.ac.jp
Background: The timing and goals of advance care planning (ACP) for patients treated in the intensive care unit (ICU) are difficult and have many problems. Decision aid (DA) is a tool that helps people make decisions about matters that are complex and difficult to predict and judge. A DA on ACP for patients undergoing critical care after surgery was developed using systematic development process and international patient decision aid standards.

Aim: This study aimed to evaluate the content of the developed DA and to refine it.

Methods: This was a qualitative study with semi-structured interviews. A total of 10 subjects, including intensivists, surgeons, palliative care physicians, ICU nurses, cancer nurses, and home care nurses, were enrolled. All the nurses were advanced practice registered nurses. Two DAs were evaluated: 1) a DA where patients choose to share the treatment preferences with their families and health care providers and 2) a DA where patients choose the treatment preferences when transitioning to end-of-life care. The study period was from October to November 2020. The study covered the comprehensibility, length, and improvements of DAs.

Results: The respondents pointed out that the two DAs had too much information and needed to be corrected, whereas the DAs were considered useful if they were used in preoperative patients. There were also concerns that reading the guide before surgery would increase patient and family anxiety. This was especially the opinion of those working outside the ICU.

Conclusions: The DAs of ACP for patients undergoing critical care after surgery were determined to require text reduction and improved reading time. On the other hand, regarding comprehensibility, health care providers evaluated the appropriateness of the content of the DAs. It was indicated that there was a possibility of adapting the DAs in clinical practice after improvement.

Journey of Chronic Wound: “It Was a Long Way There”

Alyssa Marie Escalante
Cambridge Medical and Rehabilitation Centre, United Arab Emirates; aescalante@cmrc.ae

Background: Wound care is not straightforward and predictable as patients present with complex co-morbidities. There are several questions that clinician must answer to establish management goals:

1. Is there a way to control, treat or eliminate co-morbidities?
2. Can local dressing regimen address issues like bioburden, infection or microclimate?
3. Does the patient or care providers have adequate drive, understanding and resources to adhere to treatment plans?

Aim: Two case reports of how interdisciplinary approach along with Holistic wound care made a positive impact on a nearly impossible Wound situation.

Methods and Results: CASE 1 – 87-year-old male, on mechanical ventilator with co-morbidities presented with:
1. Right Foot Gangrene aggravated by arterial disease.
2. Sacral Pressure injury stage 4 with poorly approximated and Integrated skin flap. Remained open and left for secondary closure.

Initial goal -wound hygiene and appropriate dressing with co-ordinated effort:

a) Right foot lesion reduced in size, slough eradicated, wound edges well contracted
b) Sacral wound achieved 90% epithelization and wound closure is eminent.

Case 2 - 87-year-old female patient tracheostomized on ventilator with co-morbidities Developed large bowel perforation status post laparotomy, total abdominal colectomy, and terminal ileostomy presented with:
1. Poorly approximated abdominal wound with suture tension and tissue necrosis.  
2. Two weeks later, wound dehisced further with moderate to large amount of purulence.  

Initial goal was symptom management and pain relief along with systemic antibiotics, topical antiseptics and antimicrobial dressings.  
Wound bed grew 100% granulation tissue and an 80% epithelialization, edges contracted resulting in predominantly closed wound.  

**Conclusion:** Chronic wound care is extensively challenging. Full thickness wounds have significant tissue growth or loss from 6 months to time of 100% Epithelialization which can take more than 12 months. Within this timeframe, a myriad of treatment strategies was instituted to keep up with the dynamic changes.

---

**Poster for Best Practice on Control and Prevention of Blood Sampling Error**

**Balaraman Usha Devendiran**

Dubai Health Authority - Rashid Hospital, United Arab Emirates; BUDevendiran@dha.gov.ae

In Rashid hospital 2018, had lot of blood sample error incidents which created a delay in differentiate diagnosis, delay in treatment and increase nurse’s workload. In 2019, taken as a quality improvement project. In Critical care units, nurses worked together as a team to control the sample error.

