

Editor's note: *Annals* has partnered with a small group of selected journals of international emergency medicine societies to share from each a highlighted research study, as selected monthly by their editors. Our goals are to increase awareness of our readership to research developments in the international emergency medicine literature, promote collaboration among the selected international emergency medicine journals, and support the improvement of emergency medicine world-wide, as described in the WAME statement at <http://www.wame.org/about/policy-statements#Promoting%20Global%20Health>. Abstracts are reproduced as published in the respective participating journals, and are not peer reviewed or edited by *Annals*.

African Journal of Emergency Medicine

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Official Journal of the African Federation for Emergency Medicine, the Emergency Medicine Association of Tanzania, the Emergency Medicine Society of South Africa, the Egyptian Society of Emergency Medicine, the Libyan Emergency Medicine Association, the Ethiopian Society of Emergency Medicine Professionals, the Sudanese Emergency Medicine Society, the Society of Emergency Medicine Practitioners of Nigeria and the Rwanda Emergency Care Association

Emergency health education in a conflict stricken environment: A situational analysis

Muya I, Garside J, Van-der Plas M, Mohammed MA. Emergency health education in a conflict stricken environment: A situational analysis. *Afr J Emerg Med.* 2018;8:129-133.

Introduction: Bosasso General Hospital is located in Puntland Somalia, an area affected by prolonged civil conflict, terrorism, clan fighting and piracy. International evidence highlights that staff skills and competence may have a significant impact on patient outcomes; however, there has been little research on emergency education in such an austere and volatile environment. The purpose of this study therefore was to identify current practices and gaps in delivering emergency medicine education in this resource-deprived environment.

Methods: A mixed methods approach was adopted to inform convergent parallel data collection techniques including questionnaire (n = 16), key informant (n = 5) and focus group interviews (n = 16). Data analysis, following data triangulation, produced descriptive quantitative statistics of themes such as emergency care, educational provision, enablers and barriers.

Results: The research showed that among health care staff at the hospital, 19% of the nurses felt that visiting nurses offer some knowledge on emergency care, while 38% of knowledge was gained from visiting doctors. Regarding knowledge of

emergency medicine, 88.9% of the nurses felt that emergency medicine is basically first aid.

Discussion: Emergency care was perceived by the majority as essentially "first aid." Many indicated that they received little or no regular or formal training on emergency care and related essential topics. In terms of challenges faced in delivering emergency care education demonstrated a common factor in the limited resources available which included lack of teaching materials, reading materials, online resources, health care professionals, equipment and mentors. Conclusions drawn suggest that the knowledge of emergency medicine by front line professionals is limited. Therefore, the development of field curricula, practical and theoretical training by visiting practitioners, provision of additional teaching aids, tools and equipment, integration of multiple disciplines in training and financial resource mobilisation would be beneficial in improving knowledge, attitudes and practices of emergency care.

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Canadian Journal of Emergency Medicine

caep.ca/resources/cjem

Official Journal of the Canadian Association of Emergency Physicians

A new way to look at simulation-based assessment: the relationship between gaze-tracking and exam performance

Szulewski A, Egan R, Gegenfurtner A, Howes D; Dashi G, McGraw NCJ, Hall AK, Dagnone D, van Merriënboer JJG. A new way to look at simulation-based assessment: the relationship between gaze-tracking and exam performance. CJEM. 2019;21:129-137.

Objective: A key task of the team leader in a medical emergency is effective information gathering. Studying information gathering patterns is readily accomplished with the use of gaze-tracking glasses. This technology was used to generate hypotheses about the relationship between performance scores and expert-hypothesized visual areas of interest in residents across scenarios in simulated medical resuscitation examinations.

Methods: Emergency medicine residents wore gaze-tracking glasses during two simulation-based examinations (n=29 and 13 respectively). Blinded experts assessed video-recorded performances using a simulation performance assessment tool that has validity evidence in this context. The relationships between gaze patterns and performance scores were analyzed and potential hypotheses generated. Four scenarios were assessed in this study: diabetic ketoacidosis, bradycardia secondary to beta-blocker overdose, ruptured abdominal aortic aneurysm and metabolic acidosis caused by antifreeze ingestion.

Results: Specific gaze patterns were correlated with objective performance. High performers were more likely to fixate on task-relevant stimuli and appropriately ignore task-irrelevant stimuli compared with lower performers. For example, shorter latency to fixation on the vital signs in a case of diabetic ketoacidosis was positively correlated with performance ($r = 0.70, p < 0.05$). Conversely, total time spent fixating on lab values in a case of ruptured abdominal aortic aneurysm was negatively correlated with performance ($r = -0.50, p < 0.05$).

Conclusions: There are differences between the visual patterns of high and low-performing residents. These findings may allow for better characterization of expertise development in resuscitation medicine and provide a framework for future study of visual behaviours in resuscitation cases.

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Official Journal of the Spanish Society of Emergency Medicine

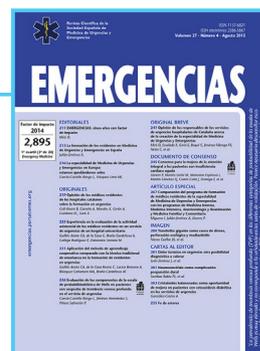
Planning to reduce 30-day adverse events after discharge of frail elderly patients with acute heart failure: design and rationale for the DEED FRAIL-AHF trial

Martín Sánchez FJ, Llopis García G, Llorens P, Jacob J, Herrero P, Gil P, et al. Planning to reduce 30-day adverse events after discharge of frail elderly patients with acute heart failure: design and rationale for the DEED FRAIL-AHF trial. Emergencias. 2019;31:27-35.

