

Dental Support Activities for the Great Eastern Japan Earthquake

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ON MARCH 11, 2011, Japan experienced an unprecedented national catastrophe. Japan was simultaneously hit by the biggest earthquake in our recorded history, the Great Eastern Japan Earthquake, the subsequent giant tsunami, and multiple incidents related to the damage suffered by the nuclear power

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Dental Hygienists: Chiyoko Hakuta, Nozomi Okuyama, Fumi Kenmochi

plants in Fukushima.

More than 130 countries and regions, and many international organizations and NGOs extended their help to Japan in this terrible time. TMDU international alumni members also supported Japanese people with generous donations. We express our sincere gratitude to all

the people for their friendship and support.

TMDU in cooperation with the Ministry of Health, Labor and Welfare, the Japan Dental Association and academic organizations, have been carrying out dental support activities by sending dentists and dental hygienists to disas-

ter areas and providing necessary goods and equipment.

Immediately after the earthquake, we registered 13 dentists responsible for personal identification in order to help confirm the identity of disaster victims in response to requests from the police. In the affected areas, the community dental health care system suffered serious damage since hospitals and clinics were damaged or washed away. Therefore, based on requests from local dental associations and the Ministry of Health, Labor and Welfare, we sent dental teams from TMDU to the affected areas.

These dental teams provided emergency dental treatment to the victims by making rounds at each shelter. They also distributed oral hygiene supplies and performed oral health education and oral care as necessary. It was very difficult to provide dental treatment where there was no dental equipment such as

dental chairs, and insufficient water and electricity, but everybody's smile after treatment made us feel relieved.

There is no privacy at a shelter, and life there is very uneasy and stressful. The rice balls and bread distributed at the first stage are low in nutrition and do not provide a balanced diet. In addition, inadequate cleaning of the teeth and dentures due to the lack of water and oral hygiene supplies results in poor oral hygiene, which will lead to or worsen dental diseases. Furthermore, we are worried about the increased risk of aspiration pneumonia in the elderly or those who require nursing care. Adequate daily oral care is necessary for them. Since problems with one's teeth and oral cavity affect food intake, immune resistance and maintenance of health, it is necessary to detect dental problems early and manage them appropriately.

As of January 11, 2012, 10 months

after the Great Eastern Japan Earthquake, a total of 15,844 people are dead and 3,450 people are missing. In the affected areas, very few buildings or houses have been demolished or repaired. A mountain of rubble remains, and a lifeline has not been restored completely in some areas. In short, life in the affected areas is still very difficult.

It will take long time for the affected areas to recover and for the people there to return to normal life. The oral health needs of a community are thought to change over time, so TMDU plans to offer a variety of ways to respond appropriately to those needs.

We pray for the souls of those who were victimized by the Great Eastern Japan Earthquake. In addition, we express our sincere sympathy to all those who were affected by the earthquake and we pray for early recovery and reconstruction in the affected areas.



① Ishinomaki City, Miyagi Prefecture ② Onagawa Town, Miyagi Prefecture ③ ④ ⑤ Dental teams made rounds at each shelter and provided dental treatment and oral health care.

TMDU Operations Following

the March 11, 2011 Disasters

A Report from the Disaster Medical Assistance Team of TMDU

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ON MARCH 11, 2011, at 2:46 p.m. Japan time, a massive 9.0-magnitude earthquake struck off the Pacific coast of Japan's Tohoku (northeastern) region. About 25 minutes after the quake, enormous tsunami waves began pounding the Pacific coastline of the Tohoku region, causing massive damage to several coastal towns.

Four hours after the earthquake, four doctors, one nurse, and two administrative workers (a total of seven people) with Disaster Medical Assistance Team (DMAT) certification were sent from TMDU to the most heavily damaged area, Miyagi Prefecture. We reached

Sendai City in Miyagi Prefecture at 4:00 a.m. on March 12 (about 12 hours after the initial disaster) and provided hospital support at Sendai Medical Center, the prefecture's largest disaster-base hospital. At that time, 25 DMATs composed of about 130 people had assembled at that hospital. Of those teams, 18 provided support in six-hour rotating shifts in the hospital's emergency department, five worked onsite at a rescue command post in the tsunami-stricken region along the coast, and two worked at the staging care unit set up at the Self-Defense Force's Kasuminome base. By the night of March 13, another

52 DMATs had assembled at Sendai Medical Center (for a total of 77 teams and about 390 personnel).

Our TMDU team served as the lead team of the red area on March 12 and 13. Sendai Medical Center sustained only minor structural damage due to the earthquake, but had to rely on its own power generator for electricity due to widespread power outages throughout Sendai. Computed tomography scanners could not be used and only some of the medical equipment, such as basic X-ray machines and emergency blood testing equipment, could be operated. Some of the operating rooms were still



① Staff at ER Center responded ceaselessly, as there were casualties in Tokyo as well. ② There was a major traffic jam in Tokyo, but we did not encounter even one car on the Metropolitan Expressway. ③ A medical examination site in an area with severe damage ④ Damage from the tsunami ⑤ Dispatched members returned to Tokyo after rescue operation.

functional, but only minor surgeries could be performed. The vast majority of the hospital staff assembled at the hospital and worked without sleep from the time the disaster struck. Patients with injuries directly caused by the earthquake and tsunami, such as fractures of the pelvis, spinal cord injuries, and lower leg compartment syndrome, arrived at the hospital within 24 hours of the initial disaster. The vast majority of these patients were also affected by hypothermia as a result of having been exposed to the elements while waiting for rescue. After the first 24 hours, the majority of patients also suffered from diseases incurred after evacuation.

The Japan DMATs, which were developed after the Great Hanshin-Awaji Earthquake, were designed to provide life-saving medical treatment (such as medical stabilization of severely injured patients in the most affected areas and medical evacuation outside of the devastated area) for crush syndrome and severe injuries commonly seen after earthquakes. In this disaster, DMATs led by emergency care physicians and trauma surgeons were able to get into the disaster area during the ultra-acute phase and many were able to swiftly mobilize and swing into action. However, due to the nature of the tsunami, there were not as many critically injured pa-

tients requiring the life-saving treatment as had been envisioned, and the activities of the DMATs were limited.

On the other hand, more than 300,000 victims who lost their homes and all their possessions in the tsunami were forced to live in harsh conditions at evacuation shelters. There is a great need to provide medical care to these evacuees and that need will be a long-term one. Systems must be established for providing medical care in the aftermath of a tsunami disaster that strikes an urban area, and these systems need to be different from those established for managing the situation that results from a conventional earthquake.