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SUMMARY

- The 2015 World Congress was held in Seoul, Korea in August/ September 2015.
- Both peer-reviewed and invited papers are included.
- Only nursing abstracts are included.

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ABSTRACTS

GLOBAL LEADERSHIP SYMPOSIUM

A GLOBAL VIEW OF CRITICAL CARE: PRACTICE, POLICY AND POLITICS

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Since the early 1970s critical care practitioners have used this World Congress as a platform to share and celebrate their achievements, thoughts and aspiration for the professions. From those early times the WFSICCM has been the umbrella organisation driving the critical care agenda through its member organisations. At the 4th World Congress in Tel Aviv in 1985 critical care nurses started to raise their voice and profile in the hope that their contribution to the clinical practice agenda could be heard and seen. However it was not until

2001 that the World Federation of Critical Care Nurses (WFCCN) was born in Sydney Australia and critical care nursing started to identify itself as a true and mature partner in the relationship.

Informed by evidence and driven by passion, WFCCN now commands a strong place in the world of critical care and health care generally, invited to and present on many global advisory and policy making boards.

Every four years WFCCN conducts an international study of critical care nursing organisations (CCNOs) to identify the activities, issues and concerns of CCNOs and to inform the direction, policies and priorities of critical care professions and other health policy makers. The themes remain relatively constant: staffing levels, access to quality education programs, access to clinical guidelines and protocols and teamwork. Emerging issues now show differences between regions and countries with low economic status, something we must remain sensitive to in the developed world.

Trends in critical care nursing issues, concerns and priorities are presented from the last 4 studies spanning 16 years of consultation, research and publication to help understand where our profession now finds itself with respect to practice, policy and politics in 2015.

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THE FUTURE OF CRITICAL CARE NURSING: PRACTICE ADVANCING GLOBAL CRITICAL CARE NURSING

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Improving critical care nursing practice is the first step in advancing global critical care nursing. Through a scoping review of the literature, a number of opportunities for advancing critical care nursing become evident: ensure adequate staffing in the ICU; recruit and retain qualified nurses; promote a healthy ICU workplace environment; provide access to continuing education; ensure safety in the work setting for patients and staff; advocate for policy to support the profession of critical care nursing, among other priority areas.

Seminal work by Benner and colleagues has identified nine domains of critical care nursing practice. These include (1) diagnosing and managing life-sustaining physiologic functions in acutely ill and unstable patients, (2) skilled know how of managing a crisis, (3) providing comfort measures for the acute and critically ill, (4) caring for patients families, (5) preventing hazards in a technological environment, (6) facing death: end-of-life care and decision making, (7) making a case: communicating clinical assessments and improving teamwork, (8) patient safety: Monitoring quality and preventing and managing breakdown, and (9) skilled know how of clinical and moral leadership and the coaching and mentoring of others.

Identifying priority areas of nursing to advance global critical care practice, education, and research is an essential component in identify strategies for the future of critical care nursing practice. At this Critical Care World Congress in Seoul Korea, country members of the World Federation of Critical Care Nurses (WFCCN) will be meeting to review and set an agenda for critical care nursing practice, education, and research. Rank ordering of recommendations identified in the literature and through international critical care nursing focus groups will be used to designate priority areas, taking into consideration country specific variations in practice and education.

As designated by the WFCCN 4th international survey on critical care nursing, important issues continue to challenge critical care nursing including those pertaining to wages, work hours, staffing, and educational needs. Identifying priority areas for clinical practice, education, and research will provide vital information to assist with the formulation of international strategies that can advance critical care nursing on a global level. It will also help guide nursing leaders and policy makers to address the needs of critical care nurses and their patients.

The results of this international critical care initiative will be disseminated via publications and presentations, and ongoing applications to clinical practice, education and research will be tracked. The work will be used to set a roadmap for further defining the future of critical care nursing practice, education and research and in advancing global critical care nursing.

EXPERIENCES OF INTER-PROFESSIONAL LEARNING IN A CLINICAL SETTING ON THE ICU IN STOCKHOLM

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Teamwork is essential in the intensive care unit (ICU). The critical ill patient is treated and cared for by different health care professions every day. All of them have different duties and tasks. They have different roles in the team. In the best of worlds the different healthcare professions and providers work side by side, collaborate and communicate with each other to give the critical ill patient optimal treatment and nursing care. There are studies showing that effective collaboration influence the outcome for critical ill patients both in mortality and length of stay. There is also evidence that lack of communication and collaboration in the team can have an effect on incidences and occurrence of presence of pressure ulcers, and ventilator associated pneumonia. Students from different health care professions have participated in an Interprofessional education (IPE) on a general ICU on a hospital in Stockholm. The students participated in a clinical setting for four consecutive days during their work placement. The students came from different programs: undergraduate nursing student, registered nurses training for their postgraduate education as critical care nurses and doctors during their residency. Focus in this program has been on collaboration, professional roles, responsibilities, communication, training of decision-making and professional skills.

The purpose to introduce this program of IPE is to alter attitudes and promote collaborative work between students in different healthcare professions. The learning outcomes of this bedside training program is to enhance the student knowledge and skills, practise communication and collaboration, letting them plan and undertaking a job and accomplish it together and understand the different roles and responsibilities in the health care team. The assessment of this IPE was summative and formative. The student scored this Inter professional learning in an audit with a mean of 8-10. The evaluation from used was modified from Ripleys scale. The formative assessment is followed up by interviews. The analyse with interviews with content analyse is an on going process.

REHABILITATION SYMPOSIUM

HOW TO ENCOURAGE EARLY MOBILISATION IN ICU

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Promoting early mobilisation in ICU

Literature supports physical therapy and early mobilisation in the ICU. Many systems are severely affected by immobilisation and mobilisation has documented effect on critical illness. ICUs all over the world are heavily staffed and consist of different healthcare professions with different working schedules. The patient and staff meet new teams every day. Under these circumstances it is important to do and visualise an implementation strategy with a purpose to encourage mobilisation at the ICU.

The aim with our project was to implement early mobilisation with critical ill patients admitted to our ICU. Individual daily goals were set according to the patient`s ability. This presentation will take you through the different steps we did to achieve our goal and change from heavily sedated patients to more awake and how we changed practise and today mobilise our patient in the ICU. Among other things to achieve our goal we implemented a mobilisation scale and prescribed daily goals. The preliminary results from our follow up show a positive trend of early mobilisation even with patient with multi organ failure and in need of life support.

QUALITY OF LIFE AFTER DISCHARGE FROM INTENSIVE CARE

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The purposes of this longitudinal follow-up study were to describe change in symptom experiences, func-tional status and health-related quality of life (HRQoL) and to identify the role of symptom experiences and functional status on HRQoL of Intensive care units (ICU) survivors after discharge from adult ICU. Patients who admitted in ICU for treatment their medical-surgical problems for a period of greater than 24 hours were included. Patients surviving to ICU discharge were approached for written consent to participate in this study. Total 213 patients during the study and of these 158 survived to 6 months following ICU discharge. Demographics, psychological factors (anxiety, depression) and situational factors (social support) were surveyed. Symptom experiences, functional status using the K-MBI (The Korean Version of Modified Barthel Index) and HRQoL with EQ-5D (Euroqol-5 Dimensions) were assessed at discharge, 1, 3 and 6 months after discharge from ICU. Data were analyzed using PASW 18.0.

As results, symptom experiences, functional status and HRQoL respectively improved predominantly within the first 1 month after ICU discharge. In hierarchical linear regression, this study showed that ICU survivors after ICU discharge, demonstrated a statistically significant association between symptom experiences, functional status and HRQoL at 1,3,6 months after ICU discharge adjusted for socio-demographic, disease-related, physical and psychological variables. Symptom experience and functional status explained respectively about 31%, 43%, 33% of total variance in HRQoL at 1,3, 6 months after ICU discharge.

The symptom experience, functional status, and HRQoL of ICU survivors showed steady improvement, and the symptom experience and functional status continually acted as main influencing factors of HRQoL. This information may guide clinicians in their discussions with patients, families, and other providers as they decide on what treatments and interventions to pursue, especially within a month after ICU discharge.

NEW TRENDS IN CRITICAL CARE NURSING

PSYCHOLOGICAL RECOVERY AFTER ICU

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Critical illness, requiring admission to intensive care (ICU) affects millions of people worldwide each year. Although more than 90% of these patients survive their critical illness, many will experience protracted and problematic recovery with significant ongoing burden and economic cost on the individual, family, health care system and society. Aspects of recovery that may be compromised include physical or functional, psychological, cognitive, economic and quality of life components.

Psychological compromise after critical illness includes anxiety, depression and symptoms of post-traumatic distress. There is growing evidence that between one quarter and one half of critical illness survivors experience each of these problems, with many patients experiencing multiple aspects of compromise. Importantly, survivors experience varying levels of these symptoms at different time points in their recovery. Factors that have been identified as being related to psychological recovery include age, sex, socio-economic status, psychological history, cause of illness, length and type of treatment and ICU length of stay. Potentially modifiable factors that affect recovery include sedation practices, mobility and early psychological status.

Interventions to improve psychological recovery after critical illness might be delivered at multiple points including while the patient remains in ICU, after the patient has left ICU but remains in hospital and after leaving hospital. Strategies to be considered within ICU can be considered in three groups: (1) adapt ICU to limit the detrimental effects; (ii) introduce programs of care within ICU to improve long term recovery; (iii) identify ‘at risk’ patients to refer for additional support.

Interventions to be introduced within the ICU should incorporate limiting the harmful effects of care, for example those associated with excessive sedation or not effectively managing pain, as well as introducing new interventions such as counselling. Sedation has repeatedly been suggested as influencing long term outcome, although effective strategies to improve care in this area have proved elusive. Strategies that lead to sedation minimisation are essential and may need to be individualised to the specific clinical context and conditions within each ICU as well as each individual patient.

Screening for patients most likely to benefit from interventions is not undertaken routinely in most centres. Challenges associated with screening include the different psychological problems and different recovery pathways that people experience after their critical illness. Consequently, identifying a reasonably simple, yet effective, screening instrument may be difficult although early work in this area is promising.

Interventions commenced in the ICU should be expanded to the post-ICU setting to consolidate benefits and adapt to ongoing changes in survivors’ recovery. Interventions such as counselling and the use of diaries have been proposed, and implemented in some settings, although evidence demonstrating effectiveness and confirming lack of harm remains elusive. Consequently, research overcoming the methodological limitations and confirming proposed benefits is needed before strategies such are these are implemented into routine clinical practice. Development of any intervention to improve the psychological health of survivors of critical illness must involve effective communication and collaboration with many different colleagues from the multi-disciplinary team who practice across the care continuum.

WEB SERVICES FOR A REAL-TIME CONVERSATION WITH FAMILY MEMBERS OF ICU PATIENTS

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In fact, there is only one day in the intensive care unit control section 2 visits (11:30, 19:00). Especially to-wards the end of visitation 19:00 and is very curious about patient safety to the next day morning visiting hours. This has provided a SMS message everyday nursing services to patients safety to 8:00 a.m. to 9:00.

The short message service is the constraints occurred in the communication to inform patients only safety one-way communication method. System was upgraded to a two-way real-time communication methods to solve problems. If you provide nursing services to patients safety message patient\'s family by using the Web server is generated real-time conversation program in EMR. After nurse to the patient family may provide a real-time care services in message. The nursing service has contributed to improve the reliability of customer satisfaction and medical team.

CONVERGENCE BETWEEN IT AND INTENSIVE CARE

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Patient care is improving with application of digital health, and information technology convergence with healthcare is inevitable in the field of intensive critical care. Initially digital technology is introducing as a supportive tool for healthcare. Now digital healthcare technology is essential for safe and efficient patient care. Vital signs, I&O, and medical records are digitalized by healthcare IT system, and many treatment devices are more delicately controlled by IT. Real-time communication and synchronization of specialists opinion became possible by smart mobile technology. In addition to patient monitoring, we have to pay attention on analyzing data from intensive care unit and applying its results (and knowledge) to improve the quality of critical care. Reviewing current status of digital technology application and future domain of ICT convergence in the field of intensive care is an important part for the journey to save the life.

CARDIOLOGY CARE

HEMODYNAMIC MONITORING - BASIC MANAGEMENT OF PATIENTS WITH ACUTE CORONARY SYNDROME WITHIN THE ICU

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Acute coronary syndrome (ACS) is a condition resulting in an imbalance between myocardial oxygen supply and demand. Pathophysiology: With high levels of low-density lipoproteins (LDLs) circulating, they began to accumulate in the collagen fiber of intima of arterial wall, developing into an atheroma and plaques. Abnormal smooth muscle cells migrate from the media to the atherosclerotic intima, ultimately form a tough fibrous cap. As fibrous cap becomes thinner by cytokines, it eventually ruptures, and inner cells display tissue factors, a potent pro-coagulant, initiating the activation of the coagulation cascade. This chemical step releases platelet activating factors, thromboxane A2 and glycoprotein IIb/IIIa receptor on the platelet surface exposes fibrinogen binding site. Fibrinogen builds bridge to adjacent platelets and fibrin reinforces platelet aggregation; a thrombus is formed. The thrombus obstructs blood flow in the area of the affected coronary artery, resulting in an acute coronary syndrome.

Monitoring: 12-lead ECG monitoring . The electrocardiogram is the classic diagnostic tool used in ACS. The ECG is most helpful for diagnosis of ischemia or infarction when the ST segment and T wave are evaluated and the presence of a Q wave. Changes on ECG in patients with non-ST elevation ACS include ST depression, transient ST elevation or new T wave inversion. The ECG can be relatively normal or initially non-diagnostic.

Serum cardiac biomarkers: The most common laboratory tests used are creatine kinase (CK) and troponin. These markers are proteins released into the blood as a result of muscle destruction. Isoenzymes of CK reflect tissue origin: CK-MB is predominantly cardiac muscle. CK-MB starts to rise in 4 to 8 hours and peaks in 12 to 24 hours. Cardiac troponins are the most sensitive and specific biomarkers. They rise within a few hours of symptom onset and typically remain elevated for several days (may remain elevated for up to 2 weeks).

The monitoring of hemodynamic parameter and cardiac output . Hemodynamics is the study of the motion of blood and includes the assessment of a patients heart rate, pulse quality, blood pressure, capillary refill, other parameters. As the complexity of the patients status increases, invasive hemodynamic monitoring may be utilized to provide a more advanced assessment and to guide ther-apeutic interventions. Invasive hemodynamic monitoring is now used routinely in critical care and include waveform and numeric data derived from the central veins, right atrium, pulmonary artery, left atrium, or peripheral arteries.

The pulmonary artery catheter is equipped with a thermal filament between proximal port and distal end of the catheter. Heat impulses are transmitted every 30 to 60 seconds, and blood temperature changes are measured. The monitor displays continuously the average cardiac output obtained data. It is availability of up-to-data on which to base clinical decisions and interventions.

HEMODYNAMIC PROFILE ANALYSIS: A SYSTEMATIC APPROACH

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Management of hemodynamic monitoring in critically ill patients is a foundational competency for critical care nurses. Since pulmonary artery catheters are not commonly seen in current practice, the management of these lines is considered a high risk/low frequency skill. This presentation will provide a practical step-by-step approach to analyzing and understanding the numbers in a hemodynamic profile. Cardiac output determinants preload, afterload, contractility and heart rate will be illustrated using a systematic approach applied to case based scenarios.

NURSING CARE FOR THE ARRHYTHMIA PATIENTS IN ICU

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The most important thing of nursing care is ICU cardiac arrhythmia monitoring. In addition to monitoring, emergency coping skills and preparing of necessary items for patients with suspected high possibility of arrhythmia can be the important elements. However the ability to distinguish arrhythmias takes precedence over all of these elements, so nurses should try to learn these skills continuously because these skills cannot be acquired in short period.

As discussing this topic, the various forms of arrhythmias are as follows; atrial / Junctional / ventricular / atrial-ventricular / myocardial infarction related / associated electrolyte imbalance. All of these can vary in severity, however rather than the atrial arrhythmias, the ventricular arrhythmias is often associated with high fatalities.

In any cases of arrhythmia, the most important thing is observing the patients and following the emergency protocols and procedures. Nurses should not forget the importance of 12-lead ECG recording so that they can predict and determine the extent of the emergency.

These records can be used for accurate diagnosis of the cause of the arrhythmia and offer the most important information for proper treatment.

The heart functions are important because they are the bodys primary source of delivering essential nutrients to various organs. If it does not properly supply nutrients to other organs, other organs may suffer acute or chronic dysfunction. Therefore, the skills for distinguishing various arrhythmias may be one of the most important and essential capabilities required for the intensive care nurses.

This is served as a brief introduction to arrhythmias. The nurses should remember the importance of dis-tinguishing the various types of arrhythmias because it helps medical staffs treat the patients with the correct procedures.

RESPIRATORY CARE

THE EFFECT OF ETT INTERVENTIONS ON VAP: A META-ANALYSIS

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Ventilator associated Pneumonia (VAP) is a common complication in patients with mechanical ventilators, and it can be defined as the pneumonia that develops in a patient with endotracheal tube and mechanical ventilation for 48 hours or more. It is a preventable secondary consequence of endotracheal intubation and mechanical ventilation. Ventilator Associated Pneumonia commonly results in an increase in length of stay (Intensive Care Unit, ICU) by 5-7 days; an increase in length of stay (hospital) by 2-3 fold; an increase of additional hospital cost of US$ 40,000 per hospital admission; and an increase of mortality by 25-50%. Patients receiving mechanical ventilation have an incidence of VAP infection of approximately 22.8%. The risk of pneumonia increases 6-20 fold in patients with endotracheal tubes and mechanical ventilators.

Two factors that are critical in pathogenesis of VAP are: colonization and pulmonary aspiration. Colonization refers to the accumulation of micro-organisms in certain parts (e.g. oral cavity) of the human body but without causing any symptoms of infection; but when the colonized micro-organisms migrate to other part of the body (e.g. lungs), infection occurs. Common sites of colonization include oral pharynx, dental plague, nasal sinuses, nasal cavity, gastro-intestinal tract, endotracheal tube and ventilator circuit. Pulmonary aspiration refers to the entry of oral cavity content or gastric content into the lungs. The oral cavity and gastric content normally contain many micro-organisms, and movement of these contents into the lungs is likely to cause lung infection.

Other than giving anti-microbial drugs to manage VAP, preventive measures should be taken early to prevent the development of such infection in ventilated patients. Commonly used measures for preventing colonization include the use of oral antiseptics, dental brushing, or the use of a silver-coated tracheal tube. Commonly used measures for preventing pulmonary aspiration include head-of-bed elevation, subglottic suction, adequate tracheal tube cuff pressure, polyurethane ultrathin tracheal tube cuff and tapered cuff tracheal tube.

There is increasing evidence in the literature to suggest that there may be links between using cuff pressure monitoring device, using different tracheal tube materials (ultrathin cuff, silver coated cuff), and choosing taper-shaped cuff on VAP reduction. Despite a number of studies done previously on tracheal tube and VAP, the effectiveness of tracheal tube on reducing or preventing of VAP is not clear. The goal of this review is to systematically review all relevant studies related to the effectiveness of tracheal cuff pressure, material and shape on VAP.

SEDATION AND ANALGESIA IN THE ICU

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Sedation and analgesia are essential components of the care of the critically ill patient, yet they remain two of the most challenging and controversial aspects. The most appropriate way of meeting patients' sedative and analgesic needs, while also optimising their long term recovery, has been questioned. Pain remains one of the most problematic memories that many patients report after recovering from critical illness. International guidelines (1) have established standards in some aspects of care, although many aspects continue to have insufficient evidence, or require adaptation for individual patients and local contexts.

There is widespread agreement that minimisation of the sedative impact of sedation and analgesia to allow the patient to interact and participate in his or her care is likely beneficial. Despite this principle, it is often difficult to achieve due to extreme levels of pain, anxiety, fear and agitation.

Effective assessment is the first essential step in effective care and various instruments have been developed to assess both pain and agitation levels. Two pain scales, the Behavioural Pain Scale and the Critical-Care Pain Observation Tool, have been rigorously developed for use with the ICU patient and their implementation is recommended. Similarly a number of sedation assessment scales have been developed with the Richmond Agitation-Sedation Scale and the Sedation-Agitation Scale being the most appropriate for the ICU patient.

Effective strategies to optimise sedation and analgesia management remain uncertain. Limited evidence regarding effective analgesia remains although pre-emptive analgesia, for example prior to procedures likely to cause or exacerbate pain, is considered beneficial. Use of non-pharmacological strategies, for example positioning, heat and cold, explanation, relaxation techniques and involvement of the family are encouraged. Nurse directed sedation protocols showed early promise in several international settings, but have been found to offer no benefit in many settings. Daily sedation interruption also had early support, but recent evidence indicates a lack of benefit and in fact indicates an increase in aspects such as overall sedation requirements and nurse workload.

Strategies to meet the sedative and analgesic needs of critically ill patients are required. These strategies should revolve around the principle of minimising the sedative effect of medications and optimising non-pharmaceutical components of care. Adaption of strategies to local contexts and the individual needs of every patient is essential.

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HIGH-FLOW OXYGEN THERAPY: THE CONCEPT AND CLINICAL APPLICATION

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Inadequate heating/humidification of the airways is known to result in drying of secretion, airway ob-struction, and infection. Heating anf humidification of respiratory gas is, however, often overlooked at the bedside. Because mucociliary function is the primary and essential defense mechanism of the respiratory system, heating and humidifying of inspired gases (at 37C with 44 mg H2O/L absolute humidity) is mandatory during oxygen therapy. For non-invasive administration of oxygen, there have been low-flow system (nasal cannula, oxygen mask), and high-flow system (Venturi mask). Both of these two are not ideal with regard to humidification of inspired gases. Heated high-flow nasal cannula is a newer method that is believed to combine the advantages of both oxygen delivery systems. This new device has been shown to be effective in pediatric patients. Beyond the use in pediatric population, it has recently been introduced to adult patients. According to a systematic review, heated high-flow oxygen therapy in adults may be useful in optimizing oxygenation in adults with intermediate respiratory failure. Studies upto now suggest the therapy may obviate the need of intubation in some patients who would otherwise develop frank respiratory failure. It has also shown to reduce the need of re-intubation in patients with post-extubation respiratory failure. Besides optimization of the respiratory mucosa, high-flow oxygen therapy is known to reduce dead space, inspiratory work of breathing, and provide augmented airway pressures. The latter effect may translate into increased lung volume (and thus improved oxygenation) via mild PEEP-like mechanism. Most patients describe the therapy as comfortable as conventional nasal cannula. The efficacy and safety of high-flow therapy in patients with COPD is not established yet. According to a recent study, intubation in patients with impending respiratory failure may be delayed with the use of high-flow oxygen therapy, and such delay may result in poorer outcome compared with timely intubation. Further studies are needed to determine its position in the continuum of severity of hypoxia and in types of respiratory failure (hypoxic versus hypercapnic).

