

## **Life, Health and Community in the massive Tsunami affected town in Japan**

Masaya Kato, Susumu Shirabe and Taro Yamamoto (up to five authors)

Dr. Toshiro Ueta, a general practitioner in Otsucho-cho Town, Iwate prefecture, was seeing his patients when the massive earthquake hit Eastern Japan on 11<sup>th</sup> March. He and his staff escaped immediately after earthquake to the roof-top of their four-story building, where they observed his town submerged under the water. After having spent one night there, they were rescued and taken to an evacuation shelter. Dr. Ueta acted immediately arranging desks, and started providing free medical consultations.

Under such circumstance, Nagasaki University medical relief team joined the efforts of Dr. Ueta from 16<sup>th</sup> March. The shelter-based clinic provided everyday consultations to 70 to 90 patients who came from the shelter and its neighbourhood. Most common reasons for the presentation were the refill of routine medications, upper respiratory tract infections, and insomnia apparently related to the stress increased day after day.

One of the major features of this disaster is that it hit the areas with the high level of population aging. Twenty seven percent of the Iwate's population was the elderly (age 65+) in 2010. Among 221 evacuees at the shelter on 28 March, 38% were at age 65 and over.

Such age structure existed behind the high needs for routine medication refill. Many have had chronic diseases, e.g. hypertension, diabetes and heart diseases. The major challenges for the providers were to identify the medicines that patients had been taking. Pills and patient-held records were often lost with Tsunami. The pharmacist played critical roles in identification and the selection of alternatives from the set of approximately 100 types of available medicines.

Possible infectious disease outbreak has also been the concern. Tap water and sewage systems were destroyed. The rules following defecation had been to wrap their stool with the newspaper and to place them in plastic bag. As cases with acute gastroenteritis suggestive of norovirus infection were found, we facilitated improvement in the hygiene measures, introduced chlorine-based disinfectants and promoted accurate knowledge on the virus transmission.

Despite very challenging conditions, people have worked tirelessly. What was extremely impressive was that evacuees at the shelter have organized functional community. The representatives met every night to discuss the shelter's rules. People shared the chores serving meals, cleaning the living spaces and toilets, and had routine physical exercise together.

External support and interventions should be made in collaboration with such local efforts in planning public health interventions and fostering safety net in their communities.

One figure or table is allowed – some candidate photos / figures.



Fig. Otsuchi-cho town submerged under water after massive Tsunami waves



Fig. Age distribution of the residents at Terano Kyudojo Shelter (28 March 2011)



Fig. Shelter representatives met every night to discuss shelter rules. They also discussed new hygiene rules to prevent infectious disease outbreak.



Fig The clinic at the Terano Kyudojo Shelter. Dr Ueta (left) and Dr Tanaka (right) providing consultation.