

ticed at Imam Hossain Hospital. In the maneuvers, clinical cases first are delivered to the nursing sector for triage, and the triaged cases are diagnosed; remedial actions were described to the professors in different specialties. Problems were directed toward the administration for decision-making. The results of the exercises from the nursing, clinical, and administrative personnel were analyzed.

In addition to assessing the results, the basic design, the scenario and triage protocol, several medical protocols and methods to improve the executive process are being discussed.

The lack of medical protocols and proper training of hospital personnel were basic reasons for the errors in triage, diagnosis, treatment, and operations.

Keywords: disaster health management; exercise; hospital personnel;

Iran; maneuver; training; triage

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(B20) Rescue Missions and Operation of Chinese International Search-and-Rescue Teams following Several Foreign Earthquakes

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Objectives: To summarize the medical practice organized by the Chinese International Search-and-Rescue teams (CISAR) during seven deployments of overseas earthquake rescue missions and discuss rescue modes during a disaster. **Methods:** Previous medical rescue missions and their characteristics were analyzed by reviewing job records.

Results: Medical rescue missions were classified into three stages according to the features of earthquakes. The priorities of primary medical work were performing a 24-hour search of the affected area, group-by-group, to rescue survivors and provide first aid to the injured using mobile hospitals. The priorities of interim medical work consisted of a medical tour, hygienic disease prevention, combined transfer of severely injured victims from remote areas, and continuing the preparation of mobile hospitals in camps. The priorities of the medical work in the later stage of the response were facilitating the recovery of local medical institutions, residing in medical agencies, organizing the Chinese nursing sector, donating medicine and devices, and coordinating reception and normal treatment.

Conclusions: Foreign search-and-rescue teams can be deployed to the full extent in limited time to serve the needs of victims of disaster.

Keywords: Chinese International Search-and-Rescue; disaster health management; earthquake; medical care; rescue

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Oral Presentations—Research

Literature Review of Disaster Health Research in Japan

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Introduction: Due to its geographical location in the Pacific Ring of Fire, Japan has a long history of disasters.

The frequency of earthquakes in recent years has significantly influenced disaster health research in Japan. This paper presents a systematized review of disaster health research performed in Japan, and discusses trends in disaster health research, particularly in nursing, during the last eight years.

Methods: The most commonly used database in Japan, Ichushi version 4, was used. The keywords and sub-keywords: disaster, disaster nursing, practice, education, research, ability, education, response, emergency, licensure, capability, function, prevention, planning, were chosen. Combinations of these keywords were used to identify relevant literature.

Results: A total of 232 articles were reviewed. The number of research papers has increased gradually since 2001, and peaked in 2007. The most common search category was “disaster nursing and research”. The second most common was “disaster nursing, education”. These categories also had a high number of publications.

Conclusions: The recent earthquakes in Japan has accelerated researchers to implement disaster nursing concepts into practice and nursing curriculum. However, the context of disaster nursing tends to be limited during natural disasters, and few studies have discussed research methodology in disaster nursing.

Keywords: disaster nursing; Japanese; literature review; methodology; research

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Multiple Injury Profiles—Applications for War Injuries

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Introduction: Casualties of war often sustain simultaneous injuries to multiple body regions. Standard methods to estimate the increased threat to life from multiple injuries have been in use for years, yet uniform methods for presenting the details of such injuries only recently have been applied. The use of these methods is crucial for estimating the true characteristics and burden of injury. This presentation will introduce the multiple injury profile (MIP) methodology and demonstrate its useful application for war injury epidemiology.

Methods: Abbreviated Injury Scale scores indicate which body region was injured. Multiple injury profiles are defined by a vector in which the first letter indicates the presence of an injury in that region and a hyphen for no injury in that region. The profile becomes a categorical population characteristic that can be studied and analyzed. Data from the second Lebanon war was used to demonstrate the benefits of the application of this approach.

Results: The use of multiple injury profiles enabled the production of a more comprehensive picture of injuries by recording injuries that previously were unregistered (being “secondary” or concealed as part of “multiple”). Multiple injury profiles demonstrate that certain combinations of injuries are more deadly. These findings suggest that the

use of MIP enables the association of morbidity and mortality more accurately to the affected body region, clarifying the obscured “multiple injury” diagnosis, which resulted in loss of information.

