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Poisoning Related Emergency Department Visits: The Experience of a Saudi High-Volume Toxicology Center

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Abstract

Background:

Acute poisoning is a major contributing factor to mortality and morbidity. Poisoning case trends tend to be influenced by the geographical and cultural characteristics of societies. This study aimed to assess the trend in poisoning cases in King Abdulaziz Medical City (KAMC).

Aim:

The aim of this study is to assess the patterns, associated factors, and the clinical outcomes of poisoning among poisoning cases in King Abdulaziz Medical city.

Methods:

This retrospective cohort study targeted all emergency department (ED) visits diagnosed as acute poisoning from January 2016 to January 2021. The patients' demographic information, medical history, and poisoning history were obtained. Intensive care unit (ICU) admission, organ transplantation, and mortality were classified as poor outcomes. Frequency and percentage were used for categorical variables, and the minimum, maximum, mean, and standard deviation for the continuous variables.

Results:

In total, 492 adults and 1013 children were identified. The suicide intention rate was 11.2% and 7.4%, respectively. The most frequent poisoning agent for both groups was acetaminophen (n=52, 10.57% and n=100, 9.87%, respectively). The ICU admission rate was 6.7% and 4.8%, and the mortality rate 0.8% and 0.3% respectively. The management for both populations was unspecific, involving observation, supportive measures, and symptomatic treatment.

Discussion:

The use of prediction models to improve the triaging system could decrease the costs of observational ICU admissions. The pediatric predominance in the sample implies a lack of caregiver education in the region, regarding the safe storage of drugs and household products, as well as the use of child-resistant packing. The high rate of suicide intention rates should be investigated to develop multidiscipline risk prevention strategies. Large nationwide studies are required to assess the changing trends of poisoning on a regional level, to support healthcare policy planning to equip healthcare centers in a particular region, for an early accurate diagnosis and an effective treatment plan.

Conclusion:

Although the ICU admission rates were in line with literature, the mortality rate was marginally lower. The use of prediction models could decrease the cost of observational ICU admissions. The pediatric predominance in the population implies a lack of caregiver education in the region regarding the safe storage of drugs and household products, as well as the use of child-resistant packaging. The high suicide intention rate needs to be investigated to develop multidiscipline risk prevention strategies.

Gender-based Differences in Burnout during the COVID-19 Pandemic: Are Female ER Nurses More Prone to Burnout than Males? A Systematic Review and Meta-analysis

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Abstract

Background and aim:

Coronavirus disease 2019 (COVID-19) has made being a front-line nurse much more difficult. While fighting this critical situation, burnout is a risk for both male and female front-line nurses who are involved in the diagnosis, treatment, and care of COVID-19 patients. We aimed to investigate the gender-based difference in burnout of ER nurses during the COVID-19 pandemic.

Materials and Methods:

A systemic search was conducted on electronic databases (PubMed/Medline, Cochrane Library, and Google Scholar) from the inception to 12th October 2021. All statistical analyses were conducted in Review Manager 5.4.1. Studies meeting inclusion criteria were selected. A random-effect model was used when heterogeneity was observed to pool the studies, and the results were reported via the standard mean difference (SMD) and corresponding 95% confidence interval (CI).

Results:

Six cross-sectional studies were selected for meta-analysis. There was significant SMD for burnout in males compared with females (SMD= −0.10 [−0.20, −0.00]; p= 0.04; I^2= 84%).

Discussion and Conclusion:

To our knowledge, this is the first paper that explored the gender differences in burnout among ER nurses during the COVID-19 pandemic, and the results of the meta-analysis suggested that the overall burnout rate was more significant in male nurses than in female nurses during the COVID-19 pandemic. There was no difference in emotional exhaustions and personal achievement in both genders. The depersonalization score was more significant in males.

Towards Automated Self-tagging in Emergency Health Cases

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Abstract

In emergency health cases such as mass casualty incidents (MCI), the death ratio is still high due to lack of an automatic and intelligent system which timely observes and reports patient criticality. Indeed, the existing criticality assessment approaches are manual such as the established simple triage and rapid treatment (START). Accordingly, it is difficult for care givers to provide optimal healthcare, in particular, if the number of casualties largely surpasses the number of responders. A challenge is how to automatically tag a possibly large number of victims with various types of disorders immediately after an incident before arrival of the paramedics. In presence of such an automated tagging, paramedics could prioritize patients based on their injury. In this paper, we propose an automatic self-tagging methodology using body sensor networks that deliver relevant vital signs, i.e., respiratory rate, heart rate and mental status. We present three approaches to recognize and grade the seriousness level of the injures or disorders. The proposed approaches are generic and can be easily adapted to different scenario such as patients in intensive care units, patients in surgery, elderlies being monitored in their home, etc. Being fully automated, our methodology is able to provide real-time tagging with higher accuracy and fine-granularity than the simplistic manual current systems. We demonstrate the viability of our self-tagging approaches by statistically comparing their accuracy to that of experts' manual tagging.