NEUROLOGY CARE

USING BIS MONITORING IN THE ICU - GOLDEN PERIOD FOR EXTUBATION

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Historically anesthesiologists and anesthetic technicians had no direct means of assessing the patients svjestnosti during surgery and were dependent on recommended doses of drugs and indirect indicators of awareness, including changes in blood pressure and pulse. There are two possible unfavorable outcome that the patient receives too little or too much anesthetic. If the patient receives too little anesthetic there is a risk to awaken during surgery, such experiences may be traumatic for the patient, but also even more can be traumatic for the operator, and the anesthesiologist. On the other hand, if the patient receives too much anesthetic, unnecessarily increase the cost of drugs, the possible longer wakeup, postoperative complications, such as nausea and vomiting, and prolonged recovery. These factors can lead to inefficiencies in the operating room and PACU, and increase treatment costs. The American College of anesthesia technicians, the Royal College of Anasthetists and Association of Anesthesiologists Great Britain and Ireland and the Australian and New Zealand College of Anasthesist emphasize the importance of the monitor to monitor brain function and recommend their use in patients who are at increased risk for awareness. With the application of BIS Monitoring to prepare anaesthesiology technician placing the BIS sensor on the forehead of the patient, and testing of the BIS monitor, the anesthesiologist has a direct tool for assessing the patients awareness of the introduction of anesthesia, during anesthesia and waking from anesthesia, also monitoring may continue to be in the PACU or ICU.

Intraoperative patients are high-risk patients because of the possibilities of developing a number of complications in the postoperative period. The development of modern medical technology leading in 1994 to the implementation of BIS monitoring.

BIS monitored represents the depth of anesthesia as a result bispectralnom analysis of EEG was used to measure the direct effect of the anesthetic and a sedative in the brain. The method captures alpha-waves that occur in the state of wakefulness, or in a relaxed state.

Originally BIS monitoring was used only in the operating room, but nowadays more and more used in other medical units where necessary sedation patients (endoscopy, radiology, intensive care unit). The use of the BIS in the intensive care unit showing numerous clinical benefits for patients: the faster awakening from anesthesia, less potential for anxiety and anxiety, reduce nausea, hemodynamic stability, shortening time spent on mechanical ventilated in the intensive care unit and lowering the cost of treatment. We can conclude that the BIS monitor has multiple advantages over other forms of monitoring patients on exit from anesthesia.

EARLY PROGRESSIVE MOBILITY: EFFECTS ON THE BRAIN AND IMMUNE SYSTEM

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Background: Physical activity attenuates inflammation and enhances levels of brain-derived neurotrophic factor (BDNF). Attenuation of systemic inflammation is crucial for critical illness survival. In critical illness, early progressive mobility (EPM) is implemented to improve patient outcomes.

Aims: To critically review evidence on the anti-inflammatory effects of physical activity, as well as to summarize data on BDNF in critical illness and to draw implications for future research in EPM.

Methods: Critical literature review of studies published in MEDLINE, PubMed, Cinahl, Embase and Cochrane databases.

Results: Exercise modulates BDNF and its receptor in peripheral blood mononuclear cells. Two studies have addressed BDNF levels in critical illness, and none in relation to progressive mobility. BDNF is critically involved in the bidirectional signaling between immune and neurosensory cells and in the regulation of parasympathetic system responses. BDNF is also intricately involved in the inflammatory response: inflammation induces BDNF production, and, in turn, BDNF exerts pro- and/ or anti-inflammatory effects. Nursing practice implications of these associations are discussed. Despite, the established association between physical activity and attenuation of inflammation, inflammatory markers have not been addressed in relation to mobilization activities in critically ill individuals.

Conclusion: BDNF is a potential mediator of the anti-inflammatory effects of exercise and of the cholinergic anti-inflammatory pathway during EPM in critical care. Several issues remain to be addressed in the future, including the effect of progressive mobility protocols on: a) immune and inflammatory markers in critical illness, and b) on activation of the cholinergic anti-inflammatory pathway. BDNF modulation may also be investigated as a potential marker of the appropriateness and adequacy of individualized progressive mobility protocols.

HYPOTHERMIC THERAPY POST CPCR

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Many efforts have been made in the last decades to improve outcome in patients who are resuscitated from sudden cardiac arrest. Of various conditions after successful resuscitation, hypoxic-ischemic brain injury remains the most common cause of death and morbidity. Thus investigations have focused on early neuroprotection for the prevention of hypoxic-ischemic brain injury. For this purpose, therapeutic hypothermia (TH) targeting at 32-34 C has become standard care in comatose survivors after cardiac arrest since two pivotal randomized clinical trials. To date, TH is the only strategy able to provide effective neuroprotection in clinical practice. A more recent clinical trial, however, has shown that TH targeting at 33 C did not confer a benefit as compared with a targeted temperature of 36 C. Thus, minimal degree of TH and/or avoiding fever (therapeutic temperature management) may be an alternative strategy to neuroprotection in cardiac arrest victims. If therapeutic temperature management has comparable neuroprotective effects to TH, this alternative strategy may be helpful in avoiding complications due to TH. However, further investigations on adequate target temperature are necessary. Other issues on TH in comatose survivals of cardiac arrest include timing and duration of cooling, cooling methods, rewarming methods, complications of TH, and a development place of cardiac arrest (out-of-hospital vs. in-hospital), etc. In this session, the presenter will address aforementioned issues on TH in comatose survivals after cardiac arrest.

EVIDENCE-BASED PRACTICE

BACK TO THE BASICS: CREATING EVIDENCE BASED NURSING PROTOCOLS TO IMPROVE PATIENT OUTCOMES

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Florence Nightingale wrote, It may seem a strange principle to enunciate as the very first requirement in a hospital that it should do the sick no harm. In our current work cultures, basic nursing care activities and communication strategies designed to prevent harm, are frequently seen as just tasks to be completed before the end of the shift or just one more project. This session outlines processes and communication strategies to use within your unit or organization for revaluing of fundamental nursing care practices to achieve sustainable outcomes. Working together with the participants, an action plan around one nurse sensitive outcome indicator pressure ulcers using the Interventional Patient Hygiene (IPH) model is developed.

The 2014 International Guidelines state the incidence rate for pressure ulcers in the ICU ranges from 3.3-53%. In todays cost conscious environment, this type of preventable injury can no longer be place in a low care priority position. How well do we succeed at offloading pressure in the sacral and heel area with enough frequency to prevent injury, reducing shear/friction or eliminating the impact of moisture in acute & critically ill patients? A review of evidence based strategies and care resources will be outlined to address the current barriers to achieving practice standards around skin injury. Impactful nursing care to achieve the best patient outcomes happens when the nurse is able to advocate, feels supported and reconnects with the core belief that the fundamental nursing care practices are more than just tasks but part of our advocacy role of preventing harm and improving quality care.

EXPERIENCES OF FOSTERING AN EBP CULTURE

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In todays rapidly changing environment, the implementation of EBP in practice are very difficult job to every one of healthcare personnel(BM Melnyk & E Foneout-Overholt, 2011). To implement and expand Evidence-based nursing care at bedside, Individual nurses, team, and organizational change are crucial. In Korea, small group of nursing leaders and professors are getting to start Evidence-Based Practice to their clinical nursing practice and were making of the infrastructure. Publication of books for implementing of EBP(MW Park, 2006; MO Gu, 2011), establishing the EBP center(JBI center of Yeonsei university, the college of nursing). But their were no change in clinical fields.

From 2009, some leaders of major tertiary hospitals were introduced and adopted EBP process and models for their nursing care excellence. They are eager to introduce of the concept, process of EBP to the clinical areas and spreaded EBP culture to other hospitals and nursing society in Korea. In 2012, Korean society of EBN was founded and hold the conference or workshop for EBP expansion in Korea.

To do the evidence based nursing practice at bedside, individual nurses can make a clinical questions and follow the process of EBP. The other point is they are noticing to develop the evidence based practice guidelines in nursing practice. In this paper I will share of my experiences of fostering EBP in bedside care in tertiary hospital and the role of Korean Society of EBN and Hospital Nurses Association in Korea for several years.

DEVELOPMENT OF EVIDENCE BASED NURSING GUIDELINES

Ihn Sook Jeong

Pusan National University, Republic of Korea

There are two type of evidence based nursing guidelines (EBNG) development; de novo, and adaptation. Adaptation method is preferred to de novo method if the resources (experts, time, budget etc) are not enough. In this lecture, followings will be introduced.

1) Adaptation process prepared by ADAPTE Collaboration (2009)

2) Examples of EBNG developed by adaptation method: pressure ulcer guideline, indwelling urinary catheterization guideline and diabetic foot care guideline

RESEARCH UPDATE

ADVANCED NURSING RESEARCH IN THE ICU

Yeonsoo Jang

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Scientific nursing research in critical care is an important role to evaluate clinical practice and to develop new knowledge and best evidence of nursing practice. Recently, research agenda and research priorities for nursing research in critical care have been presented in the United States and in Europe. They emphasize collaboration and multidisciplinary research approach, focusing on various areas of research, understanding complexity and diversity of human research targeting patients with critical illness, and enhancement of infrastructure for critical care research. In addition, research priories for critical care nursing present infection control, patients outcomes, development of evidence-based practice, and ethical issues. However, there are still challenges in developing research capacity in critical care even though nursing researches in critical care have been advanced. Active and clinical based strategies may be established to foster and to advance nursing research in critical care.

VALUING NURSING RESEARCH IN CRITICAL CARE

Rhayun Song

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Nursing research in critical care aims to improve the care of critically ill patients by acquiring, discussing, distributing, and promoting evidence-based information relevant to critical care nursing. The relevant topics addressed in critical care has been addressed, along with the analysis of critical research articles that have been most frequently cited in terms of content and methodologies in relevant journals. The analysis showed that nursing research in critical care is mostly related to several topics such as Developments, advancements or updates on nursing care, Treatments, or procedures, cutting-edge medical or surgical therapies, Evidence based practice, Nursing care of patients with specific critical care health problems, and Care plans, critical pathways, and patient care protocols for critical care. Mostly cited research articles in critical care are also consistent in this topic list, including tool/guideline development study, clinical study addressing nursing interventions, and multi-center prospective/cross-sectional studies. Also the trend of utilizing qualitative research design to explore patients and familys experience in intensive care units has been recognized. Based on the literature review and topic analysis, future direction of nursing research in critical care is also addressed for the trends in topics and methodologies from evidence based perspectives.

PUBLISHING STRATEGIES

Paul Fulbrook

Australian Catholic University and The Prince Charles Hospital, Brisbane, Australia

Many people who have something really important to contribute to the nursing profession fail to get their work published simply because it is presented poorly or has not adhered to the particular journal guidelines for authors. Therefore, one of the most critical aspects of preparing a journal article for submission is to ensure that it is presented in the best possible way.

This presentation will examine the importance of ensuring quality aspects of articles for submission to a peer-reviewed journal: authorship; getting the structure right: proof reading, reviewing, revising text; checking the author guidelines; ethical issues around publication (accurate data, appropriate claims, anonymity of participants, declaration of interest); issues of copyright and permissions; reference style; using critical friends; cover letter; responding to reviewers.

EDUCATION

DEVELOPING CRITICAL CARE PROGRAMS

Esther Wong

Hong Kong College of Critical Care Nursing, Hong Kong

With an aim to improve the health care of people in Hong Kong and to promote nursing excellence through regulating specialist nursing practice and education, the inception of the idea to establish the HK Academy of Nursing (HKAN) started in 2002. With the concerted efforts of local nursing leaders and the statutory bodies, universities, associations/colleges, public and private health care sectors and the full support from the government, we had a Preparatory Committee set up in 2008 and then The Provisional Hong Kong Academy of Nursing (PHKAN) incorporated in 2011. In line with the development of the infrastructure of the PHKAN, 14 Specialty Nursing Colleges were established. Hong Kong College of Critical Care Nursing (HKCCCN) is one of them. At present, advanced practice nurse (APN) is only a position and not yet a qualification in Hong Kong. It is expected that the Academy in future will accredit the qualification of advanced nursing practice when it becomes a statutory body.

To pave the way for critical care nurses to become members, then fellows of the Academy College, programs at different levels are required. Basically, programs are set at three levels: elementary, post registration and post graduate levels. The elementary one is for new recruits to ICU, they have to complete Elementary Critical Care Nursing programs on ECG, Respiratory Nursing, Cardiac vascular Nursing, Reno-Neuro-Trauma Nursing. They have to be Advanced Cardiac Life Support providers. With around two years ICU experience, their employers will send them to study the program entitled Post-registration Course in Intensive Care Nursing (PRCC in ICU) or equivalent. This PRCC is a 6-month course comprising 18 study days Theoretical Input and 12 weeks Clinical Practicum. The practicum should be conducted in recognized training sites with mentors. Masters Programs are offered by universities. Usually, students will be allowed to complete the program (varies from 400Hrs to 550 Hrs) as part time students over a period of 2-6 years. The programs are delivered in the form of modules/subjects and clinical project or dissertation. Contents of which are stemmed from the Advanced Practice Nurses (Critical Care) competency framework stipulated by Hong Kong Association of Critical Care Nursing and the Hong Kong College of Critical Care Nursing.

Subsequent to being a holder of Masters Degree, critical care nurses can choose to write the Advanced Practice Critical Care Nurse (APCCN) Certification Examination to become a member of the college and academy. Then choose to undergo the fellowship assessment to become a fellow of the Academy. In pursuit of excellence in specialization, this presentation attempts to map out the three levels of critical care program and the roadmap to become a member and then fellow of the Academy of Nursing in Hong Kong.

EDUCATIONAL PROGRAM FOR ICU NURSES

Namju Lee

Asan Medical Center, Republic of Korea

Critical Care Nursing requires systematic competence that can assess and address emotional problems in critical care and communicate with medical team members effectively as well as physiologic needs. Critical Care Nurse should assess patients condition and manage equipment that patients use in critical care.

Education Principles: 1. Education Process 1) Assess: Education Needs, Education Objectives 2) Education Design 3) Teaching : Knowledge, Assessment skills, Clinical Practice, Critical Thinking skills 4) Evaluation

Education Method: 1) Electronic Learning 2) Live Instructions 3) Preceptorship 4) Simulation 5) Clinical Self Reflection

Education Program in Critical Care Nursing

Orientation: 1) Duration : 4~12 weeks 2) Method: Live instruction & Preceptorship & Simulation 3) Evaluate Clinical Practice skills 4) Contents: 1) Respiratory Assessment & Ventilation Monitoring in the Critically Ill Patient 2) Basic EKG recognition skills & Cardiac Drugs and Drips 3) Invasive Catheters, Tubes and Lines 4) Basics of Hemodynamic Monitoring 5) Renal: Abnormalities and Treatment

1.Transition 2. Competency Assessment 3. Ongoing Education

THE DEVELOPMENT OF TECHNICAL AND NON-TECHNICAL SIMULATION CONTENTS IN NURSING EDUCATION

Eunyoung Suh

Seoul National University Hospital, Republic of Korea

Clinical practice education in nursing has been rapidly blended with simulation techniques within the last decade, especially that of using high-fidelity human patient simulators. A sharp slope of the number

of related nursing research represents the given trend and implies a forthcoming need of developing simulation contents within a distinctive context of nursing discipline and practice.

In this presentation, the previous nursing research on simulation education will be summarized and the knowns versus unknowns will be discussed. Given the fact that formerly developed simulation modules were unquestionably skewed on a technical part in nursing, the author will address the status-quo and the future of developing non-technical simulation contents in nursing education.

In order to coordinate non-technical part in nursing practice, the theory on the levels of caring is proposed in which the development and application of non-technical nursing simulation will be feasible. In that, the detailed concepts and scenario flows according to the theory will be presented. In addition, the methodological means for simulating non-technical contents will be discussed. Taken into account the fact that the authentic transference of caring is perceived and interpreted by nursing clients not only through technical but non-technical part in nursing, simulation education needs to take a responsibility for educating nursing students in both technical and non-technical portions of nursing with a theory-based balance.

HEALTHY WORK ENVIRONMENT

HORIZONTAL VIOLENCE IN KOREA ICU NURSES

Jiyeon Kang

Dong-A University, Republic of Korea

Horizontal violence is defined as repetitive negative verbal, psychological and physical behaviors toward coworkers. It is also called horizontal hostility, lateral violence, workplace bullying, nurses eat their young or Tae-um in Korean. The types of horizontal violence include verbal abuse, threats, exclusion, insults, severe criticism, making fun of, taking way opportunities, teasing, disturbing, being nasty, interception of information and breaching privacy issues. In terms of nursing practice, unfair patient assignment, refusing help, and refusing to work together can be considered as horizontal violence. About 1517% of Korean ICU nurses meet the Mikkelen & Einarsons criteria of being victims of workplace bullying. According to 2 recent studies, more than 90% of the ICU nurses responded that they had experienced horizontal violence in the past 6 months shows that the severity of bullying within ICU nurses is quite significant.

Nursing work environment and organizational culture turned out to be significant influencing factors of horizontal violence in Korean ICU nurses. The degree of horizontal violence experience was higher in nurses working in poorer environments, and nurses who were strongly aware of relationship-oriented culture experienced less horizontal violence. Horizontal violence had a negative impact on the nursing organization and the safety of patients as well as on the individual nurses. Violence can lead to psychological distress, symptom experience, and intention to leave in the victim nurses. As for the structural equation modelling of horizontal violence in Korean nurses, the relationship-oriented organizational culture is a key antecedent, influencing the PsyCap (hope, self-efficacy, optimism, resilience) and intention to leave, as well. And, the horizontal violence is a mediating factor between relationship-oriented organizational culture and symptom experience (direct effect), and intention to leave (indirect effect). This model highlights the importance of nursing organizational culture to prevent horizontal violence and to improve high turnover problem in nursing.

The first step in reducing horizontal violence in the nursing workplace is to improve the nurses awareness of it through the education. Recently, several researchers proposed the cognitive rehearsal technique to teach vulnerable nurses how to handle unexpected violent situation in the workplace. Other interventions to improve relationship between nurses would help to prevent horizontal violence. The role of the head nurse is also important in the work environment of the nursing units and the interpersonal relationships between nurses. If the head nurse did not take appropriate action against negative acts in nurses, this would lead to a normalization of violence in the units, and a higher rate of turnover of nurses.

HEALTHY WORK ENVIRONMENTS FOR CRITICAL CARE NURSES

Sandra Goldsworthy

University of Calgary, Canada

Intensive Care Units have been shown to have the highest turnover rates and there is currently limited scientific evidence on how to retain critical care nurses.

Studies have shown that one of the most commonly listed incentives for this group of nurses is organizational support in the form of access to educational opportunities and career development. Strategies are urgently needed to stabilize the critical care nurse workforce and ensure healthy workplace environments. Findings will be presented from a Canadian study that examined how a specific professional development intervention, which included human simulation, influenced intent to stay among critical care nurses. In addition, essential elements of healthy nurse work environments will be discussed and implications for managers, education and policy.

PROFESSIONAL QOL IN THE ICU

Jung Yeon Kim

Severance Hospital, Republic of Korea

Professional quality of life (ProQOL) is coined by Beth Stamm. ProQOL includes the feelings and perceptions that professionals have in relation to their work. According to Stamm, a positive manifestation of ProQOL is compassion satisfaction. Negative manifestations of ProQOL is compassion fatigue which includes secondary traumatic stress and burnout.

Compassion satisfaction is feeling a sense of accomplishment and reward as a result of caring. Critical care nurses might experience compassion satisfaction as a positive outcome from working with critically ill patients.

Researches in nursing indicates that poor ProQOL, namely high compassion fatigue, negatively impacts quality of care. Many things contribute to high compassion fatigue, including workload, job setting, interpersonal relationships, leadership and education, etc.

Nursing is a profession with a high probability of experiencing a low ProQOL. Critical care nurses may be especially at risk to express high level of compassion fatigue and low compassion satisfaction because of the nature of their practice working with individuals who are experiencing life-threatening illness. A low ProQOL has a negative effect on a nurses mental and physical health and it reduces the quality of nursing care. Therefore, measures to improve the ProQOL of nurses are imperative. Nurses ProQOL was affected by ethical dilemmas, professional nursing values, nursing work environment, patient safety culture, resilience, positive coping, emotional expression, position, positive interpretation, self-blame and so on.

ProQOL relates to the recruitment and retention of health care professionals, perceived stress, silencing response, etc. Therefore, its needed that we should establish the strategy of management programs or curricula on compassion fatigue and enhancing professional satisfaction for nurses.

PALLIATIVE CARE

PALLIATIVE CARE IN THE PICU

Seunghee Son

Samsung Hospital, Republic of Korea

Introduction to pediatric palliative care: Pediatric health care Late 1800s Early to mid 1900s History of pediatrics. Site of Pediatric Death Institutions Intensive care units.

Palliative care: Principles of Hospice and Palliative care for children Precepts of palliative care for children Child and family as unit of care Adolescents and young adults have distinctive needs Attention to physical, psychological. Social and spiritual needs Interdisciplinary team approach Education and support of child and family Extends across illnesses and settings Bereavement support

Children's concept of death. Infant, toddler: Has no concept of death but can perceive sudden loss of caregivers Reacts to separation and loss Distressed by changes in routines, caregivers, parental emotions. Early childhood: Sees death as temporary and reversible, like the person is asleep Fear separation, abandonment, pain May fear contagion of terminal illness. School-age:Begins to see death as irreversible, real May view death destructive, scary, violent Sees death as naturalistic. Later school-age: Views death and final, irreversible Interested in details about biologic death and funerals May feel sad, afraid, lonely. Adolescence: Mature understanding of death May deny own mortality through risk talking Aware of immensity of loss May have great difficulty coping and be unable to accept support

Decision making. Four predominant principles in health care ethics for decision making Respect for autonomy: right make decisions not harming a patient Beneficence: helping a patient Justice.

