

cations of the structure of the questionnaire on their second attempt, indicating that most students had not read the related articles provided as handouts during the first session.

Conclusions: Australian health professionals have a similar lack of understanding of disaster myths as do their European contemporaries, and do not show evidence of learning during a five-day short course. This study has implications for the future education of health professionals in disaster health.

Keywords: Australia; disaster health; disaster myths; education; emergency preparedness; student

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Nursing and Midwifery Disaster Needs and Core Curricular Domains in the Western Pacific Region

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Introduction: The Asia-Pacific region is prone to serious disasters where nurses and midwives can play important roles in preparedness and response. Understanding important issues for disaster nursing and midwifery in this region is essential.

Methods: A survey of representatives from the Asia-Pacific was conducted at a meeting of nurses and midwives representing the Western Pacific and Southeast Asian regions of the World Health Organization. The aim was to identify key disaster-related issues; participation in and availability of training programs; quality assurance mechanisms; clinical-practice guidelines; and core education domains for pre-service, specialized, and continuing education levels for nurses and midwives.

Results: Responses were received from 16 representatives of the countries in attendance. The most significant challenge cited was the need for resources (funding and equipment) and training. The priority disaster curriculum domains varied by intended audience, however, the topic that was very important for all groups was emerging infectious diseases. Only eight (50%) reported active nurse and midwife leadership in disaster planning and response; 10 (63%) reported some form of disaster training program. However, three (19%) reported the existence of quality assurance, and three (19%) reported clinical practice guidelines.

Conclusions: Nurses and midwives are two key groups whose potential as a resource for disaster preparedness and response has not been recognized fully. Understanding the disaster preparedness capacity needs and current state of affairs for nurses and midwives can assist with future planning by nations in this vulnerable region.

Keywords: Asia-Pacific; curriculum; disaster health; midwifery; nursing; preparedness

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Dentists—The Forgotten Provider during Mass-Casualty Incidents

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Introduction: Dentists have been identified as potential providers of emergency care during mass-casualty incidents since the mid-1940s. However, the incorporation of dental

professionals into response planning still has not been widespread. The barriers that prevent the utilization of this potentially critical member of the healthcare team during these incidents are explored.

Methods: A Web-based search of PubMed was performed using the following keywords: dentists-disasters; dentists-emergency; dentists-mass casualty incidents. Subsequently, a convenience sample of articles was assembled and reviewed.

Results: Upon review of the articles, the utilization of dentists in the key roles of triage, initial trauma management, and surgical assistance often were identified. Barriers that prevented their full use fell into four categories: (1) visibility; (2) skill/education/training issues; (3) legal issues; and (4) attitudes of planners and dentists.

Conclusions: During a mass-casualty incident, there is a need to utilize all available assets. Dentists can be important assets if the barriers to their participation are addressed and corrected before the incident. Barriers that inhibit their use are being addressed by dental schools, organized dentistry, and some governmental organizations, but a concentrated effort must be made to correct this deficiency.

Keywords: barriers to utilization; dentistry; disaster planning; emergency; mass-casualty incident

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Physical Health and Psychosocial Issues for Older Persons in Disasters and Emergencies

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Introduction: Few healthcare workers have adequate training with respect to the elderly and emergency situations. The objectives of this presentation are: (1) to describe how the aging process makes older persons more vulnerable than younger persons; (2) discuss the implications of their vulnerabilities for the four phases of the disaster cycle; (3) draw attention to the fact that post-traumatic stress disorder (PTSD) can result from any disaster and affect any and all members of the exposed population; and (4) describe strategies and resources for capacity-building among health professionals.

Methods: An interdisciplinary working group with expertise in geriatrics and emergency response has been meeting for two years under the aegis of the Public Health Agency of Canada's Division of Aging and Seniors and the Centre for Emergency Preparedness and Response. Activities have included identifying and reviewing education and training programs and materials targeted at health professionals.

Results: While many gaps were identified with respect to meeting the physical and mental health needs of older persons during disasters, some evidence-based training materials and best practices were identified.

