

Abstracts of Scientific Papers-WADEM Congress on Disaster and Emergency Medicine 2017

A Model Curriculum for Improving the Clinical Capabilities of Public Health Nurses for Acute Care Applications during Disasters and Public Health Emergencies

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Study/Objective: Improve the ability and willingness of health department nurses to provide patient care during disasters.

Background: Public Health Nurses are a critical component of public health preparedness plans, often intended to provide direct patient care that is outside the scope of their day-to-day public health nursing roles. When analyzing drills and exercises in New York, it was noted that when asked to perform clinical care of acutely ill victims of disasters, there was a marked decrease in both the comfort and willingness of nurses to participate in a disaster response, or even a disaster exercise, that might expose an individual's weakness in clinical skills proficiency.

Methods: A needs assessment was conducted and an 8-hour clinical skills training for public health nurses was designed and taught by experienced critical care and emergency department nurse educators and paramedics. This course was delivered in two 4-hour modules and focused on specific areas of low skill confidence as reported by health department and medical reserve corps nurses. The training consisted of a didactic introduction, followed by clinical skills stations where task trainers and simulation was used to practice psychomotor skills.

Results: Following the didactic and especially the psychomotor education on triage, physical assessment and clinical skills we found to be low to moderate increases in self-efficacy for didactic training, and moderate to high increases following skills training. The most reported comment by participants in subjective evaluation was a desire for more frequency of training in these skills.

Conclusion: Although public health nurses do not perform acute care or certain clinical skills during their day-to-day nursing roles, implementing pre-event training programs designed to re-familiarize experienced nurses with certain clinical skills or procedures results in an increase in self-efficacy and an improvement in the willingness of these nurses to act in their intended clinical roles during a disaster or public health emergency.

Prehosp Disaster Med 2017;32(Suppl. 1):s141

doi:10.1017/S1049023X17003909

The Need to Increase Disaster Nursing Education in the Undergraduate Curriculum

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Study/Objective: To measure the effect of what disaster nursing education has on the attitudes and skills of undergraduate nursing students.

Background: Nursing is the nation's largest health care profession with more than 3.1 million registered nurses nationwide. Nurses possess a wealth of medical knowledge and communication skills, yet many don't know how to care for a person outside their clinical environment. If a disaster occurs and a nurse wants to help, they may not know where to go or be allowed to participate due to lack of disaster response training. Some medical schools require their students to be trained in disaster medicine and preparedness. Nursing schools designate little, if any, time to the role nurses' play in disaster preparedness, response, and recovery. This lack of education translates into a reluctance for nurses to volunteer when a disaster occurs, which may lead to poorer health outcomes for victims.

Methods: The study is a sequential explanatory design. The subjects are undergraduate students enrolled in the Community Health course at the Texas A&M College of Nursing. Using the World Health Organization (WHO) International Council of Nursing Disaster Nursing Competencies as a reference, four to five competencies not currently addressed in the curriculum will be identified. The students' skills and critical thinking ability will be quantitatively assessed. Didactic, scenario, and simulation-based education concerning disaster preparedness, response, and recovery will be provided. Quantitative reassessment of the students skills and critical thinking ability will then take place. Focus groups will be conducted to qualitatively capture the students' perception of self-efficacy before, during, and after the experience.

Results: Expected outcomes will reflect the findings found from the literature in that increasing this disaster nursing education will benefit the student and the community in which the future nurse will work.

Conclusion: Continued research may influence more nursing schools and colleges to increase disaster nursing education in their curricula.

Prehosp Disaster Med 2017;32(Suppl. 1):s141

doi:10.1017/S1049023X17003910

Emergency Nursing in Mass Casualty Incidents: Effects on Staff Turnover at a Large Suburban Hospital Emergency Department

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Study/Objective: Emergency nurses have one of the highest turnover rates in healthcare. A systematic review indicated that

emergency nurses experience secondary traumatic stress and compassion fatigue at significant rates. Many studies, including a meta-analysis, explore the correlation between burnout and secondary traumatic stress in workers exposed indirectly to trauma. This study seeks to explore the correlation between treating victims of intentional acts of violence in a mass casualty incident, and Emergency Department staffing changes.

Background: On July 20th 2012, a gunman opened fire in a movie theater in Aurora, Colorado, killing 12 and injuring 70 others. There were 23 victims treated in the Emergency Department of a local hospital, and additional patients were treated at two other local hospitals.

