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Is there a 'weekend effect' for ICU mortality?

The risk of dying in the intensive care unit (ICU) is higher for patients admitted at the weekend compared to those admitted on a weekday, according to a retrospective study of registry data from Austria published in *Critical Care* (Zajic et al. 2017). However, the risk of dying in the ICU on a weekend was found to be lower than on a weekday, highlighting the complexity of the so-called 'weekend effect'.

The study analysed data on 167,425 patients collected from 119 ICUs across Austria between 2012 and 2015, taking into account severity of illness at admission, reason for admission, chance of discharge from the ICU to the hospital or home and risk of death following discharge to the hospital. Data was obtained from the Austrian Centre for Documentation in Quality Assurance in Intensive Care.

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The researchers found that severity of illness varied noticeably between weekends and weekdays, with more patients with a higher severity of illness being admitted on a Saturday or Sunday. The casemix was also different at the weekends, with more patients being admitted for 'medical' purposes as opposed to 'scheduled surgery'. The chance of being discharged to the hospital from the ICU on a weekend was lower than on a weekday.

Lead author Dr. Paul Zajic, from Medical University Graz, Austria, commented in an email to ICU Management & Practice that the researchers did not expect to find such multifaceted "weekend effects" and the actual decrease in mortality at weekends could be regarded as a surprise. He added that critically ill patients and their families may rightfully expect the same level of critical care to be provided at weekends and weekdays and healthcare professionals should have a high level of alertness for the needs of patients admitted to ICUs at weekends. Further research focused on the process of providing critical care at weekends is necessary, he said.

Dr. Zajic further commented in a media release: "We noticed that several key interventions in the ICU were less likely to be performed at the weekend, suggesting that the increased mortality in the week is not due to an increased rate of something that would increase mortality immediately, but is more likely to be caused by systematic issues that prevent optimum provision of care for critically ill patients at weekends and so raises their risk of dying in the days following a weekend admission".

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