

## Editorial

# Great East Japan Earthquake and Early Mental-health-care Response

ON 11 MARCH 2011, a devastating earthquake struck off the coast of Japan, causing blustering tsunami that swept over the northeast coast of the country. Many struggled to evacuate from their homes, schools and workplaces as 8–9-meter-tall tsunami rapidly reached the coast within half an hour after the earthquake (Emergency Disaster Response Headquarters). The officials reported a record-breaking magnitude of 9.0 (Mw), which made this earthquake the greatest earthquake in the country's history. It had not been long since the last massive earthquake had hit Kobe in 1995, killing 6434 people (Japan Meteorological Agency). The Japanese government immediately set up the Emergency Disaster Response Headquarters to initiate disaster relief. As many as 156 countries offered support through releasing emergency aid, and sending medical teams and relief workers (Emergency Disaster Response Headquarters). While the country was struggling with aftershocks, the impact of the earthquake and tsunami led to explosions and leaks of radioactive gas at the Fukushima Daiichi Nuclear Power Station. This nuclear crisis was categorized as being as severe as the accident in Chernobyl and has been considered as an international emergency. The Nuclear Emergency Response Headquarters has been taking measures to halt the worst nuclear crisis in the nation's history. The official death toll from the earthquake and tsunami has reached 14 998 as of 12 May 2011, and as many as 9761 people are still missing (the National Police Agency of Japan). Tens of thousands of residents within a radius of 30 km from the power station were legally enforced to evacuate from their communities, to be housed in temporary shelters (Emergency Disaster Response Headquarters).

## MENTAL HEALTH COUNTERMEASURES

### Initial response

In contrast to the previous great earthquakes in Kobe<sup>1</sup> and Niigata,<sup>2</sup> where the damage was mostly restricted

to one prefecture and its local government organized the mental-health-care provision, the scope of the disaster this time was much larger and included three prefectures and one ordinance-designated city, so it was necessary to set up comprehensive mental-health-care planning to cover all the affected areas beyond the prefecture boundaries. The overall headquarter role was assumed by the Ministry of Health, Labor and Welfare (MHLW) in addition to spontaneous initiative roles taken by academic and clinical organizations of psychiatric and co-medical professions.

Some academic associations and institutes also took immediate countermeasures. Within 2 days of the initial seism, the Japanese Society for Psychiatry and Neurology (JSPN) set up a disaster response committee followed shortly by a mental-health-care disaster response operation center,<sup>3</sup> gathering a number of academic, clinical and co-medical organizations, such as the Japanese Association of Psychiatric Hospitals, Japan Municipal Hospital Association, Japanese Association of Neuropsychiatric Clinics, Japan Association of Chairpersons of Departments of Psychiatry, Japanese Society of Traumatic Stress Studies, Japanese Association for Emergency Psychiatry, and others, which sent mental health teams or professional advisors to the afflicted sites; those organizations also set up committees of their own, some of which also sent mental-health-care teams and personnel to the affected sites. JSPN also declared the general policy of post-disaster mental health countermeasures,<sup>4</sup> followed by updated information by the disaster response operation center.<sup>5–7</sup>

On the third day, the National Center of Neurology and Psychiatry (NCNP) decided to launch an information website, to set up more than 20 guidelines or manuals that covered the overall policy of mental-health-care provision for the specific treatment of, for example, handicapped children or demented elderly patients. The site quickly came to be recognized as the most reliable and authoritative information

resource by the MHLW and other organizations involved in post-disaster mental health care.

### General background

An urgent and crucial issue was to continue psychiatric service for those patients whose treatment was disrupted after the disaster due to transportation difficulty through ruined towns and villages, or the damage to mental clinics and hospitals themselves. The shortage of mental drugs was also a problem. The initial difficulty was that the supply of gas fuel was quite limited and the train network was almost stopped because the roads and railroads were ruined; also, aftershocks meant that secondary transportation accidents were a threat. For that reason, even local government staff could not easily go to the afflicted coastal areas, sometimes 200–300 km away from the local government capital. Telephone communications, including mobile phones, were also out of use. Despite tremendous efforts, these issues made it difficult to obtain exact information about the disaster sites, to supply the necessities of life and medical supplies, and, above all, the systematic rescue and care of victims.

It was also a worrying problem that the traumatic impact of the disaster would cause immediate severe distress, clinical or subclinical, resulting in the manifestation of acute delirium, panic, late post-traumatic stress disorder (PTSD), bereavement and depression.<sup>1,2</sup> The perception of the great tremble, the impact of the tsunami, the loss of family members and friends as well as the witness of corpses would generate traumatic memories, followed by the persistent distress of living in shelters, mostly the gymnasiums of local schools, with hardly any privacy.<sup>7</sup>

### Transportation of psychiatric inpatients

The transportation of inpatients from collapsed psychiatric hospitals was a matter of urgent concern. Three psychiatric hospitals in Miyagi prefecture and two in Fukushima lost their function due to the earthquake and tsunami and five psychiatric hospitals near the atomic plant in Fukushima did so a short time later for fear of suspected contamination with radioactivity. As a result, more than 1000 inpatients lost beds. On the second day after the disaster, 14 March, the MHLW surveyed the capacity of psychiatric hospitals for new admission in the non-afflicted prefectures around Tokyo and Tohoku. Within 10 days after

the disaster, transportation was almost completed to other hospitals within the same prefecture or in distant areas. In Japan, the number of inpatient beds is determined by the government, but the number of beds in nearby hospitals was not sufficient, so that the admission of patients beyond the permitted number was temporarily allowed by the MHLW and some hospitals were transferred to hospitals in distant and unaffected prefectures, such as Tokyo.

The below-mentioned on-site mental-health-care teams provided a temporary outpatient service for the patients of the collapsed hospitals or clinics, or for those who could not reach mental facilities due to damaged roads.

### Supply of psychiatric drugs

The supply of psychiatric drugs risked running short, as the expressways were collapsed and railroads were destroyed everywhere. In response to an appeal from the afflicted local governments, drugs were conveyed by the MHLW, Japanese Associations of Psychiatric Hospitals. JSPN also played an advisory role in the effective distribution of drugs. Some pharmacological companies also donated drugs. The concern for the shortage of psychiatric drugs was most serious in antidepressant drugs or anticonvulsants, which in turn caused the restriction of the days of the prescription of those drugs in further areas, such as Tokyo. Some anticonvulsants are usually prescribed for up to 180 days, but for some time after the disaster, this was restricted to around 30 days.

### Mental-health-care teams

The MHLW immediately scheduled and organized the dispatch of mental care response teams composed of psychiatrists, nurses, and/or psychologists, psycho-social workers, and clerks. The teams from national psychiatric hospitals, organizations such as the Japanese Association of Psychiatric Hospitals, the Japanese Association of Neuropsychiatric Clinics, and the Japan Association of Chairpersons of Departments of Psychiatry, were registered through the MHLW to the local governments, and their visiting schedule and working place were allocated in order to meet actual needs and to avoid overlapping of resources. In some cases, not teams but medical staff of a certain profession were sent, or voluntarily went, to those hospitals that were damaged or whose staff members were affected. The exception is the Red Cross, which is

allowed to send medical teams by Japanese law independently of the government's decision.

Even before the scheduling system came to work effectively, which actually took several days, some medical organizations spontaneously sent mental health teams, based upon their own information or personal communication with the directors of psychiatric departments of universities or hospitals of the afflicted sites. During the first 1 or 2 weeks, some of those teams entered the afflicted sites without notification to the local or national governments, but they soon came to be organized into the unanimous dispatching schema. Most teams came at first to the local government or the affiliated center of mental health and welfare, mandatorily founded to each prefecture, to receive an explanation of the ongoing mental health care and policy, and received mental-health-care manuals that contained the description of policy, assessment, and reporting procedures and forms, which goes in accordance with the national post-disaster mental health guideline issued in 2003. Otherwise they could download the guideline, manual and road map from the information website set up by the NCNP on 16 March. They were asked to send daily and weekly reports to the local government mental health office.

