ICU
MANAGEMENT & PRACTICE

electronic Poor Outcome Screening (ePOS) Score

The number of elderly and multimorbid patients admitted to the ICU continues to increase. These patients are at a high risk of dying and are likely to suffer from poor long-term outcomes such as functional and cognitive impairment, psychological distress and 6-month mortality. In addition, these patients have complex palliative care needs and could benefit from specialised palliative care consultation, which could reduce their ICU length of stay, the risk of ICU readmission, healthcare costs and psychological distress among family members. However, identifying patients with palliative care needs can be difficult, and physicians' prognostication may often be inaccurate.

In a retrospective single-centre cohort study of critically ill adult patients, researchers used data from EHR in the first 48 hours of ICU admission to develop and validate an electronic poor outcome screening (ePOS) score. The aim was to use this score to identify critically ill patients that may have potentially unmet palliative care needs.

The primary outcome of the study was all-cause mortality at six months after the index ICU admission. Secondary outcomes included ICU length of stay, organ support, ICU mortality, hospital mortality, one-year mortality, specialised palliative care consultations during hospitalisation, modification of life-sustaining treatment orders, hospital discharge destination and ICU or unplanned hospital readmission during the 12-month follow-up period.

A total of 1772 critically ill adult patients were included in the study. 33.7% of the patients died within six months of ICU admission. Non-survivors were significantly older than survivors with higher comorbidity scores and a dependent functional status at hospital admission. At the time of ICU admission, non-survivors had higher illness severity scores, were more likely to be admitted from a hospital ward, had more elevated blood lactate and serum creatinine levels and were more frequently treated with vasopressors or inotropes.

83.4% of patients received mechanical ventilation at some during their ICU stay. Tracheostomy was performed in 8.2% of patients. Vasoactive drugs were administered in 72.2% of patients, and renal replacement therapy was used in 16.8%. Only 2% of the patients were referred to a specialised palliative care physician.

The ePOS score was developed and validated based on palliative care trigger criteria, patient characteristics and physiological variables. The ePOS score showed good performance in identifying patients at high risk of death at six months. With a cut-off of 20 points, it had a sensitivity of 0.81 and a specificity of 0.51 for predicting 6-month mortality.

Overall, study findings show that the ePOS score can be implemented in EHR for automated screening and stratification of ICU patients, identifying patients who may require a comprehensive palliative care assessment. However, the researchers do not believe the score can replace clinical judgement.

Source: Journal of Critical Care
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