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Trauma and posttraumatic stress disorder in Japan: Results from the World Mental Health Japan Survey

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ABSTRACT

The purpose of the study was to report the prevalence of trauma exposure and PTSD, conditional risk of PTSD associated with each trauma exposure in the community population in Japan. An interview survey was conducted of a random sample of adult residents in 11 communities of Japan. Among 4134 respondents (response rate, 55%), data from those who completed the part 2 interview ($n = 1682$) were analyzed with a weight for this subsample. Lifetime experiences of 27 trauma events and PTSD were assessed using the WHO-Composite International Diagnostic Interview version 3.0. Sixty percent of the part 2 sample reported exposure to at least one lifetime traumatic event. Lifetime and 12-month PTSD prevalences were 1.3% and 0.7%, respectively. Percentage of all months lived with PTSD in the population was predominantly accounted for by physical/sexual assaults and having a child with serious illness, and unexpected death of loved one. Ten percent of respondents reported "private events", for which respondents did not have to describe the content, which accounted for 19% of months with PTSD. The lower prevalence of PTSD in Japan seems attributable to lower conditional risks of PTSD following these events, as well as different distributions of the events. The greater impact of events that occurred to loved ones rather than to oneself and "private events" on PTSD in Japan warrants further research of cross-cultural assessment of trauma exposure and cultural heterogeneity in the trauma-PTSD relationship.

1. Introduction

Posttraumatic stress disorder (PTSD) occurs after exposure to traumatic events and is characterized by symptoms of re-experiencing, numbing and hyperarousal. Lifetime exposure to traumatic events is very common ranging from 50% to 80% in community samples (Atwoli et al., 2013; Kessler et al., 1995; Mills et al., 2011; Norris et al., 2003; Seedat et al., 2009) and a primary care sample (Bruce et al., 2001). However, the vast majority of persons exposed to a traumatic event do not develop PTSD. The prevalence of PTSD varies widely across countries (Karam et al., 2014; Kessler et al., 2007; Matsuoka et al., 2010). For instance, the World Health Organization (WHO) Word Mental Health Surveys reported that mean 12-month prevalence of PTSD was 1.1%, but the prevalence ranged from 0.4% to 3.8%, among 20 participating countries (Karam et al., 2014). The 12 month prevalence of PTSD was high (3–6%) in Western countries, such as the US (Kessler et al., 2005a; Kessler et al., 2005b; Kessler and Wang, 2008; Pietrzak et al., 2011), Australia (Chapman et al., 2012; Mills et al., 2011) and New Zealand (Oakley Browne et al., 2006; Wells et al., 2006), and was low among Asian countries (0.7% in Korea and 0.2% in China)(Cho et al., 2007; Shen et al., 2006). This cross-national variation in prevalence of PTSD could be explained by differential prevalences of traumatic exposures and/or a conditional risk of PTSD by the type of trauma exposure (Breslau et al., 1998; Bruce et al., 2001; Kessler et al., 1995; Norris et al., 2003; Pietrzak et al., 2011; Zlotnick et al., 2006), both of which could vary among countries depending on the social and cultural background. However, information of the trauma exposure patterns and the conditional risk of PTSD following exposure to trauma in low prevalence countries, such as Asia, is still lacking.

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In Japan, 12-month prevalence of PTSD was reported as 0.4% (Kawakami et al., 2005), which is lower than ones reported in the US (Kessler et al., 2005a, 2005b) and New Zealand (Oakley Browne et al., 2006; Wells et al., 2006); it was close to those in Korea and China (Cho et al., 2007; Shen et al., 2006). While traumatic events were reported to be quite common (80%) among women in a primary care sample (Mizuta et al., 2005), traumatic events related to crime and violence are less frequent in Japan (OECD., 2009). On the other hand, Japan is at a higher risk of natural disaster (United Nations University Institute for Environment and Human Security, 2012), which may contribute to the increased risk for psychological distress and PTSD in Japan (Fukuda et al., 2000; Goto et al., 2002; Kato and Iwai, 2000; Kuwabara et al., 2008; Suzuki et al., 2011). Motor vehicle accident (Hamanaka et al., 2006; Matsuoka et al., 2008; Nishi et al., 2013), the illness of one's own (Akechi et al., 2004) or families (Nagata et al., 2008) , bereavement (Shirai et al., 2005), terrorism attack(Kawana et al., 2001; Ohtani et al., 2004), and being atomic bomb survivors (Ohta, 2002) were also reported to be associated with PTSD in Japan. However, these studies are methodologically weak, of samples only exposed to traumas, often using a symptom checklist to identify PTSD cases, and none was based on a whole community population. It would be interesting to know how a unique pattern of the exposure to traumatic events and the conditional risk of PTSD associated with such events in Japan contribute to the lower prevalence of PTSD in this country, and to know if there is a particular trauma which has a greater impact on PTSD in Japan than in Western countries. However, there is no previous study which has provided such an overall picture of trauma exposure and PTSD in the whole community population of Japan, using comparative methodology with previous surveys in the US and Europe.