Within several days, the mental health teams dispatched via MHLW started their activity on the affected areas and the number of districts supported by those teams soon increased to be 30 in around 2 weeks, excluding the Red Cross teams and those who went there spontaneously without registration. The MHLW wished that from 1 month after the disaster, each team would hold responsibility for a certain district, but most teams voluntarily did so at an earlier phase, in that they spontaneously made routine teams to be sent successively, around every week, to provide continuous on-site mental care. They rounded among refugee shelters amidst various administrative and medical teams, and in the initial phase their major task was to continue treatment and medication for the patients who had already been treated by psychiatrists prior to the disaster. Some cases of acute stress disorder, panic attack, delirium or psychotic excitement were also reported, precipitated by the adjustment difficulty to a new refugee shelter. Such cases were even reported from the medical professionals who witnessed the ruined towns and injured dead bodies. Along with the time course, the reports of such fresh cases disappeared.

The treatment of people involved in the recovery process was also a critical issue and a focus of social concern.<sup>8–10</sup> In most cases, such activity was composed of psycho-education, supportive counseling and temporary medication of distressing mental symptoms, on an outreach basis to the refugee camps. Subclinical distress and emotional upset were also seen, but the majority of the affected people did not show overt symptoms, although they occasionally uttered a deep sense of sorrow. This is a similar behavior to what had been observed after the Great Niigata Earthquake in 2005, which also occurred in traditional rural areas of Japan, where people are accustomed to a restrained manner of behavior and the expression of negative feelings in front of other people is strongly avoided. Such a restrained manner, however, is different from being mentally intact, and some reports from this disaster say that some people who lost their family members in the tsunami were composed during the daytime but sobbed outside the refugee camps at midnight.

### Information provision

#### *General policy*

As mentioned above, the NCNP launched a website for adequate information provision. It contained the Japanese Guidelines on Post-disaster Mental Health Care, its manual, road map, and leaflets. In order to provide effective mental health care, it is crucial that professional mental-health-care providers share a common understanding of both the nature of disaster-related stress reactions and the rationale of intervention. From the bitter experience of Kobe where a flood of various types of information arrived from abroad or other areas of Japan, it was necessary to avoid confusion regarding the concept of mental health care in the acute phase, by establishing a standard guideline. The JSPN also joined the process of information provision by creating a mirror site of the NCNP information site.

#### *Professional collaboration*

JSPN's disaster response operations center also mediated collaboration with international societies, such as the World Psychiatric Association (WPA), by setting an international telephone meeting or by arranging presentations at such international meetings as the WPA. It also responded to an erroneous report from abroad, written by a person who came to

the disaster site immediately after the initial seism and jumped to the conclusion that Japan was ill-prepared to provide psychological care for victims, a statement that did not support but discouraged the care-givers, who would continue to live with the victims to take care of them. To make matters worse, the report emphasized that acute psychological intervention would prevent future post-traumatic symptoms, an idea no longer supported by any contemporary guidelines.

#### Research ethics

JSPN issued a statement<sup>11</sup> to promote the ethical awareness of researches, which was also a crucial concern. The boundaries between support and research can sometimes be obscured and some researches were actually planned and carried out without adequate ethical preparation. The Japanese National Ethical Guideline for epidemiological researches says that in emergency disaster cases, the dean of medical or other universities can give permission to research planning that meets the immediate needs of the victims without holding an ethical committee. Even such a simplified ethical procedure risks being ignored and could result in an abuse of victims through interviews about their distress, which they believe to be a support, but are actually aimed at research purposes.

#### Policy for acute mental health care

In post-disaster mental health care, humanitarian mental support tends to be confused with the psychiatric primary and secondary prevention of mental disorders, as is stated in the NCNP brochure, 'What is mental health care?' on the information website. Since the time of the great Kobe earthquake, we have experienced considerable confusion caused by the imported concept of psychological debriefing or any other acute psychological intervention focused on trauma. This concept not only said that it would be effective for preventing future post-traumatic symptoms but also nearly accused the local care-givers of not doing such an intervention and of leaving the victims in the malicious process of chronic agony. It is, of course, a precious human deed to sit aside victims and listen to their sufferings so far as it is desired by the victims themselves; however, it is a totally different story to unanimously encourage or force them to talk about terrible experiences and to

express deep sorrow and terror with risks of worsening their symptoms and preventing the natural recovery process, which is actually expected to occur in the majority of cases. The concept of the efficacy of early psychological intervention focused on trauma has been criticized and rebutted repeatedly; after the 9/11 terrorist attack the American Psychological Association issued a statement of warning against the technique of psychological debriefing.

Even when the psychological debriefing has been discarded as a credited early intervention, belief in the healing power of touching the trauma still prevails. An early international report<sup>12</sup> written by a temporary visitor positively reported an intervention carried out, also by a foreign visitor, with a child, who cried after his intervention. It revealed the risk that the child was just emotionally disturbed rather than being comforted by such a trauma-focused intervention by a visiting foreigner who was not accustomed to the manner of emotional expression in the local culture and where the intervention was not followed by sustainable psychological support in the community. The report is not only incorrect in its content, but also obstructs continuous mental care efforts on site.<sup>13,14</sup> It would be an issue of further discussion why such a rash view is generated in the aftermath of a tremendous tragedy, with a split and inaccurate view of what is all good and bad.

The Japanese Guideline on Post-disaster Mental Health Care was published in 2004,<sup>15</sup> in which an emphasis upon resilience and natural recovery process is clearly stated, and mental health professionals are requested to refrain from trauma-focused on-site intervention in the early phase. The guideline was disseminated by the MHLW to all the local area governments and has been used as an official standard guideline in post-disaster mental health care in Japan, including the disaster this time. After the tsunami disaster in Indonesia and Thailand, the guideline was translated into English, Indonesian and Thai. The outline of the guideline is attached as an appendix.

The Guideline stated that we should respect resilience and it is important to watch and wait for the spontaneous recovery process.<sup>15</sup> Furthermore, psycho-education should be focused on the natural course of psychological response and how to cope with this, instead of threatening victims with the gloomy picture of their psychological outcome, while it is also important to offer an outreach service to help the vulnerable. Overall, the strategy of this guideline will be introduced in the following. The

guidelines from the National Institute of Clinical Excellence<sup>16</sup> and Inter-Agency Standing Committee<sup>17</sup> follow the same principle, however they were developed independently from Japanese experience, that watchful waiting is important, as is expressed in the NICE guideline.

Among Japanese mental health professionals, this view of psychological intervention in the acute phase has been widely prevailing, but it has not been disseminated into every corner of the activity. Some psychological professions and the media still emphasize the expression of traumatic memory as a useful way of preventive and healing intervention. The technique has been used even outside of the psychological profession: an organization tried to let affected children paint their psychological state and exhibited the paintings in order to show their power for recovery and to encourage the victims. The Association of Japanese Clinical Psychology issued a statement to warn against the popularized use of art therapy, stating that such therapy should not be done without a safe environment and that when paints are mixed they can generate horrible colors that can cause distress for children. There is a report by a clinical psychologist who witnessed such an activity in which a child became embarrassed, saying he could not understand why such an ominous color appeared in the sea that he painted.

