

the response and recovery phases, considerable shortcomings were experienced. Flaws in the management of the various aspects of this disaster were identified to assess what was done or should be done to overcome these shortcomings during future disasters.

**Methods:** A review of the management of the Bam disaster was performed by assessing files and data from 17 multi-center studies from 2003–2008. This assessment included data that related to the: (1) early warning phase; (2) time under rubble; (3) time to reach the scene and evacuate casualties; (4) assessment of rescue operations; (5) coordination of rescue teams; (6) triage; (7) trauma management; (8) transfer of equipment (resource mobilization); (9) rate of Disseminated Intravascular Coagulopathy (DIC), Acute Respiratory Distress Syndrome (ARDS), and Acute Renal Failure (ARF); (10) medical care provided; (11) efficacy of foreign field hospitals; (12) assistance of military forces; (13) rate of psychological distress among survivors; (14) provision of water, power, telephone, and healthcare services; and (15) social issues (opium abuse in survivors).

**Results:** Data relevant to search-and-rescue operations and disaster management indicated shortcomings in human resources, patient transfer, availability of equipment and facilities, and trauma treatment. One percent of victims had compartment syndrome and needed a below-the-knee amputation, 11.6% were septic, 7.3% experienced DIC, 9.1% had ARDS, and 38.9% needed fasciotomy. The average time under rubble was 1.9 hours and the time from rescue to receipt of first aid time was 3.5 hours.

**Conclusions:** Comprehensive disaster management must not be limited to the response phase but must include preparedness, recovery, and prevention, improvement of healthcare facilities, and provision of organized communication channels between organizations for running a command system and instituting coordination among relief workers. Continuous education, training of the general population and task forces involved in disaster management, and conducting periodic exercise drills also are important.

**Keywords:** assessment; Bam earthquake; earthquake; Iran; management

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### (C23) International Disaster Relief Operation of Chinese Medical Teams following the Earthquake in Indonesia in 2004

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**Introduction:** The international disaster relief operation (IDR) of Chinese Medical Teams following the earthquake in Indonesia in 2004 is described.

**Methods:** Four medical teams participated the IDR between 31 December 2004 and 06 February 2005. A total of 190 medical staff including 22 doctors and 78 nurses were dispatched from China. They treated 4,483 patients. The authors examined the activities of the medical teams and also described the role of nurses in the IDR.

**Results:** The role of the medical team was treating surgical wounds and performing surgical operations during the acute

phase. After that, the role gradually changed to treating infectious diseases, providing safe drinking water, and preventing infectious diseases. The role of the nurses in the IDR was setting up temporary medical facilities, inside arrangement, providing health care to the medical staff, triage, removing stitches, managing commodities and medical waste, interviewing patients, and assisting with medical treatment.

**Conclusions:** This was the first Chinese IDR in the 21st Century. The role of nurses in this IDR was important for the success of the IDR.

**Keywords:** China; disaster health; disaster management; earthquake; Indonesia; medical team

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### (C24) International Disaster Relief in the Hospital of the Affected Country

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A large-scale earthquake occurred in China on 12 May 2008. The damage caused by this earthquake resulted in 69,000 deaths, 374,000 injured, and 18,000 missing. The Chinese government did not accept international humanitarian support immediately. The Japan Disaster Relief Medical Team was deployed at a Chinese hospital eight days after the earthquake occurred. Japanese doctors and nurses and other specialists were assigned to each department. This paper reports on the experience of performing relief work in the intensive care unit (ICU) of the hospital.

In the ICU, there were some problems with language, medical knowledge and skills, etc. Therefore, after conferring with the Chinese staff, complementary roles were apportioned. Respiration management, posture management, and wound management were performed. These practices required the utilization of highly advanced medical knowledge and techniques for intensive care.

There were many tasks that were performed in the ICU. Furthermore, the Chinese staff was exhausted from the burden of an increasing patient load. The Japanese Team offered human resources that reduced the burden on the Chinese medical staff and thus, were able to improve the quality of the patient care.

Working under such large-scale conditions was new to members of the Japanese medical team. It is necessary for international relief teams to not only offer standard support, but also to recognize the particular needs of the stricken area. Medical personnel must be rich in advanced medical knowledge and technique. Furthermore, adult education and consultation skills are necessary to perform duties in cooperation with the staff of the affected country. Professional knowledge and technique are necessary to support a hospital in a disaster-stricken area. In addition, skills pertaining to adult education and consultations are necessary, and most importantly, flexibility in recognizing local needs.

**Keywords:** disaster response; earthquake; international assistance; intensive care unit; Japanese Disaster Relief Medical Team; relief

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