Development and validation of a new method for evaluating the log-roll technique in trauma patients

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Abstract

Background:

Secondary spinal injury induced in trauma patients during transfer is of major concern. The log-roll technique is used to transfer immobilize patients in many trauma centers. Healthcare trainees require a reliable objective tool for ensuring high competency and safety when handling trauma patients. This study aimed to develop and validate a novel method for assessing and evaluating the log-roll technique.

Methods:

This experimental validation study was conducted at the clinical skill lab of the Faculty of Medicine of Umm Al-Qura University from March 2018 to July 2019. A log-roll technique assessment sheet was developed using revised input from 20 content experts, current guidelines, and relevant literature. Simulated trials were filmed and reviewed by 10 content experts using the index and reference tests. Content validity, concurrent validity, internal consistency, and reliability were tested against the modified Global Rating Scale (GRS).

Results:

The current sheet was valid, reliable, and internally consistent compared to the GRS. The concurrent validity coefficient between the two scales was 0.75 ($p < 0.01$), internal consistency coefficients were >0.64 ($p< 0.01$), and reliability coefficient was >0.75 ($p < 0.01$).

Conclusion:

The log-roll technique assessment sheet is a valid and reliable tool for testing trainee competency at performing the log-roll technique. This tool might be helpful for training healthcare professionals to handle trauma patients.

Wrist and Forehead Temperature Measurement as Screening Methods During the COVID-19 Pandemic

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Abstract

Background:

Temperature screening checkpoints have become widely distributed during the COVID-19 pandemic, using various contactless methods of temperature measurement, including wrist and forehead measurement.

Aim:

In this study we aim to investigate the sensitivity and specificity of these two temperature measurement methods – wrist and forehead – compared with the standards of sublingual or axillary measurement. We also aim to investigate the influence of age, gender, device brand and diurnal effect on the temperature reading.

Methods:

Participants were randomly assigned to one of two groups, each group using a different temperature measurement device. All participants had their forehead and wrist temperature measured, and this was compared to their axillary or sublingual readings.

Results:

The area under the curve for wrist measurement was 0.49 (95% CI 0.34 and 0.64), $p>0.05$, with a sensitivity of 46.2% and specificity of 53.3%, while the area under the curve for forehead measurement was 0.70 (95% CI 0.51, 0.89), $p<0.05$, with a sensitivity of 23.1% and specificity of 76.9%, PPV 1.59% and NPV 97.7%.

Conclusion:

Wrist and forehead temperature measurement is not accurate in detecting fever during the ongoing COVID-19 pandemic. Although forehead measurement is also not an ideal method, it nevertheless appears more consistent than wrist measurement.

Workplace Violence Against Emergency Department Staff: A Cross-Sectional, Questionnaire Based Study in Saudi Arabia

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Abstract

Background and objective:

The emergency department (ED) is the most common location for violence. Violence in the healthcare setting has become an area of interest in recent years due to its impact on the wellbeing of healthcare staff, their safety, and performance. It is a serious issue that affects patients' experience and the quality of care provided by the staff. This study investigated the prevalence and types of violence and identified reporting patterns of workplace violence and awareness of the hospital's reporting procedures by the staff.

Methods:

A cross-sectional study was conducted via an online self-administered questionnaire sent to all ED staff at King Abdulaziz University Hospital. The questionnaire was composed of five main domains: demographics, physical assault, verbal abuse, general questions, and reporting of workplace violence. The analysis was performed at a 95% confidence interval using the Statistical Package for Social Sciences, version 21.0 (IBM, Armonk, N.Y.).

Results:

A total of 187 ED staff were included in our study. More than 80% of reported assaults were from a patient's companion. In the majority of these cases, the assailant was a male. Verbal abuse is the most common type of abuse encountered. This result was in agreement with other studies. Most of the participants responded to the incident by reporting it to a senior staff member. Only 22.1% reported that action was taken to investigate the incident. The most common cause for lack of reporting was that 44.5% thought it was useless.

Discussion and conclusion:

Verbal abuse is the most common type of abuse encountered. The assailant is often the patient's male companion. Workplace violence is a critical matter affecting patient care. Implementing a clear and reachable reporting system, as well as the necessary encouragement and support system, is essential to protect staff members and improve patient care.