Conclusions: Multiple injury profiles improve the ability to present injuries. The use of MIPs facilitates the identification of all patients with a specific injury, even if secondary while providing a better description of the full pattern of injury and the injury combinations that potentially could be fatal.

Keywords: injury; multiple injury profile; presentation; research; war
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Maintaining a Flexible Framework: Conducting a Large, Mixed Methodology Study of Refugees' Ideas on Family Planning at Mtendeli Refugee Camp, Kibondo, Tanzania

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Introduction: Mtendeli Refugee Camp housed approximately 27,600 Burundian refugees. Comprehensive reproductive health services, including family planning and youth-centered services were available, however contraceptive prevalence ranged from 3.7% to 8.3%. The goal of this research was to develop, test, and evaluate a research methodology to accommodate the dynamic movement of the population with security challenges within refugee camps.

Methods: In-depth interviews of a random sample of 48 mixed gender refugees, 17–63 years of age were completed between March and August 2006. The study design had built-in flexibility in site selection and sampling methodology. Age stratification ensured that all ranges were represented. Data extraction for group health services and individual use was triangulated with in-depth interviews.

Results: The study design included options for transferring the study site based on security. A dynamic mapping system with a mathematical formula created an innovative sampling framework able to accommodate shifting populations due to constant repatriation and resettlement. This method maintained randomization and minimized the effect of sample clustering. Grouping of selected houses minimized travel time over the 35-kilometer camp.

Conclusions: Maintaining flexibility in study design and appropriate adjustments in the implementation phase allowed for the completion of this large qualitative study with methodological rigor. The use of in-depth interviews with individual and aggregate data allowed for a more comprehensive evaluation of the beliefs surrounding family planning.

Keywords: Burundi; family planning; refugee; Tanzania
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Evidence-Based Emergency Preparedness Guidelines for Persons with Disabilities

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Introduction: A cadre of experts and stakeholders from government agencies, professional organizations, emergency medicine and response, persons with disabilities,

mental health, and disaster preparedness were gathered to review and summarize the existing data on the needs of persons with disabilities in the planning, preparation, and response to disasters or terrorism. This review was followed by the development of evidence-based consensus guidelines and recommendations on the needs of persons with disabilities during disasters, acts of terrorism, and public health emergencies.

Methods: An evidence-based consensus process was used in conjunction with a modified Delphi approach for selecting topic areas and discussion points. The methodology used to develop the guidelines and recommendations in the current report was one of a previously validated evidence-based consensus process that has been used in prior studies, supplemented by a modified Delphi approach for topic selection.

Results: The final recommendations of the conference focused on 13 major areas:

1. Disaster Communications
2. Emergency Transportation
3. Decontamination, Isolation and Quarantine
4. General and Medical Needs Sheltering
5. Disaster Drills
6. Community Preparedness
7. Individual Preparedness
8. Children with Special Healthcare Needs
9. Continuity of Care
10. Strategic National Stockpile
11. Mental Health Needs
12. Federal Disaster Response Programs
13. Specialized Training for Emergency Planners and Responders

Conclusions: These recommendations and guidelines represent the first multi-disciplinary, evidence-based standards for persons with disabilities and emergency preparedness.

Keywords: disability; emergency preparedness; guidelines; research; special populations
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Benchmarking for Hospital Evacuation: A Standardized Data Collection Tool

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Introduction: Hospital evacuation is an increasingly common occurrence. Most hospital evacuation events have been examined, studied, or reported anecdotally in after-action reports or in other non-systematic interviews. These methods offer inconsistent and possibly unreliable results needed for individual and regional hospital evacuation planning, decision-making, and resource utilization. The purpose of this study was to design and implement a standardized, consistent, and systematic interview process for hurricane evacuated hospitals by building upon a previously validated regional hospital evacuation tool.

Methods: Investigators used a previously validated tool applied to eight hospitals that evacuated due to the Northridge Earthquake, modified its use for appropriateness for hurricanes, and applied the questionnaire to seven hospitals that evacuated due to Hurricane Rita.