Pain management. What is pain? Pain is transmitted through the brain, spine and nerves that are responsible for sensory stimuli that cause the pain to feel the pain An unpleasant sensory and emotional experience Feel anxiety, fear and depression Pains Harmful Effects Cardiovascular and respiratory systems are significantly affected by the pathophysiology of pain Pathophysiology of Pain pulmonary vital capacity alveolar ventilation functional residual capacity arterial hypoxemia suppression of immune functions, predisposing trauma patients to wound infections and sepsis Pain assessment Position Quality Relieving or aggravating factor. Severity Timing principles of analgesic use Types of pain for the patient , dose , route of administration selected Select or add an analgesic according to the WHO 3 step analgesic ladder Frequently observed effects evaluate and if the lack of pain control change the painkiller prescription

Spiritual distress. What is spiritual distress? Spiritual distress a disruption in the life principle that pervades a person entire being and that integrates and transcends ones biological and psychological nature. Spiritual assessment Concept of God or deity Sources of hope an strength Important religious practice Relationship between spiritual beliefs and health What are the signs and symptoms of spiritual distress? Sorrow, depression, anger, fear, guilt Questions the meaning of life. Afraid to fall asleep. Anger at God/higher power

What to do? Urge expression and accept feeing Contact, clergy, psychiatry/psychology Explain dying process Talk with them to provide tie to humanity, consult psychiatry

APPLICATION OF ADVANCED DIRECTIVES

Eun-Hee Choi

Korean Bible University, Republic of Korea

Bacterial infections caused by antibiotic-resistant organisms are common health concern in pediatric in-tensive care units (PICUs). Hospital-acquired infection is an increasing problem in intensive care units, where the patients are more susceptible and the organisms often more resistant than in other environments. The majority of PICU patients receive antibiotics for suspected bacterial infections that were not definitively confirmed by laboratory tests.The prevalence of resistant pathogens varies between countries and units and over time in the same unit. Therefore, it is important to know local epidemiology of major pathogens frequently identified in that PICU and their patterns of antibiotic susceptibility.

Within the PICU, timely and appropriate empiric antibiotics can improve outcomes in critically ill patients with infection. The treatment of serious bacterial infections is complicated by the fact that time to initiation of ef-fective antimicrobial therapy is a strong predictor of mortality. Therefore, therapy must be initiated before the causative pathogen is identified. However, inappropriate or inadequate initial empirical therapy is asso-ciated with increased mortality, morbidity, and length of hospital stay. Initial empirical therapy with broad-spectrum antimicrobials attempts to provide treatment active against the most likely pathogens until culture/susceptibility test results are obtained. After the causative pathogen is identified, streamlining to more-precise therapy of the shortest acceptable duration is implemented. It is also important to emphasize to discontinue the antibiotics when the clinical progression, laboratory, and culture results do not support a bacterial etiology.

In summary, start with a broad-spectrum antibiotics and modification to pathogen-specific treatment can decrease the risks of death, morbid complications, increased duration of hospital stay (as a result of ineffective initial treatment), and emergence of resistance (due to extended treatment with broad-spectrum agents).

BEREAVEMENT CARE PROGRAM FOR FAMILY MEMBERS

So-Hi Kwon

Kyungpook National University, Republic of Korea

Bereavement is one of the most difficult experiences in our life. Although grief is the normal response to bereavement, it may cause serious effects on physical and mental health, and social relationship by influencing our thoughts, emotions and actions. Health care professionals in critical care setting are often encountered to the grief of people in their care, and are called to improve the bereavement process. Each of professionals has his/her own way of caring the patients and the family during the time when care for the patient has changed from preserving life to allowing death with dignity. However, it is important to understand the nature of grief and bereavement, how we grieve in diverse cultural context, and what we can provide to patients and family during this difficult time. Therefore, this presentation will discuss a couple of cases and research findings regarding following subjects:

The nature of grief: Grief is the holistic, unique and subjective response to a significant loss of something or someone that is valued. In other words, no one has the ability to feel someone elses grief. Grief impacts on the whole self, which means that grief may have physical, psychological, emotional, spiritual, cultural, and social expression.

Sociocultural consideration in bereavement care: Koreans view of death and mourning rituals are influ-enced by traditional shamanism, Buddhism, Confucianism, and recently Christianity. In Korean per-spectives, we are born, growing up, getting old and sick, then die, that are a natural course of life. If someone dies in young, it is against the course of nature. The family member shared he the different responsibilities, depending on your status in the family. As an example, the first son and his wife are responsible for taking care of the parents and for making decisions at the end of life care. Guilt feelings may arise if they feel that they have not done everything to save their parents life. In a study revealed that Korean young

adult children who experienced the death of a parent suffered from social stigma and prejudice against single-parent family, as Korean culture continues to consider single parent families as defective and incomplete.

Bereavement programs: AACN National Teaching Institute suggested the card stock photograph, handprint, angel wings, and information folder for bereaved family as an evidence-based solutions and best practice. The author reviewed literatures regarding the bereavement programs for diverse population and setting.

NON-PHARMACOLOGICAL THERAPY

TOUCH AS A THERAPEUTIC MODALITY IN THE ICU

Halima S Kabara

Aminu Kano Teaching Hospital, Nigeria

Touch may be the undocumented intangible factor that leads to a patients speedy recovery. Touch is not fully understood non-verbal cues of patients seeking affirmation.

Attempts were made to discover ICU staff collective interpretation of the importance of therapeutic touch in the nurse-patient relationship. Delineation was made between nurse initiated touch and therapeutic touch. Review of literature revealed a historical description of touch as it relates to the healing arts. A one-question questionnaire was distributed to all staff of ICU (Drs, Nurses, and Physiotherapists) at the Aminu Kano Teaching Hospital, Kano. Nigeria. Results were listed as ordinal data; measures of central tendency were calculated, as was a confidence interval of a point estimate, the mean of the collected ordinal data. Statistical inferences were drawn, and opinions of staff as to the value of touch were reviewed. Authors observations were listed on how touch towards patients was administered amongst ICU staff.

No literature was found on the optimal times per day a patient needs to be touched or to the time of day that touching would optimize its use in the healing process, or on the specific non- verbal expressions by the patient indicating that touch by a nurse would be therapeutic.

NURSING CARE FOR DELIRIUM PREVENTION

Soo Kyung Park

Korea University, Republic of Korea

Background & Objectives: Prevalence of delirium, defined as a syndrome characterized by an acute onset of cerebral dysfunction with a change in mental status, disorganized thinking, or an altered level of conscious-ness, in intensive care units has been high. Clinical practice guidelines for the management and care for pa-tients with delirium in intensive care units are needed. Delirium mechanisms, physiologic and behavioral characteristics of delirium, risk factors, screening tool for delirium, and prevention and management of delir-ium will be discussed. Current evidence will also be discussed, based on findings from research studies.

Methods: Prevalence of delirium was 11-87% in intensive care units. Out of two subtypes of delirium, hyper-active and hypoactive, mixed-type and hypoactive type of delirium were prevalent in intensive care units. Risk factors for delirium include preexisting dementia, use of opioids, benzodiazepine, imbalance of electrolytes, prolonged use of physical restraints, and alterations of melatonin secretion. Confusion Assessment Method for the ICU can be used to assess delirium in intensive care unit. Early ambulation and promoting sleep should be considered for prevention of delirium.

Conclusions: A better understanding of mechanisms and factors that contribute to delirium can guide clinical practices and help health care providers develop effective intervention for this problem, and consequently improve patient outcomes.

THERAPEUTIC USE OF MUSIC IN THE ICU

Soo Ji Kim

Ewha Womans University, Republic of Korea

Recent research has enhanced our understanding of how the body responds cognitively, psychologically, and physiologically to music. Based on the growing evidence supporting the positive impact of music on the human condition, the use of music in intensive care unit (ICU) as a non-pharmacologic treatment modality has sparked a great deal of interest. However, there is a lack of consistency in the application of music therapy interventions. From simple music listening to active music making, music applications are found in a range of research articles, including RCT studies (Chlan et al., 2013; Beaulieu-Boire, et al., 2013) and reviews (Bradt, Dileo & Grocke, 2010; Philips, 2007). A number of techniques, including music for distraction, active music involvement, and music entrainment, have been developed in music therapy to address patients biopsychosocial needs. Besides music listening which has been extensively researched, the role of music and music interventions will be reviewed. Much more research remains to be done to clarify the effects of music in ICU, yet the discussion should be done to allow for the development of protocols for evidence-based music intervention.

FAMILY SUPPORT

ICU RESEARCH WITH FAMILIES

Marion Mitchell

Griffith Health Institute, Griffith University & Princess Alexandra Hospital, Australia

Background: An admission of a relative to intensive care is stressful for families. To help them support the patient, families need assurance, information and an ability to be near their sick relative. Flexible visiting en-ables patient access but how this impacts on patients, families and staff is not universally understood.

Methods: A descriptive mixed-method before/ after design was used. Participants came from a general ICU in a tertiary-care hospital in Australia. ICU patients were interviewed; family members completed the validated Family-Satisfaction in ICU survey and described their perceptions of flexible visiting. ICU staff completed a survey and/or participated in focus groups.

Results: Interviewed patients (n=12) were very positive about extended visiting hours. Family members' (n=41 [pre]; n = 140 [post]) overall satisfaction with care remained high, and 87% of families in the post period (n=117) were 'very satisfied' being able to be with their relative beyond the previous visiting hours. Twenty-four percent of visits occurred outside 'usual visiting hours'. Families stated that flexible visiting facilitated important communication with staff. Three-quarters of the staff were satisfied with flexible visiting and thought the identified barriers could be readily overcome by role modelling family inclusion and continued use of the developed clinical guidelines.

Conclusion: Patients, families and ICU staff positively evaluated extended visiting hours in this ICU. Families took advantage of the increased hours and valued the additional opportunities. Junior staff may benefit from peer-support and guidelines to promote a family-centered approach.

Keywords: Family-centred care; visiting; communication; staff satisfaction

DIFFICULT DECISION MAKING

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Parents of babies in the NICU are faced with a particularly difficult set of circumstances with regard to deci-sion making for their child. As the survival rates for very preterm infants are increasing, health-care providers and parents are confronted with the ethical dilemma to continue or withdraw care of critically ill neonates. These issues may challenge the assumptions, values and beliefs of all those involved in the care of very immature infants. Parents need to fulfil their role as parents and that role encompasses difficult decisions about the care of their infant. Parental involvement should be part of the decision making to begin treatment, its ongoing impact and recognition of its ineffectiveness when that occurs. Parents therefore require detailed information to facilitate informed decision making. Information is essential to help parents understand the reality in which they find themselves. Parents need the time to think, to assimilate and process information and consider their decisions in the light of their own values and beliefs. The decision to withdraw life support is very painful, leaving parents with feelings of loss, emptiness, guilt, anger, and pain. Establishing good relationships and clear communication between health-care providers and parents builds trust and eases stress placed on parents making decisions about the care of their infant. Available approaches to care need to address ethical decisions regarding treatment, pain and suffering, quality of life and decisions to move from active to palliative care. Neonatal palliative care includes bereavement support for the family after the infants death but begins with care for the living infant. Palliative care and end-of-life programs improve parental support throughout the entire course of their infants care and facilitate parents decision making. Support from the NICU staff is important as parents face many challenges during the difficult time of facing withdrawal of life support decisions.

FAMILY CENTERED CARE IN THE ICU

Adriano Friganovic, Vedran Dumbovic, Irena Vugrek

University Hospital Zagreb, Croatia

OBJECTIVES: Effective interdisciplinary meeting with the family of a critically ill patient has come to represent a standard of quality care in the intensive care unit. Critical care nurse communication training has largely been limited to didactic materials, interactive training for nurse supervisors, or brief participatory learning programs within the context of comprehensive end-of-life care educational seminars.

AIM: The aim of this paper was to make systematic literature rewiev to find relevant date about familly cen-tered care in intensive care units.

METHODS: The Medline database was searched to identify relevant studies and articles published during last 10 year period. Keywords that were used for this paper was related to family centered care, nursing and intensive care unit.

RESULTS: During the search we have found 31 scientific paper and accordind to exclusion criteria for this pa-per we used 10 articles. The available literature showed that family centered care is basic for providing quality nursing care and to reach patient satisfaction.

CONCLUSION: Nursing care focused on the family of the patient is an important factor in the overall sat-isfaction of patients as our service users. Patient satisfaction greatly improves treatment outcome and reduce the number of days in the hospital.

Keywords: Family centered care, intensive care unit, Nursing

INFECTION

HOSPITAL WIDE REDUCTION IN NOSOCOMIAL INFECTION - A PRACTICAL APPROACH

Gerald Williams

World Federation of Critical Care Nurses, UAE/Australia

Nosocomial infections are one of the more common preventable deaths in the hospital setting. Yet hand hy-giene practices and aseptic techniques remain below acceptable standards.

This presentation demonstrates how one hospital has exceeded national benchmarks for hand hygiene and noscomial infections by putting in place a structured program that enforced compliance with evidence based practice and good clinical hygiene. The strategies included: reduced signage and clutter; hand hygiene safety scrum; hand hygiene audits, auditing training and reporting as well as specific strategies in the ICU setting to improve aseptic techniques and vigilance. Hand hygiene audits showed compliance across this health service went from 70% to 90% and nosocomial infection rates more than halved and were sustained there after.

This presentation demonstrates that alignment of clinical practice and management direction with evidence-based practice can prevent unnecessary and deadly infections in the hospital setting. Practical tips and tools are available to assist participants in applying these techniques easily in their own setting.

PRESSURE INJURY RISK ASSESSMENT

Paul Fulbrook

Australian Catholic University & The Prince Charles Hospital, Brisbane, Australia

Pressure injury risk assessment is a crucial aspect in determining the relative risk of patients and the need for preventative intervention. In the intensive care setting there are few risk assessment scales that have been developed specifically for use with critically ill patients. The aim of this study was to test the psychometric properties of the COMHON Index -a new pressure injury risk assessment tool designed specifically to assess intensive care patients. Three other scales were tested: Braden, Norton and Waterlow. A convenience sample of 26 intensive care patients was used. Five intensive care nurses scored each patient with all four scales. Intraclass correlation coefficients and standard errors of measurement were used to assess interrater reliability and agreement of the sum, risk category, and item scores. Pearson product moment correlation coefficients were used to investigate the association between the sum scores of the scales and similar constructs within the scales. The interrater reliability of the COMHON Index was higher than the other scales and strong correlations were found between it and the Braden and Norton scales but not the Waterlow score. Two items common to all four scales (mobility and neurological status) demonstrated significant correlations between the COMHON, Braden, and Norton scales but not the Waterlow score. One item (nutrition) was significantly correlated between the COMHON and Braden scales. In conclusion, the interrater reliability and agreement of the COMHON Index were the highest of the four scales, with the Norton and Braden performing similarly, and the Waterlow score the least well. The strong and significant associations between the Braden, COMHON and Norton scales suggest they are measuring similar constructs.

AIR PRECAUTION IN THE ICU

Hye Ran Choi

University of Ulsan, Republic of Korea

Intensive care units (ICU) have small percentage of all of hospital beds. However the prevalence of health-care-associated infections (HAIs) has been reported to greater in ICU patients than in general wards and HAI caused worse prognosis and/or complications. There are many factors to cause HAIs, including extreme age, advanced age, variable invasive procedure, immunocompromised status, implantation of foreign bodies, transplantation, and increase of patients with underlying diseases.

Patients admitted to ICU are surrounded with a lot of kinds of microorganisms, that could be at risk for in-fection or carriage. The risk of HAIs is related to the mode of transmission of the infectious agent; contact, droplet, and airborne transmission. Contact and droplet precautions are well performed because of many cases that are needed both precautions such as multi-drug resistant organisms or droplet-producing procedure. However, there exist inappropriate circumstances of airborne precaution due to lack of information/data or shortage of protective equipment, isolation rooms, or facilities.

There is need of more attention to the airborne infection in comparison with contact and droplet infection because airborne infection causes more exposure to patients/care-givers and healthcare personnel. It is recommended that routine monitoring and surveillance of infection, compliance of infection prevention procedure (hand hygiene, etc.), patient placement, personal protective equipment, cleaning, disinfection, and sterilization of environment and equipment, inspection of ICU structure such as ventilation system or negative-air-pressure room, and so on.

ETHICS

ICN PATIENTS' RIGHTS: CRITICAL CARE CONSIDERATIONS

Gordon Speed

Dunedin Public Hospital, Southern District Health Board, New Zealand

Intensive or Critical Care patients are generally the sickest in the hospital, are having invasive and complex treatments, and are at high risk of complications and death. This can be emotional and stressful to both the carers and the families involved. These situations that can arise to ethical issues include end of life care, con-sent and competence, limitations to therapy, privacy, use of controversial drug treatments, what to say on the phone, use of information technology and involvement of legal authorities.

I will discuss some basic ethical principles from a nurses point of view and illustrate the problems with some examples. Hopefully this will give you some ways to think abuot the challenging situations in your workplace. I will try to show an international perspective and consider how the examples may be treated in different counties.

Ethics is nothing else than reverence for life; Albert Schweitzer.

MORAL DISTRESS IN THE ICU

Shelley Schmollgruber

University of the Witwatersrand, South Africa

Nurses are intimately involved in End of Life (EOL) care and their experience is intensified by their intimate and sometimes intense interactions with both patient and family members. End of life care has a propensity to engender moral distress (Lutzen, Dahlqvist, Eriksson et al, 2006; Hamric, Davis & Childress, 2006; Gastmans, 2012). Emotional, social, physical and professional consequences are likely (Elpern, Covert & Kleinpell, 2005; Corley, Minick, Elswick et al 2005; Gutierrez, 2005, Nathaniel, 2006).

South Africas health system is complex displaying diverse disease patterns: acute and infectious diseases, high maternal and child mortality, non-communicable diseases and violence and injuries often exacerbated by patients HIV status (McNeilly, 2011).

Problem and purpose

Causes of and responses to moral distress of nurses caring for critically ill and dying patients have not been sufficiently explored in the South African intensive care arena. The purpose of this study was to elicit the nurses perspective of the clinical situations in the ICU evoking moral distress; the consequences and means they employed to manage their distress.

Process and findings

A short survey/interview guide, derived from Corley, Elswick, Gorman and Clors extensively used and vali-dated Moral Distress Scale (Corley et al, 2001), requiring narrative descriptions and explanations was dis-tributed to registered nurses (N=100, n=100) in trauma, general medical and surgical and cardio-thoracic ICUs in tertiary, academic hospitals in Johannesburg. Data were triangulated by augmenting the information recorded from focus group discussions. Experiences of the situations, many engendered by perceived morality of the treatment and decisions made, as well as participants reactions and subsequent actions are described.

NURSES' ATTITUDE FOR DEATH AND DYING PATIENTS

Sanghee Kim

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In the critical care setting, nurses are often facing on death and dying patients. On the boarder of life and death, nurses should play a critical role to provide good care. For providing quality of care in the critical care setting, nurses attitudes toward death and dying may impact on their care. The purpose of this study was to describe nurses attitudes toward death and dying in the critical care setting and explore factors influencing their attitudes and outcomes.

As a method, an integrative review of literature was applied with the published research findings regarding nurses attitudes toward death and dying. Over the 5 years, among 66 retrieved articles in PubMed and CINAHL database, 25 articles were used to analyze with five steps: problem identification, literature search, data evaluation, data analysis, and data presentation.

Nurses attitudes toward death and dying could impact on nursing care at the end of life situation in the crit-ical care setting across the world. Specifically, nurses preparedness related to nurses attitudes may lead to quality of death and dying. Well-structured education could affect nurses attitudes toward and enhance nurses competency.

In conclusion, critical care nurses should be analyzed their own attitudes toward death and dying and pre-pared the care at the end of life. Especially end of life nursing education may have influence on nurses better care and appropriate attitudes toward death and dying in the critical care setting.

CRITICAL CARE NURSING WORLDWIDE

CRITICAL CARE NURSING IN AUSTRALIA

Marion Mitchell

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Critical Care nursing has been a specialty in Australia since the 1960s. There are approximately 10,000 critical care nurses in Australia and around 140 critical care units. Critical care nursing has evolved into a highly speci-alised area that functions collaboratively

with medical and allied health colleagues. This presentation explores critical care nursing in Australia from four perspectives. Firstly, formal post graduate education will be highlighted as the expectation for Australian critical care nurses who are also required for their yearly registration to demonstrate professional development and competency in their speciality. Secondly, clinical practice speciality units will be outlined and include paediatric units. One-on-one patient care provides the general nursing model around Australia with limited incorporation of non-registered nurses. Thirdly, the strength of Australian critical care nursing research will be explored. Finally, the functions of the Australian College of Critical Care Nurses will be explained in regards to the representation and support it provides to critical care nurses, health care agencies and government bodies.

Keywords: Critical Care nursing; education; clinical practice; research; professional organisation; Australia

CRITICAL CARE NURSING IN KOREA

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The quality of patient care at Intensive care unit should meet its expectation of them. as such, it is safe to say that critical care nursing system of any country has become standardized. It is my opinion that such system of Korea does not have any unique difference, but regardless, I would like to inform you on the status and nursing care system of ICU in Korea.

In comparison to the structure or system of ICU of those countries where I visited, no significant difference was found in medical equipments, monitors and supplies in use. It is also Korean hospitals top priority to ensure the safety of patients. With a focus on such matter, decisions on system operation and patient treatment are being made. As medical complexion of patients have diversified, ICU has operated in specifically classified units such as internal medicine, surgical, cardiovascular, neurological, pediatric, cancer, etc.

Currently, Korean Association of Critical Care Nurses is making efforts to improve the rating of ICU nursing staff. In the past, annual survey showed that all participated hospitals had various ratings from grade 1 through 7, however it has recently improved as nursing labor ratio per bed has increased. In addition, a recent survey showed that used period and type of medical equipments have been diversified , which proves that recent trends for patient care have been applied to current treatment and care system. And since a number of hospitals in Korea which prepare for and receive the JCI international accreditation is increasing, the nursing contents of Korean ICU are expected to meet the international standards.

Intensive care is also taken in place for patients who need various medical equipments such as Ventilator, ECMO, Nova-lung and CRRT and who receive organ transplants for all kinds of organs (i.e. heart, lung, pancreas, kidney etc.) Furthermore, we have a quality management for improving the quality of care indicators and through this, the importance of ICU nursing is being highlighted.

I believe that this was an opportunity to introduce the system of ICU in Korea. In the future, nursing care of ICU must find a way to fully utilize environmental, human, and physical re-sources and to establish policies to improve its status within hospitals.