---

**Knowledge of Greek-Speaking Emergency Health Care Professionals in Cyprus Regarding Ischemic Stroke**

**Christos Rossis, Evangelia Giannelou, Maria Karanikola, Christos Andreou, Nicos Middleton**

Cyprus University of Technology, Cyprus; crossisi998@gmail.com

**Background:** Data show that ischemic stroke is one of the leading causes of death and disability worldwide. Knowledge of ischemic stroke-related guidelines is vital for health care professionals working in the Emergency Departments (EDs) because it affects the early diagnosis and timely treatment to combating stroke.  

**Aim:** To explore knowledge regarding the recognition and treatment of the ischemic stroke among Cypriot emergency health care personnel.  

**Method:** This was a descriptive cross-sectional correlation study. From November 2019 to April 2020 Greek-speaking nurses and physicians employed in 3 private and 7 public EDs in Cyprus were invited to complete anonymously a self-administered questionnaire developed by a multidisciplinary group of experts in stroke based on the latest guidelines (2018) of American Stroke Association.  

**Results:** 243 nurses [Response Rate (RR): 74.34%] and 26 physicians (RR; 46.42%) completed the questionnaire. 94% of the participants responded that EDs play an important role in the rapid recognition and treatment of ischemic stroke. Regarding overall knowledge, nurses and physicians reported poor to moderate (Mean: 12.6±4.1; Scale Range: 1-28) and moderate (Mean: 15.7±4) level, respectively. Awareness of IS was higher among physicians (p<0.001) and participants with previous education at IS (p=0.048) and more years of clinical experience (p<0.05).  

**Conclusion:** Cypriot health care professionals in EDs reported poor to moderate knowledge about ischemic stroke and further study of factors related with this may be of interest. Also, development and implementation of evidenced-based protocols and enhanced education regarding ischemic stroke should be consider essential interventions for emergency health care professionals.
Impact of Time of Day and Admission Diagnosis on Pain CPOT Scores in Uncommunicative Critically Ill Patients

Evangelia Giannelou, Elizabeth Papathanassoglou, Maria Karanikola, Margarita Giannakopoulou
Cyprus University of Technology, Cyprus; eg.giannelou@outlook.co

**Background:** Uncommunicative critically ill patients experience pain during their hospitalization in the Intensive Care Unit (ICU) due to the nature of their disease or painful procedures that take place mainly in the morning.

**Aim:** In mechanically ventilated patients, we investigated pain measured on the Critical Care Pain Observation Tool (CPOT): a) before, during and after the turning procedure both in the morning and afternoon and b) differences in pain scores among groups with different types of admission diagnoses.

**Methods:** Prospective, observational study with repeated measures. A total of 1164 observations were carried out. 46 surgical, 37 medical, 30 trauma and 8 burn adult critically-ill patients were followed up for up to 5 days. Pain was assessed by CPOT (Scale range: 0-8, cut-off point>2) just before, during and 20 minutes after turning, twice daily, morning and afternoon.

**Results/Findings:**
During turning: In the morning, CPOT score (Mean+SD) was 1.84+0.84 on the 1st day, 1.91+0.89, 1.83+0.83, 1.68+0.85 and 1.54±1.02 for the next 4 days respectively (p=0.001). In the afternoon, CPOT was 1.82±0.86, 1.82±0.86, 1.61±0.89, 1.46±0.91, 1.43±0.97 on each day respectively (p<0.001). Regarding admission diagnosis, in the morning of the 1st and 2nd day, burn patients had the highest CPOT score (3.00±0.58 and 2.63±0.92) when compared to surgical (1.60±0.74 and 1.57±0.77), medical (1.86±0.85 and 2.06±0.86) and trauma patients (1.89±0.80 and 2.00±0.95), (p=0.001). In the afternoon at the 1st and 5th day, burn patients also had the highest CPOT score (3.14±0.59 and 2.00±0.58) when compared to surgical (1.49±0.64 and 1.11±1.08), medical (1.94±0.87 and 1.43±0.95) and trauma patients (1.83±0.85 and 1.69±0.79), (p<0.001). Before and after turning, both in morning and afternoon, CPOT score was <2.