Methods: The frequency of terminations, department/unit transfers, and sick-days will be compared to the year prior to the mass casualty incident. Statistical variances will be analyzed and inferences reported.

Results: Preliminary informal data shows a larger than expected turnover in nursing at three local hospitals receiving patients from the Aurora Theater Shootings. Results may reveal implications for future staffing, and staff interventions post-mass casualty incidents in Emergency Departments.

Conclusion: s will discuss the effects of mass casualty incidents on emergency nurses and implications for future practice. Effects of mass casualty incidents are wide and varied, but relatively little research has been conducted into the effects on those treating patients in a hospital setting. Future research should explore the many repercussions for healthcare workers, and effectiveness of various interventions aimed at understanding and assisting with the psychological impact of mass casualty incidents.

Prehosp Disaster Med 2017;32(Suppl. 1):s141–s142

doi:10.1017/S1049023X17003922

Lessons Learned: How Much do we Really Take Forward?

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Study/Objective: This research focuses on the significance of learning from existing research, and the degree to which this occurs in the practice setting. The New Zealand emergency setting is used to present a case study identifying perceived utility of research findings.

Background: New Zealand has experienced a number of major earthquakes, with a series of significant quakes in 2010 following an initial 7.1 magnitude event, and more recently a second series of major earthquakes commencing with a 7.5 magnitude quake on November 14, 2016. There have been numerous studies in the intervening time period; the intention of this study is to identify the preparedness and awareness of staff of the recommendations from previous research, either from the NZ studies or from international research.

Methods: A survey of staff in the Wellington and Christchurch hospital EDs is being undertaken, together with a series of individual interviews seeking to understand where individual nurses gain knowledge in relation to disaster preparedness. These findings will be presented, together with the results from an integrated review of the literature around this topic.

Results: From the survey and interviews will be formulated and incorporated into the presentation prior to the conference.

Conclusion: Current literature suggests that there is a need to focus on disaster education for nurses, in both under and postgraduate levels. What has not been clearly shown is the degree to which nurses working within areas of known risk, whether from earthquakes or other natural disaster, are able to integrate the 'lessons learned' from previous experiences into their current workplace settings. This study hopes to clarify the degree to which nurses are aware of existing research regarding natural disaster threats in a country where this is a recognized hazard.

Prehosp Disaster Med 2017;32(Suppl. 1):s142

doi:10.1017/S1049023X17003934

A Study to Assess the Determinants of Self Extubation, the Predictive Factors for Reintubation, and the Role of Documentation and Compliance to Protocol in Reducing Reintubation. A Tertiary Care Neuro Trauma ICU

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Study/Objective: A study to assess the determinants of self extubation and the predictive factors for reintubation, and the role of documentation and compliance to protocol in reducing reintubation in a tertiary care Neuro Trauma ICU.

Background: Endotracheal extubation and reintubation are frequent events in the Intensive Care Unit's throughout the world, that can cause significant morbidity and mortality. Factors contributing to these events are not well recognized in Neuro patients, and needs to be explored further. The objectives of the study were to assess the determinants of self extubation in Traumatic Brain Injury (TBI) and Spinal Cord Injury (SCI) patients, to determine the predictive factors for reintubation, and to assess if ensuring documentation and compliance to protocols will be useful in reducing the rate of reintubation.

Methods: An intervention based observational study was done in a Level III, NeuroTrauma ICU, Jai Prakash Narayan Apex Trauma Center (JPNATC), AIIMS. The intervention was the introduction of an extubation/reintubation register and check list, maintained by Neuro-nurses. All intubated patients of TBI and SCI admitted during a six month period prior to intervention (May 1, 2014 - October 30, 2014) and six months following the intervention (November 1, 2014 - April 31, 2015) was included. The data collected from the Extubation Reintubation Register and a checklist were retrospectively analyzed.

Results: After the implementation of the register, reintubation rates reduced to 11% from 24% in the pre-implementation phase, and this was statistically significant ($p < 0.001$). Self extubation rates were found to be more in males, and in patients with head injury. The age group with maximal frequency of self extubation was 20-40 years. Self extubation was found to be higher when the assigned nurse cared for more than 1 patient in ICU. Reintubation was found to be