### Coherence of mental health professionals

As various organizations with different professional backgrounds, or even without professional expertise, tend to enter disaster sites to provide mental health care, it is crucial to keep a coherent purpose, the methodology of the care activity and to promote collaboration among different teams. For that purpose, sharing of information and the policy of mental-health-care provision is quite important, and medical-care teams need to reach a unanimous consensus on how to provide mental health care, in accordance with the Japanese Guideline on Post-disaster Mental Health Care, which was developed prior to the currently prevailing international guidelines, such as NICE or IASC, but shares the common basic policy for the management of psychological distress and for respecting resilience. Such sharing of information had to be renewed and maintained, receiving feedback from the onsite care activity.

The ongoing communication among different bodies was conducted by the crisis-response head-

quarters of the JSPN as mentioned above. The JSPN regularly held meetings inviting the representatives of the organizations that provide mental health support but also the directors of the mental health division of the afflicted prefectures and cities to update information of the effects of the disaster, the needs for mental health care and the overall situation of the people's recovery process.

Initially, activity had to be started amidst considerable confusion: due to the disruption of traffic and the inability to systematically access the afflicted coastal sites to evaluate the degree of psychological distress of the people and life burden, or the need for psychiatric services. So, the voice from the dispatched teams was a precious information resource, which was transmitted by the official documents via local governments to the national ministry, but the JSPN provided an occasion for direct and practical exchange of views, information and proposals. It provided interactive feedback from the scene of the disaster to the administrative offices regarding the principals. The meeting was held every 10–14 days, and adapted to the Skype system to communicate with the leading doctors and administrative directors in the afflicted sites, which was soon replaced by a television communication system.

The great difference from the previous disaster in Japan is that this time a number of opinion-makers in Japanese psychiatry came to be seriously concerned and devoted to the psychiatric care provided. Like most countries worldwide, psychological trauma has been an issue of only limited concern for the majority of psychiatrists in Japan, mainly because most psychiatrists have little chance to see victims of criminal offence, accidents, or disaster in their daily practice. This is partly because such incidents are rare and also because the victim would not receive psychiatric treatments for fear of insecurity of how they would actually be treated. PTSD and trauma-related mental responses were seriously discussed at the time of the Great Kobe Earthquake, but attracted professional concerns from a limited part of the country; Kobe was far from Tokyo and such a great disaster was supposed to occur only once every century. The debate over the robustness of the concept of PTSD also prevented some outstanding psychiatrists from getting involved in this field. This time, however, the site is nearer to Tokyo, and the anxiety about the pollution with radioactivity is so widely spread that no one around Tokyo can be a secure bystander.

Now the headquarters come to discuss a vision of how to renew the mental-health-care system in the affected areas. We should also remember that the suicide rates among those areas were the highest in Japan during the years before the disaster, and a number of reports on seasonal depression came from there. As some of the affected areas had been poorly equipped with mental health facilities and people's stigma against psychiatric disorders had been strong, a common phenomenon in local districts of Japan, a new system of community-based mental health care has to be established.

### Summary

This report has described the outline of the initial mental-health-care responses on various levels. It has focused on the comprehensive strategies and policies that were intended to cover all the affected areas, and has not described the individual countermeasures and reactions in each prefecture and city. The psychological effects of the atomic plant accident in Fukushima has not been mentioned in detail, because the scope of the physiological effect of the accident has not been settled yet and the society is not necessarily ready to deal with the accident as a psychological matter rather than a sociopolitical one. As a number of psychiatric professionals are deeply concerned with the psychological and prolonged impact of the accident, including those who are in the Fukushima prefecture and conducting heroic efforts to care for the residents, the mental health activity in this area and the status of people's distress will be summarized elsewhere.

### REFERENCES

1. Shinfuku N. Disaster mental health: Lessons learned from the Hanshin Awaji earthquake. *World Psychiatry* 2002; 1: 158–159.
2. Shioiri T. [Psychological care during disasters: Through the experience during the 2004 Niigata-Chuetsu Earthquake]. *Seishin Shinkeigaku Zasshi* 2010; 112: 521–529.
3. Takeda M. Mental health care and East Japan Great Earthquake. *Psychiatry Clin. Neurosci.* 2011; 65: 207–212.
4. The Japanese Society of Psychiatry and Neurology. Statement by the Japanese Society of Psychiatry and Neurology on Reconstruction Efforts related to the Eastern Japan Earthquake/Tsunami Disaster [Internet]. 2011. [Cited 9 September 2011.] Available from URL: [http://www.jspn.or.jp/english/info/2011\\_03\\_11info/statement\\_geje2011\\_05\\_21.html](http://www.jspn.or.jp/english/info/2011_03_11info/statement_geje2011_05_21.html)
5. The Japanese Society of Psychiatry and Neurology. Cover Letter. [Internet]. 2011. [Cited 9 September 2011.] Available from URL: [http://www.jspn.or.jp/english/info/2011\\_03\\_11info/es\\_inve\\_cover\\_letter.html](http://www.jspn.or.jp/english/info/2011_03_11info/es_inve_cover_letter.html).
6. The Japanese Society of Psychiatry and Neurology. The Japanese Society of Psychiatry and Neurology Great East Japan Earthquake Disaster Response Operations Center (JSPN TEDROC). [Internet]. 2011. [Cited 9 September 2011.] Available from URL: [http://www.jspn.or.jp/english/info/2011\\_03\\_11info/info\\_jspn\\_tedroc.html](http://www.jspn.or.jp/english/info/2011_03_11info/info_jspn_tedroc.html).
7. Nagao K, Okuyama M, Miyamoto S, Haba T. Treating early mental health and post-traumatic symptoms of children in the Hanshin-Awaji earthquake. *Acta Paediatr. Jpn* 1995; 37: 745–754.
8. Fullerton CS, Reissman DB, Gray C, Flynn BW, Ursano RJ. Earthquake response and psychosocial health outcomes: Applying lessons from integrating systems of care and recovery to Haiti. *Disaster Med. Public Health Prep.* 2010; 4: 15–17.
9. Kwon YS, Maruyama S, Morimoto K. Life events and post-traumatic stress in Hanshin-Awaji earthquake victims. *Environ. Health Prev. Med.* 2001; 6: 97–103.
10. van Griensven F, Chakkraband MLS, Thienkrua W *et al.* Mental health problems among adults in tsunami-affected areas in southern Thailand. *JAMA* 2006; 296: 537–548.
11. The Japanese Society of Psychiatry and Neurology. Emergency statement on the investigation and research practices concerning the Great East Japan Earthquake. [Internet]. 2011. [Cited 9 September 2011.] Available from URL: [http://www.jspn.or.jp/english/info/2011\\_03\\_11info/es\\_inve\\_statement\\_kashima.html](http://www.jspn.or.jp/english/info/2011_03_11info/es_inve_statement_kashima.html).
12. McCurray J. Japan: The aftermath. *Lancet* 2011; 377: 1061–1062.
13. Kim Y, Akiyama T. Post-disaster mental health care in Japan. *Lancet* 2011; 378: 317–318.
14. Suzuki Y, Weissbecker I. Post-disaster mental health care in Japan. *Lancet* 2011; 378: 317.
15. Kim Y, Abe Y, Araki H *et al.* *Guideline for Local Mental Health Care Activities after a Disaster*. National Institute of Mental Health, National Center of Psychiatry and Neurology, Japan, Tokyo, 2011.
16. National Institute for Clinical Excellence. *Post-Traumatic Stress Disorder: The Management of PTSD in Adults and Children in Primary and Secondary Care*. Royal College of Psychiatrists, London, 2005.
17. Inter-Agency Standing Committee. IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings. [Internet]. 2007. [Cited 9 September 2011.] Available from URL: [http://www.who.int/mental\\_health/emergencies/guidelines\\_iasc\\_mental\\_health\\_psychosocial\\_june\\_2007.pdf](http://www.who.int/mental_health/emergencies/guidelines_iasc_mental_health_psychosocial_june_2007.pdf).

