Research & Reviews: Journal of Nursing & Health Sciences

Editorial Note on De compensation in children during emergency department triage

William Smith
Department of Community Hospital United States

Editorial

Received date: 16/04/2021
Accepted date: 17/04/2021
Published date: 25/04/2021

***For Correspondence**

William Smith, Department of Nursing, Community Hospital United States

E-mail: michelmith@hotmail.com

Keywords: Hospitalizations women; Vaccines; children

In the United States, hospitalizations for severe sepsis doubled between 2000 and 2008, with an overall annual healthcare cost of $146 billion1. In children, sepsis is associated with high morbidity and mortality, especially among vulnerable patients with chronic conditions, who often require intensive treatment to avoid preventable death2. Even the limited number of pediatric deaths caused by sepsis is understood as too heavy a loss to bear when one considers that early interventions could have prevented it. While preventable deaths are rare in pediatrics, the prevalence of severe sepsis in children is increasing across the globe because of the increasing prevalence of drug-resistant infections3. The earliest opportunity for intervention prior to critical decompensation often arises in the emergency department (ED), the first point of contact between many patients and the healthcare system. Despite a recent increase in clinicians' awareness of critical decompensation and severe sepsis, as well as associated changes in the corresponding diagnostic criteria1·2·3·4, pediatric-specific tools remain poorly developed. Stratifying risk with the systemic inflammatory response syndrome (SIRS) criteria or quick sequential [sepsis-related] organ failure assessment (qSOFA) typically takes approximately 1 h5. Methods that facilitate early warning and decision making may lead to process improvements and associated reductions in morbidity and mortality6·7. A predictive model for predicting patient death is ideal for capturing critical decompensation because even false-positive predictions help to identify patients in need of critical attention. In this study, we used stochastic gradient boosting to develop a predictive model for critical decompensation in pediatric ED patients. Stochastic gradient boosting is an approach of using multiple regression tree-based models to predict an event of interest. In this case, the trees are built sequentially in such a way that each additional tree minimizes the error of the ensemble.