SUPPORT FOR THE NIGERIAN CRITICAL CARE NURSING: THE WFCCN CONNECTION

Halima S Kabara

Aminu Kano Teaching Hospital, Nigeria

Collaboration with World Federations and Societies is key.

Effort is under way to develop a Multi-disciplinary Critical Care workforce for Nigeria, in Pediatrics and Adult Intensive Care Units.

The National Association of Nurse Intensivists of Nigeria (NANIN) is Collaborating with other health care organizations and relevant agencies to develop the guidelines for professional practice.

Focused on upgrading of critical care training in Nigerian universities and maintenance of high standard of critical care services.

The results of a recent WFCCN international survey on the most important issues facing critical care nursing across 65 countries showed Priority areas that were identified included staffing levels, working conditions, access to quality educational programs, wages, formal practice guidelines/competencies and team work. Other factors of importance to the survey respondents were extended/ advanced practice, relationship with physicians, formal credentialing process, and use of technologies. With the WFCCN Connection, Nigerian Critical Care Nurses are going places, and the Standard of Care has improved tremendously in most ICUs.

The philosophy of the WFCCN is to assist critical care nursing associations and nurses regardless of age, gender, nation, colour, religious beliefs or social background in the pursuit of the objectives of the WFCCN. The purpose of the WFCCN is to link critical care nursing associations and nurses throughout the world, to strengthen the influence and contribution of critical care nurses to health care globally and to be a collective voice and advocate for critical care nurses and patients at an International level.

Historically, critical care nursing organization (CCNO) leaders from around the world have established forums at various international critical care congresses. One of the objectives of WFCCN is to represent critical care nurses and critical care nursing at an International level.

COMMUNICATION

COMMUNICATION IMPROVEMENT PROGRAM

Seong Suk Kwak

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Promoting communication activities between nurses, nurses and doctors are related to patient safety and good quality of health care activities. It also makes increase in the quality of nurse's job satisfaction and in same time we should expect declining in resignation rate.

Promoting communication activities are encourages making cooperative culture between every health care provider, and it is related to bring better result of patient treatment. Inaccurate information delivery between health care provider, and if it hasn't delivered properly in the right time, it could be threatening to patient safety.

Sixty percent of sentinel events in health care provider's communication failure. Therefore, health care providers must have accurate and rapidly exchange patient information, sharing plans with other occupations and therapeutic targets expressed freely and communicate effectively. In reality, however, especially ICU nurse turnover during the shift and night shift work loads, if the professional role conflicts and high job stress gradually progress to unhealthy physical and mental depression, fatigue, exhaustion, illness etc. occurs resignation, resulting in a deterioration of nursing quality, therefore it requires for promotion of communication.

In particular, new nurses are lack of knowledge, lack of experience, lack of competence, faced with excessive stress and pressure, fear, difficulty with relationships. Therefore, new nurses are encouraged to be well settled by the celebrations and activities support, career nurses makes the sympathy and encouragement to cheer up a variety of events. Various healing programs and safety, Provide preceptor workshops and participate in various educational opportunities.

The interdisciplinary intensive care(doctors, nurses, pharmacists, dieticians) share the results and treatment plan of the patient through the rounds and have a chance of growing more actively communicate the roles of nurses for patient safety, and the team satisfaction increases.

Each intensive care unit actually communicates and solves problems through the proposed regular meetings with the physicians and becomes well done. The nurse who respects themselves and respect between nurses furthermore, other occupations employees, patients, and caregivers to respect and promote the communication without misunderstandings or antipathy to each other is promoting patient safety. In fact, Seoul National University Hospital intensive care unit will therefore continue to consistently improve communication activities.

PURPOSEFUL ROUNDING IN THE ICU: ENHANCING COMMUNICATION

Gordon Speed

Dunedin Public Hospital, Southern District Health Board, New Zealand

I will discuss the use of rounds in the Intensive or Critical Care Unit and how this is used to enhance communication. I will discuss various types of rounds, including purposeful rounding with consideration of how to enhance communication, and consider international differences with care and staffing models. My main example will be how rounds are used in the ICU I work in but I shall compare this to other international models.

A STRATEGY TO ENHANCE THE TRANSITIONAL CARE FOR COMMUNICATION FROM THE ICU

Heesung Park

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Purpose: To meet the needs of critically ill patient, seeking to explore the process involving family members when being transferred from an ICU to general ward which increases overall anxiety.

Method: We focused on organizational changes to improve efficiency of the ICU discharge process. so we developed transitional care project, it is provided by professional critical care nurses, called Relief nurse. There were 10 Relief nurses in three ICUs specializing in medical, surgical, thoracic surgical fields.

Results: We determined criteria for classification to the need of transitional care before transfer; premature discharge, continuum care process, patient and family complaints and grievances. The intervention categories secure, encourage, and education are strategies used for the ICU transitional care. Total implementation of transitional care were 420, Continuum care process 84.8% (356), premature discharge - 11.4% (47.9), patient and family complaints and grievances 3.8% (16) during 1 year.

Conclusion: ICU transitional care is three-way communication between staff and patient/family, between team members and involved units, and between patient/family and environment. Relief nurses to provide security, encouraging support, and education maintain ICU discharge process in safe.

STAFF SAFETY AND CONFLICT MANAGEMENT

ICU STAFFING TO MATCH PATIENT CARE NEEDS

Adriano Friganovic, Vedran Dumbovic, Irena Vugrek

University Hospital Zagreb, Croatia

OBJECTIVES: Management of daily activities in ICUs is challenging. ICU shift leaders, charge nurses and intensivists have to make several immediate ad hoc decisions to enable the fluent flow of ICU activities. Even though the management of ICU activities is quite well delineated by international consensus guidelines, we know only a little about the content of the real clinical decision making of ICU shift leaders.

AIM: The aim of this paper was to make systematic literature rewiev to find relevant data about ICU staffing to match a patient need.

METHODS: The Medline database was searched to identify relevant studies and articles published during last 10 year period. Keywords that were used for this paper was related to family centered care, nursing and intensive care unit.

RESULTS: During the search we have found 18 scientific paper and accordind to exclusion criteria for this paper we used 7 articles. The available literature showed that ICU staffing is a first step in assuring quality nursing care and to reach patient care needs.

CONCLUSION: Nurse staffing is one of several variables influencing patient safety. These findings further suggest the need to study the impact of nurse-staffing levels on in-hospital mortality using nursing-unit-level specific data.

Keywords: ICU staffing, patient need, nursing

CONFLICT MANAGEMENT IN THE ICU

Vedran Dumbovic

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The ingredients of conflict are: Needs - Needs are things that are essential to our well-being. Conflicts arise when we ignore others needs, our own needs or the groups needs. Be careful not to confuse needs with desires (things we would like, but are not essential). Perceptions - People interpret reality differently. They perceive differences in the severity, causes and consequences of problems. Misperceptions or differing perceptions may come from: self-perceptions, others perceptions, differing perceptions of situations and perceptions of threat. Power - How people define and use power is an important influence on the number and types of conflicts that occur. This also influences how conflict is managed. Conflicts can arise when people try to make others change their actions or to gain an unfair advantage. Values - Values are beliefs or principles we consider to be very important. Serious conflicts arise when people hold incompatible values or when values are not clear. Conflicts also arise when one party refuses to accept the fact that the other party holds something as a value rather than a preference. Feelings and emotions - Many people let their feelings and emotions become a major influence over how they deal with conflict. Conflicts can also occur because people ignore their own or others feelings and emotions. Other conflicts occur when feelings and emotions differ over a particular issue.

Conflict is not always negative. In fact, it can be healthy when effectively managed. Healthy conflict can lead to growth and innovation, new ways of thinking and an additional management options. If the conflict is understood, it can be effectively managed by reaching a consensus that meets both the individuals and societys needs. This results in mutual benefits and strengthens the relationship. The goal is for all to win by having at least some of their needs met. Intensive care units (ICU) are inherently stressful units. Indeed, patients severity and uncertainty in prognoses are responsible for symptoms of anxiety and depression in family members. Family grief, excessive workload and the complexity of every decision-making process lead to fatigue and burnout in nurses and doctors.

There are five steps to managing conflict. These steps are: -Analyze the conflict -Determine management strategy -Pre-negotiation -Negotiation -Post-negotiation What skills do you need to manage personal conflict?

ROLE OF EMPLOYEE SAFETY MANAGER

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Asan Medical Center, Republic of Korea

Role of Employee Safety Manager

At Asan Medical Center, we have a systematic management system that aims to prevent and to rapidly counteract the occurrence of safety threatening acts toward patients, visitors and employees.

ESM Operative Goal: to reduce violent and safety threatening acts and to take the appropriate measures against violent acts that have already occurred. ESM Duty Patterns: Composed of two employees and a two shift system. 8:00AM□10:30PM (Group A: 8:00 □16:30 ,Group B:14:00□22:30) AMC Police is composed of two personnel per group with a total of six people working a three shift schedule.

ESMs Main Roles: 1) Reporting to the site of safety threatening situation : AMC police and ESM contacted through the hotline are to be dispatched to the site in need of emergency response (assault and personal contact, verbal abuse, rowdiness and disturbance, damage to property etc.) : continuous management of nonemergency situations (uncooperative of medical practice, complaint among patients). 2) Patrol Management (Periodical Rounding) : two periodical rounding per duty and frequent patrol. (Patrol Area: 2 times per day for vulnerable places, once per day for general wards, and once every three days for hospital surroundings and external parameters) :consultation of patients that have a possibility of displaying safety threatening acts during patrol.

2014 ESM Activity Results: 1) The number of emergency situations where the ESM was dispatched was 107 cases. (verbal abuse: 26, disturbance: 61, assault: 4). The number of nonemergency situations was 4,757 cases (remarkable patients: 4,362, standby: 282) 2) The number of emergency situations where AMC police was dispatched was 1,970 cases.(verbal abuse: 120, disturbance: 446, assault: 16). The number of nonemergency situations was 1,388 cases. (medical assistance: 892, patient transportation: 294, standbyl: 188). 3) The number of emergency response situations are continually decreasing due to efforts in creating an environment where employees whom are constantly exposed to dangerous situations can work safely, and also in the continuous management of problematic patients.

PATIENT SAFETY

ENHANCING QUALITY AND SAFETY OF ICU CARE

Kyoungsoon Yang

Asan Medical Center, Republic of Korea

Critical care units must manage the intersecting challenges of maintaining a high-tech environment and ensuring staff competency in operating the equipment, providing high-quality care to the facilities sickest patients, and tending to the needs of staff members working in a very stressful environment. Every day there are many patients who are harmed or even die because of medical errors. Half of these incidents are preventable. Patient safety is a vast field of knowledge aiming to prevent errors and harm to the patients. Both healthcare organizations and the individual physicians have a responsibility in patient safety and health-care quality.

Patient safety applies two analytic methods. 1. Rootcause analysis (RCA) is a method of problem solving used for identifying the root causes of faults or problems. 2. Failure mode and effects analysis(FMEA) involves reviewing as many components, assemblies, and sub-systems as possible to identify failure modes, and their causes and effects.

Several important factors play a role in fostering patient safety in the ICU environment: 1. Having a culture that supports and promotes safety activities. 2. Operating an ICU structure in which the care of ICU patients is directed and managed by intensivists- physicians with specialized training in critical care medicine. 3. Ensuring that the work environment can support the ability of caregivers to interact productively, make vital decisions, and perform medical interventions and operate medical equipment safely. 4. Rapid response teams manage critical situations with t he goal of preventing avoidable deaths. 5. Adequate risk assessment tools may help nurses considerably in enhancing patient safety. CAM-ICU, RASS, CNPS, NRS, Braden scale. 6. Checklists have been acknowledged to be valuable instruments to increase patient safety.

Patient Safety goal: 1. Improve the accuracy of patient identification. 2. Improve the effectiveness of communication among caregivers. 3. Improve the safety of using medications. 4. Reduce the harm associated with clinical alarm systems. 5. Reduce the risk of health care associated infections. 6. Conduct a preprocedure verification process.

Strong team-work and effective communication between nurses, physicians, and personnel from other disciplines have been associated with improved outcomes such as decreased lengths of stay and reduced mortality rates. However, health care providers occasionally do not recognize that effective communication is crucial to create teams that foster safe environments. Reviews of critical incidents indicate that poor communication is a major contributing factor. Therefore, successful teamwork requires strategic communication to address and meet common goals for patient care. Health care providers are just beginning to prioritize communication and team-work as essential elements for success.

Patient safety requires that all members of the health care service delivery team be patient-safety minded. As a quintessentially collaborative activity, patient safety needs leaders in each area of clinical administration and in each clinical discipline-including doctors, nurses, pharmacists, and others-in addition to information management, equipment and plant management, and other areas.

INTERNATIONAL PATIENT SAFETY GOAL

Sek Ying Chair

The Chinese University of Hong Kong, Hong Kong

Patient safety is a critical component of quality health care. The notion of upholding the standard of patient safety should be implemented in the entire continuum of health care. An individuals incompetence or negligence may contribute to errors threatening patient safety. However, as indicated by international research evidences, most harm caused to patients is likely attributed to problems of the health care system. According to the World Health Organization (WHO), patient safety improvements demand a system-wide effort including performance improvement, environmental safety and risk management. To develop solutions which are evidence-based and expert-based to inform both health care providers and health care systems on addressing common safety problems may become one of the key strategies.

The International Patient Safety Goals (IPSG) aims to promote specific improvements in patient safety, and to highlight the most common problems in health care as well as to provide support with simple and effective system-wide solutions. According to Joint Commission International (JCI), all accredited health care systems have been required to implement the IPSG since January 2011 under the International Standards for Hospitals. The six goals of IPSG are: Identify Patient Correctly, Improve Effective Communication, Improve the Safety of High-Alert Medications, Ensure Correct-Site, Correct-Procedure, Correct-Patient Surgery, Reduce the Risk of Health Care-Associated Infections, and Reduce the Risk of Patient Harm Resulting from Falls. Each goal contains three components including standard, intent and measurable elements. The standard

refers the principle of that goal, the intent explains the rationale of the standard, and the measurable elements represent the detailed requirements from the standard and intent that are scored.

Patient safety in intensive care units is even more important as patients there are suffering from life-threatening illnesses and the critical care setting is one of the most complex environments in a hospital. Patient safety is fundamental to nursing care, and nurses are dedicated to identify issues and implement safety measures to benefit patients and their health care systems. For nurses working in critical care settings, they will have to manage all tasks and challenges simultaneously while remaining focused on delivering safe patient care following the approaches suggested by IPSG.

UNPLANNED EXTUBATION OF ICU PATIENTS WITH MECHANICAL VENTILATION

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Maintaining endotracheal intubation is the first priority in mechanically ventilated patients for lifesaving & patients safety. However, occurrence rate of unplanned extubation reported rates range from 3.4~22.5% in ICU & unplanned extubation in ICU is still considered life-threatening issues. The definition of unplanned extubation is self-removal of the endotracheal tube by action off the patient or accidentally removal during any procedures .

For patients safety in ICU, risk factors and patients outcomes related to unplanned extubation be identified & improved. Keeping endotracheal tube safely involves patient safety measure such as the maintaining of appropriate sedation (Atkins et al.,1997), and manage delirious patients (hofso & cover,2007).

Risk factors of unplanned extubation includes patients physiologic factors such as respiratory problems, severity of illness, vital signs, consciousness level and psychological factors (Chevron et al.,1998). Work system factors related to unplanned extubation are reported including technology & tools, organization, tasks & environments. Moreover, risk factors of unplanned extubation are also reported physical restraints, type of intubation, fixation method of endotracheal tube, mechanical ventilation mode, nurses staffing, night time, type of ICU, admission route of ICU & others. Pain, agitation & delirium of ICU patients are identified significant predictive factors of unplanned extubation (2013, Kwon).

Patient outcomes of unplanned extubation delayed ventilator weaning of patients, prolongs length of stay in ICU & hospital & increasing mortality rate. Reintubation rate are between1.8% to 88% after unplanned extubation. Serious complications associated with reintubation as a result of unplanned extubation are aspiration pneumonia, fetal arrhythmia, cardiac arrest & death.

The occurrence rate of unplanned extubation can be reduced by through preventative protocol. Intervention includes the management of patients pain level, sedation and mechanical ventilator weaning (Jarachovic, Mason, Kerber & McNett, 2011).

In conclusion, caring of patients with endotracheal intubation in ICU must contain risk factors of unplanned extubation for attaining patients desired outcome.

COMMON PROBLEMS

MAINTAINING SKIN INTEGRITY IN CRITICALLY ILL PATIENT

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Critically ill patients who are cared in intensive care units (ICUs), are a unique population who should be paid attention to maintain skin integrity. Critically ill patients could are the highest group of develop pressure ulcer, skin injuries such as skin tearing by friction, edema, medical adhesives. Pressure ulcer rates in the critical care population, are reported as the highest among hospitalized individuals because of the comorbidity; hemodynamic instability, poor tissue perfusion and oxygenation requiring the use of inotropics, anticoagulants and confrontation with multiple, concomitant risk factors repeatedly.

Additionally, old patients with fecal incontinence who are in ICUs are vulnerable population to cause incontinence associated dermatitis(IAD) that is related to develop pressure ulcer. They need structured skin care protocol consisting of skin cleaning and moisturization to prevent pressure ulcer. And also,

Especially medical device related pressure ulcers(MDRPU) are more developed intensive care units due to using many different types of devices to monitor patients hemodynamic status, oxygenation, and ventilation than other units. Nurses should be aware of edema under device(s) and potential for skin breakdown and confirm that devices are not placed directly under an individual. Medical Adhesive Related Skin Injury (MARSI) is a emerging new issue in skin care problems, but it is commonly observed in all level of care setting regardless of age. The prevalence and incidence of MDRPU, MARSI and IAD has not been published, and under-reported in South Korea. It is important to do research about those of things for patients safety and develop evidence- based best practice to prevent skin injuries.

KEEPING CRITICALLY ILL PATIENTS SAFE DURING INTRAHOSPITAL TRANSPORT

Myeonghee Son

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Transporting a critically ill patient whitin the hospital creates a work environment that is both challenging and highly stressful, even for experienced providers. Critically ill patients are often cared for in unusual environments such as hallways, elevators, and procedure areas not typically designed for critical care monitoring or interventions.

Intrahospital transport of intensive care unit patients is a particular challenge, because of the severity of the illnesses and the need for continuous therapies during transport, particularly mechanical ventilation. This has led to the development of specicic monitoring and ventilatory equipment that is designed to manage this situation. This type of intrahospital transport is associated with a high incidence of complications, which mostly relate to patient conditions or equipment problems.

Adverse effects may affect a variety of organ systems, may be related to the movement of the patient or may be caused by equipment malfunctions. Furthermore, the reduced availability of personal, equipment and monitoring away from the intensive care unit may be detrimental. These adverse effects may be of short-term or long-term duration, or require interventions.

To prevent adverse effects of intrahospital transports, guidelines concerning the organization of transports, the personnel, equipment and monitoring should be followed. In particular, the resence of a critical care physician during transport, proper equipment to monitor vital functions and to treat such disturbances immediately, and close control of the patient ventilation appear to be of major importance. It appears useful to use specifically constructed carts including standard intensive care unit ventilators in a selected group of patients. To further reduce the rate of inadvertent mishaps resulting from transports, alternative diagnostic modalities or techniques and performing surgical procedures in the intensive care unit should be condidered.

Preventive Measures: Efficiency of transport: transport indication and risk-benefit analysis -Stabilisation and preparation of critically

ill patients before transport -Anticipation, organization and planning of transport . Competence of transport teams . Adapted transport equipment -Standardization of practices: specific protocols for managing transport. Check lists: systematic and final check points.

Overcoming the risks of intrahospital transprt involves taking corrective action for all the causes, and applying methods that have been proven to work in other sectors of activity. A more widespread use of check lists and proper training plans for teams are also expected to lead to an increase in intrahospital transport safety and a lowering of risk in the long-term.

SEDATION AND ANALGESIA IN THE CRITICALLY ILL

Hyang Sook Kim

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To adjust the new environment called intensive care unit, critical patients need proper analgesics and anesthetics to get rid of pain, anxiety, delirium, and other forms of suffering of being critical patients. Each therapist uses different analgesics and anesthetics and misuse of the medications can aggravate the clinical course.

As pain can trigger stress reactions such as tachycardia, increase of oxygen consumption at myocardium, hypercoagulation, immunosuppression, continuous catabolism and so forth. Critical patients complain the pain aroused by their own disease invasive medical procedure or their injuries. The main cause of the pain can come from monitoring equipment and treatment equipment and also from routine nursing process.

(1) Pain assessment To assess the pain, one should consider the characteristics of pain, cause of aggravation or relaxation factors, degree of pain, etc. (2) Selection of analgesics To relieve pain in ICU, narcotic analgesics, nonsteroidal antiinflammatory analgesic drug, acetaminophen, etc can be used. For proper selection of analgesic, we should consider the pharmacologic characteristics and the side effect. (3) Target level of Sedation Proper target level of sedation should differ according to the process of the disease and the treatment. Generally in the ICU, the target level of sedation is the state they can be awaken easily keeping the sleep-wake cycle. (4) Sedation level assessment Ideal method of sedation level assessment should be convenient to calculate and to record, should clearly separate the level of sedation, should be possbile to adjust the amount of sedatives according to the level of assessed sedation, should be effective and reliable to the critical patients.

PATIENT EXPERIENCE

PATIENT AND FAMILY EXPERIENCE: SATISFACTION IN THE ICU

Maria Isabelita Rogado

Critical Care Nurses Association of the Philippines, Philippines

WHO launched a patient safety Programme in October 2004 in response to World Health Assembly Resolution WHA55.18 to coordinate, facilitate and accelerate patient safety improvements around the world. Several actions have been undertaken to improve the safety of health care for patients in all WHO Member States (WHO, 2014). However, the issue on patient safety remains to be a big concern amongst the developing countries. According to the WHO, patient safety practices should result in measurable fiscal impact, save lives and decrease morbidity.