Objectives: To demonstrate the efficacy of a system for comprehensive care transfer (Multilevel Guided Discharge Plan [MGDP]) for frail older patients diagnosed with acute heart failure (AHF) and to validate the results of MGDP implementation under real clinical conditions. The MGDP seeks to reduce the number of adverse outcomes within 30 days of emergency department (ED) discharge.

Methods: We will enroll frail patients over the age of 70 years discharged home from the ED with a main diagnosis of AHF. The MGDP includes the following components: 1)

a checklist of clinical recommendations and resource activations, 2) scheduling of an early follow-up visit, 3) transfer of information to the primary care doctor, and 4) written instructions for the patient. Phase 1 of the study will be a matched-pair cluster-randomized controlled trial. Ten EDs will be randomly assigned to the intervention group and 10 to the control group. Each group will enroll 480 patients, and the outcomes will be compared between groups. Phase 2 will be a quasi-experimental study of the intervention in 300 new patients enrolled by the same 20 EDs. The outcomes will be compared to those for each Phase-1 group. The main endpoint at 30 days will be a composite of



2 outcomes: revisits to an ED and/or hospitalization for AHF or cardiovascular death.

Conclusions: The study will assess the efficacy and feasibility of comprehensive MGD transfer of care for frail older AHF patients discharged home.

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Emergency Medicine Journal

emj.bmj.com

Official Journal of the Royal College of Emergency Medicine

Comparison of the use of lung ultrasound and chest radiography in the diagnosis of rib fractures: a systematic review

Battle C, Hayward S, Eggert S, Evans PA. Comparison of the use of lung ultrasound and chest radiography in the diagnosis of rib fractures: a systematic review. *Emerg Med J.* 2018; <http://doi.org/10.1136/emermed-2017-207416>.

Introduction: It is well-recognised that the detection of rib fractures is unreliable using chest radiograph. The aim of this systematic review was to investigate whether the use of lung ultrasound is superior in accuracy to chest radiography, in the diagnosis of rib fractures following blunt chest wall trauma.

Methods: The search filter was used for international online electronic databases including MEDLINE, EMBASE, Cochrane and ScienceDirect, with no imposed time or language limitations. Grey literature was searched. Two review authors completed study selection, data extraction and data synthesis/analysis process. Quality assessment using the Quality Assessment of Diagnostic Accuracy Studies Tool (QUADAS-2) was completed.

Results: 13 studies were included. Overall, study results demonstrated that the use of lung ultrasound in the diagnosis of rib fractures in blunt chest wall trauma patients appears superior compared with chest radiograph. All studies were small, single centre and considered to be at risk of bias on quality assessment. Meta-analysis was not possible due to high levels of heterogeneity, lack of appropriate reference standard and poor study quality.

Discussion: The results demonstrate that lung ultrasound may be superior to chest radiography, but the low quality of the studies means that no definitive statement can be made.

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Hong Kong Journal of Emergency Medicine

hkjem.com

Official Journal of the Hong Kong College of Emergency Medicine

Ten-year profile of acute poisoning patients presenting to an Accident and Emergency Department requiring intensive care in a regional hospital of Hong Kong

Ng F. Ten-year profile of acute poisoning patients presenting to an Accident and Emergency Department requiring intensive care in a regional hospital of Hong Kong. *HKJEM.* 2019;26:3-14.

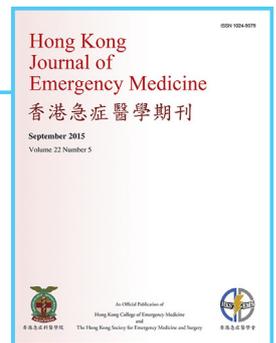
Background: Hong Kong Poison Information Centre publishes annual reports on all poisoning cases received by the Centre in that year since 2006. However, there is little data about acute poisoning cases requiring intensive care unit admissions in Hong Kong.

Objectives: To report and analyze the 10-year poisoning data of acute poisoning patients presenting to an Accident and Emergency Department requiring intensive care in a regional hospital of Hong Kong.

Methods: This was a retrospective study on patients presented from January 2007 to December 2016. These cases were retrieved from Clinical Data Analysis and Reporting

System of the Hospital Authority, Hong Kong. Clinical data of these cases were then retrieved from patients' electronic records.

Results: A total of 270 cases were analyzed during the period. There were 152 (56.3%) male patients and 118 (43.7%) female patients. The middle aged group (age 30–39 and age 40–49) constitutes nearly half (48.6%) of all these admissions. Around 50% of them had history of psychiatric illness. Nearly 40% of them were known substance abusers. Majority of the patients (66.7%) were admitted directly from Accident and Emergency Department. The commonest cause was suspected self-harm (56.3%). When ethanol (13%)



was excluded, the five commonest types of poisons were benzodiazepine (26.3%), opioids (20.7%), zopiclone (18.5%), carbon monoxide poisoning (13%), and household products (10.7%). Twenty-seven patients (10%) had decontamination done in Accident and Emergency Department or Emergency Medicine Ward. 112 patients (41.5%) were given one or more antidotes in Accident and Emergency Department and Emergency Medicine Ward. Altered mental status was the most frequently found complications (72.2%) in these patients. 76 patients (28.1%) required endotracheal intubation in Accident and Emergency Department. The length of stay in Intensive Care Unit ranged from 1 to 7

days with an average of 2.1 days. There were 25 deaths (9.3%) and 31 patients with major effects (11.5%).

Conclusion: An estimate of 9.4% of acute poisoning patients presenting to Accident and Emergency Department might need Intensive Care Unit care at certain stage of their hospital stay. Benzodiazepine, opioids, zopiclone, carbon monoxide poisoning, and ethanol were the top five poisons in our series from 2007 to 2016. The mortality rate (9.3%) was high in our series given that there were more substance abusers.

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