Conclusions: Healthcare professionals and other emergency responders need all-hazards training in geriatrics. This training must include attention to pre-existing physical health conditions (i.e., chronic disease management)

and pre-existing mental health issues (e.g., dementia, depression). There must be a focus on PTSD, which may present differently in older than in younger persons.

Keywords: capacity building; competencies; education; geriatrics; gerontology; preparedness; psychosocial issues; special populations; training

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Poster Presentations—Disaster Health Management

(B10) A New Model for Medical Records for International Disaster Relief Operations

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During international disaster relief operations (IDRs), useful and practical medical record-keeping is important for effective triage and treatment. A standard model for medical records is desirable when triaging a large number of patients. The authors proposed Shinchi's Medical Record (SMR) in 2003. The SMR is only one sheet of paper that includes the medical records, laboratory data, and prescribed drug sheet. Use of the SMR also registers the triage category and primary diagnosis. Use of SMR is simple, inexpensive, and easy to prepare for many patients. After the publication of SMR, it was revised according to the advice of 108 doctors and nurses who participated in IDRs. The authors also referenced the same kind of medical records used by the International Committee of the Red Cross and other non-governmental organizations. The new medical record is more useful because it is easier to record the chief complaints and symptoms. This medical record will enhance effective medical relief activities during IDRs.

Keywords: disaster management; international; medical records; model; relief; Shinchi's Medical Record

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(B11) Disaster Health-Related Challenges: Grounded Theory Study in the Iranian Context

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Introduction: Despite frequent, devastating natural disasters, concern about the effectiveness of Iran's disaster health services has been expressed. The purpose of this study was to explore the experiences and perceptions of individuals affected by, or responding to the recent earthquake in Iran. Challenges in the delivery of effective healthcare services were examined.

Methods: The study was conducted using grounded theory. Study participants included members of a multidisciplinary disaster response team as well as residents of the affected community. Data collection included semi-structured interviews and focus groups, while constant comparative analyses were conducted simultaneously.

Results: The most important factors that challenged the disaster response were: (1) lack of specialist human

resources; (2) inattention to the ethnicity and cultural issues of the lay people and providers; (3) providing the services emotionally; and (4) a lack of coordination for distributing facilities and equipment.

Conclusions: Although a number of studies have identified a lack of resources as the major obstacle to an effective disaster response, this study indicates that ethnicity and cultural issues and a lack of coordination of resources were the most significant factors that proved to be challenging when providing disaster healthcare services.

Keywords: challenge; disaster health; disaster management; grounded theory; Iran; natural disasters

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(B12) Electronic Patient Reporting during an International Patient Evacuation from Malaga, Spain to Helsinki, Finland

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Introduction: A bus crash involving 49 Finnish tourists occurred in Malaga, Spain on 19 April 2008. Eleven patients were evacuated from local hospitals to Finland. A commercial aircraft was equipped for an ambulance flight. An electronic patient reporting (EPR) system was used. This presentation will report on the use of EPR during an international patient evacuation.

Methods: The Merlot Medi[®] EPR system was used. This system includes individual electronic patient reports, a shared situation diary, a resource view, and a summary of triage categories. Documentation is done by touch screen laptops. Data are transmitted from laptops to the server via a General Packet Radio Service (GPRS) connection that it is readable from every laptop involved in the situation.

Results: All patient data were entered into the EPR system in Malaga when they were transferred from ambulances to the aircraft. In addition, a shared situation diary was completed. The process could be monitored in real-time in Helsinki. The system was used online until the captain put on the fasten seatbelt sign. During the 4.5-hour flight, the EPR system was used off-line without GPRS. Vital parameters could not be transmitted from patient monitors to the EPR because the use of Bluetooth was not allowed during the flight. Therefore, vital signs were typed into the EPR laptop. After landing in Helsinki, the GPRS connection was activated and all data registered during the flight were uploaded to the server in less than three minutes. Patient reports were printed at the airport to accompany patients to the receiving hospitals.

Conclusions: The EPR system with GPRS data transmission was useful and reliable. The next step in system development is the implementation of a satellite telephone connection to be used during the flight or in case of an overloading of the mobile telephone network.

Keywords: assessment; data; electronic patient reporting; evacuation; monitoring

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