Provision of patient safety has always been the intent of health care providers, however, globally there are occasions wherein non-deliberate and accidental injury and harm happens to the patient. These unfavorable incidents are associated with systems that failed in relation to clinical or administrative management provided for the patient. Despite adherence to patient safety goals, adverse events still occur even in the most advanced healthcare facilities. These are preventable errors related to prescribing to administration of medication, reporting or communicating clinical information or breaks and gaps in the performance of systems and protocols of care. The most pronounced reason for these preventable errors to occur can be related to the fact that patient safety concepts are not clear to those making decisions, research has not been done in many resource-poor settings to confirm data collected elsewhere, and many authorities still have the misconception that introducing patient safety practices is a luxury (WHO, 2014).

In this presentation, patient safety concepts will be discussed by demonstrating models of core concepts in patient safety, human factors, and structure design safety concepts among others. Best practices will be highlighted that portrays initiatives to promote patient safety in ICU particularly in a developing country like the Philippines.

PATIENT AND FAMILY EXPERIENCE: ISOLATION IN THE ICU (ICU DIARY)

Sung Ean Lee

Samsung Medical Center, Republic of Korea

Intensive care unit (ICU) survivors often suffer from psychological complications after receiving care from ICU. To improve the quality of patients life after ICU care, we provided the ICU diary for ventilated patients.

Thoracic surgery ICU had implemented the ICU diary to patients on mechanical ventilation. Diaries were written by both their families and the staffs to help them understand their ICU stay and to share their concerns and feelings. Diary was simply designed to create the therapeutic relationship between the medical staff and their families. The staff narrates daily events and shares the plan so that the patient and their families could understand the condition of the patient.

ICU diary helps patients to understand what has happened to them and fill the gaps of memory when they were unconscious or sedated. Family members enabled to connect with the patient by writing diaries about their presence and expressing their love and affection. It had provided an opportunity of humanizing experiences in ICU.

Through the ICU diary, family members not only became aware of their role as a member of caring group but also understood medical information and the patients condition better. Patients and relatives were able to receive patient-family centered treatment with the diaries.

THE WORKPLACE

MANAGEMENT OF STRESS IN THE ICU

Sejin Ju

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Clinical interest in mindfulness has been increasing in the psychological Nursing. Mindfulness is con-ceptualized as a state of mind in which ones focus is on the present moment, that is a receptive attention to and awareness of internal and external experiences as they occur. Mindfulness can be contrasted with mind state in which ones attention and awareness are preoccupied by stressful events, such as those in the past, or future.

Mindfulness came from Eastern spiritual tradition, and its recent popularity in Western psychology fields has come about because of the development of mindfulness based psychotherapy programs, such as Mindfulness Based Cognitive Therapy(MBCT), Mindfulness based Stress Reduction (MBSR), and their application to clinical Nursing. Mindfulness, Mindfulness skill training, or Mindfulness practices can enhance ones mental health state in ways that range

from reducing diverse clinical symptoms to increasing psychological well-being. Mindfulness is both a skill that can be enhanced via mindfulness meditation and a psychological disposition that manifests as a tendency to be Mindful in the present moment.

The factors of reperceiving, self-regulation, self-management, emotional, cognitive, and behavioral flexibility, values clarification, and exposure to painful experiences have been found to contribute to the positive change or transformation caused by mindfulness-based interventions.

Identifying other mechanisms in the association between mindfulness and emotional well-being may have important implications for targeting alternative factors in mindfulness-based interventions. Recently, the Buddhist concept of non-attachment (Sanskrit: viraga), which is similar to reperceiving has been found to be positively associated with mindfulness and psychological well-being. Researchers have conceptualized non-attachment as a lack of fixation, nonreactivity, quicker recovery from emotional distress.

Nonattachment also has the quality of not feeling an inner pressure to avoid or cling to other person, like anxious attachment or avoidant attachment.

REFRESH PROGRAM FOR NURSES

Soonhaeng Lee

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Workplace is where people gather to achieve common goals. There are leaders, members, and tasks to reach the goals and to improve values. Systems of organization are just tools to help leaders and members perform effectively.

Even thought you make the great vision and core values, It is nothing if the members dont be motivated. Especially, Intensive care unt nurses has a lot of many stresses. So It is a role for a leader of ICU to support ICU nurses to be happy without stress. Therefore, Im introduce the refresh programs in Asan Medical Center in Korea.

1. Activate communication meeting. Staff meetings: Nurse, Nurse aid, Council of medical departments and Noodle Day with Doctors. Thanks Dinner: relevant departments. 2. Refreshing activity program for career. New Nurse social adaptation program, Mentor-mentee meeting day, 6 months Empowerment Program, Independent ceremony day for 1year career nurse, 4-years empowerment program, Once / month nurse themed trip, More than 10 years nurse free travel. 3. Long-term vacation. 4. ICU newsletter published: life shared space employee (per month). 5. Praise. Best Doctors selection and award, Friendly Staff Picks Award, Commended the Board trees to install and free to praise.

1. Thanks to the delivery EVENT relevant departments. 2. Cultural campaign to change the language attitude. 3. Healting programs(management of stress). 4. Yeokjisaji (The changed role for other departments works) program. 5. Birthday, Anniversary Pre-off offers. 6. Relax shop operations. 7. Nurse clothing laundry service. 8. Vitamin D day.

GWP (Great Work Place) means the conversion of a management paradigm treating workers like customers. It also means the management of belief to use trust relationship as the most cherish tool. The effort makes our members avoid selfish perspectives and have owner spirit with the high ethics and the core values. In conclusion, we believe that it is very natural to support them to be loving and warm-hearted GWP members.

NURSING IN THE ARTS

Jina Oh

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The arts can capture the richness of the human spirit, and provide insights to deepen understandings of complex and ethereal aspects of experience such as loss, despair, and death. Especially, some famous paintings provide means through which illness and disease may be exemplified powerfully and conveyed more meaningfully than by the written nursing text.

Celebrated pictures require one to reflect deeply on the artists perspective. Therefore, they help professional nurses improve their observation and communication skills, narrative sequencing abilities, and empathy. Celebrated paintings can be used to increase awareness of the complex nature of human beings and their conditions, and to frame clinical image and diagnoses in a humane way. Therefore, many nurse educators emphasize the need for liberal education, including the arts and humanities, as a foundation for professional nursing practice.

Frida Kahlos works such as My Birth, The Broken Column, The Wounded Deer, and Henry Ford Hospital reflect her pain, surgery, hospitalization, and trauma. They serve to reinforce the need to recognize the variety of perspectives and to elicit the patients perspective in the provision of care.

Edvard Munchs works convey the depth of human anguish. The most notable of his works, The Scream, catches a human cry of despair at the point of greatest intensity. In another painting, The Sickroom, several figures surround a dying person. The expressions capture a sense of dread, regret, and relief as one of their own departs.

Nurses in intensive care unit face situations every day that are emotionally, ethically and cognitively complex. Viewing paintings is valuable in helping nurses to relate to their patients on human, rather than clinical, terms. Visual arts can help nurses to be better prepared to practice their profession, and can facilitate trans-formative and empowering experiences in their practice.

NURSING INTO THE FUTURE

THE OUTCOMES OF DELIRIUM PREVENTION NURSING INTERVENTION IN SURGICAL INTENSIVE CARE UNIT

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ASAN Medical Center, Republic of Korea

Background/Purpose: Hospital-acquired delirium is a known risk factor for negative outcomes in patients ad-mitted to surgical intensive care unit. Delirium is associated with longer hospital and intensive care unit length of stay, increased ventilator days, higher costs and development of cognitive impairment and dementia. The purpose of this study was to evaluate the efficacy of the delirium prevention nursing intervention admitted to the SICU.

Methods: A prospective pre-or post-intervention cohort study was done. The intervention consisted of pro-vide formal orientation, friendly environment, nonpharmacologic sleep enhancement. Primary outcomes were incidence of delirium and delirium duration. Secondary outcomes were ventilator day and SICU length of stay. Delirium was measured using the confusion assessment method for the ICU. Data were analyzed using Chi-squared and t-test.

Results: Of 463 patients admitted to the SICU, 188 met inclusion

criteria: 100 patients pre-intervention (2013.5/1-9/30) and 88 patients post-intervention (2014.5/1-9/30).Cohorts were similar in age, gender, APACHE II et al. Experienced delirium at same incidence as the pre-post intervention cohort (pre 14 (41.0%) vs 32 (36.8%)). Onset Delirium at the same incidence (pre 2.6±1.5 vs post 2.1±1.6, p=.45). But Significantly decreased duration (pre 15.3±19.5 vs post 8.9±7.9, p=.05). After intervention patients with delirium decreased ventilator day (pre 14.5±14.6 vs post 11.2±8.9, p=.30), using sedative drugs (pre 11.8±19.8 vs post 8.2±6.2, p=.34), shorter SICU LOS (18.6±19.9 vs 11.8±12.8, p=.09).

Conclusions: Continued delirium prevention nursing intervention would be anticipated for decreasing the delirium.

Keywords: Delirium prevention, Nursing intervention, Surgical ICU

PREDICTIVE VALUE OF THE BISPECTRAL INDEX FOR BURST SUPPRESSION ON DIAGNOSTIC ELECTROENCEPHALOGRAM DURING DRUG-INDUCED COMA

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Background/Purpose: Cortical diagnostic electroencephalogram (EEG) is the gold standard for brain monitoring and drug titration during drug-induced coma. Cortical EEG is labor intensive, costly, and difficult to maintain uniform competency. Bispectral index (BIS) monitoring is less expensive, less labor-intensive, easier to both interpret and maintain competency. Study purpose is to illustrate predictive value between BIS and EEG in determining degree of burst suppression during drug-induced coma.

Methods: Patients receiving drug-induced coma/EEG monitoring were enrolled in this prospective, ob-servational cohort study. Variables recorded per minute include degree of cortical EEG burst suppression, burst count, BIS value over time and suppression ratio (SR). Pearson product moment and Spearman rank coefficient for BIS value and SR versus burst count were performed. Regression analysis was utilized to plot BIS values versus bursts/minute on EEG as well as SR versus burst count on EEG.

Results: 1,972 data sets over 33 hours of EEG/BIS monitoring. Regression coefficient of 0.6673 shows robust predictive value between EEG burst count and BIS SR. Spearman rank coefficient of 0.8727 indicates strong inverse correlation between EEG burst count and BIS SR. Pearson correlation coefficient between EEG versus BIS burst count was .8256 indicating strong positive correlation. Spearman rank coefficient of 0.8810 and Pearson correlation coefficient of 0.6819 showed a strong correlation between BIS value versus EEG burst count.

Conclusions: Statistical testing and graphing variables from multimodal monitoring show strong correlation and predictive value during drug-induced coma. This study supports using BIS value, SR, and burst count to predict degree of cortical EEG suppression during drug-induced coma.

Keywords: Burst suppression, Cortical EEG, BIS

NURSING EXPERIENCES OF CARING FOR BURNS PATIENCE WITH SEPSIS IN CRITICAL CARE UNIT IN SOUTH WEST NIGERIA (CASE STUDY NOHI LAGOS)

Obiageli Chinyere Oguariri

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Background/Purpose: The goal of patients entering critical care is survival. The nursing aim is to enable the patient recover. Despite the application of standard precaution/towards infection prevention/ control, burn patients get infected (21% of admitted cases in 2014) in our acute burn unit. Despite the application of modern technologies and intensive care, burn patients with sepsis presents a very poor prognosis, exposing the nursing team to physical repercussions of stress and eventual grief

Methods: A Heideggerian phenomenological approach. Ten registered Nurses; 5 trained in critical care and 5 trained in burns and plastic nursing were interviewed in 2014. Interviews were recorded with an audio tape and then transcribed. Athematic analysis was carried out using colaizze's framework.

Results: Generally 5 key themes were identified: Sepsis in burn patient generate chronically critically ill patient in CCU; First aid culture; a pre-cause to infection; Work related stress; compassion fatigue; financial embarrassment and sourcing for materials

Conclusions: Nurses described a system of job monotony. Poor patient outcome leads to occupational stress and ultimate burnout which leads to brain drain and subsequent shortage of Critical Care Nurses in Nigeria.

Keywords: Burn patient, Sepsis, Chronically ill, Burnout

ORGANIZATIONAL CULTURE AND WORKPLACE BULLYING IN NURSES

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Background/Purpose: Workplace bullying has been perceived as one of the serious problems in the nursing profession. The purpose of this study was to identify the relationship between nursing organizational culture and workplace bullying in Korean nurses.

Methods: Participants were 298 hospital nurses in B city of Korea. The nursing organizational culture and workplace bullying in nurses were surveyed using structured questionnaires from July 1st through August 15th, 2014.

Results: Participants were aware of their organizational culture as rank-oriented (45.5%), relation-oriented (36.0%), innovation-oriented (10.4%), and task-oriented culture in order (8.1%). The prevalence of workplace bullying was 15.8% according to the operational bullying criteria. A multivariate logistic regression analysis revealed that the risk of being bullying victim was 2.58 times higher in nurses of rank-oriented culture than in those of relation-oriented culture (OR=2.58, 95% CI: 1.12-5.94).

Conclusions: The above results have suggested that nursing organizational culture impacts on workplace bullying in Koran nurses. Further research is needed to develop interventions that can foster relation-oriented culture to prevent workplace bullying in nurses.

Keywords: Nurse, Workplace, Bullying, Organizational culture

METHODS FOR GLYCAEMIC CONTROL IMPLEMENTED IN NHS INTENSIVE CARE UNITS IN THE UK: A CROSS-SECTIONAL STUDY IN SEVEN HOSPITALS

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Background/Purpose: The management of stress hyperglycaemia has not been standardized. As part of GlyCon study, the methods for glycaemic control implemented in seven intensive care units (ICUs), and the views expressed by those who work within them, were explored.

Methods: A document review of protocols for glycaemic control was undertaken and an online survey was sent to all nursing and medical staff of seven ICUs within a UK-based ICU network. The survey included questions on effective glycaemic control, treatment of different degrees of hypoglycaemia, and deviations from protocol recommendations.

Results: The protocols implemented in the seven ICUs differ greatly

in their target patients, target glycaemic levels, recommended methods for monitoring, and insulin titration algorithms, among others. Over half of the 40 respondents to the survey opined that a patient spending less than 75% of the admission time within the target glycaemic ranges constituted poor glycaemic control (Fig. 1). Most of the proposed protocol deviations were considered as major by at least two thirds of the respondents. The exceptions were: a glycaemic measurement missed once, an insulin infusion restarted two or less hours late, and a rescue glucose bolus administered 15 or less minutes late, which were considered as minor by more than half of the respondents.

Conclusions: There are considerable differences among the protocols implemented in the ICUs, and among the opinions of professionals working within them, regarding various aspects of glycaemic control. The effectiveness and safety of methods of glycaemic control are influenced by the attitudes of professionals towards these methods and their aims.

Keywords: Glycemic control, Protocols, Standards, Survey

DEVELOPMENT OF THE TRANSITIONAL CARE PROGRAM AND ITS EFFECT ON PATIENTS DISCHARGED FROM THE INTENSIVE CARE UNITS

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Background/Purpose: Continuity of care is important when patients admitted to intensive care units (ICUs) return to the wards and nurses must ensure it. This study aimed to develop the transitional care program for continuity of care for ICU patients and to evaluate its effects including the number of readmissions to ICU, the unexpected deaths, the number of rapid response team consultancy, and satisfaction with care.

Methods: The program was developed through a literature review and validation of an expert group. This study used a randomized control-group pretest-posttest design. The developed program was tested with 33 patients of the experimental group and 35 patients of the control group in a medical intensive care unit in a tertiary hospital in Seoul. Data were collected from February 2014 to May 2014 and analyzed by descriptive statistics, t-test, Mann-Whitey test, x2 test, and Fishers exact test using the SPSS/Win statistical program.

Results: Satisfaction with transitional care of experimental group was significantly higher than that of control group (p=.007). There were no significant differences in the number of readmissions to ICU, the unexpected deaths, and the number of rapid response team consultancy.

Conclusions: The developed transitional care programs are proved to be effective to provide the continuity of care. To identify more positive effects of the transitional care, application of this program to clinical practices during longer period can be recommended.

Keywords: Health transition, Intensive care units, Continuity of care

VALIDATION OF A COMBINED ANALGESIA AND SEDATION PROTOCOL FOR ICU PATIENTS

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Background/Purpose: The purpose of this study was to develop and validate a combined, evidence based analgesia and sedation protocol for ICU patients is to allow effective and timely titration of both sedatives and analgesics which may reduce the duration of incidence of adverse effects associated with these medications

Methods: The study occurred in a large tertiary referral hospital in the Middle East. The study population consisted of patients within a medical & surgical ICU. The study design was prospective using a convenience sample of 30 patients. Sedation and analgesia assessment tools were selected. Times to achieve the desired sedation and analgesia scores were collected and compared to pre-implementation times.

Results: The average number of hours to achieve the desired sedation and analgesia score was 5.567 in the protocol group and to 19.367 in the pre-implementation group ($t = -12.5716$, p-value <0.001). The protocol also reduced the number of necessary titrations by almost 6 in the subsequent hours, p-value < 0.001). The numbers of adverse reactions in the protocol group and pre-implementation group are respectively equal to 0 and 0.3 ($t = -2.7572$, p-value = 0.009).

Conclusions: Despite the lack of randomization and relatively small sample size, the protocol demonstrates that sedation and analgesia infusions can be safety titrated together to achieve the desired level of sedation and pain relief in a short period of time, thus reducing the adverse effects of over sedation and analgesia usage

Keywords: Sedation, Analgesia, Combined, Protocol

THE ROLE OF CENTRAL VENOUS CATHETERS MANAGERS AND EFFECTIVENESS OF REDUCTION CLABSI IN SURGICAL INTENSIVE CARE UNIT

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Background/Purpose: The use of central venous catheters (CVCs) is an integral part of critical care for the not only injection of medication and parenteral nutrition, but also the access of hemodynamic monitoring and hemodialysis. However, CVCs related infections are occurring 5~26% patients. These serious infectious complications are associated with increased morbidity, mortality, and health care costs. This study is to analyze the effectiveness of CVCs managers for the prevention of CLABSI (Central-Line Associated Bloodstream Infection) between each 9 months in Surgical Intensive Care Unit (SICU).

Methods: With a retrospective study, the prevalence of CLABSI was compared between the Pre-intervention period (PRE, January.2013~September.2013) and the Post-intervention period (POST, October.2013 ~ June.2014) each 9 months in Surgical ICU. CVCs manager performed daily rounding to check the condition of CVCs and if required dressing following CDC guidelines. Managers reported to the physicians the status of CVCs as soon as inflammation signs detected.

Results: 242-patients from Pre-intervention periods and 196-patients from Post-intervention periods were analyzed except patients with early discharge within 48 hours and without Central line. There is not any significant difference between two groups related to Age, Gender, Reason for ICU admission, ICU admission route, APACHE II score, Ventilator day and Length of stay in ICU. Incidence rate ratio (IRR) was reduced 2.5 in the post intervention (1.46/1000 device days) compared to pre intervention (3.67/1000 device days).

Conclusions: Since patients in Surgical ICU have inserted Central-Line with operation, it is difficult to decrease the use rate. However, it is assumed that organized and constant interventions by CVCs managers can effectively decline CLABSI.

Keywords: CLABSI

SELF-DESCRIBED NURSING ROLES EXPERIENCED DURING CARE OF DYING PATIENTS AND THEIR FAMILIES: A PHENOMENOLOGICAL STUDY

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Background/Purpose: Critical care nurses frequently care for and have multiple roles during care of dying patients and their families. Role confusion, stress and personal context of perceiving death may add to job stress. Little is known about roles experienced or how these roles affect bedside nurses while caring for dying patients and their families. Study purpose was to understand roles encountered by critical care nurses while providing all aspects of end-of-life care.

Methods: A descriptive phenomenological study using a purposive sampling strategy recruited 19 critical care nurses with experience caring for dying patients and their families. Individual interviews were conducted, audio-recorded and transcribed verbatim. Each nurse was asked open-ended questions about their experience and roles including when caring for dying patients and their families. Coliazzis method of data analysis was utilized to inductively determine themes, clusters and categories. Data saturation was achieved and methodological rigor was established.

Results: Main roles were described as patient advocacy, educating and supporting patient and family, optimal symptom management and promoting a comfortable, dignified death. Roles evolving from the data included encouraging family presence during the dying process, protecting and creating positive memories for families. Role-modeling coping and self-care skills while mentoring and teaching novice clinicians was important.

Conclusions: Study results have important implications for practice, education and research. Nurses may be unprepared for roles encountered during end-of-life care. Teaching these roles in nursing education and orientation classes is essential. Future research can determine best practice to mentor, teach and prepare nurses to provide optimal end-of-life care.

Keywords: Nursing roles, Patient/family advocacy.

PROVIDING THE ICU DIARY AS A THERAPEUTIC TOOL TO AID IN RECOVERY FROM PSYCHOLOGICAL DISTRESS AND IMPROVE THE SATISFACTION OF PATIENTS AND FAMILES AFTER RECEIVING INTENSIVE CARE

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Background/Purpose: Intensive care unit (ICU) survivors often suffer from psychological complications after receiving care from ICU. To improve the quality of patient's life after ICU care, we provided the ICU diary for ventilated patients.

Methods: Thoracic surgery ICU had implemented the ICU diary to patients on mechanical ventilation. Diaries were written by both their families and the staffs to help them understand their ICU stay and to share their concerns and feelings. The diary was simply designed to create the therapeutic relationship between the medical staff and their families. The staff narrates daily events and shares the plan so that the patient and their families could understand the condition of the patient.

Results: ICU diary helps patients to understand what has happened to them and fill the gaps of memory when they were unconscious or sedated. Family members enabled to connect with the patient by writing diaries about their presence and expressing their love and affection. It had provided an opportunity of humanizing experiences in ICU.

Conclusions: Through the ICU diary, family members not only became aware of their role as a member of caring group but also understood medical information and the patient's condition better. Patients and relatives were able to receive patient-family centered treatment with the diaries.

Keywords: ICU diary, Patient-family centered treatment, Communication

POSTER PRESENTATIONS

FAMILY STRESS AND ATTITUDES TOWARD THE WITHDRAWAL OF LIFE-SUSTAINING TREATMENT IN NEUROLOGIC ICU

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Background/Purpose: Family members with patients in neurologic intensive care unit (ICU) are under stress. In Korean culture, talking about death and the withdrawal of life-sustaining treatment are stigma. The purpose of this study was to examine the relationship between attitudes toward the withdrawal of life-sustaining treatment and family stress among family members with patients in neurologic intensive care unit (ICU).

