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Promoting Sustainable Kidney Health: The Asia-Pacific and Beyond

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Global Epidemiology and Outcomes of AKI

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Acute kidney injury (AKI), characterized by a sudden decline in renal function, is diagnosed through elevated serum creatinine levels and diminished urinary output. Typically, AKI is defined within a 7-day timeframe. AKI is a prevalent global health issue, with an estimated 13.3 million episodes occurring annually, predominantly in low- and lower-middle-income countries (LMICs), where approximately 85% of AKI cases arise. Factors contributing to the higher incidence in LMICs include limited healthcare access, delayed diagnosis, and a higher prevalence of infectious diseases and sepsis. In these regions, AKI often affects younger populations and is frequently linked to community-acquired infections. Conversely, in high-income countries (HICs), AKI is more commonly associated with older individuals and comorbid conditions such as cardiovascular diseases, diabetes, and exposure to nephrotoxic medications. Hospital-acquired AKI, particularly prevalent in intensive care unit (ICU) settings, is more frequent in HICs. AKI is typically categorized as either community-acquired (CA) or hospital-acquired (HA). HA-AKI arises during hospitalization and is often associated with medical interventions like nephrotoxic drug exposure, contrast agents, and surgical complications. It carries a high mortality rate of 30-50%. Conversely, CA-AKI manifests before hospital admission, often due to infections like gastroenteritis, malaria, and dehydration, especially prevalent in LMICs. The consequences of AKI are severe and multifaceted, significantly impacting short-term and long-term patient health. In the short term, AKI is associated with high in-hospital mortality rates ranging from 20% to 50%, depending on severity and underlying causes. Long-term outcomes for AKI survivors include an elevated risk of developing chronic kidney disease (CKD) and end-stage renal disease (ESRD), necessitating long-term dialysis or kidney transplantation. Early diagnosis and effective management are pivotal in mitigating these adverse outcomes and enhancing the prognosis for AKI patients.

Keywords: acute kidney injury, hospital acquired acute kidney injury, community acquired acute kidney injury, mortality