

Silent threats: pediatric sepsis burden and outcome in emergency care across low- and middle-income countries

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Background: In 2017, over 80% of the 6.64 million annual deaths among children and adolescents worldwide occurred in low- and middle-income countries. Acute pediatric illnesses, including sepsis, pneumonia, diarrheal disease, and trauma, remain major causes of mortality and disability where critical care resources are limited.

Objective: To determine the incidence of pediatric sepsis and assess emergency department (ED) outcomes, including mortality, length of stay, and need for critical care or high dependency units.

Method: This retrospective study reviewed pediatric emergency data from PIMS Hospital Children ER and Ghulam Muhammad Mahar hospital Sukkur Children ER, supported by the Child Life Foundation, throughout 2024. The facilities lack pediatric intensive care or high dependency units and have around 50 beds. Patients from the first day of life to 9-year-old diagnosed with sepsis using clinical and laboratory findings were included. Data included age, triage category, length of stay, and disposition.

Results: Among 180725 ED visits, 8.25 % ($n = 14,909$) had sepsis; 42% ($n = 6,338$) were P1, 4% ($n = 565$) were P3, and 52% ($n = 6,338$) were P2. Average stay is 1.09 days. Overall, 44 % ($n = 6,530$) were discharged, 15% ($n = 2,302$) admitted, 8% ($n = 1,234$) died, and 17% ($n = 2,532$) referred. Maximum ED stay was 480 hours (about 3weeks); average P1 and P2 stay was 48 hours (about 2 days). Among deaths, average stay was 83 hours (about 3.49 days), versus 43 and 36 hours (about 2 days) for referred and admitted patients, respectively.

Conclusion: Pediatric sepsis imposed substantial ED burden, supporting the need for dedicated critical care and high dependency capacity.

Keywords: Sepsis, mortality, children, length of stay, emergency department.