Yoshiharu Kim MD, PhD  
National Center of Neurology and Psychiatry,  
Tokyo, Japan

APPENDIX

**Guidelines for Local Mental Health Care Activities after a Disaster**

Yoshiharu Kim

Drafting Committee (Abe Yukihiro, Araki Hitoshi, Fujita Masako, Iwai Keiji, Kato Hiroshi, Nagai Naoko, Watabiki Kazuhiro, Yamamoto Kohei)

In the wake of recent natural disasters such as the Great Hanshin Earthquake Disaster (January 17, 1995) and disasters due to human crime or accident, the public as well as specialists in mental health in Japan have become keenly aware of the need for post-disaster psychological care, and a variety of practical work has been performed. In order to widely share what has been clarified through that experience, and link it to better programs in the future, we have drawn up these ‘Guidelines for Local Mental Health Care Activities after a Disaster.’ Posttraumatic stress and various other psychological reactions occur after a disaster, and it is vital to ensure not only accurate diagnosis, but also continued comprehensive provision of mental health care.

These guidelines are designed for the integration of all types of programs, with proposals based on accomplishing what is possible amid the chaos of a disaster situation. We have included with as much specificity as possible what has been learned in actual practice up to now about first contact, the importance of natural recovery from trauma, responding to multicultural contexts, and cooperation with volunteers and the press.

We hope that these guidelines will be widely used in disaster situations, and that the further experience of many caregivers will lead to their improvement in the future.

January 17, 2003

Contents

Introduction .....1

I. The Need for Local Mental Health Care after a Disaster .....1

    1. Disaster Experiences and Local Mental Health Care Activities .....1

    2. Local Mental Health Care after a Disaster....2

        1) Policies for Local Mental Health Care after a Disaster .....2

        2) The Need for Patience .....2

II. Psychological Reactions after a Disaster .....3

    1. Types of Psychological Burdens.....3

        1) Mental Trauma.....3

        2) Grief, Loss, Anger, Guilt .....3

        3) Social and Lifestyle Stress.....3

    2. Types of Psychological Reactions .....4

        1) Initial Period (One month after the disaster) .....4

        Note: The First Few Days .....5

        2) Long Term (After the first month) .....6

III. Development of Local Mental Health Care after a Disaster .....7

    1. Planning for Mental Health Care at the Disaster Relief Headquarters.....7

    2. Initial Response (During the first month)....7

        1) Practical responses and mental health....8

        2) The immediate response – First Contact .....8

        3) Screening for people who need observation.....8

        4) Psychological first aid.....9

        5) Medical screening .....10

        6) Public information .....10

        7) Counseling hotline.....11

        8) Dealing with PTSD .....11

    3. Natural Recovery from Trauma .....12

        1) Conditions that encourage natural recovery.....13

        2) Factors that impede natural recovery....13

    4. Liaison with Outside Volunteers.....14

        1) Assistance policy should be set by the Disaster Relief Headquarters.....14

        2) Contact with residents should be controlled by the Disaster Relief Headquarters.....14

        3) Surveys by outside groups should be controlled by the Disaster Relief Headquarters.....15

    5. Working with the Press .....15

        1) The importance of informational assistance from the press.....15

        2) Risk of triggering PTSD through newsgathering .....15

        3) Dealing with the press.....15

    6. Multicultural Issues .....16

    7. Mental Health of Relief Workers.....16

        1) Background .....16

        2) Stress factors for relief workers.....16

3) Psychological reactions of relief workers .....	17
4) Countermeasures .....	18
IV. Things to Start Doing Now .....	18
1) Public education about mental health care and disasters .....	18
2) Mental health care simulations during disaster drills .....	19
3) Arranging funding for mental health care .....	19
4) Making mental trauma care part of routine mental health services .....	19
5) Training for mental health care providers .....	19
Checklist for Necessity of Observation (Immediately after disaster event) .....	21
Glossary .....	22

### Abbreviation of the Japanese National Guidelines for Local Mental Health Care Activities after a Disaster

Upon arrival at the disaster scene, the first requirement in providing mental-health-care activities is to support mental health centers in the afflicted communities so they can continue to carry out their mental health routines and treatments. In the case of Tohoku earthquakes, provision of medical assistance as well as medication supply took place immediately after the disaster in response to an interruption of medication delivery. In addition to supporting the local mental health centers, there are two main types of local mental-health-care activities targeting local residents affected by the disaster. The first type includes activities within the chain of general assistance programs which are designed to improve the mental health of the entire community as a group and to reduce the stress and mental trauma of the group. This type of activity consists mainly of ordinary assistance-givers and local mental health treatment staff going to the disaster area in outreach activities, delivery of disaster-related information, and psychology education for the general public. In addition, practical assistance for disaster recovery and life support in itself helps to improve the mental health of the community.

The second type includes prevention, early detection and treatment of particular mental disorders. The second type of activity consists mainly of screen-

ing individuals with mental disorders, encouraging people to come for consultations, providing psychology education for individuals, and making referrals to specialists. For the first 1–2 weeks or longer, the first type of activity will be the main focus. The health level of the community will be enhanced as relief workers enter the scene to meet and talk with survivors and victims and respond to their actual needs. The second type of activity should then follow and be directed toward alleviating states of confusion, excitement and disorientation, rather than making diagnoses.

### Types of psychological burdens

There are three major types of psychological burdens following a disaster. *Mental trauma* is a condition in which the sympathetic nervous system stays overstimulated in response to a threat-to-life experience and is associated with the increased retrieval of traumatic memory. It can be characterized by heightened anxiety and fear, inability to take in the entire scene in front of one's eyes, and focusing of attention on the most fear-inducing stimulus. Acute memory of the disaster scenes and fears are deeply engraved in the mind. The second type includes emotional responses such as *Grief, Loss, Anger and Guilt*, and they may come to the fore after the initial disorientation and excitability have settled down. A person may be beset by a sense of heavy obligation for being the one who survived (survivor's guilt), grief following deaths of loved ones, or a feeling of having been unable to do the right thing. And at the same time, resentment at the fate that has befallen survivors may lead to anger toward relief workers or other people around them. *Social and Lifestyle Stress* is induced by a new living environment and can be characterized by physical or mental malaise, indefinite complaints, insomnia, and irritability. When a large group of displaced people live together, issues arise concerning privacy, the living space (food, toilets, garbage, duty assignments), and care for children, the elderly and the handicapped.

### Initial response (during the first month)

Still the nature of the area or the disaster could make the situation unusual, requiring special measures which match the actual circumstances. With regard to the anguish arising from actual damage, the best response is to take whatever practical measures are



obviously required. Issues of survival, bodily health and living arrangements must of course be speedily resolved as the precondition for starting to deal with anxiety or other psychological reactions. But since those steps alone will not be enough to alleviate all of the terror, worry or other reactions, it is important to keep mental health issues in mind while responding to the urgent practical problems.

One of the most important immediate responses is to carry out 'first contact.' First contact means meeting and talking with survivors as soon as possible after the event by visiting them at the disaster scene and evacuation centers. If it is delayed, people will be left in anxiety, despair and confusion. As a rule, the early responders making first contact should be people who have served the needs of the local population on previous occasions. While carrying out first contact, when possible, the responders should try to identify individuals who are under especially strong stress and provide basic mental health information, such as the availability of psychological services.

The experience of disaster does not necessarily lead to post-traumatic stress disorder (PTSD). In disaster situations the most commonly observed causes of PTSD are personal experience of fire, flooding or house collapse, the death or injury of a loved one, or seeing corpses. Since there are many other kinds of psychological reactions that may occur after a disaster, mental health treatment is not focused on early detection and treatment of PTSD. Rather, it is important always to maintain the basic approach of readiness to identify a broad range of psychological changes, and to respond as appropriate with diagnosis, evaluation or assistance. Assistance should be provided to minimize the survivor's responsibilities for care of others, so that the survivor finds security, peace of mind, and restful sleep as soon as possible.

