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| Reference | Methods / Study Design | Participants/Population | Interventions | Comparisons | Outcomes | Notes |
| Baez, et al. 2013 | Retrospective review, cross-sectional descriptive study | Adult patients 18 years of age between 2004-2006 admitted with ICD-9 diagnosis of SIRS, sepsis or septic shock.  (n=63) | Physiologic variables studied included mean arterial pressure (MAP), heart rate (HR),  respiratory rate (RR) and shock index (SI). | None | Primary: mortality and admission to an ICU  Secondary: ventilator days, ICU LOS, hospital LOS  Although SI and RR were found to  predict intensive care unit (ICU) admissions, [OR 5.96 (CI, 1.49-25.78; P = .003) and  OR 4.81 (CI, 1.16-21.01; P = .0116), respectively] none of the studied variables were  found to predict mortality (MAP <65 mmHg: P = .39; HR >90: P = .60; RR >20: P = .11; SI >0.7: P = .35). | Study demonstrated that out-of-hospital shock index and respiratory rate have high predictability for ICU admission. |
| Barbara, et al. 2018 | Retrospective chart review | Adult patients 18 years and above meeting qSOFA criteria (RR >22, SBP <90, AMS) and evaluated in the ED. | Retrospective validation of qSOFA by emergency physicians | None | ED diagnosis of sepsis, severe sepsis or septic shock or at least 2 SIRS criteria with source of infection. 72 subjects -- 67% of whom met reference criteria for sepsis, yielding a PPV of 67% [95% CI 56 - 78%]. |  |
| De Silva, et al. 2023 | Rapid systematic review | People with suspected or confirmed sepsis in the emergency setting | Acute sepsis screening tool (31 alternative) | qSOFA | Screening tool sensitivity, specificity for the diagnosis of sepsis and 28- and 30-day mortality | Majority indicated that qSOFA had highest specificity for emergency diagnosis of sepsis.  All but 1 included study evaluated these screening tools in the hospital setting. |
| Fiest, et al. 2022 | Scoping Review | Articles related to sepsis awareness, knowledge, and information seeking behaviors among patients, public, and healthcare professionals | None | None | Healthcare professional awareness and knowledge of sepsis is high compared with patients/public.  Patient/public awareness and knowledge varied globally.  Definition of sepsis inconsistent in the literature. | Awareness: 20 studies  Sepsis Knowledge (S/Sx): 33 studies, core list included - fever  (or temperature > 38°C), hypothermia (or temperature  < 36°C), tachypnea (shortness of breath), tachycardia  (high heart rate), hypotension (low blood pressure), and  altered state of consciousness (altered mentation/disorientation/  confusion)  Recommending good practice for awareness campaigns to include all possible sx of sepsis with message to seek urgent medical care if exhibiting combination of sx |
| Goodacre,et al. 2023 | Retrospective diagnostic cohort study | Adults with medical emergencies transported to the ED. (n=12,870) | None | None | Accuracy of prehospital early warning scores used with paramedic diagnostic impression for identifying sepsis requiring urgent treatment. | NEWS2 had superior accuracy over all other early warning scores. NEWS2 + paramedic diagnostic impression of infection or sepsis identified 1/3 to 1/2 of sepsis cases. |
| Lane, et al. 2016 | Systematic review | 16 cohort studies  -9 described identification of sepsis | None | None | •Accuracy Of Prehospital Sepsis Identification  •Criteria Used To Identify Sepsis  •Sensitivity Of Ems Provider Diagnosis Of Sepsis  •Specificity Of Ems Provider Diagnosis Of Sepsis (Only In 4 Studies) | -most common method of identification of sepsis involved applying SIRS criteria or combination of vital signs (sensitivity 0.43 to 0.86 when used alone or combined with provider impression)  -among EMS providers, impression alone had poor sensitivity  -moderate-quality evidence supporting structured screening for sepsis with vital signs criteria demonstrated modest sensitivity and specificity  -in 7 studies, primary vital signs considered: temp, HR, RR |
| Melero-Guijarro, et al. 2023 | Prospective, ambulance based, and multicenter cohort study | Patients (n=535) with suspected infection transferred by ambulance to the emergency department (ED) | None | None | Aim of the present study was to analyze the performance of qSOFA, NEWS2 and mSOFA as sepsis predictors in patients with infection-suspected in prehospital care. The second objective is to study the predictive ability of the aforementioned scores in septic-shock and in- hospital mortality. | mSOFA outperformed the other two scores for mortality, presenting the following AUCs: mSOFA 0.877 (95%CI 0.841–0.913), NEWS 0.761 (95%CI 0.706–0.816), qSOFA 0.731 (95%CI 0.674–0.788), for mSOFA, NEWS, and qSOFA, respectively.  mSOFA allows the prehospital early identification of high-risk sepsis patients. |