Simulation Beyond Sim centers -Virtual simulation experience using Virtual Resuscitation Room (VRR)for paediatric emergency medicine Learners during the COVID -19 pandemic at the Paediatric Emergency department of The Hospital for Sick Children in Toronto

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Abstract

Background:

The corona virus disease 2019 (COVID-19) pandemic has had a tremendous effect on simulation based medical education. Virtual simulation is a new and innovative concept that is well known for more than a decade, but the COVID-19 brought it to limelight. As a result of pandemic, the face to face simulation education had been put on halt. This led to a huge gap and barrier in the learning opportunities of PEM learners at the ED of the hospital for Sick children.

Aim:

To implement virtual simulation for the PEM training utilizing the virtual resuscitation room VRR) during pandemic in the pediatric emergency department at The Hospital for Sick Children.

Methodology:

After need assessment the gaps in the simulation-based education for the learners in the pediatric ED were identified. The VRR was identifies as a fit to overcome the barriers. The VRR is a low cost, interactive, collaborative approach to online simulation-based education, adopted from the community ED team. It is a simple platform created using Zoom and google slide interface. The VRR had already been utilized for medical students and adult EM training with high face validity. Therefore, it was adopted it for PEM. As per the learners needs 12 PEM cases were transformed to the VRR platform including, septic shock, croup, asthma, status epilepticus and DKA. Orientation and training session for using the VRR was organized for simulation fellows, PEM fellows and educators in the department separately. The training sessions were conducted for the Residents, Fellows, and EM trainees and Community EM physicians. Debriefing was conducted utilizing the plus delta methodology with a standardized checklist provided to facilitators. Feedback from both facilitators and learners were taken after each session regarding its usability and feasibility.

Results:

Total 10 sessions with 120 learners had been provided simulation-based education using the VRR. Total 12 common pediatric PEM cases were developed to entail the need of the learners. There were 30% junior learners and 70% senior learners. Facilitators described it easy to use tool (83%) and feasibility in developing new cases (77%). They were able to modify or increase complexity as per the level of learners (80%) and interactive (86%). The facilitators felt that it was not useful in teaching resuscitation procedural skills (87%). The learners feedback was taken on the Likert scale of 1-5 where 1 was least likely and 5 was most likely. Ninety-seven percent of learner rated 4.4 out of 5 when said that they learnt something that is applicable to their clinical practice, 82% rated 4.3 out of 5 about the fact that the physiological clues, props, technology, and environment facilitated learning on VRR. The debriefing was rated as 4.8/5 by 92% of the learners using the virtual platform. 97% of the learners were felt engaged in the virtual simulation and 94% felt that clinical clues provided like respiratory distress, capillary refill time, seizures were felt real. Most of the learners (87%) said that that difficult to learn procedural task.

Conclusion:

VRR was found to be a feasible and useful platform to deliver simulation based education for PEM learners.

Validation of an Assessment tool for Direst Observation of performance skills at Triage (DOPS-T) for the Health Care Professionals in the Emergency Department of tertiary care hospital –A work place based Assessment

Jabeen Fayyaz, Syeda Kauser Ali.

Abstract

Background:

Workplace based assessment is an effective way to measure the knowledge translation into clinical practice and has an important place in residency education with emphasis on skill acquisition and enhancement of learning through effective feedback. One of the goals of academic programmes in emergency medicine is to develop expertise in triage.

Triage in the emergency department (ED) is the first contact point of a patient with the health care where patients are categorized as per their acuity which in turn can determine how fast the patient would be provided care. No instrument for workplace-based assessment of triage skills in the ED could be found. This study was aimed to develop and validate a tool for Direct observation of Performance Skills at Triage (DOPS-T) for health care professions (HCPs) in the emergency department.

Method:

The study was conducted at the emergency department of SQUH after ethical approval. SQUH is a tertiary care hospital at Muscat, Oman. Fifty HCPs (25 nurses and 25 physicians) were included after informed consent. All HCP's underwent a Canadian triage and Acuity Scale (CTAS) certification course. The change in knowledge was assessed by pre-test and post-test. After three months all HCP's were observed for their triage performance skills during the morning, evening, and night shifts by two independent assessors in real-time clinical setting. Nine point DOPS-T scale was utilized to rate the performance.

SPSS version 22 and Stata version 12 were used for data analysis. Spearman correlation and interclass correlation test were used to calculate construct validity and inter-rater reliability. Effect size was calculated using Cohen's d. Learner's satisfaction and feedback were recorded. Feasibility was assessed by rater satisfaction and time spent in observation and providing feedback.

