

Commentary

Mental Health Crisis in Northeast Fukushima after the 2011 Earthquake, Tsunami and Nuclear Disaster

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The great earthquake of 11 March 2011 and resulting tsunami caused serious damage to various areas of the Pacific coast in northeast Fukushima, and all the residents faced fears of meltdown of the reactors at the Fukushima Daiichi Nuclear Power Plant. One of the most seriously affected areas was the district of Soso, located in the northeast part of Fukushima prefecture, with 12 municipalities (Soma City, Minamisoma City, Shinchi Town, Namie Town, Futaba Town, Ōkuma Town, Tomioka Town, Naraha Town, Hirono Town, Iitate Village, Katsurao Village and Kawauchi Village). The district of Soso is home to approximately 200,000 residents, many of whom were seriously affected by the threefold disaster. During the subsequent four years, the population of Soso decreased by nearly 10%. In March 2011 before the disaster, five hospitals and two clinics for psychiatric patients, along with 712 inpatients, were operating in the district of Soso. However, as of March 2015, there were only one hospital and three clinics, along with approximately 50 inpatients, although a new mental health clinic in Soma City was opened in 2012 for supporting victims suffering from the disaster. We hereby suggest that the patients and residents of northeast Fukushima may be undergoing mental health crisis. In fact, disaster-related psychological stress could have induced several physical and mental disorders. The mid- and long-term supports are urgently needed not only for psychiatric patients but also for all residents in the district of Soso.

Keywords: disaster medicine; Fukushima Daiichi nuclear accidents; mental health; post-traumatic stress disorder; 2011 Tohoku earthquake and tsunami

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On March 11, 2011, an earthquake and subsequent tsunami struck Fukushima and led to the meltdown of the reactors at the Fukushima Daiichi Nuclear Power Plant (FDNPP) (Shibahara 2011). Because of radioactive substances released from FDNPP, people have been worried about the long-term health risk of radiation (Ishigaki et al. 2013). As of February 7, 2013, approximately 57,000 inhabitants in Fukushima prefecture have evacuated to other prefectures, and about 100,000 people have moved to other areas within Fukushima prefecture to protect their children from radioactive pollution (Ishigaki et al. 2013). One of the most seriously affected areas was the district of Soso, located in the northeast part of Fukushima prefecture, with 12 municipalities (Soma City, Minamisoma City, Shinchi Town, Namie Town, Futaba Town, Ōkuma Town, Tomioka Town, Naraha Town, Hirono Town, Iitate Village, Katsurao Village and Kawauchi Village) (Fig. 1). The district of Soso is home to approximately 200,000 residents, many of whom were seriously affected by the threefold

disaster.

According to the results of the Fukushima census on March 1, 2011 and 2015, the population of Soso went down by 17,664 during the past four years. In March 2011 there were 16 hospitals and 96 clinics in Soso, and as of March 2015, they have decreased to 9 hospitals and 55 clinics. One of the most affected medical fields was psychiatrics. As shown in Fig. 2, five hospitals and two clinics for psychiatric patients, along with 712 inpatients, were operating in 12 municipalities of Soso on March 11, 2011 (Yabe 2013). However, as of March 2015, there were only one hospital and three clinics, along with approximately 50 inpatients, although a new mental health clinic in Soma City was opened in 2012 for supporting victims suffering from the disaster. These data suggest that the residents of Soso may be undergoing mental health crisis.

Previous studies have shown that disaster-related psychological stress could have induced several physical and mental disorders (Kanno et al. 2013; Tsuboi et al. 2014; Hasegawa et al. 2015), but mental health care for all victims seems to be insufficient. In fact, it is still difficult to

