



Research paper

Cumulative incidence of suicidal ideation and associated factors among adults living in temporary housing during the three years after the Great East Japan Earthquake



Qingyi Xu^{a,b,1}, Maiko Fukasawa^{a,1}, Norito Kawakami^{a,*}, Toshiaki Baba^a, Kiyomi Sakata^c, Ruriko Suzuki^d, Hiroaki Tomita^e, Harumi Nemoto^e, Seiji Yasumura^f, Hirooki Yabe^f, Naoko Horikoshi^f, Maki Umeda^g, Yuriko Suzuki^h, Haruki Shimoda^c, Hisateru Tachimori^h, Tadashi Takeshima^h, Evelyn J. Brometⁱ

^a Department of Mental Health, Graduate School of Medicine, The University of Tokyo, Japan

^b Department of Psychiatry and Mental Health Psychology, Dalian Medical University, China

^c School of Medicine, Iwate Medical University, Japan

^d Iwate College of Nursing, Japan

^e Department of Disaster Psychiatry, International Research Institute of Disaster Science (IRIDeS), Tohoku University, Japan

^f Fukushima Medical University School of Medicine, Japan

^g Graduate School of Nursing Science, St Luke's International University, Japan

^h National Institute of Mental Health, National Center of Neurology and Psychiatry, Japan

ⁱ Stony Brook University, USA

ARTICLE INFO

Keywords:

Suicidal ideation
Disaster
Incidence
Risk factor

ABSTRACT

Background: The effect of disasters on suicidality is not known. We aimed to retrospectively determine the cumulative incidence of suicidal ideation during the 3 years after the Great East Japan Earthquake among residents in temporary housing without prior suicidal ideation, as compared to the general population. Moreover, we aimed to identify the risk factors for the onset of suicidal ideation.

Methods: A cross-sectional survey involving face-to-face interviews was conducted 3 years after the earthquake with adult community residents in disaster-affected areas and a control area using the World Health Organization Composite International Diagnostic Interview version 3.0. We compared the cumulative incidence of suicidal ideation between the two areas using the Cox proportional hazard model and examined risk factors for the onset of suicidal ideation using a multiple logistic regression analysis.

Results: Among 1019 respondents in the disaster-affected areas, the cumulative incidence of suicidal ideation over 1, 2, and 3 years after the earthquake was 1.4%, 2.4%, and 2.8%, respectively, which was significantly higher than that in the control area. Not being married, being injured in the disaster, and poor subjective physical health were associated with the onset of suicidal ideation.

Limitations: We estimated the time of onset of suicidal ideation based on the respondents' current age and self-reported onset age, which limits the accuracy of the onset timing.

Conclusions: We revealed a higher incidence of suicidal ideation in temporary housing residents and identified several risk factors, which suggests the importance of developing countermeasures to prevent suicide after a disaster.

1. Introduction

The Great East Japan Earthquake on March 11, 2011 caused massive damage in a coastal area of the Tohoku region in Japan, especially in three prefectures, namely, Iwate, Miyagi, and Fukushima. A total of

18,440 people died or went missing, among which 99.6% were from these three prefectures (National Police Agency, 2017). In addition, because of the Fukushima Daiichi nuclear power plant accident following the massive earthquake and tsunami, approximately 150,000 residents in Fukushima prefecture were forced to evacuate. The number

* Correspondence to: Department of Mental Health, Graduate School of Medicine, The University of Tokyo, 7-3-1 Hongo Bunkyo-ku, Tokyo 113-0033, Japan.

E-mail address: nkawakami@m.u-tokyo.ac.jp (N. Kawakami).

¹ Equal contribution.

of individuals living in temporary housing 1 year after the earthquake was about 124,000, and was still about 101,000 after 3 years (Reconstruction Agency, 2017).

After the Great East Japan Earthquake, in these three severely damaged prefectures, the suicide rates decreased in the first two years and rose in 2014 (Ohto et al., 2015). Although gender differences were indicated (Hyodo et al., 2010; Nishio et al., 2009; Orui et al., 2014, 2015; Shioiri et al., 1999), similar patterns were also reported after other massive earthquakes occurred in Japan such as the Great Hanshin-Awaji Earthquake and the Niigata-Chuetsu earthquake, where suicide rates decreased during the first 2 or 3 years (Hyodo et al., 2010; Nishio et al., 2009). However, a review of 19 studies on suicide mortality and 23 on non-fatal suicidal behaviors after various natural disasters showed inconsistent patterns (Kölves et al., 2013) and the effect of disasters on suicide rates is unknown.

The prevalence of suicidality, i.e., suicide-related thoughts and non-fatal suicidal behaviors, such as suicidal ideation, suicide plan, or suicide attempt, in adult community residents at 6 months to 3 years after a natural disaster was reported to be 3.8–20% (Chou et al., 2005, 2007; Kessler et al., 2008, 2006; Larrance et al., 2007; Stratta et al., 2012; Suzuki et al., 2011; Wagenaar et al., 2012; Wu et al., 2006). Suzuki et al. (2011) reported in their cross-sectional study of community-dwelling elderly people conducted 3 years after the Niigata-Chuetsu earthquake in Japan that the point prevalence of suicidality was 5.2%, and 6.1% of the respondents had experienced varying levels of suicidality during the 3-year period after the earthquake. A cohort study conducted after the Chi-Chi earthquake in Taiwan in 1999 reported an increase in the prevalence of suicidality from 4.2% at 6 months after the earthquake to 5.6% at 2 years and 6.0% at 3 years following the earthquake (Chou et al., 2007). A study comparing the prevalence of suicidality between a group affected by the L'Aquila earthquake and a non-affected group found that the proportion of people with suicidal intention was 3.54 times higher in the disaster-affected group 1 year after the earthquake (Stratta et al., 2012).

