
Association of Volume of Sepsis Cases and Mortality



Sepsis is a leading cause of death worldwide and is also associated with a high burden of patient mortality. This burden is expected to increase as populations age. Patients with sepsis typically require high-cost interventions in ICUs. Even with urgent treatment, the probability of death still remains high. However, ICUs that have more experience treating such patients may be associated with lower mortality.

A report by Luft et al. (1979) proposed that patients receiving treatment for complex conditions like sepsis have lower mortality when treated in institutions with a high-volume caseload. Such institutions also offer lower costs by economies of scale and more efficient use of staff and resources.

In this study, researchers aimed to assess the association between the volume of patients with sepsis in the ICU and hospital mortality from it. Data from 231 ICUs in the UK were used for the purpose of this analysis. Of these 231 ICUs, 52.8% were non-university hospitals, 16.9% were university-affiliated, and 30.3% were university-based. The primary outcome of the study was death before discharge from an acute care hospital.

A total of 273,001 patients were included in the analysis. Septic shock accounted for 19.3% of patient admissions. 54.3% of patients required mechanical ventilation.

The study reported a significant association between the volume of sepsis cases in the ICU and mortality from sepsis. Hospital mortality was much lower among patients admitted to ICUs in the highest quartile of sepsis volume compared with the lowest quartile. Treatment in a larger ICU was also associated with lower hospital mortality. However, no significant interaction was observed between ICU volume and severity of illness. The study identified a lower volume threshold of 215 patients treated per year above which there was a significant reduction in mortality.

These findings suggest that patients with sepsis have higher odds of survival if they are treated in an ICU with a larger sepsis case volume. However, the benefits of high case volume were not found to be associated with the severity of sepsis.

Source: [JAMA](#)

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Published on : Tue, 6 Jul 2021