As a rule, in counseling soon after the event, do not ask the survivor to recount the story and emotional impact of the disaster experience. This can be harmful. It was previously thought that using this technique (psychological debriefing) at an early stage could help to prevent the future onset of PTSD. But the technique is now discredited internationally and avoidance is clearly recommended. What is important is to build a network around the survivor of understanding people who can talk together about the actual suffering in the disaster and subsequent difficulties in moving forward.

### Natural recovery from trauma

For most survivors, even if there is some temporary mental instability, they will naturally return to their normal selves. As a policy for mental health care for the community as a whole, it should be assumed that natural recovery will occur in most cases, and support can be provided for that process. In supporting the process of natural recovery, it is necessary to provide conditions that encourage natural recovery and to diminish factors that impede natural recovery.

Conditions that encourage natural recovery include practical support, such as providing bodily safety, providing protection from secondary events, maintaining living conditions and continuity of daily life, offering prospects for recovering economic footing, and providing protection from day-to-day stress. General support, such as providing information on damage and assistance, and responding to requests and questions in a prompt manner, can be helpful. Informing people about expected psychological changes following a disaster is an important part of psychological care. Suggestions for counseling can be made when needed.

Factors that impede natural recovery are intrusions that cause secondary trauma or threaten the stability of daily life. Some of the most common factors include delayed assistance in rebuilding deteriorated living conditions and loss of family members. Special attention should be paid to those who belong to any of the especially vulnerable groups (infants, the elderly, the handicapped, the sick or injured, people whose first language is not Japanese, and families of any of these groups). Socially isolated persons (single persons, people with nobody outside the family to talk to) should also be considered as vulnerable. Other common factors include being interviewed by the media against a person's will and having inspections by the police, public officials, insurance companies, etc.

### Multicultural issues

Regardless of purposes of stay, most foreigners are considered as especially vulnerable to disaster because of their limited comprehension of the language spoken in the afflicted area. In general they cannot fully grasp public information, and are therefore liable to suffer secondary uncertainty anxiety. In addition, depending on their native

culture, foreigners are likely to have different patterns of reaction to a disaster. This may well lead to complications in the course of group activities and refugee shelter living, and mental-health-care supervisors will need some special understanding to rectify them. It would be helpful to have volunteers who can speak the native languages of the foreigners, but it is often impossible to have the right people on hand in the disaster setting. When there are multicultural needs, it may be possible to have linguists from outside the area prepare special messages for public information releases, or to request the media to prepare multilingual versions of disaster information broadcasts. Even though foreign-language versions may be less complete than the originals, the mere fact that information is provided in their native language will provide valuable reassurance to these survivors.

### Mental health of relief workers

Relief workers can be fatigued from ongoing pressure of relief work. They may face limitations in performing a task in the ideal fashion. It is possible that a psychological conflict between the sense of mission and the limitations of reality will cause feelings of guilt or powerlessness. Amid the extensive damage and suffering, area residents often display emotional reactions such as anger and guilt. It is not unusual for survivors to release their anger toward relief workers who are in the vicinity. If the workers feel like the anger is personally directed toward them, they may come under considerable stress. In addition to the stress of carrying out duties, relief workers are quite likely, even more than most local residents, to be exposed to the sight of terrible damage, corpses and the like, which may result in PTSD or other trauma reactions. It should also be noted that some relief workers may be disaster victims themselves, and they are at risk of extra psychological tensions and exhaustion. Adjusting to a new place and being away from home may also cause considerable stress, especially if the assignment is for an indefinite period.

Relief workers may tend to neglect their own health issues or, even when they recognize them, have too strong a sense of mission to take breaks or seek treatment. The following are some of the

countermeasures that can be helpful to relief workers. Although it may not be possible during the emergency phase just after the event, as soon as it is practical, the activity periods, relief schedules, responsibilities and job descriptions must be clarified for all mobilized relief workers. It is effective to teach relief workers that stress is nothing to be ashamed of, but instead must be recognized and adequately treated. It is important to give each relief worker a check-list of potential physical and mental irregularities, and when necessary to offer health counseling.

### Postface

These principles mentioned above have been widely known to relevant authorities and organizations in Japan over the past decade and regarded as the basic principles of post-disaster mental-health-care activities. It appears that most of the mental-health-care teams have been following these basic principles in their relief efforts for the afflicted areas in Tohoku. Nowadays few believe that it is beneficial for the survivors to recount the emotional impact of the disaster experience soon after the event, but there are a few reported cases in which some relief workers of non-clinical backgrounds have used somewhat similar techniques. Further measures have to be taken to disseminate the knowledge to all relief workers regardless of their backgrounds, in order to deliver more effective post-disaster mental health care.

This study was funded by the Ministry of Health, Labor and Welfare. The original document is available at National Center of Neurology and Psychiatry.

### Supporting Information

Additional Supporting information may be found in the online version of this article:

Guidelines for Local Mental Health Care Activities after a Disaster

Please note: Wiley-Blackwell are not responsible for the content or functionality of any supporting materials supplied by the authors. Any queries (other than missing material) should be directed to the corresponding author for the article.

One main obstacle to being open to these questions is the pressure on epidemiologists, managers, and academics to collect data in a vertical fashion. Yet violence cannot be seen as detached from infectious disease, maternal mortality, drug addiction, or unemployment. The Family Health Strategy, cited in most of the Series papers, has been a vehicle by which many vertical actions have already been integrated, and the results have been well studied.<sup>3</sup> What readers really need to know are the obstacles to going further in this regard.

The outcome of *The Lancet's* Series is a collection of excellent health data empty of relevant messages for taking decisions around health-policy organisation. There is a need to understand health in Brazil in terms of the best answers to health service problems.

We declare that we have no conflicts of interest.

\*Gustavo Gusso,  
Mercedes Pérez Fernández, Juan Gervas  
gustavo.gusso@usp.br

Clinical Medicine Department, University of São Paulo, São Paulo, SP 05508-000, Brazil (GG); Brazilian Society of Family and Community Medicine, Rio de Janeiro, RJ, Brazil (GG); Equipo CESCA, Madrid, Spain (MPF, JG); and Department of International Health, National School of Public Health, Madrid, Spain (JG)

- 1 Victora CG, Barreto ML, do Carmo Leal M, et al. Health conditions and health-policy innovations in Brazil: the way forward. *Lancet* 2011; **377**: 2042–53.
- 2 Conselho Federal de Medicina. CFM divulga dados sobre a concentração de médicos no Brasil. Brasília (DF): CFM, 2010. [http://portal.cfm.org.br/index.php?option=com\\_content&view=article&id=9777&catid=3:portal](http://portal.cfm.org.br/index.php?option=com_content&view=article&id=9777&catid=3:portal) (accessed May 26, 2011).
- 3 Macinko J, Dourado I, Aquino R, et al. Major expansion of primary care in Brazil linked to decline in unnecessary hospitalization. *Health Affairs* 2010; **29**: 2149–60.

## Post-disaster mental health care in Japan

International guidelines and principles for the promotion of psychosocial wellbeing and the prevention or treatment of mental health problems in humanitarian settings are often ignored, and Justin McCurry's World

Report on Japan (March 26, p 1061)<sup>1</sup> is an example.

McCurry does not seem to have sought input from relevant mental health authorities within Japan, and instead cites "experts" as stating that "thousands of victims will be in need of long-term trauma counselling" and that "children who have been caught up in disasters can develop behavioural and mental health problems unless they receive counselling at an early stage".

