

graphical representation of key performance indicator (KPI) trends, and the dashboard with color-coded visual indicators are also important features.

**Conclusion** A well designed e-OVR system has a significant positive impact on the effectiveness and efficiency of any healthcare risk management system.

### 57 ASSESSMENT OF THE EFFECTIVENESS OF PAIN MANAGEMENT AMONG TRAUMA PATIENTS IN THE EMERGENCY DEPARTMENT

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**Background** In every emergency department (ED), pain is the most common chief complaint, especially among trauma patients. However, two-thirds of trauma patients are discharged from EDs with moderate to severe pain. Therefore, pain management is an important part of care in trauma patients in the ED. According to a study, 27% of trauma patients were discharged although they still felt pain, and 48% of patients were not reassessed. Previous studies have reported inadequate pain control in the ED, and pain is frequently requested to be eliminated by patients despite their conditions. To our knowledge, our study is the first of a kind that addresses pain management among trauma patients in the ED in the Kingdom of Saudi Arabia. The objectives of the study were to:

- Determine whether trauma patients receive pain assessment and/or reassessment.
- Determine whether trauma patients receive the proper pharmacological and/or non-pharmacological intervention to relieve their pain (according to clinical practice guidelines of King Abdulaziz Medical City [KAMC]).
- Relate triage score to appropriate pain management.
- Measure the differences between male and female responses towards pain management.

**Methods** This retrospective cohort study included all adult trauma patients who attended the ED at King Abdulaziz Medical City in Jeddah from the period June 2016 to July 2018. Sample size was calculated based on the number of trauma patients presenting to the ED and 403 files were reviewed. After excluding any patients younger than 18 years old, intubated patients, and patients with GCS level below 13, the number of remaining patients was 332. Data were collected from the health information system (BestCare). Data were analyzed using SPSS version 24.

**Results** Our results showed that the mean difference between pain scores before and after pain management is 1, which is not clinically significant. The percentages of patients that were not assessed or reassessed were 31% and 29%, respectively. The median time between arrival and initial assessment was approximately 19 minutes. The percentage of patients who were administered the right drug was 36.7%. The triage scores were not aligned with their conditions. There was no statistical difference between males' and females' change in pain score.

**Conclusion** Compliance to pain assessment and reassessment in trauma patients is suboptimal. This reflects on the management of pain in trauma patients. Furthermore, appropriate

pain management in relation to pain scores was also suboptimal. Knowing the negative short-term and long-term effects of poor pain management in this subset of patients raises the need for improvement using pain assessment and management tools. We recommend staff education of the importance of pain management. Additionally, a quality improvement project is recommended to enhance pain management in trauma patients. Further studies should be carried out in the Kingdom in different centers for trauma and non-trauma patients to assess and improve the performance in this important aspect. Relating this to patient satisfaction and long-term consequences is also recommended.

### 58 EFFECT OF IMPLEMENTING AN EARLY WARNING SCORING SYSTEM ON PATIENT OUTCOMES

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**Background** Patient safety is a key priority for hospitals, a public health problem, and a human rights issue. Acute patients usually exhibit warning signs before experiencing critical health problems. These signs are often not recognized, which increases patient risk. Early recognition of deteriorating patients may improve the quality of healthcare and prevent severe complications. This study aimed to implement an early warning scoring system (EWSS) in an acute medical ward at King Abdulaziz Medical City (KAMC), and assess the effects of EWSS on patient outcomes.

**Methods** The improvement project applied a FOCUS-PDSA model, by first identifying the problem and then implementing EWSS as an intervention. Physicians and nurses were educated about the EWSS application. Nurses were trained on how to measure, calculate, and take actions upon scores, and when to call physicians for emergency assistance when a patient score reached an abnormal value based on the EWSS actions. A pocket-sized version of the EWSS tool was distributed to staff as an announcement and motivation. The intervention was carried out in small PDSA cycles and repeated, which enabled potential errors to be tackled, ensured accuracy of nursing documentation, validated the EWSS tool, and refined the implementation process. To assess the intervention, a total of 296 patients were observed for 6 months (November to April) before and after implementing EWSS for changes in three main indicators: mortality rate, intensive care unit (ICU) transfers, and CCRT reviews. To assess perception and satisfaction, a cross-sectional survey was administered to a convenient sample of staff in day and night ward shifts. Data were collected daily during the study period, entered into an Excel file, then imported to SPSS for analysis.

**Results** After implementing EWSS, mortality rate ( $p > 0.05$ ), ICU transfers ( $p < 0.05$ ), and CCRT reviews ( $p > 0.05$ ) were reduced. Staff perception towards EWSS implementation was high; 86% indicated a good understanding of the purpose of the intervention, 71% stated that EWSS helped in recognition of patients before deterioration, and 50% perceived the intervention as successful and recommended its implementation in other areas of the hospital.

**Conclusion** The findings showed that EWSS implementation was promising and well-perceived by staff as an efficient management tool towards patient safety. Yet, there is an urgent