Methods: A total of 68 family members with patients in neurologic ICU at a hospital in Busan, Korea. Self-reported questionnaire including socio-demographic characteristics, attitudes toward the withdrawal of life-sustaining treatment, and family stress were used to collect the data. Data were analyzed with descriptive statistics and Pearsons correlation coefficients.

Results: Of subjects, 56% were men, 71% were children of the patents, and 62% had more than college education. About 84% of family members agreed that the withdrawal of life-sustaining treatment should be explained to family members. The mean of attitudes toward the withdrawal of life-sustaining treatment was

3.27 out of 5 points, while the mean of level of family stress was 2.76 out of 4 points. There was a significant relationship between attitudes toward the withdrawal of life-sustaining treatment and family stress (r=.284, p=.019).

Conclusions: Majority wanted to talk about the withdrawal of life-sustaining treatment for their loved one. However, decision-making in the withdrawal of life-sustaining treatment for their loved one could make more stress in family members. Advance directives could help reducing the level of family stress about decision-making.

Keywords: Family stress, Life-sustaining treatment, Neurologic intensive care unit

NEW-ONSET ATRIAL FIBRILLTION IN A SEPTIC POST-OPERATIVE CRITICALLY PATIENT

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Introduction: New-onset atrial fibrillation (AF) is commonly seen in critically ill patient but management of septic post-operative patient with newly diagnosed AF in intensive care unit (ICU) can be challenging.

Case: A 73 year-old-lady admitted to hospital for acute abdominal with diagnosis of septic peritonitis. 8 hours after small bowel resection, she developed new-onset AF with compromise hemodynamic in ICU. The initial treatment included loading dose of 300mg amiodarone infusion but it was stopped as severe hypotension developed. Subsequently, 3 shocks of synchronize biphasic cardioversion at 50J,

100J and 150J were delivered. Although blood pressure restored, the electrical therapy failed to abort the fast AF. The amiodarone was resumed and hypotension developed again with dopamine and nor-adrenaline infusion set up. Low serum potassium of 3.4mmol/L was detected and corrected by intravenous KCL supplement. 500ml modified gelatin was administered after echocardiogram was done showing narrow collapsible IVC. Amiodarone maintenance drip was set up. Daily Albumin 30g IV was added and antibiotics was changed from amoxicillin/clavulanate to piperacillin/tazobactam. Thrombo-emoblic prophylaxis, enoxaprin, was prescribed in day 3. The AF was finally controlled and converted into sinus rhythm in day 4 ICU with amiodarone infusion wean off in Day 5.

Conclusions: This case report illustrates using only electrical cardioversion and anti-arrhythmic without the correction of the underlying reversible pathological conditions such as operation stress, inflammation, fluid shift and electrolyte imbalance would not be effective in managing the haemodynamic distress of the septic post-operative critically ill patients with AF.

Keywords: New-onset atrial fibrillation

MENTAL CARE FOR FAMILIES OF SPINAL CORD INJURY PATIENTS BY ER/ICU NURSES

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Background/Purpose: This article reports on an investigation of the mental care provided to families of spinal cord injury patients by ER/ICU nurses.

Methods: Semi-structured interviews were conducted with three nurses who had over three years' of experience working in an ER/ICU, and the interview data was analyzed qualitatively.

Results: Family mental assessment can be classified into the four chronological stages a family goes through, beginning with the occurrence of the patient's injury. The interview data revealed that nurses provide mental care based on their ongoing assessment of the family's psychological processes. Special skills are required to understand the family's mental state and provide appropriate mental care.

Conclusions: When providing mental care for families of spinal cord injury patients, ER/ICU nurses make it a priority to build a trust relationship with the family and provide appropriate information so that the family can support the patient. They also ascertain the mental state of the family and work to maintain the relationship between the family and the patient while helping the family accept and come to terms with the patient's disorder.

Keywords: Spinal cord injury patient, ER/ICU, Family care

NURSING SATISFACTION AND CLINICAL OUTCOMES BEFORE AND AFTER IMPLEMENTATION OF FASTHUG AND BANDAIDS CARE PROCESSES IN MEDICAL INTENSIVE CARE UNIT

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Background/Purpose: FASTHUG and BANDAIDS are the composite care processes for all critically patients, which could improve ICU care. We have implied these care processes for evaluate the satisfactory of nurses and theirs efficacy on clinical outcomes. Objectives: To evaluate nursing satisfaction and ICU clinical outcomes 12 months after implement of FASTHUG and BANDAIDS.

Methods: We have implied FASTHUG and BANDAIDS care processes to our routine care since January 2012. Nurse satisfactory scores, out of five, were evaluated before and 12 months after implementation in 4 aspects: the confidence of holistic care, the satisfactory to nursing outcome, the reduction of confusion on sophisticated care and the improvement of patient care competency. Clinical outcomes, included mortality rate, ICU length of stay, costs of ICU care and hospital care, were collected before and 12 months after implementation. Paired T-test and independent T-test was respectively used for statistical analysis. P-value <

0.05 was statistically significant.

Results: During 12 months period, 40 critical care nurses were recruited to this satisfactory evaluation and 1,082 critically ill patients were collected for clinical outcomes. There was statistically significant improvement in all aspects of nurses satisfactory (table1). However, there was no statistically significant impact on patient clinical outcomes (table2).

Conclusions: Although FASTHUG and BANDAIDS composite routine ICU care did not impact of ICU clinical outcomes, these care processes significantly increased critical care nurse satisfactory, improved confidence in patient care and also reduced the confusion of sophisticated care in medical critically ill patients.

Keywords: FASTHUG and BANDAIDS, Nursing satisfaction, Clinical outcomes

RELIABILITY AND VALIDITY OF THE JAPANESE VERSION OF CRITICAL-CARE PAIN OBSERVATION TOOL

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Background/Purpose: Patients in ICU experience various pains. Pain control is important because pain adversely affects the patient's wellbeing. Since verbal communication is difficult for most of the patients due to artificial airway and sustained sedation, Critical-Care Pain Observation Tool (CPOT) was developed in English and translated into Japanese. Although English version was verified its reliability and validity, Japanese version needs to be assessed its credibility owing to differences in nuance and cultural background between English and Japanese languages. Therefore, the interrater reliability and convergence validity of the Japanese version (CPOT-J) was evaluated.

Methods: 25 cardiovascular surgery patients were assessed their pain in the ICU using CPOT-J. The interrater reliability was evaluated by comparing the researcher and 16 clinical nurses with ≥1 year of ICU experience. Convergent validity was determined by comparing with Numeric Rating Scale (NRS) after the patients extubation. The study was approved by Nagoya University Graduate School of Medicine Bioethics Committee and University of Yamanashi Faculty of Medicine Ethics Committee.

Results: Intraclass correlation coefficient (ICC) was 0.949 ($p<0.000$). ICCs for subscales of the CPOT-J were as follows: 0.885 ($p<0.000$) for Facial Expression, 0.546 ($p<0.000$) for Body Movements, 0.757 ($p<0.000$) for Muscle Tension, and 0.878 ($p<0.000$) for Compliance with the Ventilation or Vocalization. ICC for intubated patients was 0.962 ($p<0.000$), while ICC for extubated patients was 0.925 ($p<0.000$). Moderate correlation ($r=0.652$, $p<0.001$) was found between CPOT-J score and NRS.

Conclusions: The CPOT-J may be useful tool to measure the pain of patients in ICU with acceptable reliability and validity.

Keywords: Critically ill patients, CPOT, Pain assessment, Japanese

INTRACRANIAL VASOSPASM ASSOCIATED WITH ACUTE SPONTANEOUS SPINAL SUBDURAL HEMATOMA

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Introduction: Acute spontaneous spinal subdural hematoma (SDH) is a very rare disease. However, it often results serious complications hence appropriate therapeutic approaches as well as fast diagnosis are warranted. Here, we report a rare case of the headache patient with intracranial vasospasm (ICVS) who was presented with acute spontaneous SDH.

Case: A 41-year- old woman was admitted to our hospital with a complaint of severe headache. She had no medical disease. Before visiting our hospital, multiple ICVS was noted in the brain CT angiogram of other hospital. After 1 day, she had a complaint of neck and back pain. Neurological examination showed marked neck stiffness. Brain CT show marked brain swelling with near total obliteration of whole subarachnoid space. In conventional cerebral angiography, there was multiple vasospasm. At the admission day 3, she presented both legs weakness (MRC I) and urinary incontinence. Also, she had anesthesia below the T6 level. The spine MRI showed C7-T6 spinal cord compression due to hyperacute stage subdural hematoma.

Conclusions: In our case, the patient did not have any risk factors of the hemorrhage, and complained of severe headache in the early stage; in the imaging, no hemorrhage (e.g., SAH) was shown while vasospasms were clearly established. It has been suggested that emergency surgical decompression is critical for acute spinal subdural hematoma to determine prognosis. Therefore, it is important to note that there is a possibility of the acute spontaneous spinal SDH in patients with headache who have ICVS despite no intracranial hemorrhage in the brain imaging examinations.

Keywords: Spinal subdural hematoma, Subarachnoid hemorrhage, Intracranial vasospasm

DECOMPRESSIVE CRANIECTOMY FOR NEUROLOGICAL EMERGENCIES: A SYSTEMATIC REVIEW

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Background/Purpose: Decompressive craniectomy has been used as a lifesaving procedure for many neurological emergencies, including traumatic brain injury, ischaemic stroke, subarachnoid haemorrhage, cerebrovenous thrombosis, severe intracranial infection, inflammatory demyelination and encephalopathy. However, the evidence to support using this procedure in many of these situations is limited. The aim of this review was to summarise the indications, benefits and complications of the procedure.

Methods: A literature search was performed in the MEDLINE database (1966-June 2012). The following keywords were used: hemicraniectomy, decompressive craniectomy, or decompression and craniectomy together with stroke, ischaemia, middle cerebral infarct, traumatic brain injury, head injury, subarachnoid haemorrhage, infection, subdural empyema, sinus thrombosis, cerebrovenous thrombosis, encephalitis, or meningitis

Results: Over 130 studies reporting on use of decompressive craniectomy for various neurological emergencies were identified. In the context of stroke, TBI and subarachnoid haemorrhage randomised controlled trials and cohort studies were analysed. This level of evidence was not available for decompressive craniectomy for the less common indications such as cerebral venous thrombosis and intracranial infection therefore case reports were included in the analysis for these conditions.

Conclusions: Whilst there is conclusive evidence that decompressive craniectomy can be life saving there is currently insufficient evidence that outcome is improved. There are substantial differences in the methodology of outcome assessment and this makes interpretation and pooling of results impossible.

Keywords: Craniectomy, Evidence, Neurology

SIMULATION-BASED EDUCATION OF CRITICAL-CARE NURSING IN SOUTH KOREA: A REVIEW OF LITERATURE FOR THE CURRENT STATE OF THE SCIENCE

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Background/Purpose: This study was developed to describe the current state of simulation-based education of critical care in South Korea finding gaps in knowledge and thus, in the future, simulation-based nursing education of critical care can be strengthened in South Korea.

Methods: Two major Korean databases (Korean studies Information Service System and Research and Information Sharing Service) and two international databases (Pubmed and CINHAL) were used to search the literature. The search was limited to 10 years old of articles, human subjects, and nursing journals. Two search key words, critical care and nursing simulation, were used to find appropriate research articles.

Results: 10 related articles from the Korean search engines and 20 articles from the international database were selected to analyze. The most common illnesses/problems of scenarios used to practice in the critical-care-based simulation, South Korea were respiratory disease, acute coronary syndrome, cardiopulmonary resuscitation, cerebrovascular accident, and mechanical ventilation. The two most frequently used outcome variables in South Korea were Self-efficacy and clinical performance. The articles found from the two international databases revealed that western research articles have included more various illnesses/problems of scenarios. Also, it showed that the phase of critical-care simulation in western countries is shifting to theme of multidisciplinary critical-care from traditional research of effectiveness of critical-care-based simulation in singular discipline.

Conclusions: Compared to western countries, the current state of Korean nursing research in critical-care-based simulation is limited: more varied illnesses/problems of scenarios about critical-care nursing and research based upon multidisciplinary simulation in critical care should now be initiated.

Keywords: Critical-care nursing, Simulation, Interdisciplinary

RISK FACTORS OF UNPLANNED READMISSION TO INTENSIVE CARE UNIT

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Background/Purpose: The purpose of this study is to investigate the characteristics of patients of unplanned readmission that could have huge impacts on treatment results and thus threaten the patient safety, and identify the risk factors of readmission, ultimately providing basic data for specific and objective ICU discharge criteria to determine safe discharge and making a contribution to nursing intervention plans for high risk patients of unplanned readmission.

Methods: We retrospectively reviewed the electronic medical records which included the data of 844 who had discharged from ICUs in a university hospital in Incheon from June 2014 to December 2014.

Results: The unplanned readmission rate was 6.4% (n=54). The ten variables were significantly different between the unplanned readmission and no readmission groups : major symptoms at the 1st admission, scores on the patient severity classification tool at the 1st admission, APACHE II score at the 1st admission, number of days when a ventilator was used during the 1st ICU, scores on the patient severity classification tool at the 1st discharge, APACHE II score at the 1st discharge, GCS scores at the 1st discharge, amount of oxygen supply at the 1st discharge, sputum secretion method, and length of stay at 1st ICU. Scores on the patient severity classification tool at the 1st admission, APACHE II score at the first discharge, number of days when a ventilator was used during the 1st ICU were the significant predictors of unplanned ICU readmission.

Conclusions: The findings indicate that the characteristics of patients at the time of discharge will have significant effects on unplanned readmission to ICU and raise an urgent need to do specific and accurate patient evaluations at the time of discharge and prepare a set of objective discharge criteria.

Keywords: Intensive care unit, Readmission

OUTCOME OF THE IMPLEMENTATION OF CHLORHEXIDINE GLUCONATE (CHG) TRANSPARENT DRESSING ON THE OCCURRENCE AND INCIDENCE OF CENTRAL LINE ASSOCIATED BLOODSTREAM INFECTION (CLABSI) IN MEDICAL CRITICALLY ILL

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Background/Purpose: CLABSI is one of the common ICU-acquired infections, which may impair ICU outcome. CLABSI prevention bundles were recommended. CHG transparent dressing may attenuate the occurrence of CLABSI. Objective: To evaluate the outcome of CHG transparent dressing on CLABSI occurrence and incidence in medical ICU patients.

Methods: All critically ill patients, who were admitted to medical ICU during January 2014 to December 2014, were recruited. CLABSI bundle was applied. Those patients, who expected to retain catheter for longer than 72 hours with multi-drug resistance bacterial infection or neutropenia or immunocompromised and no bleeding at the insertion site, were allocated for CHG group. CLABSI was identified according to standard definition. The occurrence of CLABSI was compared by Pearson Chi-square test. Incidence of CLABSI/1,000 catheter day was compared by Man Whitney U test. The p-value <0.05 was statistically significant.

Results: 380 medical critically ill patients were recruited. Of those, 453 central venous catheterization was recorded. Jugular vein is the commonest site of insertion (72.63%). Almost 75% (336/453) of all catheterisation obtained CHG dressing. There was no statistically difference of the median central venous catheter day between the groups (3(0.64)d vs 3(0.31)d, p-value=NS). There was no statistically difference of CLABSI occurrence between CHG and non-CHG group (4/336 (1.19%) vs 2/117(1.70%), p-value=NS). In addition, the incidence of CLABSI/1,000 catheter day did not statistically difference (1.88 vs 3.03, p-value =NS).

Conclusions: The CHG transparent dressing may not reduce the occurrence and incidence of CLABSI in medical critically ill patients.

Keywords: Central line associated bloodstream infection, Chlorhexidine gluconate

NEEDS OF FAMILY MEMBERS OF CRITICALLY ILL PATIENTS - A CNS-FACE STUDY

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Background/Purpose: To determine influences of admission route to ICU on needs and stress of family members of ICU patients. Subjects of this study are family members of ICU patients who admitted from July 1, 2014 to September 30, 2014 (three months) and consented to our study.

Methods: We assessed needs and copings of family members on the admission day by CNS-FACE (Coping and Needs Scale for Family Assessment in Critical and Emergency care setting) developed by Yamase et al. and analyzed influences of difference of admission route. CNS-FACE is developed in 2002 and consists of 46 items of observation which are divided in 6 categories of NEEDS and two categories of COPING and assessed in 4 ranks.

Results: 1) Forty-two persons are involved. As for admission route, Twenty-two are from ER or outpatient clinic of the hospital, eleven from OR after elective surgery, and nine are from general wards after sudden worsening of vital signs. 2) Family members of ER/ outpatient clinic need information most and members of suddenly worsened patients and postoperative patients need frequent visits most. 3) Kruskal-Wallis test revealed need of quality of treatment is significantly higher than other needs and it is most distinctive in suddenly worsening group according to Scheffes multiple comparison test analyzed. 4) No remarkable difference is observed with regard to copings.

Conclusions: Family members of ICU patients need information, frequent visits, and best quality of treatment in general and needs are different depending on routes of administration.

Keywords: Needs of family, Coping

MASSIVE PNEUMOPERITONEUM FOLLOWING CARDIOPULMONARY RESUSCITATION- A CASE REPORT

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Introduction: The term pneumoperitoneum is used to describe the presence of free gas within the peritoneal cavity. The m/c source is from visceral perforation. Pneumoperitoneum following CPR had been described as a rare complication. Pneumoperitoneum may develop following CPR is most commonly from a ruptured viscus, and intrathoracic air tracking into the abdominal cavity via the diaphragm as a result of bag-valve-mask ventilation, external chest compression or improper intubation. We reported an unusual case of pneumoperitoneum following CPR in which the specific cause was not definitely established.

Case: An 81-year-old man who was known to have major depressive disorder and polyneuropathy was brought to the emergency department after drug intoxication. Upon arrival at the ED, the patients mentality was stupor and initial vital signs showed an unstable. Promptly intubation was performed. Initial CXR was non-specific (Fig1). Brain CT showed suspicious lacunar infarction or other in the right thalamus, and mentality continued drowsy state. Hence, MRI study was performed. During the examination of MRI, patients showed irritability, and then mentality changed from drowsy to comatous. During the delivery to ER, CPR was performed. Return

of spontaneous circulation developed after a total of 15 minutes of CPR. At follow- up radiologic study, subcutaneous emphysema, pneumomediastinum and pneumoperitoneum were showed (Fig. 2). The patient was taken to the operation room for laparotomy. On exploration of the abdomen, cause of pneumoperitoneum was not found. The patient showed a significant and prompt recovery.

Conclusions: Prudent decision for surgery should be made.

Keywords: Pneumoperitoneum, Visceral perforation, Cardio-pulmonary resuscitation

THE USE OF IV NORMAL SALINE 0.9% (NS) INSTEAD OF IV HEPARINIZED SALINE 10 UNITS/ML (HEPS) FOR PERIPHERAL INTRAVENOUS (IV) CANNULAE IN THE PAEDIATRIC PATIENTS IN KKH

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Background/Purpose: NS as the flush solution to maintain patency of intravenous (IV) cannulas in adult patient population has been well established in many studies. Currently, paediatrics patients are using HepS to maintain patency of IV cannulas for those without continuous fluid infusion. With the risks associated with heparin administration, a study was performed with the aim of changing current practice to ensure safety for the paediatric population.

Methods: Data from several piloted pediatric wards of different subspecialties were collected in two phases over 3 consecutive months in 2012 via an observational study. A total of 320 IV cannulas were monitored for its patency with HepS used that was in accordance with current practice. A total of 379 IV cannulas were monitored when NS was used as a flush solution ending with a positive pressure.

Results: Results revealed that there were minimal blockage and adverse effects from using NS as a flushing agent. This also implied that IV cannulas that were solely flushed with NS were able to last longer thus optimizing patient's treatment outcome and reducing undesirable stress as well as undue pain. Based on the favourable findings of the outcome study suggesting that IV NS flush is a safe alternative to IV HepS, CMB's approval was sought for the change of practice and this has been approved.

Conclusions: IV NS flush is a safe alternative in replacing IV HepS for pediatric patients with peripheral IV cannulas. With this change in nursing practice, patient's safety and hospitalization stay is further enhanced.

Keywords: IV normal saline 0.9%, IV Heparinized saline, Peripheral IV cannula

FAILURE MODE EFFECT ANALYSIS (FMEA) ON PAEDIATRIC INTRAVENOUS (IV) CANNULAE CARE IN KKH

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Background/Purpose: The aim of this project is to prevent and or minimize adverse events associated with the management of peripheral intravenous cannula by ensuring a safe and effective practice for our pediatric patients. A taskforce was formed to analyses the security and plastering methods of the intravenous cannulae which might potentially compromise patient safety.

Methods: FMEA is a systematic, proactive method designed to promote patient safety by mapping out the process of care, follows by identifying potential failures that may occur in this process, in order to identify the parts of the process that are most in need of change. Using the FMEA model, the group analysed the entire process to secure a paediatric IV cannulae. Potential failure modes that might impact on patient safety in the various sub-processes were identified as requiring improvements. The group then listed the appropriate safety measures that was necessary to prevent potential accidentally sniping off the IV cannulae.

Results: Post implementation of the safety measures using different types of adhesive dressing without a criss cross tape over the hub of the cannulae had shown significant reduction in risk priority number scores which indicate the success of FMEA in minimizing patients' harm. Data from 2 piloted pediatric wards were collected for 2 months in 2014 via an observational study. A total of 130 samples were collected using different types of adhesive dressing shown favorable findings of the outcome. The risks of mortality and morbidity of patients will be minimized. It also eliminates any potential fatal errors from occurring.

Conclusions: With the development of safety guidelines on the use of new adhesive dressing without a criss cross tape over the hub of the cannulae, we have achieved our goal of eliminating the potential risks that can result in fatal error in this vulnerable group of patients. Through the use of FMEA, we hope to reduce the risk and improve patient safety.

Keywords: IV cannulae, Paediatric

SAFE DRUG MANAGEMENT INTENSIVE CARE UNIT

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Background/Purpose: To understand the safe drug management in intensive care unit (ICU).

Methods: It has been determined that errors are made in drug prescription, supply and drug applications in the ICU, and these errors threaten the patient health. Illegibility of the doctors requests, collective and unsafe transportation of the drugs to the services, irregularities in recording the drug applications, ineffective monitoring of the drug applications, indetermination of high-risk drugs, nonobservation of drug-drug and drug-nutrient interactions and ignorance of the possibilities for mistaking drugs with the same names are among the drug application errors. Besides, errors also occur depending on the excessive work load, which is caused by the haste the nurses quit their jobs in, the deficit in the number of nurses and the instability of the nurse-patient ratio, and the insufficiencies resulting from the procedures and communication.

