

Application of Sydney Triage Admission Risk Tool in Emergency Department at King Khalid University Hospital

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Background: Emergency department (ED) crowding is a major issue that may lead to poor clinical judgment, therefore, may prevent patients from receiving the appropriate care. Thus, accurate prediction of patients' admission has the potential to decrease patients' length of stay and, ultimately, prevent ED overcrowding. In this study our aim was to assess the effectiveness of the Sydney Triage Admission Risk Tool (START) in ED of King Khalid University Hospital in Riyadh (KKUH).

Methods: This is a retrospective validation study to assess the effectiveness of START model in ED in KKUH in Riyadh, Saudi Arabia. The data was collected from medical records of adult patients (age ≥ 14) who visited the ED from the first to the seventh of September 2018, excluding patients with life threatening conditions, referred from other hospitals, Dead on arrival and patients presented with psychiatric or obstetrics/gynecological complaints. Analysis was done by using logistic regression and assessed the area under the curve of receiver operator characteristic (AUC ROC) for START scores in addition to other variables i.e. immobility, history of surgery, referred by general practitioner and comorbidities.

Results: 1064 patients were included during the study period. 555 (52.2%) of them were female and the mean age was 39.14 years (SD 17.085). The START score when applied to the data had AUC ROC of 0.868 (95% CI 0.83 - 0.90) with p-value <0.607 . One-hundred and twenty (11.2%) of all patients admitted and the average length of stay is 11 hours 34 minutes. The addition of other variables shows significant association with hospital admission.

Conclusion: In conclusion, the overall performance of START tool has been shown excellent prediction for patient deposition in ED by retrospective validation, further prospective studies needed to measure the impact of the tool.