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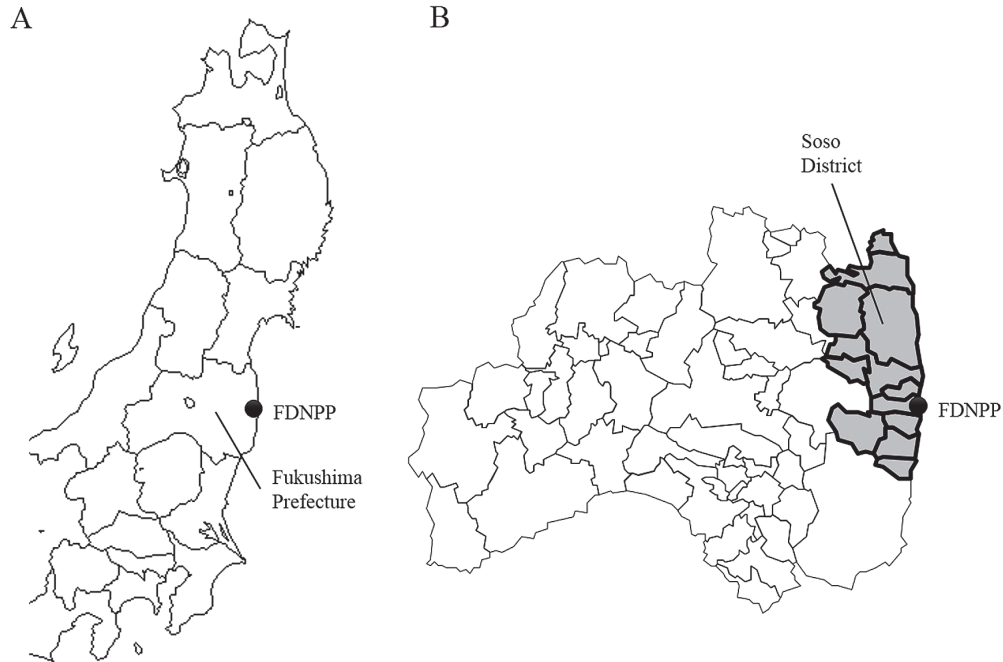


Fig. 1. Fukushima prefecture and the district of Soso.

(A) The location of Fukushima prefecture is shown and Fukushima Daiichi Nuclear Power Plant (FDNPP) is schematically indicated (circle). (B) The district of Soso, with 12 municipalities in Fukushima prefecture, is highlighted.

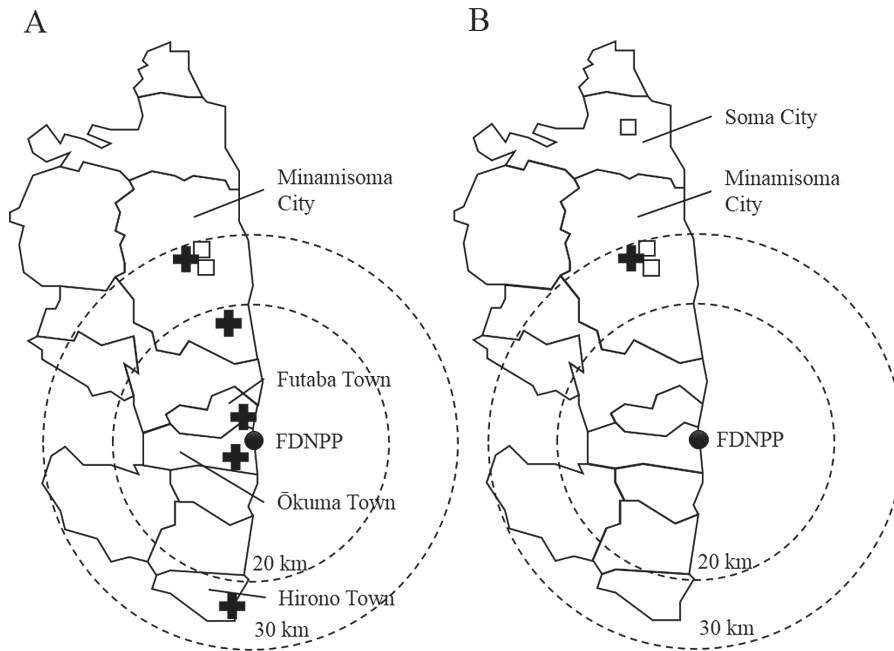


Fig. 2. Hospitals and clinics for psychiatric patients in the district of Soso.

In the simple map of 12 municipalities of Soso, Fukushima Daiichi Nuclear Power Plant (FDNPP) is schematically indicated (circle), and hospitals (crosses) and clinics (squares) for psychiatric patients are shown as of March 2011 (A) and 2015 (B).

know the number of people in Soso who are now suffering from post-traumatic stress disorder or other mental disorders caused by the disaster, because of the scarcity of mental health specialists. Such an ineffectual approach could lead to disaster-related disorders being discovered within

this population only at advanced stages, rather than at earlier and more treatable stages. The mid- and long-term supports are urgently needed not only for psychiatric patients but also for all residents of Soso.

Conflict of Interest

The authors declare no conflict of interest.

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