Results: The first thing to do for eliminating the problems is the formation of all the processes and procedures related to drug management. Sufficient manpower, a good work environment and the culture of patient safety must be provided, and national and international suggestions must be taken into account for drug management. Error reporting system must be created to put forth the present situation. Moreover, drugs must be prescribed on computer by the doctors, good in-house communication must be provided and clinical pharmacists must be employed in the units.

Conclusions: One of the keys of all the improvement efforts is training. Great importance must be given to patient safety and drug safety in trainings.

Keywords: Drug safety, Medication errors

LONG TERM SURVIVAL FOLLOWING DECOMPRESSIVE CRANIECTOMY FOR SEVERE TRAUMATIC BRAIN INJURY: THE DISABILITY PARADOX

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Background/Purpose: The aim of this study was to assess the long-term outcome and quality of life of patients who have survived with severe disability following a decompressive craniectomy for severe traumatic brain injury.

Methods: This study assessed outcome beyond three years amongst

a cohort of thirty nine patients who had previously been adjudged either severely disabled or in vegetative state, 18 months after decompressive craniectomy for TBI. The assessments performed were; the extended Glasgow Outcome Scale (GOSE), the Barthel Index (BI), the Zarit Caregiver Burden Interview and the short form 36. The issue of retrospective consent for surgery was also assessed.

Results: Of the thirty nine patients, seven had died and twenty patients or their next of kin consented to participate. Of those twenty patients, the five patients who were in vegetative state at 18 months remained so beyond three years and the remaining 15 patients remained severely disabled after a median follow-up period of 5 years. The patients SF-36 physical score were inversely correlated with the severity of TBI. The mental SF-36 scores of the patients were, however, reasonably high. The majority of patients and their next of kin felt that they would have provided retrospective consent for surgical decompression even if they had known their eventual outcome.

Conclusions: Substantial physical recovery beyond 18-month after decompressive craniectomy for severe TBI was not observed however, many patients appeared to have recalibrated their expectations regarding what they felt to be an acceptable quality of life.

Keywords: Neurotrauma, Rehabilitation

EFFECTS OF HEAD-UP TILT POSITIONING ON CEREBRAL HEMODYNAMICS, EVALUATED BY NEAR INFRA-RED TIME-RESOLVED SPECTROSCOPY

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Background/Purpose: Head-up tilt positioning (HUTP) is applied to reduce intra-cranial pressure. But there was not any adequate objective parameter to detect cerebral hemodynamics (CH).

Methods: CH was evaluated in 10 healthy volunteers by a near infra-red time-resolved spectroscopy (NIR-TRS). HUTP (degree) was applied repeatedly as supine position (0 degree) to 15 to 0 to 30 to 0 to 45 to 0 to 60 to 0 for 5 minutes each. Intra-cerebral tissue oxygen saturation (StO2 %), total hemoglobin (tHb, mmol/L), oxy-hemoglobin (O2Hb, mmol/L) and deoxy-hemoglobin (HHB, mmol/L) were measured every 5 seconds on their right and left forehead. P values <0.05 was considered statistically significant.

Results: StO2, O2Hb and tHb were significantly decreased by HUTP at 30,45and 60 degree, compared to that at 0 degree, respectively (Figure). The tendency of the left side values was same.

Conclusions: The response of the NIR-TRS is extremely fast, so that the parameters changed by positioning, could be measured. Reduction of StO2 related to the reduction of O2Hb was not large and HHb did not significantly change, cerebral oxygenation might be maintained by their intact brain circulatory autoregulation. In the brain insulted patients, the autoregulation is lost. In these situations, brain monitoring by NIR-TRS might be more valuable.

SELF-DESCRIBED NURSING RESPONSES EXPERIENCED DURING CARE OF DYING PATIENTS AND THEIR FAMILIES: A PHENOMENOLOGICAL STUDY

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Background/Purpose: Critical care nurses caring for dying patients and their families experience complex feelings and stressors, which can be surprising and beyond individuals ability to interpret and internalize. Little is known about feelings and experiences of bedside nurses or how they are affected during end-of-life care. Study purpose was to understand lived experiences and feelings encountered by critical care nurses during end-of-life care.

Methods: A descriptive phenomenological study using a purposive sampling strategy recruited 19 critical care nurses with experience caring for dying patients and their families. Individual interviews were conducted, audio-recorded and transcribed verbatim. Each nurse was asked open-ended questions about their experience and responses when caring for dying patients and their families. Colaizzi's method of data analysis was utilized to inductively determine themes, clusters and categories. Data saturation was achieved and methodological rigor was established.

Results: Main responses included personalizing the experience, sadness, ageism, anger, frustration, relief and stress. Factors contributing to the clinicians lived experience included prior experiences with death affecting how the experience was personalized and issues encountered in care delivery contributing to feelings of anger.

Conclusions: Study results have implications for practice, education and research. Critical care nurses may be unprepared for feelings and personal responses encountered when caring for dying patients and their families. Teaching and preparation for these feelings and responses encountered during care of dying patients and their families in nursing education and critical care orientation classes is essential. Future research should study optimal means to mentor, teach and prepare nurses to provide optimal end-of-life care.

Keywords: Phenomenological study, Personal context, Feelings

SELECTION OF AN INSTRUMENT TO EVALUATE THE ORGANIZATIONAL ENVIRONMENT OF NURSES WORKING IN INTENSIVE CARE: AN INTEGRATIVE REVIEW

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Background/Purpose: Internationally the demand for intensive care is increasing. Solely increasing bed capacity is not sustainable. Large capacity multi-specialty Intensive Care Units are emerging as the preferred organizational model with benefits resulting from optimizing operational synergies and economies of scale. The impact of this organizational transition on intensive care nurses is not well understood. The purpose of this review is to determine an appropriate survey instrument to evaluate the impact of organizational structures on the work environment of intensive care nurses.

Methods: Integrative literature review. Data Sources: CINAHL, PubMed, EMBASE and OVID Nursing databases searched for studies published between 2005 and 2013. An integrative review and quality assessment of the studies was undertaken to select nurse outcome measures associated with organizational structures across a range of acute and critical care settings. Congruence between nurse outcome measures and nurse survey in-struments tested in the literature was assessed to select instruments for further psychometric evaluation.

Results: Thirty-one cross sectional quantitative studies, from fourteen countries, were reviewed. Twenty one nurse outcome measures associated with organizational factors were identified and a total of twenty five survey instruments used in the studies reviewed. Assessment of congruence and psychometric properties determined that a combination of two instruments is required to comprehensively assess the organizational environment of nurses working in intensive care units.

Conclusions: The environment of nurses working in intensive care is effectively evaluated with an instrument that combines the Practice Environment Scale-Nurse Work Index and Maslach's Burnout Inventory.

Keywords: Nurse, Intensive care, Organization, Environment

THE PREVALENCE OF LOW BACK PAIN AND ITS ASSOCIATIONS IN NURSES WORKING IN INTENSIVE CARE UNITS

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Background/Purpose: Low back pain (LBP) is common symptom in nurses and its origin is multifactorial. The purpose of this study to search the prevalence of LBP, and its associations in intensive care nurses.

Methods: A self administered questionnaire included questions related to demographic and job characteristics, psychosocial job satisfaction (PSJS) and SF-36-Vitality for fatigue were applied. The LBP intensity lasting for at least 1 day during last 7 days was determined with Visual Analogue Scale in nurses working in intensive care units (ICUs) since at least 3 years.

Results: Sixty four intensive care nurses (mean age: 32.0±5.46 years) participated in this study. The prevalence of LBP lasting for at least 1 day during last 7 days was 76.6 % in nurses working in ICUs since at least 3 years. Pain intensity was correlated with working hours per week (p=.027) and patient transfer in room (p=.024). There were associations of pain intensity with working positions which are kneeling on one knee (OR=2.533 (.219-29.290)), both knee squatting (OR=2.056 (.182-23.162)), body rotation during standing (OR=.229 (.028-1.876)), trunk flexion during standing (OR=1.075(.991-1.167)) and trunk flexion and rotation during standing (OR=.265 (.033-2.147)). The pain intensity was also related to PSJS (OR=2.563 (.689-9.534)) and fatigue scores (OR=.683 (.205-2.263)).

Conclusions: These data indicate that intensive care nurses working conditions contribute to increment in low back pain. For these reasons, the attempts such as training in ergonomics, using lifting appliances and regulation of working hours should be cared to reduce low back pain in intensive care nurses.

Keywords: Low back pain, Intensive care nurses, Job characteristics, Working position, Psychosocial job satisfaction

FAILURE MODE EFFECT ANALYSIS (FMEA) PROJECT ON SAFE ADMINISTRATION OF EMERGENCY DRUGS (E-DRUGS) DURING RESUSCITATION

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Background/Purpose: Safe administration of IV emergency drugs (E-drugs) during resuscitation was chosen as the FMEA project because of incidence of administration of 10 folds of intravenous adrenaline during resuscitation and the significant risk to the safety of the patients. Through the use of FMEA, we want to prevent the future occurrence of medication error during resuscitation.

Methods: A multidisciplinary team was formed to map out the entire process of IV administration of e-drugs during resuscitation, identify potential “Failure Mode” that can occur and then use the FMEA scoring system to look at probability of occurrence, severity of effects and detectability. Risk priority numbers were solicited from all members to identify failures most in need of attention. The results were collected by the number of incidences reported post resuscitation.

Results: Four main process steps and 20 sub-processes were outlined. RPN of more than 100 were found in the four main processes indicative that the prescription, retrieval of drugs, preparation and administration processes have the high potential for hazardous errors. Since the implementation of a safety measures, patient safety and quality care are evidenced by no reported incidence of medication error till date and the high risk failure modes were reduced by 62.5% for prescription, 60% for retrieval of drugs and 72.2% for preparation and administration processes.

Conclusions: FMEA is a useful safety improvement tool. It is a risk assessment methodology used to identify weaknesses in a complex hazardous process and generate corrective control measures to counteract these weaknesses before they result in adverse event.

Keywords: Failure Mode Effect Analysis, Emergency drugs, Resuscitation

CARDIOGENIC OSCILLATION AND VENTILATOR AUTOTRIGGERING IN A 22 YEAR-OLD WITH MALIGNANT BRAIN EDEMA: IMPLICATIONS FOR ORGAN RECOVERY AND TRANSPLANTATION

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Introduction: Ventilator autotriggering occurs in brain-death from interaction between a hyperdynamic cardiovascular state and compliant lung tissue causing cyclic gas movement within the patient-ventilator system. Cardiogenic autotriggering may go unrecognized, delay brain death testing, prolonging the ICU experience for families and restrict donor organ availability. This may confuse families, experienced critical care clinicians and neurologists regarding timing of brain death testing.

Case: A 22 year-old patient was admitted to a medical ICU with acute liver injury and decreased level of consciousness. He was intubated with initiation of controlled ventilation experienced refractory seizures and marked elevation in intracranial pressure. High-dose pentobarbital achieved seizure control, EEG burst suppression and short-term ICP reduction. Signs of terminal brain herniation were noted on ICU day 3 including arterialization of the ICP waveform, hyperdynamic cardiovascular state and areflexic neurological examination. Brain death protocol was delayed due to patient overbreathing ventilator set rate. Ventilator waveform analysis revealed flow waveform oscillations exactly matching heart rate and exceeding trigger threshold. Waveform deflections indicating intrinsic respiratory drive were absent. Pressure triggering with threshold at -2 cm H20 was initiated, eliminating autotriggering. Brain death testing proceeded and the patient was pronounced dead.

Conclusions: Hyperdynamic cardiovascular state and high stroke volume following brainstem herniation displaces compliant lung tissue causing gas movement within the patient-ventilator system in phase with the cardiac cycle. Cyclic gas displacement may exceed ventilator trigger sensitivities, initiating ventilator breaths beyond the set rate. This may be misidentified as intrinsic respiratory drive causing delay in brain death determination and loss of transplantable organs.

Keywords: Cardiogenic oscillation, Ventilator triggering

STRESSFUL EXPERIENCES IN THE INTENSIVE CARE UNIT OF PATIENTS PUT ON MECHANICAL VENTILATORS FOR 12 HOURS OR MORE

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Background/Purpose: This study was conducted to investigate stressful experiences in the intensive care unit (ICU) and related factors remembered by patients receiving mechanical ventilatory management for 12 hours or more.

Methods: Adult patients without any cognitive impairment who received mechanical ventilatory management for 12 hours or more while hospitalized in the general ICU of one facility were examined. Structured interviews were held with the patients using the Stressful Experiences in the ICU Questionnaire (a Japanese version was created with the permission of the original author; Cronbachs α: 0.90) after the decision was made for the patients to be discharged from the ICU and related factors were gathered from medical records. The study was approved by the ethics committee of the authors university.

Results: Subjects comprised 96 patients (mean age: 70.1, men: 74, women: 22), 66.7% of whom had undergone cardiovascular surgery and 26.0% had been admitted emergent. Ten (10.4%) subjects did not remember tracheal intubation. Very stressful experiences included thirst, difficulty speaking, and discomfort of the tracheal tube. Related factors were pain intensity; total amount of narcotic drugs used; intubation time; no prior medical history; being in employment; and C-reactive protein (CRP) levels prior to extubation. Age, days spent in the ICU and days of hospital stay were unrelated.

Conclusions: Discomfort, particularly thirst and pain during intubation, needs to be alleviated in order to reduce the stress of patients admitted to the ICU. Moreover, if possible, patients should be given prior explanations regarding speaking ability and tracheal tubes.

Keywords: Stressful experiences, ICU patients

SYSTEMATIC PAIN ASSESSMENT IN CRITICALLY ILL PATIENTS

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Background/Purpose: Systematic approaches to pain assessment in critically ill patients are of paramount importance in adequate and safe care. Aim: To investigate the impact of a systematic approach to pain assessment on the intensity and incidence of pain and clinical outcomes in critically ill patients.

Methods: Randomized controlled study with critically ill patients randomized in a standard care and an intervention group. The intervention consisted of the Behavioral Pain Scale (BPS) and the Critical Pain Observation Tool (C-POT), which were completed twice daily, by independent observers. In the intervention group, ICU nurses and physicians were notified of the results. Mixed Anova for the interaction effect of group and outcome measurements throughout time was employed.

Results: A total of 98 patients were included (control: n=50; intervention: n=48). There was a significant interaction between group and BPS scale scores throughout the first 3 days (Wilks lamda=0.846, p=0.035 η 2=0.154) with intervention group patients exhibiting decreased pain intensity. Similar interactions were observed in the CPOT scale (Wilks lamda=0.856, p=0.052 η2=0.144). There was a trend for lower Incidence of severe pain (BPS>4) in the Intervention group (n=14 -29.2%) than in Controls (n=20 40%) (p=0.18 Cramers V=0.114). There was no significant difference between control and Intervention group in mortality in ICU (22% vs 19.6%) and in median length of stay (13 [8.5, 22.5] vs 14[9, 22] days).

Conclusions: Systematic assessment of pain may be associated with a decrease in the intensity and incidence of pain. Pain assessment tools should be incorporated into daily ICU practice.

Keywords: Pain assessment, Critically ill, Outcomes

CURRENT PRACTICES OF IMPLEMENTATION OF STANDARDIZED ORAL CARE IN JAPAN

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Background/Purpose: Ventilator associated pneumonia (VAP) increases hospital length of stay by an average of 6 days in the ICU, increases the risk of mortality by 24 to 50%, and contributes to the rising cost of health-care by approximately $40,000 per event (Kollef 2006, Rello 2002). VAP bundle is a well known preventative measure, however in Japan oral care is not included in the VAP bundle implemented in Japan (Japanese Society of Intensive Care Medicine, JSICM). The most recent VAP bundle from Institute of Healthcare Improvement (IHI 2015) recommends the daily use of chlorhexidine gluconate (CHG), however the use of CHG in Japan have restrictions that makes implementation of this difficult.

Methods: The task force that evaluates clinical guidelines as part of the nursing branch of JSICM conducted a survey of the current practices in ICUs across Japan.

Results: Approximately 50% of the participating institutions reported use of oral care as part of VAP pre-vention practice. Furthermore, the frequency of other methods of oral care such as evaluation of endo-tracheal cuff pressure, body positioning, oral brushing and wash, measures to prevent aspiration of oral secretions, prevention of dryness of oral cavity were consistent. However, the lack of implementation of standardized components of oral care and variability amongst institution were observed.

Conclusions: We report the lack of standardized oral care in ICUs across Japan as part of VAP prevention. Furthermore, the use of CHG as part of oral care was not prevalent.

Keywords: VAP oral care

DEVELOPMENT AND APPLICATION OF THE CLINICAL LADDER PROGRAM FOR THE INTENSIVE CARE NURSES IN JAPAN

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Background/Purpose: Intensive care nurses are required advanced nursing skills and ability of high-level clinical judgment, and therefore, to learn the latest extensive knowledge and skills. However, due to the wide variation of each hospital in Japan, each educational system also vary widely, and even some facilities are not available to use educational resources at all. The purposes of this clinical ladder development for Japanese intensive care nurses are the following; 1) improvement of their practical skills, and 2) their proactive career development support.

Methods: From the year 2013 through 2014, the members of the ad hoc committee of the Japanese Society of Intensive Care Medicine, Division of Nursing, took the present status of intensive care nursing in Japan into consideration based on the Dreyfus Model and Nurse Clinical Ladder Program made by Japanese Nursing Association, and developed several goals centering on the required nursing skills

and/or the process of individual progress.

Results: We developed four required skills for intensive care nursing (i.e., clinical skills in practice, management skills, proactive career development, nursing ethics) and clinical ladder that constitute 4-step process of progress, and released on our society web-site. We have just begun to apply this ladder to our various educational programs for Japanese intensive care nurses.

Conclusions: This clinical ladder program is just available nationwide. Further research is needed to evaluate the prevalence and/or effect of this program.

Keywords: Clinical ladder program, Intensive care nursing

EVALUATION OF COMFORT LEVELS AND STATE ANXIETY IN PATIENTS WHO UNDERWENT CHEST SURGERY

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Background/Purpose: The study was planned as a descriptive study aimed to determine the comfort levels and state anxiety of patients who underwent chest surgery.

Methods: The universe included all inpatients who were staying at the chest surgery service of a university hospital; while the sample consisted of 112, who were aged between 18-72 years. Data was collected via the face-to-face interview method using the Personal Information Form, the Early Postoperative Comfort Scale, the General Comfort Scale, and the State-Trait Anxiety Scale (STAI).

Results: Mean age of the patients was 51.74. It was found that 63.4% of the patients were male and that 47.3% graduated from primary school. Level of early postoperative comfort was 4.96±0.56 of six and level of general comfort was 2.89±0.32 of four. Level of state anxiety was found to be 49.05±4.50, while level of trait anxiety was 46.37±4.57. Level of early postoperative comfort increased in parallel with general comfort ($r=0.23$ $p<0.001$). General comfort and early postoperative comfort were negatively associated with state anxiety ($r= -0.210$, $r= -0.375$; $p<0.005$).

Conclusions: According to the findings, it was determined that chest surgery does not decrease comfort, that there is an inverse relationship between comfort and state anxiety in particular, and that patients who underwent a lengthy operation have higher levels of trait anxiety.

Keywords: Comfort, Nursing, Chest surgery, Postoperative care

PERCEIVED EXPERIENCES OF INTENSIVE CARE PATIENTS

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Background/Purpose: This descriptive study was conducted in order to investigate the physically and emotionally distressing experiences of intensive care patients.

Methods: Study universe consisted of all patients admitted to the reanimation unit between October, 2013 and October, 2014. Study sample included 116 patients who were aged 18 years and above, were hemodynamically stable, were conscious, were in appropriate condition to be transferred to intensive care, and accepted to participate in the study. Prior to the study, written permissions were obtained from the ethics committee and hospital management.

Results: Mean age of the patients was 56.57±15.22. 48.3% were female and 51.7% were male. 82.8% (96) of the patients included those who were probably going to stay in intensive care. Nurses reported that 37.9% of the patients were calm, 6% were precipitous, and 56% were involved. 65 of patients who stayed at intensive care for 2.30±3.89 (1-40) days received mechanical ventilation, 34 received hourly mechanical ventilation, and 17 did not receive mechanical ventilation. Length of receiving mechanical ventilation was 1.97±3.33 days and 4.45±4.48 hours. It was found that the most distressing experiences of patients included thirst, being away from family, pain, aspiration, stomach tube, and not being able to talk. The most comforting experiences of patients included nurses constantly being with them, feeling secure, being informed, breathing easily, and explanations prior to procedures.

Conclusions: Nurses should be aware of these factors which can cause distressing experiences in critical patients and should plan appropriate nursing interventions that can prevent or reduce such experiences.

Keywords: Emotional distressed, Intensive care unit, Intensive care patient, Nursing, Intensive care experience

DETERMINATION OF NURSES WORKLOAD IN INTENSIVE CARE UNIT

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Background/Purpose: It is aimed to calculate necessary the number of nurses by taking basic units/time/nursing initiative factors given to intensive care patients.

Methods: Nurses overlooking the 20 patients in the intensive care units have been observed scope of this descriptive study. Nurse patient ratio has ranged between 1/3 and 1/2 in intensive care units. Dependence levels of patients were evaluated using Cheltenham Patient Classification Scale, Rush Medicus Patients Assessment Level of Addiction Scale. All kinds of nursing functions on the patients diagnosis, treatment and care (direct and indirect patient care functions, service works) were obtained with nursing interventions between 08:20 and 20:08 hours and spent timeline. Data related to nurses work was recorded through direct observation by an observer using a stopwatch. Percentage and average statistical methods were used to evaluate the data.

Results: 55% of patients (n = 11) is high level dependent according to the Cheltenham Patient Classification Scale. According to the Rush Medicus Patients Assessment Level of Addiction Scale, 65 % of patients are in the high level dependent patients group at day and night shifts. According to Cheltenham and Rush Medicus Patient Classification, it has been determined that as the patients degree of dependence increases, the workload rises and the workload is more on the night shift than day shift. The workload of a nurse facing two patients in the high level dependent in 12 hours shift was found to be more than 12 hours.

Conclusions: These data showed that a nurse must addicted to a high level dependent patient or a nurse must be considered for a moderate-dependent patient and 2 lower level dependent patients.