Such statements are not consistent with guidelines<sup>2</sup> or published data<sup>3</sup> and thus send inaccurate messages. Guidelines recommend that children are best helped by reinforcing supportive family and community structures, and by restoring routines and culturally accepted activities; only a minority of children and adults will need specialised mental health services.<sup>2,4</sup>

Japan has considerable experience and expertise in the field of mental health and psychosocial support. The Ministry of Health, Labor and Welfare quickly mobilised human resources and guidance including from the Japanese Society of Psychiatry and Neurology and the League of Psychiatric Departments of Universities. Japanese response and support systems (including mental health care) for this disaster will be reported soon elsewhere.

We are keen to learn from international experiences and appreciate the support from international actors. However, as the Inter-Agency Standing Committee guidelines<sup>2</sup> note, responses must be coordinated, evidence-based, culturally informed, and build on existing capacities.

We declare that we have no conflicts of interest.

\*Yuriko Suzuki, Inka Weissbecker  
yrsuzuki@ncnp.go.jp

Department of Adult Mental Health, National Institute of Mental Health, National Center of Psychiatry and Neurology, Kodaira, Tokyo 1878553, Japan (YS); and International Medical Corps, Washington, DC, USA (IW)

- 1 McCurry J. Japan: the aftermath. *Lancet* 2011; **377**: 1061–62.

- 2 Inter-Agency Standing Committee. IASC guidelines on mental health and psychosocial support in emergency settings. Geneva: IASC, 2007. [http://www.who.int/mental\\_health/emergencies/guidelines\\_iasc\\_mental\\_health\\_psychosocial\\_june\\_2007.pdf](http://www.who.int/mental_health/emergencies/guidelines_iasc_mental_health_psychosocial_june_2007.pdf) (accessed June 22, 2011).
- 3 Ager A, Stark L, Akesson B, Boothby N. Defining best practice in care and protection of children in crisis-affected settings: a Delphi study. *Child Devel* 2010; **81**: 1271–86.
- 4 WHO. Mental health assistance to the populations affected by the tsunami in Asia. [http://www.who.int/mental\\_health/resources/tsunami/en/index.html](http://www.who.int/mental_health/resources/tsunami/en/index.html) (accessed June 22, 2011).

In his World Report,<sup>1</sup> Justin McCurry succinctly highlights the difficulties facing the surviving victims of the earthquake and super-tsunami in northeastern Japan on March 11. However, he misrepresents existing mental health-care provision in two respects.

First, his statement that "Japan's health system is ill prepared to address long-term mental health problems triggered by the disaster" does not accurately reflect the situation. Although existing provision is not perfect, valuable lessons about post-disaster mental health have been learned since the two previous major disasters at Kobe in 1995 and Niigata in 2006. In 2001, the National Center of Neurology and Psychiatry issued national guidelines for post-disaster mental health,<sup>2</sup> and several thousand caregivers have been trained in traumatic stress counselling over the past few years. The directors of most mental health centres have attended lecture courses in post-disaster mental health care. As a result, responses to the present disaster were very rapid, allowing prompt scheduling and dispatch of mental health-care teams to the devastated areas.

Second, we were concerned about the inclusion of comments from Stephen McDonald of Save the Children on the fear expressed by a child he had interviewed, and the assertion that lack of counselling in the early phase can lead to subsequent mental and behavioural problems. There is no evidence for this statement. As recommended in



Corbis



the guidelines produced by the UK's National Institute for Health and Clinical Excellence,<sup>3</sup> human suffering should not be too readily medicalised, and resilience should be respected. There is a possibility that early and temporary counselling focused on traumatic memory or fear could generate harmful effects, and there is no evidence for its efficacy in preventing the symptoms of traumatic stress.<sup>4,5</sup>

McCurry's concern for the plight of the disaster victims is, of course, well intentioned, but we believe that a better balanced and more comprehensive picture of mental health care in Japan would have been conveyed if opinions had been sought from Japanese health-care professionals.

We declare that we have no conflicts of interest.

\*Yoshiharu Kim, Tsuyoshi Akiyama  
yrsuzuki@ncnp.go.jp

Department of Adult Mental Health, National Institute of Mental Health, National Center of Psychiatry and Neurology, Kodaira, Tokyo 1878553, Japan



Published Online  
July 14, 2011  
DOI:10.1016/S0140-6736(11)61105-7

- 1 McCurry J. Japan: the aftermath. *Lancet* 2011; 377: 1061–62.
- 2 Kim Y, Abe Y, Araki H, et al. Guidelines for local mental health care activities after a disaster. Tokyo: National Center of Psychiatry and Neurology, 2001. <http://www.ncnp.go.jp/nimh/seijin/pg33.html> (accessed June 22, 2011).
- 3 National Institute for Clinical Excellence. Post-traumatic stress disorder: the management of PTSD in adults and children in primary and secondary care. London: NICE, 2005. <http://guidance.nice.org.uk/CG26/Guidance/pdf/English> (accessed June 22, 2011).
- 4 Roberts NP, Kitchiner NJ, Kenardy J, Bisson JJ. Early psychological interventions to treat acute traumatic stress symptoms. *Cochrane Database Syst Rev* 2010; 3: CD007944.
- 5 Foa EF, Keane T, Friedman M. *Effective treatments for PTSD*, 2nd edn. New York: Guilford Press, 2008.

See Online for webappendix

## Life, health, and community in a tsunami-affected town

Toshiro Ueta, a general practitioner in Otsuchi Town, Iwate prefecture, Japan, was examining his patients when a massive earthquake hit eastern Japan on March 11. He and his staff escaped immediately after the earthquake to

the roof of their four-store building, where they watched the town become submerged under water. After having spent a night there, they were rescued and taken to an evacuation shelter. Ueta acted immediately by arranging desks and providing free medical consultations.

Nagasaki University medical relief team joined the efforts of Ueta from March 16. The shelter-based clinic provided everyday consultations to 70–90 patients who came from the shelter and its neighbourhood. The most common reasons for presentation were the need for repeat routine medications, upper respiratory-tract infections, and insomnia apparently related to the increasing stress.

One of the major features of this disaster was that it hit areas with a high level of population ageing. 27% of Iwate's population was 65 years of age or older in 2010.<sup>1</sup> Of 221 evacuees at the shelter on March 28, 84 (38%) were aged 65 years or older. Such an age structure was the reason behind the high need for routine medications. Many had chronic diseases—eg, hypertension, diabetes, and heart disease. The major challenges for the providers were to identify the medicines that patients had been taking. Pills and patient-held records were commonly lost with the tsunami. Pharmacists had a crucial role in the identification and selection of alternatives from the 100 or so types of available medicine.

A possible infectious disease outbreak was also a concern. Tap water and sewage systems were destroyed, and evacuees were advised to wrap their stools in newspaper and place them in a plastic bag. But when patients with acute gastroenteritis suggestive of *norovirus* infection were found, we facilitated improvement of hygiene measures, introduced chlorine-based disinfectants, and promoted accurate knowledge of virus transmission.

Despite very challenging conditions, people have worked tirelessly. What was extremely impressive was that evacuees at the shelter organised a

functional community. Representatives met every night to discuss the shelter's rules. People shared the chores of serving meals and cleaning the living spaces and toilets, and took routine physical exercise together.

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

We declare that we have no conflicts of interest.

