Resident Medical Officer’s Knowledge of Sepsis: A Qualitative Study

Sir,

Sepsis is frequent and is responsible for high mortality.\[1\] Mortality in the hospital ranges 20.7-55.2% for severe sepsis and 40.9-60.5% for septic shock.\[2,3\] To overcome this problem, the Surviving Sepsis Campaign guidelines were developed and published in 2004 and then updated in 2008 and 2012.\[4\] Observation of clinical signs such as consciousness, heart rate, blood pressure, respiratory rate, body temperature, and urine output is essential to make an early intervention in the care of sepsis patients. However, early detection of clinical signs of the critically ill patient by hospital staff was frequently delayed.\[5\] This qualitative study was performed in a general hospital in Karawaci District, Banten Province, Indonesia in September 2014. Its aim was to investigate the knowledge of 25 resident medical officers (RMOs), as a component of hospital staff, of sepsis based on the 2012 Surviving Sepsis Campaign guidelines. RMOs are physicians attending patients in the emergency unit, the wards, and the intensive care unit (ICU). Characteristics of RMOs who participated in the survey are shown in Table 1.

The findings showed that the knowledge of the RMOs in recognizing the signs of sepsis was still insufficient, but that the knowledge of the RMOs in managing sepsis was sufficient, although still in need of improvement [Table 2]. This contrasts with the fact that 88.0% RMOs studied sepsis when they were in medical school.

Inadequacy in treatment is due to insufficiently trained or busy or inexperienced staffs.\[5\] As the knowledge of the RMOs about the definition, clinical signs, and spectrum of sepsis is insufficient, it is predictable that many sepsis patients would have been underdiagnosed. The RMOs may be able to detect the abnormal clinical signs, but the importance of those signs is not understood, and thus appropriate and effective treatment cannot be initiated. Even though the RMOs have fairly good basic knowledge of managing sepsis, it will not be of any use if they cannot diagnose it.

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### Table 1: Characteristics of RMOs who participated in the survey

| Attribute                  | Value                                      |
|----------------------------|--------------------------------------------|
| Age                        | Mean 26.2 years (SD 1.93 years)            |
| Sex                        | 64% female (n=16)                          |
|                            | 36% male (n=9)                             |
| Practical experience       | Range 1-9 years                            |
|                            | Median 3 years                             |

### Table 2: RMOs’ knowledge of sepsis

| Knowledge                                                                 | Right answer (n; %) |
|--------------------------------------------------------------------------|---------------------|
| Definition                                                               |                     |
| Systemic infection                                                       | 12 (48)             |
| Systemic inflammation response syndrome (SIRS)                          | 10 (40)             |
| Systemic inflammation response syndrome (SIRS) + infection               | 3 (12)              |
| Clinical signs                                                           |                     |
| Body temperature >38°C or <36°C                                          | 4 (16)              |
| Heart rate >90 bpm                                                       | 3 (12)              |
| Respiratory rate >20 times per minute                                    | 2 (8)               |
| Leucocyte >12,000/μl or <4,000/μl                                        | 3 (12)              |
| Spectrum                                                                 |                     |
| Lactate level in 3 h                                                     | 1 (4)               |
| Blood culture prior to antibiotic in 3 h                                 | 10 (40)             |
| Broad-spectrum antibiotics in 3 h                                        | 24 (96)             |
| Fluid resuscitation in 3 h                                              | 22 (88)             |
| Vasopressor in 6 h                                                       | 8 (32)              |
| Central venous catheter in 6 h                                           | 0 (0)               |
| Lactate level in 6 h                                                     | 0 (0)               |
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