Keywords: Nurse, Workload, Intensive care unit

APPROACH OF INTENSIVE CARE NURSES TO EUTHANASIA IN TURKEY

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Background/Purpose: The aim is to reveal the approach of intensive care nurses (ICN) towards euthanasia in Turkey.

Methods: Many countries have been trying, for the past 30 years, to determine their approach to euthanasia by taking their specific conditions into account. Although it is still being debated in Turkey, no extensive legal regulations have been realized yet. Revelatory studies on the approach of nurses, doctors, legislators and the society towards euthanasia are still being conducted. These studies have shown that euthanasia is legally considered to be a crime; and ethically it is open to debate. Opinions of doctors and nurses who usually care for intensive care patients in the terminal phase about euthanasia and patient rights highly contribute to the debates concerning these topics.

Results: Studies of Kumaş (2005), Çınar (2012) and their friends demonstrate that in Turkey, the majority of the ICN is against the legalization of euthanasia. They have expressed their opinion against euthanasia due to religious reasons, the sacredness of the right to life, and conscientious responsibility. They have also stated that in the event of a legalization, they will not participate in the team.

Conclusions: As the ICN defend the other rights of their patients; once the legal basis is formed, they should also take the patients will to die in stride, discharging their duties as patient rights defenders and consultants -even though it may be against their personal opinions and beliefs. It is crucial that the employees are clearly instructed in the euthanasia policies of the hospital.

Keywords: Euthanasia, Patient rights, Nursing approach

NURSING GRIEF IN END-OF-LIFE CARE: PART 2

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Background/Purpose: The highly technical interventions in Intensive Care Units often conflict with compassionate End-of-Life (EOL) care. Part 1 of this initiative revealed that EOL issues in the Coronary Care Unit (CICU) were seldom discussed among interdisciplinary team members. Survey results showed staff nurses perceived they were providing futile treatments. The literature shows emotional distress experienced by nurses can lead to job dissatisfaction, withdrawal form moral dimensions of patient care, and departure from the nursing profession (Allen R. et al., 2013). This presentation will further examine change over the past three years in EOL decision-making practice in CICU and the level of moral distress experienced nurses.

Methods: The same descriptive, open-ended questionnaire used in 2012 will be distributed to staff nurses in CICU of a large, academic teaching center in Toronto. Finding will be compared to the 2012 results to evaluate the work done on Advanced Care Planning and palliation.

Results: This quality improvement project will promote awareness of moral distress that nurses experienced when providing to be medically futile. Lesson learned and next steps for collaboration on EOL care will be presented.

Conclusions: Ethical principles should be the underpinning foundation to guide the decisions and patients be allowed to die with dignity.

Keywords: End-of-Life care

THE IMPACT OF SLEEP DISRUPTION ON DELIRIUM DEVELOPMENT IN CRITICALLY ILL PATIENTS

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Background/Purpose: Many critically ill patients treated in the intensive care unit (ICU) experience sleep disruption. Disrupted sleep in the ICU has been proposed as a potential risk factor for delirium, but previous study is sparse. This study was undertaken to identify the sleep status for the development of delirium in non-sedated critically ill patients

Methods: This is a prospective study. Polysomnography recording was performed over 24 hour to assess the quantity and quality of sleep. Delirium was measured daily using the Confusion Assessment Method for the ICU.

Results: Total 20 patients were enrolled. Their median APAPCHE II score was 19 (IQR : 16~27) and total sleep time was 03:43 (hh:mm, IQR: 00:49 - 06:10). The majority of sleep was stage 1 (median 03:02 [00:47 - 04:34]) with scant stage 2 (median 00:00 [00:00 - 00:46]), REM (median 00:00 [00:00 - 00:15]) and absent stage 3. Delirium was developed in 4 patients (20%). Delirium incidence was independently associated with the duration of ICU stay more than 5 days in multivariable analysis (P=0.042). We also found that patients who stayed 5 days or more in ICU showed significant reduction in night sleep time compared to patients who did not

(00:42 ± 0:46 vs 2:04 ± 1:25, P=0.012), despite of similar total sleep time.

Conclusions: The quantity and quality of sleep in critically ill patients were poor. The long duration of ICU stay disrupted circadian rhythm which could contribute to the development of delirium in critically ill patients.

Keywords: Intensive care unit, Sleep, Delirium, Polysomnography

PREVALENCE REVIEW OF METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS IN RESOURCE LIMITED SETTTING

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Background/Purpose: Prolonged illness, higher cost of healthcare and greater risk of death were associated with infections caused by resistant microbial agents WHO (2013). Hospital environment provide a substantial source of hospital acquired pathogens, particularly in setting with poor infection control strategies. Although regular cleaning have been found to disturb the ecological niches found by potentially pathogenic organisms in settings with efficient environmental cleaning and infection control measures, however, there is still occurrences of difficult to treat multiple drug resistant pathogens like MRSA. With this in mind, it becomes imperative to review the prevalence of MRSA in critical care setting in Nigeria.

Methods: Literature search PubMed was searched in January 2015, the following search term was applied; MRSA, prevalence, ICU Nigeria. In addition, search were performed on using Google search engine, MRSA prevalence, ICU, Nigeria, were used as search words. Study selection any study published providing data related to MRSA in Nigeria were considered and included for review and data extraction.

Results: Based on PubMed result only one research was found dealing with molecular epidemiology of MRSA by Taiwo SS. and colleagues (2005). Google search results reveals numerous studies, however only few were included based on their relevance to this topic under review.

Conclusions: In conclusion, although there was some documented studies focusing on carriage of MRSA among healthcare workers particularly in ICUs and fomites contamination, there was limited studies on the prevalence of MRSA in Nigerian ICUs. Equally, improved infection control practices could reduce the cross transmission between ICU staff, environment and patients.

Keywords: MRSA, Review, Prevalence, Intensive care unit, Nigeria

VALIDITY OF THE RESP, PRESERVE AND ECMONET SCORES FOR ECMO IN CHILDREN WITH ARDS

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Background/Purpose: As increasing use of extracorporeal membrane oxygenation (ECMO) for acute respiratory distress syndrome (ARDS) in children, the strategy for survival prediction is crucial but not standardized. We evaluated the scoring systems of survival prediction for adults to pediatric ARDS and validate them.

Methods: Data from 11 children with ARDS treated by ECMO from 2013 to 2014 were analyzed and applied to the previous scoring systems including the RESP, the PRESERVE, and the ECMOnet scores. We compared those scores and clinical characteristics between survivors and non-survivors.

Results: Mortality was 72.7% (8/11). The PRESERVE score (survivors vs. non-survivors; 2 vs. 5.25, p=0.048), and the ECMOnet score (4.1 vs. 5.63, p=0.048) were lower in survivors than in non-survivors, but they didn't performed well regarding with survival prediction. There is even no difference in the RESP score (-4.33 vs. -2.62, p=0.63) between them. The parameters showed consistent effects on survival in this study, which were duration of mechanical ventilation, PIP and PaCO2 prior to initiation of ECMO from the RESP score, PIP and PEEP from the PRESERVE score, bilirubin, hematocrit, creatinine from ECMOnet score. The parameters such as CNS dysfunction in the underlying disease didn't work for children, while all children under immunocompromised state died and should be considered the more important factor in children.

Conclusions: This is the first pilot study to predict survival in pediatric ARDS with ECMO. It is necessary to establish a tool to predict survival after ECMO for pediatric ARDS due to limitation of the previously reported scores for adults.

Keywords: Extracorporeal membrane oxygenation, Acute respiratory distress syndrome

EFFECTS OF LEISURE SATISFACTION AND JOB STRESS ON JOB SATISFACTION IN KOREAN NURSES

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Background/Purpose: Many studies have been explored the factors associated with job satisfaction for nurses over the world. Although nurses stresses have been shown to affect their job satisfaction, little is known about whether both leisure and job stress are having relationship with job satisfaction. The purpose of this study was to explore the factors including leisure satisfaction and job stress associated with nurses' job satisfaction in South Korea.

Methods: A total 292 nurses who were working at the University hospital participated in this cross-sectional study. For analyzing the predictors on job satisfaction, the key variables were entered the order of the variables such as demographics, job related characteristics, nurses stress and leisure satisfaction in multivariate regression analysis.

Results: Using hierarchical multiple regression analysis and after controlling for socio-demographics, job satisfaction was influenced by leisure satisfaction and nurses stress regarding patients death and lack of supplies in the final model. Those who had higher leisure satisfaction had better job satisfaction. In contrast, nurses who had higher job stress about patients' death and lack of supplies had lower job satisfaction. The final model explained about 21.6% of the variance in job satisfaction.

Conclusions: Leisure satisfaction and nurses' stress were significantly associated with job satisfaction in hospital nurses. Our findings suggested that leisure activity should be encouraged individually and supported by organizational aspect for enhancing the job satisfaction. Further research needs to be conducted to explore potential mechanism on how to explain the relationship between leisure satisfaction and job related factors using structure equation model.

Keywords: Nurse, Stress, Satisfaction, Leisure

IMPACT OF RAPID RESPONSE TEAM (RRT) ACTIVITY DURING POSTOPERATIVE PERIODS IN ORTHOPEDIC SURGERY DEPARTMENT

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Background/Purpose: The purpose of the study is to evaluate the impact of rapid response team (RRT) activity during the post-operative period.

Methods: From Mar 2014 to Dec 2014, a total of 1171 patients were electronically screened during the post-operative period for at least 24 hours in department of orthopedic surgery, St. Mary's hospital. Among them, 1129 were discharged without serious adverse events (SAEs), 30 were activated by requests of attending doctors or nurses or the electronic medical alert system and 12 had SAE without RRT activation. We compared the clinical characteristics and progress of 30 activated and 12 non-activated patients by retrospective chart review.

Results: The most common SAE was pulmonary origin. Mean modified early warning scores (MEWS) at admission and post-operative day 1 (POD 1) were higher in activated patients (2.3 vs. 1.08, P = 0.009 / 2.4 vs. 0.8, P = 0.000), but APACHE II score at POD 1 were not statistically different. After the activation, 16 (53.3%) patients were stabilized in general ward, 13 (43.3%) were transferred to intensive care unit (ICU). The percentage of CPR and mortality were higher in non-activated group (13.3% vs. 25%, P = 0.063, 10% vs. 41.7%, P = 0.031).

Conclusions: At-risk patients with higher MEWS at admission and POD1 were prone to activate RRT and be undertaken successful intervention during the postoperative period. But the patients who were not detected by electronic medical alert system or attending physician showed higher rate of CPR and mortality. Further development of postoperative screening system would be needed.

Keywords: Rapid response team, Postoperative period, Modified early warning scores

THE EFFECTS OF THE APPLICATION OF A GLUCOSE CONTROL PROTOCOL ON GLYCEMIA AND GLUCOSE VARIABILITY IN CRITICALLY ILL PATIENTS

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Background/Purpose: The present study sought to determine the state of blood glucose control and the consequent clinical effects and variation in the blood glucose level by comparing the blood glucose levels of patients admitted to intensive care unit (ICU) following cardiovascular surgeries on adults before and after the application of a blood glucose control protocol.

Methods: With patients admitted to ICU following cardiovascular surgeries as the objects, the resulting blood glucose data on an experimental group (n=314) to which the blood glucose control protocol had been applied and a control group (n=347) whose blood glucose levels had been controlled according to physicians

prescriptions without the protocol were collected through medical records.

Results: The target blood glucose (110-150mg/dL) ratio increased significantly in the experimental group, and the low blood glucose (60mg/dL or below) ratio decreased significantly in the experimental group. The two groups exhibited a significant difference in the degree of variation in the blood glucose levels. In particular, cases where the degree of variation in the blood glucose levels had amounted to 80mg/dL or above were significantly more numerous in the control group. The duration of the use of a medical ventilator was significantly reduced in the experimental group.

Conclusions: When the blood glucose control protocol was applied to critically ill patients, it was possible to control the blood glucose while raising the target blood glucose ratio and maintaining minimal variation in the blood glucose. Consequently, the use of the present protocol is expected to make possible the safe and effective control of blood glucose levels of critically ill patients.

Keywords: Critical care, Clinical protocol, Blood glucose

COMPARISON OF MEDICAL EMERGENCY TEAM CALLING PATTERN BY DOCTOR AND NURSE IN GENERAL WARD

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Background/Purpose: General ward doctors and nurses call Medical Emergency Team (MET) for the dis-cussion and advanced management after detecting deteriorating patients. But, it is not known whether ward doctors and nurses have different recognition and response to high-risk patient. This study was compared the vital sign parameter between doctors call and nurses call at the primary point of MET.

Methods: We analyzed cohort data of MET activation by doctors and nurses on general ward retrospectively. We collected each vital sign parameter, oxygen supply, O2 saturation, Glasgow Coma Scale, Modified Early Warning Score (MEWS) at the primary point of MET call, from January 2014 to December 2014.

Results: We enrolled 533 patients. Doctors' call was 361 (67.7%), nurses' call was 172 (32.2%) patients. Among vital sign parameters at the primary point of MET call, Respiration Rate and Body Temperature were significant (p<.05). MEWS was higher in nurses call (p<.001). Transfer to Intensive Care Unit and hospital mortality were lower in Nurses call (p<.05). As compared to call time, Night (7p.m.-7a.m.) call was higher in nurses' call (55.8%). In doctors' call, 47.4% was associated other causes such as laboratory data or clinical judgement.

Conclusions: In this study, ward doctors and nurses showed the differences in the factors that determine the MET call for deteriorating patients. Nurses call is showed higher compliance on the calling criteria and good prognosis these patient. Therefore, we suggest that it is important to use calling criteria for doctors.

Keywords: Rapid response system, Medical emergency team, Calling criteria

INITIAL CHANGE OF POSITION AFTER CARDIOVASCULAR SURGERY AND ITS RELATIONSHIP WITH ORGANIZATION CHARACTERISTICS

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Background/Purpose: Early rehabilitation after cardiovascular surgery improves prognosis and quality of life of the patients. However, current practice of changing patients position is unknown. Therefore, a mail survey was conducted to elucidate the relationship between the practice and organization characteristics.

Methods: Randomly selected 200 hospitals were invited to participate the survey. Among them, 60 directors of nursing with 1092 staff nurses agreed to participate. Characteristics of the hospitals, ICUs, and cardiovascular patients were reported by nurse managers. Staff nurses were asked to report changing position of most recent cardiovascular patients. Relationship between timing of initial change in position and characteristics of the organization was statistically analyzed.

Results: 47 nurse managers (77%) and 525 (48%) staff nurses responded. The median bed capacity of the hospitals was 542 (max 1262, min 77). The median time from the patients admission to the ICU and the nurses first consideration of the initial change of position was 240 minutes. 42 ICUs (91%) did not have protocol of initial change of position. There was no significant difference in consideration time of initial change of position between ICUs with and without protocol (p=0.870). Weak negative correlations were seen between consideration time of initial change of position and each larger total bed capacity (ρ=-0.135, p=0.010), larger ICU bed capacity (ρ=0.195, p<0.001), cardiac surgeons (ρ=-0.14, p=0.007), and full-time ICU physicians (ρ=-0.372, p0.001).

Conclusions: Nurses in hospitals with larger total bed capacity, larger ICU bed capacity, more cardiac sur-geons, and more full-time ICU physicians tended to think of changing position earlier.

Keywords: Early rehabilitation, Cardiovascular surgery, Organization characteristics

FACTORS ASSOCIATED WITH PARTICIPATION OF CARDIAC REHABILITATION AFTER PERCUTANEOUS CORONARY INTERVENTION

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Background/Purpose: This is a descriptive study to identify the factors associated with participation of cardiac rehabilitation after percutaneous coronary intervention, and to evaluate the effect of cardiac rehabilitation on disease-related knowledge and health behavior.

Methods: Data were collected from 121 patients who received percutaneous coronary intervention at YUMC in Seoul, Korea. This study investigated health beliefs, coronary artery disease-related knowledge, and healthy behavior implementation via the self-reporting questionnaire; medical records were analyzed to obtain subject information regarding body mass index, associated diseases, blood test results, and coronary intervention results.

Results: The cardiac rehabilitation program participation level was higher in women, those of high economic status, non-drinkers, those that were hospitalized as outpatients, those with low coronary artery disease severity, and those with more health behavior prior to hospitalization. The overall score related to coronary artery disease-related knowledge was high in the group that participated in the cardiac rehabilitation program; they were especially knowledgeable in the areas of disease risk factors, medication, exercise and lifestyle. The participants of cardiac rehabilitation showed more health behaviors; especially in the areas of continuous disease management, dietary control, exercise, and management of lifestyle and emergency situations.

Conclusions: A strategy to encourage coronary intervention patients to participate in the cardiac re-habilitation program can be drawn from the influencing factors derived from this study. This could be done by explaining at the onset of the program that there is potential for coronary disease to worsen or relapse, and by emphasizing that

restenosis can be prevented by the cardiac rehabilitation program.

Keywords: Cardiac rehabilitation, Participation factors, Barriers to participation, Conorary artery disease, Health behavior

EFFECTS OF A PSYCHO-COGNITIVE NURSING INTERVENTION ON CRITICAL CARE PATIENTS: PAIN AND ANXIETY LEVELS

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Background/Purpose: In critical illness, adverse emotions, anxiety and pain influence patients' psychological and physiological outcomes. We aimed to investigate the effects of a composite psycho-cognitive nursing intervention on pain and anxiety levels in critically ill patients.

Methods: Randomized controlled trial with sixty ICU patients randomized to an intervention or standard care group. The 60-min intervention consisted of presence, touch, relaxation, guided imagery, and music listening (for up to 5 days). Inclusion criteria included age ≥18, GCS ≥ 9 and understanding Greek. Patients were assessed in the mornings, pre- and post- intervention. Outcome measures included pain ratings [3 scales: 10-point numeric rating scale (NRS), behavioral pain scale (BPS), critical-care pain observation tool (CPOT)] and self-reported anxiety and Relaxation/calm (NRS). The study was blinded to caregivers and outcome assessors. Statistical analysis included Analysis of Covariance on the gain scores while adjusting for age and pre-treatment measurement.

Results: In the intervention group, significant decreases in pain ratings compared to the control group were observed on day 1, with regard to NRS (mean difference (DM): -1.64±1.14 vs. 0.07±0.87; p<0.0001 eta2=0.423;), CPOT (DM: -1.31±1.19 vs. -0.07±0.58; p<0.0001 eta2=0.332) and BPS (DM: -1.13±0.92 vs. -0.07±0.58F=28.65; p<0.0001 eta2=0.389). The intervention group also exhibited increased relaxation/calm levels (DM: 1.25±1.vs. -0.19±1.11; p=0.03 eta2=0.143), and decreased anxiety levels (DM: -1.20±1.32 vs. -0.07±0.52; p=0.009 eta2=0.202). Similar trends were observed throughout the study.

Conclusions: Nursing interventions that combine relaxation, imagery and music may improve critically ill patients' outcome and experience of care.

Keywords: Critical illness, Intervention, Relaxation, Imagery, Outcomes

RISK FACTORS AND OUTCOMES ASSOCIATED WITH UNPLANNED ICU READMISSION AFTER CARDIAC SURGERY

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Background/Purpose: The purpose of this study was to analyse the risk factors and clinical outcomes associated with unplanned intensive care unit (ICU) readmission after cardiac surgery to improve the quality of ICU care and to provide the basic data for reducing readmission rates to ICU.

Methods: The subjects were 1,368 patients admitted to cardiovascular surgery ICU after cardiac surgery from Jan. 1, 2012 to Jun. 30, 2013. Data were analyzed using chi-squared test, Fisher exact test, and logistic regression test.

Results: The admission rate was 5.9% and the most common readmission cause was cardiac problem and the time interval between ICU discharge to readmission is 172.3 hours (range 10.8-1306.5). Pre-operative risk factors were comorbidities, mechanical ventilation, and admission via other ICU. Peri-operative factors were non-elective surgery, duration of cardio-pulmonary bypass time ≥ 3hr, and operative time ≥ 5hr. Post-operative factors were mechanical ventilation time ≥10 hr, prolonged inotropic drugs infusion especially dobutamine, new onset arrhythmia, unplanned reoperation, massive blood transfusion, and complication. Laboratory data associated readmission were fasting blood sugar, hemoglobin, alanine aminotransferase, C-reactive protein, and APACHE II score on day of discharge to general ward was one of significant factors. In-hospital stay was longer and late mortality was higher for readmission group. The common cause of readmission within 7 days after ICU discharge was cardiac problem and common cause after 7 days were septic condition and wound problem.

Conclusions: Knowing the risk factors associated with ICU readmission would be evidences to decrease readmission after cardiac surgery and determine the optimal discharge time in ICU.

Keywords: Readmission, Intensive care unit, Cardiac surgery

INVESTIGATION OF FACTORS AFFECTING THE QUALITY OF LIFE IN INTENSIVE CARE NURSES WITH LOW BACK PAIN

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Background/Purpose: The studies demonstrated the potential for damage to the psychological, physical, and emotional aspects of nurses working in an intensive care units (ICUs) and they experienced low back pain (LBP). This study aimed to investigate factors affected the quality of life (QoL) in intensive care nurses with LBP.

Methods: A questionnaire included questions related to demographic, psycho-social status at work (PSSW) and job characteristics was administered. The pain intensity (Visual Analogue Scale), disability (Oswestry Disability Index [ODI]), QoL (36-Item Short Form Health Survey [SF-36]) and sleepiness (Epworth Sleepiness Questionnaire [ESQ]) were evaluated.

Results: Sixty six nurses (mean age: 30.93 ± 2.36 years) working in different ICUs, who had LBP, participated in the study. The general health (p=.001), changes in health during the last year (p=.007), physical function (p=.000), role physical (p=.006), social functioning (p=.001) and bodily pain (p=.002) scores of SF-36 were adversely correlated with ODI score. The changes in health during the last year (p=.038) and physical function (p=.010) scores of SF-36 were related to total working duration, negatively. There was correlation between bodily pain of SF-36 and numbers of patients receiving care (p=.036). The SF-36 scores' associations with age, BMI, education duration, working duration/day, working duration/week, ESQ and PSSW scores were poor (p>.05).

Conclusions: The results of this study suggest that QoL of intensive care nurses with LBP was especially affected with disability. Therefore, factors caused disability should be analyzed and applicable expediences should be developed to improve QoL of intensive care nurses.

Keywords: Intensive care nurses, Quality of life, Disability, Psycho-social status, Sleepiness