Abstract

Hospital preparedness for a mass casualty incident following trauma and knowledge and practices of health care staff on trauma management in District General Hospital Gampaha

Introduction: Mass casualty incidents following trauma place a significant burden on health care systems and require a high level of hospital preparedness to ensure effective response and patient survival. Adequate planning, coordination, communication, and availability of resources are essential during such emergencies. In addition, the knowledge and practices of health care staff, particularly medical officers and nursing officers involved in trauma care, play a crucial role in the successful management of mass casualty situations. This study aimed to assess the level of hospital preparedness for mass casualty incidents following trauma and to evaluate the knowledge and practices of health care staff on trauma management at the District General Hospital, Gampaha.

Methodology: A descriptive cross-sectional study was conducted at the District General Hospital, Gampaha. Hospital preparedness was assessed using an observational checklist and an interviewer-administered questionnaire to members of the Hospital Disaster Management Committee regarding disaster planning, coordination, communication systems, and resource availability. The knowledge and practices related to trauma management were assessed among medical officers and nursing officers using two separate self-administered questionnaires. Data was analyzed by descriptive statistics and chi square tests used to identify associations.

Results: The hospital demonstrated good overall preparedness for mass casualty incidents following trauma. Strengths were identified in disaster plans and policies, command structure, communication systems, and the availability of human and medical resources. However, gaps were noted in preparedness for chemical, biological, radiological, and nuclear (CBRN) incidents, surge capacity, and the availability of regular training programs and simulation drills.

Regarding knowledge and practices related to trauma management, the response rate was 70.4% ($n = 88$) among medical officers and 84.6% ($n = 127$) among nursing officers. Both medical officers and nursing officers demonstrate satisfactory overall knowledge and practices; however, deficiencies were observed in certain practical aspects, which may be attributed to the lack of trauma-related training programs and simulation exercises. There was no significant difference in knowledge and practices between Accident and Emergency (A&E) medical officers and medical officers from other units ($p > 0.05$). In contrast, A&E nursing officers demonstrated significantly higher knowledge levels and greater practical exposure compared to nursing officers from other units ($p < 0.05$)

Conclusion: District General Hospital Gampaha has a recently updated disaster plan with an aware disaster committee, but improvement is needed in CBRN preparedness. Medical officers and nursing officers have satisfactory knowledge and practices in trauma management but require more hand on practical experience with more training programs and simulation exercises

Recommendations: Should update the disaster plan to include CBRN preparedness and Disaster committee members should undergo capacity building programs in their areas of expertise to ensure better preparedness. Identified gaps in trauma management should be addressed through training programs involving all health care staff. Regular simulation drills involving all healthcare workers should be conducted to improve readiness.