Results:

Significant improvement in knowledge pertaining to triage was noticed in post-test (88.2±4.0) as compared to Pre-test (42.2±9.0). Three hundred items were recorded using the direct observation of performance skills at triage (DOPS-T) tool for nurses and physicians. DOPS-T overall mean score on the 9-point Likert scale ±1 SD was 76.7±12.44 (minimum-maximum: 57.78-96.67). Score was highest (8.48±1.22) for 'taking the vital signs', followed by 'communication skills' (8.21±0.96) while lowest score (6.32±1.58) was observed for 'reassessment done appropriately on separate items on the scale'. Summed scores were high in all the three shifts that is morning, evening and night for HCPs with more than 5 years of experience (79.12±10.86 vs 74.03±8.29). Inter-rater reliability was high for assessors (ICC = 0.918 (95%CI: 0.89-0.94) as well as for DOPS-T score (95%CI: 0.89-0.94). Inter-item correlation matrix showed moderate correlation. Internal consistency calculated by Cronbach's alpha was 0.911. The assessment process was rated as "very satisfied" (7-8 on a 9-point Likert scale). Mean time (±1SD) to complete the DOPS-T tool by the assessors was 15.45±4.76 minutes while giving feedback took 5.77±1.22 minutes.

Conclusion:

The study demonstrated that recently developed DOPS-T instrument showed construct validity and reliability for direct observation of performance skills at triage for nurses and physicians. DOPS-T is feasible to be used despite of unique ED work hours.

A Systematic Review of The Systematic Reviews of Post COVID-19 Syndrome

Abdulmohsen Alhumayn, Ibrahim Alsaif, Joud Enabi, and Sharafaldeen Bin Nafisah

Abstract

Background:

The declaration of the COVID-19 pandemic triggered a global inquiry into the transmission, mortality, risk factors, and management of the disease. Recently, however, attention has shifted toward its long-term consequences. There is a need for a better understanding of the predictors and symptoms of post-COVID syndrome, to ensure appropriate care for patients recovering from COVID-19 beyond the acute phase.

Methods:

We searched PubMed, Google Scholar, Cochrane databases, and available data in the PROSPERO databases. We also explored the reference lists of included articles and any systematic reviews identified therein. We searched the keywords "Post Covid", "Post COVID syndrome", "Post- Covid" and "PostCOVID", from 1963 to July 2021.

Results:

Of 8167 articles, 13 were included. The syndrome affects several systems with variable prevalence. Fatigue and sleep disturbance is the most common symptom of acute post-COVID syndrome, observed in more than two-thirds of patients, while a reduction in quality of life and general health status was noted in up to 69%. Furthermore, a reduced aerobic and diffusion capacity was seen in 38% of patients up to one month after presumed recovery from infection. Radiologically, in up to 52% of patients, a ground-glass opacity (GGO) was noted beyond three months post-infection. The incidence of new psychiatric illness increased from as early as 14 days after infection and up to three or six months. Hearing impairment or loss, whether sensorineural or conductive, was noted in up to 8.3% of patients, and tinnitus was seen in up to 4.2%.

Conclusion:

Overall, given the variability in the manifestation of post-COVID syndrome, a multidisciplinary team is required to better serve these patients. We therefore urge the establishment of such teams, encompassing internal medicine, pulmonology, cardiology, and neurocognitive services.

The Impact of BiPAP Application Time on The Length of Emergency Room Stay in Patients with Pulmonary Edema, Experience of A Tertiary Center: A Retrospective Cohort Study.

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Abstract

Background:

Bilevel Positive Airway Pressure (BiPAP) is a form of non-invasive ventilation (NIV) that is used to help and facilitate breathing. BiPAP is used to treat acute respiratory failure (ARF), and shows a significant reduction in mortality rate, decreasing endotracheal intubation, and length of stay compared with other types of therapy. BiPAP has become the first-choice therapy in managing (ARF) such as chronic obstructive pulmonary disease (COPD), cardiogenic pulmonary edema, and severe hypoxemia. There are some advantages on BiPAP over endotracheal intubation such as speech, swallowing, avoiding trauma to the trachea and larynx and patient comfort.

Up to our knowledge, there are a few studies focused on the impact of BiPAP application time on the length of stay in pulmonary edema patients. There is insufficient information and inadequate experience concerning NIV and a limited number of subjects participating in the studies. Our objective is to evaluate the impact of BiPAP application time on the length of Emergency Room (ER) stay in pulmonary edema patients.

