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ABSTRACT

Background: Delayed admission of critically ill patients to the Intensive Care Unit (ICU) from the Emergency Department (ED) has been linked to adverse outcomes. However, information regarding the prevalence of delayed ICU admission, associated factors, and outcomes remains limited in various healthcare settings. This study aimed to determine factors associated with delayed ICU admission of critically ill patients at the ED of Mbarara Regional Referral Hospital (MRRH).

Methods: This was a hospital-based prospective observational cohort study enrolled 184 critically ill adult patients at the ED of MRRH between February and May 2023. Data on patient characteristics, diagnoses, and clinical examination findings were collected. Data analysis was performed using Stata version 17. Descriptive statistics for continuous variables was used. Bivariate analyses were conducted and significant variables entered into a multiple logistic regression model. Factors with $p < 0.05$ were considered statistically significant.

Findings: Among the 184 critically ill patients the prevalence of delayed ICU admission of critically ill patients was 63.0% ($n = 116$). The most common reasons for delayed admission were lack of ICU beds (33.6%, $n = 39$) and delays in therapeutics 13.8% ($n=16$). Presentation with trauma (aRR: 3.5, 95% CI: 1.0-11.8, $p = 0.043$) was significantly associated with delayed ICU admission. Among the 184 critically ill patients eligible for ICU admission, 84 patients died, with a higher mortality rate observed in those with delayed ICU admission compared to those without delays (50.9% vs. 36.8%).

Conclusions: The prevalence of delayed ICU admission among critically ill patients at the MRRH ED was notably high. The primary reason for ICU admission delays was shortage of ICU beds and delay in therapeutics. Trauma was the factor that was significantly associated with delayed ICU admission and 7-day mortality was higher among patients with delay. Strategies to improve the management of critically ill patients should include increase in ICU bed capacity, well-equipped ED and High Dependency Units (HDUs) as a stepdown unit. Protocols for management of trauma patient be developed as well as deployment of more surgeons and more staff in all departments especially ED and radiology.

