Allison Houston  
CAT Block 11  
2017 R3 Year


Objective: This study was done to look at the association between Quick Sequential Organ Failure Assessment (qSOFA) score and outcomes (in hospital mortality, hospital admission, ICU admission, and total hospital length of stay) in adult emergency department patients with and without suspected infection.

Study Type: Single site, retrospective review

Methods: An electronic ED database at a suburban academic medical center was utilized. Data extracted from visits occurring between January 2014 and March 2015. Inclusion criteria included: adult patients (>18 years) in whom a qSOFA score (composed of respiratory rate > 22 breaths/min, systolic blood pressure < 100 mmHg, and altered mental status) could be calculated with simultaneous reporting of vital signs and a Modified Early Warning System score (a tool used at this institution to help nurses monitor their patients and have a warning of sudden decline, tool is based on RR, HR, temp, pulse ox, SBP, LOC and is supposed to be documented on every patient at this facility). Exclusion criteria: patients triaged to fast-track, dentistry, psychiatry, and labor and delivery. Patients in whom adequate data was unavailable to calculate qSOFA.

Patients were categorized as having suspected infection if they were given antibiotics in the ED. Univariate and multivariate analyses were performed to determine association between qSOFA score and in hospital mortality, hospital admission, ICU admission and total hospital length of stay.

Results: There were 67,475 ED visits meeting study criteria initially extracted from the database. 3,569 were excluded because no Modified Early Warning System score was documented. 41,376 were excluded because time between documentation of vital signs and the Modified Early Warning System score was too long (>2 minutes). The remaining 22,530 encounters formed the dataset analyzed. The average age of study patients was 54 years (SD 21 years), 47% were men, 45% were admitted, 7% were admitted to an ICU, and inhospitable mortality rate was 1.6%. Eighteen percent of patients (4,149) had a suspected infection; the remaining 82% were without a suspected infection.

The study patients had the following qSOFA scores: 16,507 (73%) had a qSOFA of 0 5,290 (23%) had a qSOFA of 1 649 (3%) had a qSOFA of 2 84 (0.4%) had a qSOFA of 3

As qSOFA score rose, percentage of men rose, as did age.

With rising qSOFA score, in hospital mortality, hospital admission, ICU admission, and total hospital length of stay rose by statistically significant rates.

The correlation between qSOFA score, primary and secondary outcomes was not effected by suspected infection or no suspected infection.

Discussion:

This study presents interesting, though retrospective, data regarding a seemingly easy to use score. From this data it appears the qSOFA may be a quick and helpful prognostication when patients arrive in triage. However, this study has some significant limitations including single site, retrospective (selection bias, problems with possible documentation and data entry errors). So, as always, more research is needed.