Methods:

This retrospective cohort study included patients who presented to the ER at King Abdullah Medical City (KAMC) from June 2019 to June 2021. Eligibility criteria for BiPAP application were congestive heart failure (CHF) and Type 1 and Type 2 respiratory failure. The data were collected from the TrackCare system. We defined early BiPAP as BiPAP application time within 1 hour from admission, and late BiPAP more than 1 hour and we calculated the percentage of discharge within 4 hours in each group.

Result:

Out of 147 fulfilling study eligibility, 64% of the subjects had CHF, 23% had type 2 respiratory failure, and 13% had type 1 respiratory failure. Only patients with CHF showed a statistically significant association between BiPAP application time and the time of discharge, where 26% of patients with early BiPAP were discharged within 4 hours compared to 4% in the late BiPAP group. Patients with type 1 respiratory failure and type 2 respiratory failure did not show a significant difference in the discharge time according to BiPAP application time.

Conclusion:

Our results show that there is a significant outcome in early BiPAP application in decreasing length of ER stay only in patients with pulmonary edema.

Subacute Bilateral Subdural Hematoma: Delayed Presentation With Headache One Month Post Mild Trauma

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Abstract

We herein report a case involving the development of a bilateral subacute subdural hematoma (SDH) after minor trauma, with only two wounds over the nose and no abnormal clinical and radiological findings at first presentation.

A 25-year-old male patient presented to the emergency department (ED) after a minor trauma. X-ray was done on the facial bone to rule out nasal fracture which showed no abnormalities and then he was subsequently discharged. Three weeks later, the patient complained of a headache that persisted for a week, which brought him to the hospital. The initial impression was migraine after the primary healthcare visit, for which MRI was arranged, but as the headache persisted, he went to the ED twice again, and a CT scan was done during his second visit to the ED, which showed bilateral subacute SDH (SASDH).

Paramedics' Knowledge and Skills in Dealing with Emergency Obstetrics Patients in Riyadh-Saudi Arabia

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Abstract

Background and Aim:

There is no branch in emergency medicine more complicated than obstetrics, it is unparalleled in that there are two patients to think and care for. The aims of this ongoing study were to evaluate the paramedics' knowledge and skills in dealing with different obstetrics emergencies and to identify the main obstacles that paramedics may encounter when dealing with obstetrics cases.

Methods:

This was a cross-sectional study by distributing an online questionnaire to all paramedics in Riyadh, Saudi Arabia to assess their knowledge and skills in dealing with obstetric emergency cases.

Results:

A total of 104 paramedics responded to the questionnaire, 86 of whom completed the questionnaire and entered the study. The results showed that 74.4% of the participants have encountered obstetrics emergency cases, and 57 (66.3%) of all participants experienced obstetrics cases annually. The common prehospital emergencies the paramedics faced were miscarriages 28 (45.2%) and pre-eclampsia/eclampsia 24 (38.7%). Most of the paramedics were very competent in dealing with normal delivery; however, they were varied in their competency with other emergencies.

Discussion:

When comparing the results to those of prior studies, it must be pointed out that there were not any known studies found regarding the knowledge and skills of prehospital personnel. Some studies were investigating prehospital management in providing care for women in labor, but none have measured the paramedics' level of knowledge and skills.

The lack of responses to this study's questionnaire was a major limitation, which resulted in not gathering enough data. Even though the questionnaire was distributed online, the response rate was 55.4% while the required number of responses was 154 and the collected replies were only 86. Another limitation was the lack of previous studies in managing obstetric emergencies in prehospital settings globally.

On the other hand, the main strength for this study is that it is considered the first study in Saudi Arabia that was conducted about paramedics' knowledge and skills in dealing with emergency obstetrics patients.

Conclusion:

To conclude, there is a lack of knowledge in managing the cases of a prolapsed umbilical cord, uterine rupture, inversion of the uterus, and placenta previa. Most of the participants were very competent in dealing with normal delivery. In addition, the main obstacles encountered when managing the cases of women in labor were stress and cultural barriers. Obstetric emergency cases is a topic of interest which should have more attention. In Saudi Arabia, there were no studies found for prehospital personnel in obstetric emergencies specifically in this field, this indicates the importance of more studies. By providing extra courses, paramedics will obtain a sufficient level of knowledge and confidence to deal with women in labour.

Hypertensive and Diabetic Patients Knowledge of Ischemic Heart Diseases and Stroke Symptoms in Al-Ahsa, Saudi Arabia.

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Abstract

Background:

Globally, heart disease is the leading cause of death and disability. The purpose of this study was to assess knowledge of the symptoms of IHD and stroke among hypertensive and diabetic patients in the Al Ahsa region of Saudi Arabia.

Objectives:

To identify levels of knowledge for IHD and stroke among diabetic and hypertensive patients, its relationship with demographical data and their knowledge about proper actions during acute events.