For demographic correlates of PTSD, previous research has reported that female gender (Creamer et al., 2001; Kessler et al., 1995; Pietrzak et al., 2011), younger age (Creamer et al., 2001) or middle-age (Pietrzak et al., 2011) and being previously married or single (Atwoli et al., 2013; Creamer et al., 2001; Kessler et al., 1995; Pietrzak et al., 2011) and poor socioeconomic position (Carey et al., 2003; Pietrzak et al., 2011) were associated with PTSD. Women were at higher risk of PTSD than men, even after controlling for type of trauma (Breslau et al., 1999; Kessler et al., 1995); so were women being previously married (Kessler et al., 1995). Previous exposure to trauma signaled a greater risk of PTSD from subsequent trauma (Breslau et al., 1999). There is still limited research on the demographic-trauma exposure-PTSD associations outside Western countries.

The purpose of the study was three-fold. First, the study reports 12-month and lifetime prevalences of PTSD in the community population in Japan, based on the World Mental Health Survey Japan (WMH-J). While we already reported a 12-month prevalence based on part of the sample in this survey done in 2002 and 2003 (Kawakami et al., 2005), the study updates the prevalences using a larger final sample collected between 2002 and 2006. Second, the study reports lifetime prevalences of trauma exposure, conditional risk of PTSD associated with trauma exposure, and proportion of PTSD cases attributable to each trauma exposure. Third, the study reports demographic correlates of lifetime PTSD.

2. Methods

2.1. Sample

Analysis was conducted on the data collected by WMH-J from 2002 until 2006 (Kawakami et al., 2005), which was a part of the cross-national World Mental Health surveys (WMH)(Kessler et al., 2006). Survey participants were community residents aged 20 years or older and were randomly selected from voter registration lists or resident registries at 11 collaborating survey sites.

2.2. Data collection

Participants were interviewed face-to-face using a computer-assisted personal-interview. The instrument used in this study was the Japanese translation of the World Health Organization Composite International Diagnostic Interview (WHO-CIDI), version 3.0 (Kessler and Ustun, 2004), a fully structured diagnostic interview that was developed to make an adequate diagnosis in a research setting, which is conducted by trained lay interviewers. All participants were administered part 1 of the interview for core diagnostic assessment (n = 4,134, response rate = 55.1%). To decrease respondents' burden of the interview, part 2 of the interview was only administered to a random sample (n = 1682) of respondents to the part 1 interview. This internal sampling was done so that all respondents with a history of mental disorders based on the part 1 interview and a probability sample (9% for three sites, and 20% for the remaining sites) of respondents without the history were interviewed in the part 2. The current study used the subset of the part 2 sample, which enquired about traumatic events and PTSD.

The participation in this study was completely voluntary, and anonymity and confidentiality were assured. Written consent was obtained from each respondent. The human subject committees of Okayama University Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences; Japan National Center of Neurology and Psychiatry; Nagasaki University Graduate School of Biomedical Sciences; Yamagata University Graduate School of Medical Science; and Juntendo University Graduate School of Medicine approved the recruitment, consent, and field procedures.

2.3. Measures

2.3.1. Trauma exposure

The PTSD module of the WHO-CIDI assessed the lifetime experience of 27 traumatic events. Traumatic events were categorized into 6 event classes as follows: (1) war events (seven events), (2) physical violence (five events), (3) sexual violence events (three events), (4) accidents (six events), (5) death (unexpected death of a loved one only), (6) network events (five events) (see Table 1 for the detailed list). An additional question inquired about other traumatic events not included in this list. Positive responses to this question were followed further detailed probing, and the results were reviewed by a trained clinical rater to determine whether the events qualified as trauma. A final open-ended question obtained information about qualifying events that respondents did not report because of embarrassment, and this event was coded as 'private events'.

2.3.2. PTSD assessment

Lifetime PTSD was assessed based on the respondents' self-reported worst lifetime trauma and on one randomly selected trauma from all those reported by the respondent as ever having occurred to him/her. Weights were applied to the randomly-selected traumatic events to adjust for the fact that they represent only a sample of the respondent's lifetime traumas. This produced a weighted dataset in which each trauma was represented in the proportion it occurred in the population. The remaining criteria for PTSD were assessed for each worst and each random event. Criterion A2 was considered met if the respondent endorsed any of three questions about whether, at the time of the traumatic event, he/she felt terrified or very frightened, helpless, shocked, or horrified. The remaining criteria were then assessed whether or not A2