

during the past 15 years, on islands existing in the Pacific Ocean under jurisdiction of Tokyo from which the residents were forced to evacuate. Fortunately, there were <50 injuries related to these explosions. However, it still is important to construct an aero-transportation and a telemedical support system for the residents.

Methods: 1) 93 injured patients were aerotransported from the islands to our hospital between January 2000 to September 2001. The relationship of the injury severity, time of aerotransportation, and prognosis were analyzed; 2) 654 tele-communicated injured patients from these islands were analyzed.

Results: The AIS grading and the ISS were examined against the transportation times, and little difference was noticed, even though the heliport located on top of the hospital was used for the severely injured. The frequency of the use of telecommunication for injured patients increased after improvements in the infrastructure. Consultation based upon CT scans also increased in number.

Conclusion: The time lag to flight must be shortened for the severely injured cases. Infrastructure improvement is important to build a well-used telemedical network. Advocation in the application of the telemedical control to the helicopter attending doctors and paramedics is required.

Keywords: air-medical transportation; consultation; telemedicine volcanic eruptions

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Problems of Immediate Medical Care at Taipei Community Hospitals During Typhoon Nari, 2001

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Objective: Over the past several decades to Taipei, the Nari typhoon had been the most blustery. It brought a deluge of rain that flooded most parts of the city. The objective of this study was to assess the problems of immediate medical care for community hospitals within the affected area.

Methods: This was a retrospective analysis of the medical charts of all the victims and the hospital damage reported to the city government during the typhoon.

Results: One hundred and sixty-four patients were reported. Most of the deaths (84%) within the first 24 hours were associated with drowning. Most of the victims (71%) presented to emergency department (ED) within the first 24 hours. Male patients were at higher risk for injury. Trauma to the extremities was the leading diagnosis (58%). Fourteen hospitals sustained severe damage, and much of the damage could be attributed to the inappropriate design of the ED. Only very few patients were transported by previously established EMS.

Conclusions: Local hospitals not only should survey their ability to provide adequate immediate medical care during the first 24 hours of a typhoon, but also must evaluate whether its building structure can withstand the event.

Establishing an alternative EMS for the disaster situation should be considered.

Keywords: climate; damage; disaster; hospital management; structure; typhoon

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Public Health Response to 1998 Flood in Bangladesh—Key Lessons Learned

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Objective: To assess the effectiveness of public health response to 1998 flood in Bangladesh, and to draw lessons for appropriate responses to future flood disaster.

Methods: Four research methods were employed for data collection and analysis: 1) Summarizing information from government documents including strategy, policy, and plans for public health responses to 1998 flood, situation reports, and the findings of the UN assessment mission; 2) Discussions with health-sector officials responsible for planning of contingency responses; 3) Focus Group Discussion with health workers involved in emergency response to the flood; and 4) Administration of a semi-structured questionnaire in selected health centres.

Results and conclusions: The government's public health response to the flood was effective. However, using available historical and surveillance data for epidemic-prone diseases, the government must develop epidemiological tools and indicators for trend analysis of the post-flood health situation in the country including setting up an early warning system for detecting an unusual incidence of exotic diseases. The government also must develop appropriate public health guidelines and protocols for standardizing emergency health operations in the country, as well as for promoting best public health practice in humanitarian crisis situations.

Keywords: Bangladesh flood; flood; public health; response; surveillance; warning

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Relief Activities by the ICRC for the Complex Disaster in Sudan

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Background: The internal armed conflict in the Republic of Sudan that has lasted for 18 years has jeopardized its health infrastructure. In this underdeveloped country, people cannot exist without vigorous humanitarian aid from outside of the country. The International Committee of the Red Cross (ICRC) has operated its relief activities in Sudan since 1985. During 2000, approximately 100 expatriates and 1,000 local staff were employed for this operation in South

Sudan. The health conditions of civilian population in Juba became catastrophic due to lack of means and budget. They were facing problems such as:

1. Poor environment and inadequate water hygiene;
2. Poor nutritional status; and
3. Collapsed health service system

Against this situation, the ICRC continues to provide various activities in Juba:

1. Health care services;
2. Distribution of food and non-food items;
3. Tracing and reuniting of unaccompanied people;
4. Dissemination of International Humanitarian Law; and
5. Co-operation programme with the Sudanese Red Crescent Society.

As for medical services, the ICRC medical team aimed to assist local staff in surgical projects at the Juba Teaching Hospital (JTH). The JTH had 500 beds and 1,000 employees. Local doctors worked irregularly and were undependable. The medical assistants performed the actual medical practices. An ICRC surgeon performed 200 operations per month, mainly for infected wounds debridement and abscess drainage. The hospital received 34 war-wounded cases in six months.

Keywords: abscess; armed conflict; disaster relief; healthcare; ICRC; Juba Teaching Hospital; nutrition; Sudan; surgery; water; wounds
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Ex-Post Evaluation of Japan Disaster Relief Assistance

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Objective: To observe and evaluate the activity of the Japan Disaster Relief Medical Team that was dispatched to Mozambique to assist during the great flood disaster in March, 2000 using "reduction of personnel damage (humanitarian relief)" perspective as the focus point.

Methods: The activity of the Japan Disaster Medical Team was evaluated using a survey according to the seven "rights": 1) right information; 2) right time; 3) right place; 4) right person; 5) right materials; 6) right coordination and cooperation; and 7) right technology.

Results: Effective data indicating the move of flood-attributed Internally Displaced Persons (IDPs) and disease trend were obtained and examined.

Conclusion: For the first time, the Japan International Cooperation Agency dispatched a post-disaster evaluation team. It concluded that such a retrospective evaluation is

extremely useful for providing more effective and more efficient disaster relief activities by Japan.

Keywords: evaluation; flood; international disaster relief; JICA; seven rights
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Evaluation of Health Disaster Management During the Mozambique Flood in 2000

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Background: In 2000, a major flood occurred in the southern part of Mozambique. Hokwe in the Chokwe Province, Gaza State, was one of the most severely affected areas. A Japan Disaster Relief Medical Team was dispatched into this area to evaluate the health disaster management during this flood using the Guidelines for Evaluation and Research in the Utstein Style.

Methods: The Initial Health Disaster Severity Score developed by the Gothenburg working group was used to assess the health status in affected area. For the evaluation research of the response, the idea of Template B and C on the guideline was used.

Results: Average severity score of the disaster was 41.6. The high scores were seen in the category of Medical, Impact on health care system, and Preparedness. The needs in this disaster were confirmed by the use of evaluation research. Infectious diseases were prevalent, and local health system could not cope with it. Therefore, international cooperation activities toward were found to be fit these needs.

Conclusion: The Guidelines for Evaluation and Research in the Utstein Style could be used in the case of a slow onset national disaster.

Keywords: DHSS; evaluation; flood; infectious diseases; Utstein template
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Evaluation of the Activities of the Japan Disaster Relief (JDR) Medical Team for Flood Relief in Mozambique

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