Methods:

A cross sectional study was conducted between October 2020 to June 2021 using the knowledge of AMI symptoms from Behavioral risk factor surveillance system questionnaire. The sample size is calculated to be 384 by using Richard Geiger equation.

Results:

About 60-64% of participants scored adequate for IHD and stroke symptoms knowledge. There was a higher knowledge of IHD symptoms and stroke symptoms in previously received information of symptoms of IHD, higher educational and income levels, employment, and positive history of stroke. Participants with no history of cardiac procedures had a higher score of knowledge.

Discussion:

Patients previously received information regarding disease symptoms or had personal or family history had satisfactory level of knowledge compared to those who did not, which is consistent with other's report. This indicates the importance of establishing healthcare campaigns to raise awareness.

Conclusion:

About one third of participants were found to have poor knowledge in stroke symptoms, whereas one quarter of participants were found to have poor knowledge in IHD and most of them had lower educational levels and cardiac procedures. More effort is needed in establishing and expanding awareness campaigns among at risk population of Al Ahsa region.

Comparing the effectiveness, performance and quality of patient care among emergency physicians going on eight-hour versus 12-hour shifts: a cross-sectional study from Saudi Arabia

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Abstract

Background:

Long shiftwork duration has been reported to affect the physical and emotional well-being of health care workers and the delivery of quality patient care. A paucity of literature evaluated the effects on the physical and emotional well-being of health care workers who do 8-hours versus 12-hours shifts. This study aims to assess and compare Emergency Medicine physicians' performance, efficiency, and quality of life between 8-hours versus 12-hours shift workers. Moreover, we aim to explore the impact of work shift duration on their psychological and emotional framework.

Methods:

We conducted a cross-sectional descriptive study from April 2021 – November 2021 using an online questionnaire among emergency medicine physicians at King Saud University Medical City in Riyadh, Saudi Arabia. All physicians were included in the study. We used three questionnaires to determine their emotional and psychological well-being: The Effort- Reward-Imbalance (ERI) Scale, the Mindfulness Attention Awareness Scale (MAAS), and the Professional Quality of Life Scale (ProQoL).

Results:

One hundred and forty-seven emergency medicine physicians participated in the study, 104 (70.7%) males and 43 (29.3%) females. Seventy-seven respondents (52.4%) work on 8 hours shifts and 70 (47.6%) work on 12 hours shift. The distribution of reward and esteem scales differed across career levels where consultants have a significantly higher reward 11 (21.2%) vs 41 (78.8%) P-value <0.001, and esteem scores 13 (25.0%) vs 39 (75.0%) P-value <0.001. Emergency medicine physicians who worked 8 hours shifts had significantly higher MAAS scores than those who worked 12-hours shifts (3.90 ± 0.82 vs. 3.12 ± 0.82 P-value <0.001). Overall, a trend towards a low reward, low self-esteem, and low sense of security was observed among EM physicians who work longer shiftwork hours. Longer shift hours were also significantly associated decreased sense of compassion. Eight-hour shifts were associated with a lower burnout subscale than 12 hours shifts 12 (15.6%) vs. 3 (4.3%) P=0.001. Increased burnout was significantly associated with lowered self-esteem, a low sense of security, compassion, and increased secondary stress.

Conclusion:

Shiftwork duration may affect the rate of burnout, compassion, attention, and sense of reward and esteem of EM physicians, which may impact the quality of patient care given to their patients.

The Reasons and Associated Injuries Related to Baby Walkers Use Among Children in Riyadh, Saudi Arabia

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Abstract

Background:

Baby walkers (BW) are devices commonly used for helping babies' mobility. The evidence that exists nowadays states that the use of BW could slow down the development of independent walking and increases the chance that the baby will get injured.

Aim:

We aimed to estimate the prevalence, reasons, and associated injuries of using BW among children in Riyadh, Saudi Arabia.

Methods:

This is a descriptive, cross-sectional study conducted between January 9, 2021, and January 31, 2021. The study included all families living in Riyadh who have at least one child that is older than six months and younger than 36 months.

Results:

This study included a total of 977 responders, of which, the majority 765 (78.3%) were baby walker users and 212 (21.6%) were non-users. The highest reason behind using BW was to help the baby walk earlier (27.3%). Fifteen percent of the responders reported that they had injuries related to BW usage and most of those injuries were falling downstairs (51.7%).

Discussion:

Despite the lack of evidence that supports the benefits of BW usage and the potential harms of BW and its associated injuries, we noticed that the number of BW users is still high. Over the years, the issue behind the high numbers of BW users' misconceptions is that the parents believe BW promotes early waking and is generally safe. These misconceptions should be corrected by pediatrics medical associations primarily and babies' physicians as they have a role in improving babies' health.

