ORIGINAL RESEARCH

Ongoing Mental Health Concerns in Post-3/11 Japan

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ABSTRACT

Background: The triple disaster that struck the Tohoku region on March 11, 2011, has had massive psychiatric, social, and physical effects on the people of Japan. A staggering loss of life and property, as well as an ongoing nuclear disaster, has dramatically affected the ability of the country to recover.

Objective: In an effort to better understand the current social, health, and mental health needs of the region affected by the disaster and to share lessons from 9/11, a group of 9/11 survivors and doctors from the Icahn School of Medicine at Mount Sinai traveled to sites throughout the Fukushima, Miyagi, and Iwate prefectures.

Methods: A qualitative analysis was performed on transcripts of the cultural and medical exchanges, which occurred on this trip to identify relevant themes about the problems confronting the recovery effort almost 3 years after the disaster.

Findings: Significant themes that emerged included a crippling radiation anxiety, a considerable stigma toward addressing mental health care, and a shortage of mental health care throughout the region, as well as ongoing psychiatric symptoms such as insomnia, anxiety, and alcohol misuse.

Conclusions: These issues continue to complicate the recovery effort but suggest avenues for future interventions.

Key Words: Japan, 3/11, 9/11, psychiatric

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INTRODUCTION

On March 11, 2011, Japan was struck with a triple disaster with massive consequences affecting the past, present, and future of the country. The Great East Japan Earthquake consisted of 4 earthquakes with a magnitude of 7 to 9 on the Richter scale and hitting within 40 minutes of each other close to the eastern coast of the Tohoku region (the northeastern portion of Japan's largest island, Honshu). This was followed almost an hour later by a massive tsunami, reaching 128 feet (38 m) in height at points, and reaching up to 10 km inland, unleashing further devastation. Additionally, the tsunami crippled the Fukushima Daiichi Nuclear Power Plant (NPP), triggering a nuclear meltdown, a hydrogen explosion, and a leak of radioactive materials (volatile fission products and radioactive noble gasses), prompting a 20-km evacuation zone surrounding the plant. This has been labeled a major accident, the highest level, on the International Nuclear Event Scale. As of September 2012, 15,883 deaths were confirmed, with 6146 injured and 2654 missing. As of August 2013, almost 150,000 people remain relocated in the region, and the clean-up of Fukushima Daichii NPP continues amid ongoing radiation concerns. The World Bank has reported this to be the costliest disaster in world history, with a sum upward of $235 billion.[1-5]

A disaster of this magnitude has far-reaching effects that are further complicated by the radiation threat in a country that has already dealt with significant nuclear tragedies in its history. Its toll has been not only physical but also mental. In the aftermath, a prevalence of acute stress disorder, panic disorder, delirium, psychotic excitement, anxiety, and sleep disorders has been observed.[5] Access to mental health workers and

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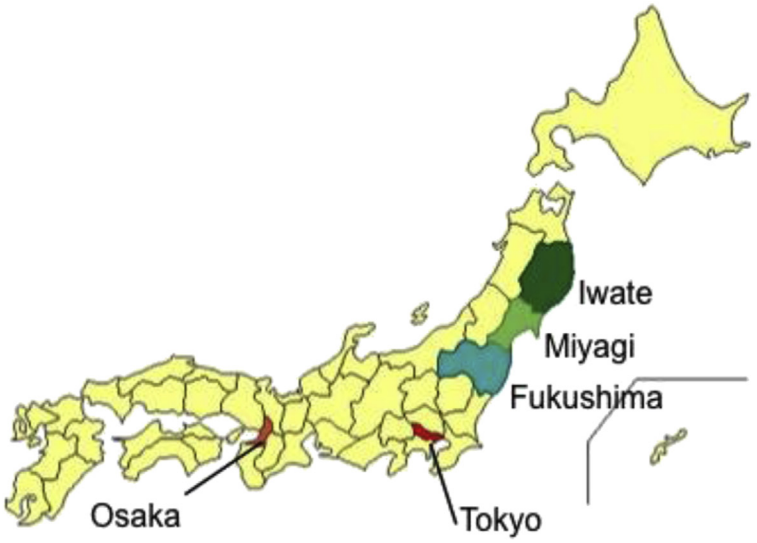

	Osaka	Tokyo	Fukushima	Miyagi	Iwate
Area (km^2) *	1,898	2,188	13,783	7,286	15,278
Population*	8,840,372	12,988,797	2,042,816	2,340,029	1,340,852
Population density (persons/km^2) *	4,657.7	5,937.3	148.2	321.2	87.8
No. of psychiatrist**	908	1,662	215	232	119
No. of psychiatrist/100,000 people	10.3	12.8	10.5	9.9	8.9

* Oct. 1, 2009 **Dec. 31, 2008 Ministry of Health, Labour and Welfare

Figure 1. Map of Japan with associated population and psychiatrist concentrations.

psychiatric medications were limited following the disaster and pervasive stigma against mental illness, not uncommon around the world, further complicated matters.[5] Mental health care response teams were dispatched soon after the disaster, and later, clinical sites such as the Nagomi Mental Health Care Center in Soma (a city in the north of the Fukushima prefecture) opened. Despite this, there remains concern for survivors' long-term mental health.[5] (See Fig. 1 for a map of Japan with population densities as well as associated psychiatrist concentrations in the prefectures before the disaster.)

The United States also has dealt with massive disasters such as 9/11, and studying the mental health outcomes of such events has proven invaluable for future care and prevention. In light of this, a team of doctors from the Icahn School of Medicine at Mount Sinai in New York City traveled to Japan with representatives of families affected by 9/11 to determine what social, health, and mental health care problems and concerns persisted in the Tohoku region almost 2.5 years after the event and to share lessons learned in the United States.

The 10-day trip consisted of personal exchanges with 3/11 survivors and professional exchanges with health and mental health professionals in Tohoku. Through this dialogue, a picture of the long-term psychosocial ramifications of 3/11 emerged that we have attempted to capture by conducting a qualitative study of transcripts of the exchanges. The findings from this study regarding relevance for post-3/11 mental health care and for disaster mental health response in general are presented and discussed here.

METHODS

From August 31 to September 9, 2013, a group of 7 representatives of the September 11th Families' Association, 3 members of the Rotary International Foundation, 3 physicians from the Mount Sinai Medical Center, and 3 translators visited a convenience sample of mental