

Availability of decontamination, elimination enhancement, and stabilization resources for the management of acute toxic exposures and poisonings in emergency departments in Malaysia

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Abstract Acute poisoning is a common medical emergency in Malaysia. Life can be saved if the patient is diagnosed properly and receives the appropriate treatment such as gastrointestinal decontamination techniques and resources to increase poison elimination according to clinical guidelines at a reasonable time. The aims of this study were to determine the availability of decontamination, elimination enhancement, and stabilization resources for the management of acute toxic exposures and poisonings in accident and emergency departments in Malaysia, and to compare the availability of such facilities among various types of hospitals. A comparative, descriptive cross-sectional study was conducted using a structured questionnaire. Seventy-four (58.3%) out of the targeted 127 hospitals replied and completed the questionnaire. The availabilities of most items related to stabilization resources were far better in general hospitals compared to district hospitals with specialists and district hospitals without specialists. These items were mechanical ventilators ($p = 0.011$), non-invasive positive pressure ventilators (0.024), pacemakers ($p = 0.019$), and transcutaneous cardiac pacing ($p < 0.001$). The availability of decontamination resources varied substantially with hospital type. Nevertheless, these differences did not reach statistical significance in any of the cases, whereas sodium sulphate, sorbitol, and polyethylene glycol were almost never

available. The availabilities of most items related to elimination enhancement resources were far better in general hospitals and district hospitals with specialists compared to district hospitals without specialists. These items were haemodialysis ($p = 0.046$), haemoperfusion ($p = 0.002$), haemofiltration ($p = 0.002$), acid diuresis ($p = 0.04$), peritoneal dialysis ($p < 0.001$), and exchange transfusion ($p < 0.001$). Most Malaysian hospitals have certain important immediate interventions such as gastrointestinal decontamination techniques and resources to increase poison elimination. The availabilities of most facilities were far better in the general hospitals. Coordination between the National Poison Centre in Malaysia and hospitals should be established regarding the emergency facilities for effective management of poisoning cases in each hospital in order to direct the poisoned patients to the hospital where the appropriate management resources is available.

Keywords Decontamination · Elimination enhancement · Stabilization resources · Availability · Hospital · Malaysia · Poisoning

Introduction

The accident and emergency department (ED) of public hospitals is the site that receives urgent and critical acute poisonings [1]. However, occasionally, the ED also receives mild cases of various clinical conditions, and therefore it is constantly busy [2]. As intended in any treatment, a patient's life can be saved if the patient is diagnosed properly and receives appropriate treatment according to clinical guidelines and within a reasonable time (e.g. the treatment of patients diagnosed with

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