| Nualprasert, et al. 2023 | Retrospective analysis | Patients with diseases of internal cause who were transported by EMS to the hospital and hospitalized beetween January and June 2020. (n=354) | None | None | Primary outcome of this study was the final diagnosis of sepsis within 48h of admission. Evaluated the ability of the Prehospital Early Sepsis Detection (PRESEP) score and the Miami Sepsis Score to predict sepsis in prehospital settings. | AUC for the PRESEP score was 0.83 (95% confidence interval [CI] 0.79–0.88)  AUC for Miami Sepsis Score was 0.80 (0.75–0.85).   The sepsis group compared to those without sepsis showed a high proportion of patients with worse vital signs.  Findings show that the PRESEP and Miami Sepsis Scores have sufficient abilities for screening in prehospital settings with relatively high sensitivities despite their low specificities at the given cutoff values. In the EMS setting, Miami Sepsis Score might be more appropriate in than the PRESEP score because of its simplicity with fewer parameters. |
| Olander, et al. 2019 | Retrospective observational study | Retrospectively diagnosed with sepsis and transported by EMS | None | None | Prehospital characteristics (decreased oxygen saturation, decreased body temperature, increased serum glucose and altered mental status) were associated with adverse outcome (in-hospital mortality or ICU level requirement). | Recognition of these prehospital characteristics might help with earlier identification of patients with sepsis. Other symptoms identified prehospital in patients with sepsis: respiratory difficulties, muscle weakness (being unable to perform tasks requiring muscle strength that are usually done with ease in the patient's daily life), GI symptoms (diarrhea, vomiting and/or nausea), AMS (decreased consciousness, difficult to reach, drowsiness, not responding when spoken to, answering inappropriately), pain unspecified (pain from various areas in body and "pain out of proportion", shivering, chest discomfort, abdominal pain. Only AMS (p=0.01) and shivering (p=0.04) were found to be statistically significant. |
| Parsons, et al. 2022 | Cross-sectional survey | English- or French-literate adults in Canada | None | None | Respondent’s knowledge of sepsis definitions, symptoms, risk factors, and prevention measures was generally low (53.0%, 31.5%, 16.5%, and 36.3%, respectively). The strongest predictors of sepsis knowledge were previous exposure to sepsis, healthcare employment, female sex, and a college/university education (p < 0.001, all). | Used fever, infection or extremely ill as sx of sepsis |
| Perman, et al. 2020 | Retrospective case series | Consecutive patients admitted to the hospital from a single, ED in the US with severe sepsis (>= 2 SIRS criteria, suspected or confirmed infection and at least one organ system dysfunction.) | None | None | Triage qSOFA was positive (>= 2) in 17.9% of patients with severe sepsis. | There was no 'condition absent' group -- all subjects in the study had severe sepsis. |
| Sjosten, et al. 2019 | Retrospective case series | Patients transported by a nurse-staffed ambulance and admitted to a single Swedish hospital over a 1 year period with a final diagnosis related to sepsis. | None | None | 36% of patients ultimately diagnosed with sepsis either had sepsis documented in the PCR OR were given the highest priority by nurses on the ambulance. | Results do not match methods. The results state that "There were no significant differences in the distribution of ICD-10 codes between patients with a prehospital suspicion of sepsis and those without such a suspicion." There should not have been any non-sepsis patients because having an ICD-10 code for sepsis was the inclusion criteria. |
| Smyth, et.al , 2016 | Systematic review | Prehospital screening tools in the literature. Paramedic-administered. | A variety of difference sepsis screening tools. | Tools compared to each other. | Accuracy of tool to recognise sepsis. Accuracies ranged from Sens: 0.2 (Erwin severe sepsis) - 0.95 (Modified Robsin), Spec: 0.14 (Modified Robsin) - 0.94 (Erwin, severe sepsis). | Paramedic administered screening tools. But, the elements of the tools are also noted. They are: RR, HR, Temp, LOC, SpO2, BP, Lactate, Glucose, CRT, Dispatch category, location and age. Only some of these are relevant to the FA space, but their actual accuracies in isolation are not reported. |
| Spagnolello, et al. 2019 | Retrospective case series | All adults seen at a single Roman ED over a 1 year period with an ED diagnosis of pneumonia. | None | None | Primary outcome as designed was the ability of qSOFA to predict mortality in patients with CAP. The study demonstrated that a positive qSOFA (>= 2) had a LR of 11 for mortality compared to qSOFA negative patients in CAP patients. | This study also assessed CURB-65, however this required a lab test (BUN), not applicable to first aid or EMS. |
| Usul, et al. 2021 | Retrospective case series | Patients arriving by EMS and admitted to a single Turkish hospital over 3 years with a final diagnosis of sepsis. | None | None | qSOFA and MEWS to predict sepsis hospitalization and 28 day mortality. MEWS value > 4 and qSOFA score > 1 were both significant in predicting mortality. | Very limited description of methods. |