\*Taro Yamamoto, Masaya Kato,  
Susumu Shirabe  
y-taro@nagasaki-u.ac.jp

Institute of Tropical Medicine, 1-12-4 Sakamoto, Nagasaki 852-8523, Japan (TY); and Nagasaki University Medical Relief Team (MK) and Center for Health and Community Medicine (SS), Nagasaki University, Nagasaki, Japan

- 1 Ministry of Internal Affairs and Communications. Declining birth rate and aging population. [http://www.stat.go.jp/english/data/handbook/c02cont.htm#cha2\\_2](http://www.stat.go.jp/english/data/handbook/c02cont.htm#cha2_2) (accessed June 7, 2011).

## Support for senior management at Great Ormond Street Hospital

The anonymous letter<sup>1</sup> you published online on July 1 does not, we believe, reflect the majority view of the senior staff at Great Ormond Street Hospital, London, UK. We have seen no evidence of bullying of staff who have raised concerns about clinical risk with management. It is regrettable that patient safety issues are being used as a political weapon, and that this will cause anxiety for our patients and their families.

We all support the Chief Executive and senior management of Great Ormond Street Hospital.

For the full list of signatories, see webappendix.

Jon Goldin, on behalf of 107 consultants and 52 other senior staff members  
goldij@gosh.nhs.uk

Great Ormond Street Hospital for Children NHS Trust, London WC1N 3JH, UK

- 1 Anon. GOSH consultants express alarm. *Lancet* 2011; 378: 123.



Reuters

# The Great East Japan earthquake in 2011; toward sustainable mental health care system

Y. Suzuki and Y. Kim\*

National Institute of Mental Health, National Center of Neurology and Psychiatry, Tokyo, Japan

In face with a triple disaster of earthquake, tsunami and nuclear power plant accident, the degrees of which are historically hardly preceded, immediate mental health countermeasure was taken by the initiative of the national and local government together with academic and clinical organizations. Based on previous experience of natural disasters, more than 50 mental health care teams have been organized and dispatched to the affected areas, scheduled by the Ministry of Health, Labor and Welfare. When 6 months have passed, the acute and temporal support system should be replaced with more sustainable local networks with aims at promoting resilience, though community psychiatric service should be developed as well. Existing guidelines should be respected but actually it tended to be only partially recognized. In Fukushima prefecture, where nuclear plant accident occurred, its mental health impact is most concerned and long-term follow-up of the residents' health has been being planned.

**Key words:** Earthquakes, mental health, natural disasters, post-disaster intervention planning.

## Outline of the disaster

At 14:46 local time on Friday, March 11, 2011, an unprecedented magnitude 9.0 earthquake occurred off the Pacific coast of northeastern Japan (the so-called Tohoku region), including Iwate, Miyagai and Fukushima prefectures, and the ordinance-designated city of Sendai, located within Miyagi prefecture. According to the Japan Meteorological Agency, the epicenter was located 130 km off the Oshika Peninsula and 24 km below sea level. A number of aftershocks followed, the largest one being of magnitude 7.7 occurring on the same day, followed by 6 quakes of magnitude 7 or more, 96 of magnitude 6 or more and 579 of magnitude 5 or more. Quakes of lesser magnitude occurred almost everywhere across the Japanese archipelago.

Historically, the affected areas had always been prone to major seismic events; the oldest record dates back to 879, when an earthquake with an estimated magnitude of 8.6 occurred, based on geological surveys. In recent years, magnitude 7–8 quakes also occurred in 1896, 1933 and 1968, all accompanied by tsunami. Therefore, it was assumed that local governments and inhabitants would have been well prepared for any tsunami disaster, having conducted escape training and building seawalls that were considered capable of withstanding waves several meters high.

The Meteorological Agency issued a tsunami warning as soon as 20 min after the initial major quake, but failed to appreciate its actual extent, which could not be measured adequately with ordinary equipment. The height of the tsunami was far beyond what had been anticipated, reaching 9.3 m in the Soma region of Fukushima and 8.5 m at Miyako city in Iwate prefecture, swallowing fields, houses and people. Some locals had placed such trust in the seawalls that they did not take immediate action to escape to higher ground. Others took refuge on the top floors of shore-front buildings in accordance with training instructions, but were engulfed by the tsunami.

## Initial response

With regard to mental health countermeasures in the acute phase, the main issues of concern were the continuation of previous psychiatric services and the supply of necessary medical drugs, as well as the treatment of acute mental disorders such as panic, delirium or acute stress reaction. Such issues were complicated by extensive disruption of the infrastructure by heaps of debris, making it difficult to supply gasoline, fuel and vital supplies. For these reasons, even local government officials had considerable problems getting into the affected coastal areas 100–200 km away.

All these factors made the community psychiatric services very fragile. Some hospitals had collapsed, or sufficient staff could not commute to them, making it impossible to continue inpatient services, or for

---

\* Address for correspondence: Y. Kim, National Institute of Mental Health, National Center of Neurology and Psychiatry, 4-1-1 Ogawa Higashi, Kodaira, Tokyo 187-8502, Japan.  
(Email: kim@ncnp.go.jp)

outpatients to attend. Few community-based mental clinics were in place, and long-stay psychiatric hospitals were the main facilities of psychiatric care, in addition to a few psychiatric sections of general hospitals. The situation was particularly grave, as Tohoku was already known to have some of the highest rates of suicide and seasonal depression in Japan, and the area had been the focus of an active national suicide prevention strategy.

Immediate countermeasures following the disaster included dispatching mental health teams to the affected areas, based upon previous experiences after the Hanshin-Awaji (Shinfuku, 2002) and Niigata earthquakes (Shioiri, 2010) in 1995 and 2004, respectively. These teams comprised psychiatrists, nurses, psychologists, and/or social workers, many of whom initially travelled in land cruisers, equipped to be self-sufficient and self-supporting, and to provide medication and services for psychiatric outpatients whose treatment had been interrupted. Their activity was hampered by a lack of access to medical records, and also the fact that many of the patients' family members had been victimized in the disaster, or pharmacology prescription books lost along with the destruction of their homes. The teams regularly stayed on site for a week, but dispatching centers such as hospitals and institutions located in distant areas tried to rotate their own teams to maintain some form of continuity, which meant that such services were actually ongoing for several months after the disaster.

The transfer of psychiatric inpatients from mental hospitals that had been destroyed was also a major problem; three psychiatric hospitals in Miyagi prefecture had collapsed, and five near the Fukushima nuclear power plant had been closed for fear of radiation contamination. In this situation, the Ministry of Health, Labor and Welfare of Japan (MHLW) took the initiative and transferred around 1000 inpatients to nearby hospitals within the same or distant prefectures within a week.

Insufficiency of medical drugs due to transportation difficulties or damage to chemical plants in the affected areas was also a problem. The shortage of anti-depressants and anti-convulsants was particularly serious, and resurgence of epileptic seizures was a concern. The MHLW and the Japanese Society of Psychiatry and Neurology played an organizing role and re-allocated the transportation of such drugs, restricting their use in other areas, especially around Tokyo, and systematically distributing them to the affected areas, despite problems with transport for a while.

### Policy of mental health care

The disaster highlighted differences in opinion among mental health professionals, or even among ordinary

volunteers, as to what should constitute post-disaster mental health support and intervention. In Japan, the euphemism *kokoro no keaa*, literally 'care of the spirit', has become widely used since the time of the Hanshin-Awaji earthquake to signify both psychiatric primary and secondary prevention as well as mental health promotion, mainly to avoid generating any stigma against psychiatric intervention. Such ambiguity is often related to a conviction that active listening to stories of traumatic experiences and letting people express profound fear and sorrow is an effective way of preventing a long-term traumatic response, medically referred to as post-traumatic stress disorder (PTSD).