Conclusion:

There is an obvious widespread use of BW in our result. Moreover, participants gave different reasons behind using BW as it is safe and promotes early walking.

Demographics and Characteristics of Patients Admitted with Acute Coronary Syndrome to the Coronary Care Unit at King Abdulaziz University

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Abstract

Background:

Cardiovascular diseases (CVDs), including acute coronary syndrome (ACS), are the leading cause of mortality worldwide. This study aimed to explore the demographic and clinical characteristics of ACS patients admitted to the Coronary Care Unit (CCU) in a tertiary hospital in Jeddah, Saudi Arabia. To our knowledge, no similar studies have been conducted in this region.

Methods:

All patients with a final diagnosis of ACS were retrospectively enrolled during a 1-year period between January 1, 2017, and December 31, 2017. Data were extracted from the patients' hospital records, including investigation, management, and clinical outcomes. Pearson's chi-square test, Fisher's exact test, and t-test were used to identify the associations between the variables. Statistical significance was set at $P < 0.05$.

Results:

Of the 615 patients included in the study, 79.84% were males, 36.75% were between 55-64 years and 26% between 45-54 years. Myocardial infarction with ST-segment elevation was more prevalent in males (43.68%), and non-ST segment elevation myocardial infarction (NSTEMI) and unstable angina more prevalent in females (45.96% and 37.90 %, respectively). Lipid parameters were significantly worse in females upon admission. Of the 161(26.18%) who attended a follow-up visit, the mean lipid values were remarkably decreased in both sexes. However, the therapeutic target of LDL-C <1.8 mmol/L (<70 mg/dl) was achieved in only 33.08% of patients. The overwhelming majority of patients (99.5%) recovered and were discharged, whereas 16.26% were readmitted to the CCU, and NSTEMI was the most common presentation in all readmissions.

Conclusion:

Our population with ACS presentation was mainly a decade younger than the global average. At the time of follow-up, many patients did not reach their lipid goals. This highlights that careful attention, more stringent assessment, and treatment of both primary and secondary ACS risk factors are required.

Relationship Between Shock Index and bounce Back in the Emergency Department in King Abdullah Medical City (KAMC): A Retrospective Cohort Study.

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Abstract

Background:

Bounce back is defined as patients who return to the emergency department within 24-72 hours. Recently, bounced back patient numbers are constantly increasing which raised our attention and increase our desire to solve this problem. We chose shock index (SI) which depends on systolic blood pressure and heart rate (shock index is a heart rate HR divided by systolic blood pressure SBP) as a scale predictor for bounced back patients.

Methods:

We conducted a retrospective study using TRACK CARE system (electronic patients files) which included clinical and administration data from KAMC hospital. The study included patients ≥18 years of age who bounce back within 24-72h, whose records include HR and SBP measurements between January 1, 2020, and September 31, 2020. There were 1346 patients. Our sample size was calculated to be 506 patients.

Results:

All the 506 patients complained of hypertension, while 52% complained ischemic heart disease, 25% complained pulmonary disease, 16% complained renal disease, 43% complained diabetes, 30% complained cancer. We found that shock index 1 and more was 9.1% which is low, then we calculated the modified shock index, and it was 39.9%.

Conclusion:

The study proved that Shock index carries poor sensitivity in predicting bounce back patients with 9.1% of the total Bounce Back. In contrast, the modified shock index had a better sensitivity in predicting bounce back patients with 39.9% then shock index. Therefore, study results did not meet with the predictions and the main hypothesis.

DeBakey type 1 Aortic Dissection, Presenting as Abdominal pain with Paraplgiea. Case Report and literature review

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Abstract

Aortic dissection is a catastrophic disease, and the diagnosis can be challenging as the presentation will vary widely and it is often manifested with non-specific symptoms. This is a case report of an 77 year old male, presented to the emergency department with a history of abdominal pain and bilateral lower limb weakness, suspicion was raised for Aortic dissection which was confirmed by urgent CT angiography in less than one hour, Patient underwent a successful emergency procedure and had a good recovery later.

Correlation between Revised Physiological Trauma Score and CT scan results

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Abstract

Background and Aims:

Trauma-scoring systems are used to triage patients and assist in clinical decision-making. Physiological traumas scores are used for quantitative evaluation of injury severity. However, only a few like the revised physiological trauma scores (rPTS) has been proven effective in preclinical use. There is a constant need for clinical decision tools that aim to reduce the unnecessary use of CT scans among trauma patients. To the best of our knowledge, there has not been a study that correlates directly between the RTS and CT findings. In our study we aim to identify if a normal rPTS score correlates with CT scan results.

