

LETTER TO THE EDITOR

Tsunami Damage and Its Impact on Mental Health

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TO THE EDITOR: The disaster that occurred in the east of Japan on March 11, 2011 (the Great East Japan Earthquake) was unprecedented. It is known that people often experience a deterioration in mental health in connection with accidents and disasters. The more severe the experience of trauma, the higher the incidence of PTSD.¹ Thus, the prevention and treatment of mental health problems, including PTSD, was a serious concern after the Great East Japan Earthquake.

Otsuchi Town in Iwate Prefecture was one of the areas most affected by the Great East Japan Earthquake. As of March 22, 2011, out of a total population of approximately 15,000, there were only 6,000 confirmed survivors. The tsunami and fires that hit after the earthquake left many people missing and were a major cause of death. Survivors in shelters and others in the area experienced severe trauma as their homes were completely or partially destroyed, and they endured the loss of family and friends.

Toshiro Ueta, a general practitioner in Otsuchi who survived the disaster, had his clinic destroyed by

the tsunami. However, soon after he was rescued, he provided free medical consultations to other tsunami survivors. A Nagasaki University medical relief team arrived in Otsuchi on March 16, and joined Dr. Ueta.² From March 20 to 22, 2011, of the 200-300 people living in the shelter, 25 persons made use of counseling services and completed mental health assessments (approximately 20 minutes/person). The 25 included 10 men (average age: 59.7 ± 15.3 years) and 15 women (average age: 62 ± 17.3 years). The six-item K6³ was used to evaluate psychological distress. The K6 is scored from 0 to 24, with a score of 13 or greater categorized as having psychological distress.³

As shown in Table 1, the average K6 score of the 25 persons completing assessments was 13.6 (SD = 6.6). This is very high compared to the average score of 3.6 (SD = 3.9) obtained from a general population study⁴ of 500 Japanese adults. Furthermore, the incidence of psychological distress in these 25 persons, as determined by the K6, was 48%, which is seven times higher than the rate in the general population.⁵ Of

the 25 persons assessed, none had experienced the loss of a family member. However, 36% experienced partial, and 64% complete, destruction of their residences. These assessments were performed 10 days after the earthquake, and results indicate that survivors in Otsuchi experienced tremendous psychological distress, which suggests that the disaster had a profound impact on them. During counseling sessions, persons assessed often complained of insomnia and other sleep-related problems. In addition, persons with completely destroyed residences expressed more anxiety regarding the future than persons with only partially destroyed residences.

PTSD is not the only mental health problem caused by disasters. Catastrophic stress also leads to increases in depressive symptoms. It is important to be alert for a wide range of mental health problems, not only PTSD and depression, in survivors of the earthquake and tsunami. In the future, additional support will likely be needed for survivors who present with severe trauma, depressive symptoms, and PTSD symptoms.

Table 1. Demographic data.

| Variables | Persons completing assessments (n=25) | Reference value (general population) | |
|--|---------------------------------------|--------------------------------------|-----------------------|
| Age | 60.6 ± 15.8 (54.1-67.2) | - | - |
| Male (%) | 40.0 (23.4-59.3) | - | - |
| K6 score | 13.6 ± 6.6 (10.8-16.3) | 3.6 ± 3.9 | Sakurai et al., 2011 |
| Persons with psychological distress ^a (%) | 48.0 (30.0-66.5) | 6.7 (6.5-6.9) | Kuriyama et al., 2009 |
| Loss of one or more family members (%) | 0 (0-13.4) | - | - |
| Residence damaged (partially destroyed) (%) | 36.0 (20.0-55.5) | - | - |
| Residence damaged (completely destroyed) (%) | 64.0 (44.5-79.8) | - | - |
| Married (%) | 68.0 (48.4-82.8) | - | - |
| Living alone (%) | 16.0 (6.4-34.7) | - | - |

Data are expressed as mean ± standard deviation (95% confidence interval).

^aPersons scoring ≥13 points (out of a total 24 points) on the K6 were defined as experiencing psychological distress.

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