While studies reporting post-disaster prevalence of suicidality have accumulated, few studies have focused on the incidence of suicidality after a disaster. Kessler et al. (2008) reported that 1.5 years after Hurricane Katrina, 6.4% and 2.5% of a representative sample of residents had suicidal ideation and suicide plans, respectively; and among those who reported suicidality, 24.1% of the suicidal ideation and 46.6% of the suicide plans occurred after the baseline survey conducted 5–7 months after the hurricane. Chou et al. (2007) reported that among 207 residents without suicidality at 6 months after the Chi-Chi earthquake, 8 (3.9%) reported suicidality at 2 years after the earthquake, and 10 (4.8%) reported it at 3 years. Kessler et al. (2006) compared the proportion of the first onset of suicidality during the past year 2.5–4.5 years before and 5–7 months after Hurricane Katrina among individuals with probable mental illness and found a significantly lower onset rate after the hurricane, suggesting the possibility of suppression of suicidality onset immediately after a disaster. However, since these studies did not use control groups, whether the incidence of suicidality in the affected area differed from that in other areas is unclear. Besides, their sample sizes were relatively small.

Socio-demographic characteristics such as female gender, younger age, and low income have been reported as risk factors for suicidality after a disaster (Chou et al., 2005; Kessler et al., 2008, 2006; Stratta et al., 2012). Post-disaster psychiatric diseases/symptoms (Caldera et al., 2001; Chou et al., 2007; Wagenaar et al., 2012) and previous mental health problems (Caldera et al., 2001) were also found to be strongly associated with suicidality after a disaster. Disaster-related experiences such as destruction of property and injury to relatives (Chen et al., 2001) as well as the overall disaster-related stressors (Kessler et al., 2008) were also found to be associated with post-disaster suicidality. However, risk factors especially related to the onset of suicidality after a disaster are unknown.

Poor mental health among evacuees living in temporary housing

after the Great East Japan Earthquake has been reported (Nagata et al., 2015; Yabuki et al., 2015). Displacement has been shown to be linked with poor mental health after disasters (Abramson et al., 2008; DeSalvo et al., 2007; van Griensven et al., 2006). Moreover, a high prevalence of suicidal ideation was reported among displaced persons in travel trailer parks after Hurricane Katrina (Larrance et al., 2007). Therefore, it is important to determine whether the onset of suicidality increases among residents in temporary housing after a disaster and reveal the associated factors in order to provide necessary support and prevent suicide.

In this study, first we aimed to retrospectively determine the cumulative incidence of suicidal ideation during the 3 years after the Great East Japan Earthquake among residents who lived in temporary housing built in a disaster-affected area and had no prior suicidal ideation, and compare it with that in the general population. Secondly, we aimed to investigate the risk factors for the onset of suicidal ideation, including socio-demographic characteristics, disaster-related experiences, and self-rated physical and mental health.

2. Methods

2.1. Study population

2.1.1. Disaster-affected area

In the present study, the target population consisted of adult community residents, aged 20 years and older, living in temporary housing built in the most severely affected prefectures: Iwate, Miyagi, and Fukushima. In Iwate prefecture, individuals were recruited from two large-scale temporary housing districts located in one municipality, from which 437 adult residents were identified and recruited. In Miyagi prefecture, we targeted all six temporary housing districts in the prefecture located in one municipality, from which 592 adult residents were identified and recruited. In Fukushima prefecture, individuals were recruited from five temporary housing districts located in two municipalities. Since we could not obtain information on the number of residents aged 20 years and older living in these five temporary housing districts, we contacted 446 out of 696 chambers and found 755 residents aged 20 years and older. Therefore, we estimated that 1178 (755*[696/446]) adult residents lived in these five temporary housing districts in Fukushima. To determine the incidence of suicidal ideation after the Great East Japan Earthquake, we excluded the respondents who reported prior suicidal ideation.

2.1.2. Control area

Our control population was selected using a two-stage random sampling method. In the first stage, 37 districts were randomly selected in Eastern Japan (excluding Kanto area, i.e., capital region), and in the second stage, 50 residents aged 20–74 years from each district were randomly sampled based on the population registry. Thus, a total of 1850 individuals were identified.

2.2. Data collection

We conducted cross-sectional face-to-face interview surveys in each area about 3 years after the Great East Japan Earthquake, which occurred in March 2011. In Iwate and Miyagi prefectures, we conducted the surveys between June and August 2014, and in Fukushima prefecture, between October 2013 and February 2014. In the control area, we conducted the survey from August to November 2014. Computer-assisted individual interviews were conducted by trained lay interviewers.

2.3. Study variables

Suicidal ideation was assessed using the Japanese version of the World Health Organization Composite International Diagnostic

Download English Version:

<https://daneshyari.com/en/article/8815536>

Download Persian Version:

<https://daneshyari.com/article/8815536>

[Daneshyari.com](https://daneshyari.com)