Methods:

A retrospective chart review was performed for all patients who had a pan CT for trauma in King Abdulaziz Medical City-Jeddah's Emergency Department from 2008 to 2012. Out of a total of 315 patients, only 235 patients were included in the analysis due to missing data.

Results:

There was a significant difference in rPTS between those with negative pan CTs and those with positive pan CTs (p=0.031). Furthermore, despite a normal score, 45% of patients had a positive CT scan. The odds of having a positive CT scan doubled for those with a rPTS <11. (OR=2.680, 95%CI: 1.34-5.34).

Discussion and Conclusion:

Despite the significant difference in rPTS between patients with positive and negative pan CT results; there is no clinical utility for the scoring system as there were patients with positive CT scans even at the lowest physiological trauma scores. In conclusion, the rPTS should not be used to determine whether or not a patient needs a pan CT following trauma.

Reversal of Digital Ischemia with Phentolamine After Accidental Epinephrine Injection

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Abstract

Patient: Female, 26-year-old.

Final Diagnosis: Digital ischemia secondary to accidental epinephrine injection.

Symptoms: Pain.

Medication: —

Clinical Procedure: Local injection of phentolamine to reverse ischemia.

Specialty: Plastic Surgery.

Objective: Management of emergency care.

Background:

Accidental finger-stick injuries have been reported with epinephrine autoinjectors, such as EpiPen and EpiPen Jr, and can result in necrosis and digital ischemia. However, long-term adverse effects are very rare. The treatment for accidental finger-stick injuries is controversial and includes intra-arterial injections of vasodilating agents, topical vasodilators, and supportive management as needed.

Case Report:

Here, we report a case of a 26-year-old pharmacist who injected herself accidentally with an EpiPen on the tip of her index finger. Warm water and nitroglycerine gel did not alleviate her symptoms. After three hours, phentolamine was injected around the necrotic area, and the skin normalized.

Conclusions:

All health professionals should be trained in how to handle epinephrine autoinjectors safely. Phentolamine may be efficacious in treating accidental finger-stick injuries from epinephrine autoinjectors.

Epilepsy and Seizures: Knowledge, Attitudes and First Aid Practice Among School Teachers in Saudi Arabia

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Abstract

Purpose:

Epilepsy refers to a chronic condition of recurring seizures, and the recurrence is often unpredictable. Primary knowledge of epilepsy is critical to support young children suffering from epilepsy. This study investigated primary school teachers' knowledge, attitude, and first aid practice for children with epilepsy and seizure disorders in Saudi Arabia.

Methods:

A descriptive cross-sectional study design was used. Data were collected through a survey of 305 teachers using a close-ended questionnaire, which was analyzed through descriptive statistics.

Results:

The majority of teachers were aware of epilepsy. Shaking, tremors, and convulsions were observed as the major signs, while most participants had a positive attitude towards children with epilepsy. Moreover, the teachers believed that these children should be treated normally.

Conclusions:

Epilepsy knowledge should be improved through different courses and prevention strategies, and the use of an interactive educational intervention is recommended for more effective results.

Prehospital Electronic Patient Care Records in COVID-19 pandemic: A Saudi Red Crescent Authority Experience

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Abstract

Background

Healthcare systems across the globe are developing to capture data throughout the patient healthcare journey. Globally, Coronavirus Disease 2019 (COVID-19) pandemic affected many essential services including those related to prehospital services. Sharing prehospital data would guide clinical care practice, improve quality assurance projects, enhance research development, support medicolegal issues, and many others. This study aims to describe the demographic variables, distribution across regions, and initial diagnosis of prehospital cases reported by the Saudi Red Crescent Authority during the COVID-19 pandemic.

Methods

A retrospective cross-sectional study across all regions of Saudi Arabia between January and June 2021. Demographic data, distribution of incidences across regions, and initial diagnosis among prehospital cases were retrieved from the electronic patients' health records of the Saudi Red Crescent Authority.

Results

The total number of incidents received during the study period was 369,283 incidents. Makkah and Riyadh were among the highest regions receiving incidents call 30% and 28%, respectively. Most incidents included Saudis (70%), Male gender (65%), and young adults (23%). We noticed that 15% of the incidents were related to trauma, 11% to communicable diseases, and 9% to respiratory distress.

Conclusion

Preserving prehospital data would guide various clinical implications and outline the initial steps of prehospital registry in the region.

Keywords: Prehospital; Registry; Saudi Arabia; Incidents; COVID-19; Coronavirus Disease