**Conclusion:** Turning was not associated with severe pain suggesting that the preventing analgesic treatment was sufficient enough. Burn ICU patients may be at higher risk for pain, especially in the afternoon.

Perceived Barriers to Compliance of Critical Care Nurses with Six Hour Sepsis Resuscitation Bundle

Faith Sila
MOI Teaching and Referral Hospital, Kenya; fsila2015@gmail.com

**Background:** Sepsis and septic shock kills one in four of the millions of people it affects worldwide annually. Eighty percent of admissions to intensive care units (ICUs) are related to severe sepsis and septic shock. Progression from sepsis to severe sepsis in ICU is related to use of invasive catheters and invasive diagnostic procedures. Compliance to the six-hour sepsis resuscitation bundle is related to six times improved survival. However, studies have revealed low compliance to the six-hour sepsis resuscitation bundle in resource limited settings.

**Aim:** Aim of this study was to identify barriers that hinder compliance of critical care nurses to the six-hour sepsis resuscitation bundle.

**Method:** A cross sectional descriptive research design was utilized to carry out the study. Data was collected from a convenience sample of 40 critical care nurses using a self-administered questionnaire.

**Results:** Insufficient knowledge and lack of awareness of the six-hour sepsis resuscitation
bundle, delayed recognition of sepsis and burden of caring for several patients were identified nurse related barriers. Organizational related barriers identified included shortage of critical care nurses, lack of trainings, variations in expertise, prolonged laboratory turnaround times, lack of workplace library and delay in diagnosis. Heavy task load for septic patients and multiple comorbid conditions were identified patient related barriers. Overall organizational barriers were highly associated with low bundle compliance.

**Conclusions:** Addressing organizational barriers will lead to improved bundle compliance therefore improved survival to discharge for sepsis and septic shock patients.

### Knowledge of Greek-Speaking Cypriot Emergency Care Nurses on Early Recognition and Management of Sepsis

*Georgios Papageorgiou, Nicos Middleton, Elizabeth Papathanassoglou, Meropi Mpouzika*

Cyprus University of Technology, Cyprus; grgs_15@msn.com

**Background:** Sepsis is associated with increased morbidity and mortality. According to Sepsis 3 International Guidelines, sepsis treatment should start in the Emergency Departments (EDs) but sepsis first needs to be recognized early. Emergency care nurses are among the first health care workers responsible for the recognition and management of early signs of sepsis in patients presenting to EDs.

**Aim:** To evaluate knowledge regarding the recognition and treatment of sepsis among Greek-speaking Cypriot emergency care nurses.

**Methods:** A descriptive cross-sectional study was conducted between July and August 2018 in 5 public and 2 private hospitals in Cyprus. A convenience sample of emergency care nursing personnel were invited to complete anonymously a self-administered two section questionnaire. Section one included 10 socio-demographics questions and section two included 24 questions regarding recognition and management of sepsis. The questionnaire was developed by a team of experts in sepsis using the Delphi method and based on the Sepsis-3 International Guidelines (a=0.89).

**Results/Findings:** 225 nurses participated in the study (Response rate: 88%). 50.7% of the participants described their level of knowledge as moderate as their actual knowledge score was (Mean: 12.6±4.5; Scale Range: 1-24). The question with the highest percentage of correct answers was about sepsis definition (93.8%), and the one with the fewest correct answers was about the levels of lactate acting as an indicator of sepsis (21%). None of the participants had answered all the questions answered correctly. The overall knowledge was higher among nurses with previous education at sepsis (p =0.005).

**Conclusions:** Findings demonstrated that emergency care nurses appeared to have a moderate level of sepsis awareness. Educational programs are needed to address the gaps in this area.