March 2016

# Sepsis management: An evidence-based approach.

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# Sepsis management: An evidence-based approach

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## Abstract

The Surviving Sepsis Campaign (SSC) guidelines have outlined an early goal directed therapy (EGDT) which demonstrates a standardized approach to ensure prompt and effective management of sepsis. Having said that, there are barriers associated with the application of evidence-based practice, which often lead to an overall poorer adherence to guidelines. Considering the global burden of disease, data from low- to middle-income countries is scarce. Asia is the largest continent but most Asian countries do not have a well-developed healthcare system and compliance rates to resuscitation and management bundles are as low as 7.6% and 3.5%, respectively. Intensive care units are not adequately equipped and financial concerns limit implementation of expensive treatment strategies. Healthcare policy-makers should be notified in order to alleviate financial restrictions and ensure delivery of standard care to septic patients.

**Keywords:** Sepsis in Asia, Early Goal Directed therapy (EGDT), Sepsis resuscitation bundle, Sepsis management bundle.

For a busy emergency physician/intensivist who deals with the unstable haemodynamics of a septic patient, the early hours of treatment are crucial. The Surviving Sepsis Campaign (SSC)guidelines have outlined an early goal directed therapy (EGDT) which demonstrates a standardized approach to ensure prompt and effective management of sepsis.[1] In the wake of recent evidence provided by the Protocol-based Care for Early Septic Shock (ProCESS),the Australasian Resuscitation in Sepsis Evaluation (ARISE), and the Protocolised Management in Sepsis (ProMIse) trials challenging the usefulness of EGDT, the SSC guidelines committee is currently revising its policies.[2-4] However, the importance of efficient

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management during the first six hours of presentation has been reinstated. Compliance with SSC performance bundles has been previously associated with a 25% relative risk reduction in mortality rate, as well as shortened ICU and hospital stays.[5] Having said that, there are barriers associated with the application of evidence-based practice, which often lead to an overall poorer adherence to guidelines.

Considering the global burden of disease, data from low-to middle-income countries is scarce. Sepsis from these regions is likely to have an etiological spectrum which is different from that of industrialized nations. Given that 60-80% of deaths in these countries may be attributed to sepsis, there is a vital need to address this burden.[6] Asia is the largest continent but most Asian countries do not have a well-developed healthcare system. The MOSAICS study was a multi-national survey comprising intensive care units (ICUs) from Asian countries, and represented the first effort made in order to extricate regional compliance with SSC bundles.[7] The compliance rates to resuscitation and management bundles were found to be 7.6% and 3.5%, respectively. It was also observed that higher income countries, institutions with academic affiliations, and surgical ICUs were more likely to be compliant with these bundles.[7]

In their efforts to examine the impact of implementing these sepsis bundles in Asian countries, the 'Asia network to regulate sepsis care' (ATLAS) investigators demonstrated that education and quality improvement efforts significantly improved bundle compliance in certain regions of Asia.[8] As expected, socioeconomic status and availability of resources played a significant role in shaping the quality of patient care.

National efforts to promote the Surviving Sepsis Campaign guidelines are lacking in most Asian countries. Moreover, ICUs are not adequately equipped and financial concerns limit implementation of expensive treatment strategies.[9] Keeping this in mind, the Medical Microbiology and Infectious Disease Society of Pakistan (MMIDSP) recently carved out 'The 3-hour bundle' treatment algorithm in order to outline the initial management of sepsis in accordance with previously defined guidelines.[10] This is the first of many measures which need to be

undertaken in order to improve the outcome of sepsis in the region. Physicians ought to emphasize the need for implementation of existing therapeutic algorithms and healthcare policy-makers should be notified in order to alleviate financial restrictions and ensure delivery of standard care to septic patients.

**Conflict of Interest:** The authors report no conflict of interest.

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