This conviction has been conceptualized as psychological debriefing (Everly & Boyle, 1999), a technique introduced to Japan at the time of the Hanshin-Awaji earthquake, with a claim that it should be performed within 36 hours or so to effectively prevent the future development of PTSD. This led to confusion among care providers and proved to be a waste of resources that could instead have been used to tackle a broader range of stress-related reactions. During the years since the Hanshin disaster, a number of studies and reviews have repeatedly disproved the value of psychological debriefing (Rose *et al.* 2009). As early as 2004, the Japanese national guidelines for post-disaster local mental health urged caution against psychological debriefing, in line with later international guidelines such as those from the National Institute of Clinical Excellence. Although psychiatrists and mental health care providers in Japan have reached a consensus on this issue, we still hear someone claim the effectiveness of trauma dialogue in acute phase and criticize others who do not do so.

### Mental health care team

A number of mental health care teams were voluntarily organized and went to the affected areas, in a manner similar to the response at the time of the Hanshin-Awaji and Niigata earthquakes. Because the disaster involved several prefectures, the dispatch schedule was organized by the MHLW immediately after the disaster. As of September 1, 2011, 57 teams (3143 professionals) had been dispatched to work in collaboration with local mental health professionals to continue pre-disaster psychiatric services, and also to provide on-site treatment of acute stress reactions including delirium and acute stress disorder, although the majority of the affected people they saw remained within subclinical level. They also provided psychoeducation on an outreach basis at communal shelters. Most teams responded following the policies of the

Japanese guidelines for post-disaster community mental health, issued in 2004 mentioned below.

### Information provision

Provision of information was enormously important after the disaster to avoid confusion, not only among those affected but also among care providers. We had developed the Japanese guidelines for post-disaster mental health care in 2004 (Kim *et al.* 2004), with an emphasis upon resilience and watchful waiting in the acute phase, incorporating brief psychological first aid, much earlier than subsequent guidelines or manuals that had stressed similar factors. The guidelines were distributed to local governments and prefectural mental health centers, to serve as a uniform background for post-disaster mental health care provision. To reinforce the information, in the 3 days after the initial earthquake, the National Center of Neurology and Psychiatry launched a website for disaster-related information (National Center of Neurology and Psychiatry, Japan, 2011), containing more than 20 documents, manuals, assessment sheets, educational slides, etc. The Japanese Society of Neurology and Psychiatry, and the Japanese Society for Traumatic Stress Studies, worked hard to provide effective information as well, together with other academic and clinical bodies. The details of the initial response have been reported elsewhere (Kim & Akiyama, 2011a).

### Toward mid-term care provision

Now that more than 6 months have passed, mental health care teams are now pulling out, and there is serious discussion about how local resources can respond to any additional mental health needs resulting from the disaster, and the most suitable transition strategy. The problems currently being assessed are those related to prolonged reactions, which go beyond the level of a normal reaction, and more complex forms of disaster-related problems in addition to pre-existing ones. Overall, tolerability to stress has fallen at both the individual and community levels, and more serious cases have emerged in communities. The stigma against psychiatry and mental disorders mentioned above has been a problem, especially where psychiatric services have been offered predominantly at long-stay psychiatric hospitals.

In the recovery phase, although we anticipate that people's lives will recover, health-related and social disparity will persist for a long time. When temporary housing has been built and people have moved in, there will be a risk of personal isolation, and thus a risk of delayed recovery. The functions of hospitals

and clinics providing mental health care are becoming normalized, and prefectural governments have laid out a recovery plan for mental health services. The central government is now discussing revision of the budget plan to encompass most of the health-related programs. Local psychiatrists have reported that they have seen a surge of new patients in the last 6 months, a large proportion of whom have been from hospitals whose functions have been hampered by the devastation. Although at hospitals and clinics no increase of patients with depression or PTSD has been recognized so far, there have been more new patients with dementia whose cognitive and daily life function have worsened while attempting to adjust to the new lifestyle in shelters or temporary housing. In some areas, a stigma against mental health care has persisted at conventional psychiatric hospitals. Analysis of the records of mental health teams is still on the way, but the interim report from a seriously affected city shows that sleep problems and anxiety were initially predominant, and the number of those affected remained large. However, as time has passed, there has been an increase in the incidence of depression, alcohol problems, and grief.

The MHLW has formulated a recovery plan for mental health services. At the local level, discussions have started about the most appropriate form of community care to offer. A shift to community mental health has been emphasized, and the MHLW has relaxed an implementation policy of the community-based care of mental and social difficulties, at the same time building up 'outreach promotion program' or even establishing mental clinics themselves in those areas where psychiatric services had been very poorly equipped.

Another important issue is suicide. The affected area was already known to have a high suicide rate, even before the disaster. Past research has shown that suicide does not increase among the general population after massive disasters. However, it will be necessary to observe any future trends from now on, in view of the possible increase in depression and disillusionment about the recovery process, and the widening disparity of individual situations in the coming winter. Among local professionals, training of community workers and volunteers in mental health literacy and appropriate first aid has been discussed, along with levels of professional staffing, as the chance of adding any more mental health professionals to the current service is very slim.

### IASC guideline

In a wider international context, many exemplary models and lessons learnt have been compiled by major agencies and international NGOs over the last



several years, and a consensus in the form of the IASC guidelines was published (Inter-Agency Standing Committee, 2007). The World Psychiatric Association (WPA) was also committed to have psychiatrist be more involved in disaster response, and 2009, WHO and WPA held a workshop for selected psychiatrists to disseminate this guideline. Unfortunately, the guidelines have not spread globally, even among mental health professionals, as exemplified in a recent report (McCuray, 2011). We would like to again emphasize the importance of evidence and collective wisdom for a coordinated response to mental health needs, while respecting local resources (Suzuki & Weissbecker, 2011; Kim & Akiyama, 2011b).

The IASC guidelines highlight the coordination of services in the form of a service pyramid. To offer professional help effectively, we have to build on basic services, community resilience and collaboration with primary care. In Japan, public health nurses play an extremely important role as gatekeepers for persons at high risk, and prefectural mental health centers have played a major role in coordinating the work of these nurses.

The guidelines include a list of dos and do nots for disaster response operations. The following is an illustrative example of what has been unfolding following the recent disaster. First, it recommends establishing one overall coordination mechanism or group for mental health and psychosocial support. In this connection, the Japanese Society of Psychiatry and Neurology (JSPN) served as such a coordinating body for professional organizations at the national level and took steps to advocate mental health issues as a single voice, as recommended in the guidelines. Second, the importance of recognizing that people are affected by emergencies in different ways is emphasized. More resilient individuals may function well, whereas others may be severely affected and may need specialist support. However, some media focused mainly on severe traumatic reaction, and reported that there was a dearth of skilled therapists of trauma in the affected region. Third, the guidelines recommend asking questions in the local language(s) in a safe and supportive manner that respects confidentiality. In this recent disaster, a flood of care givers and researchers rushed from outside regions to ask about psychological reaction, neglecting local manner of expressions and copings, or even ignoring ethical procedure. The JSPN expressed serious concern about any survey without adequate ethical consideration, stating that it would cause additional distress to the participants, and in fact released statements to this effect (The Japanese Society of Psychiatry and Neurology, 2011).

To implement the IASC guidelines effectively in Japan, we had conducted a Delphi process to build

consensus among Japanese mental health experts who have had rich experience in disaster response. Our team had developed a manual that follows the principles of the IASC guidelines tailored to Japanese health and social structure and culture.

### Fukushima nuclear power plant accident

The tragedy was exacerbated by the accident at the Fukushima 1 nuclear power plant. The plant was automatically shut down in response to the earthquake, and a preset plan to cool down the reactors was initiated using emergency electrical generators. However, as these were located at ground level, they were engulfed by the tsunami, causing a total loss of emergency electricity. Unable to initiate the cooling process, the inner temperature of the reactors surged, followed by explosions due to hydrogen gas that had built up within the containment buildings, releasing radioactive substances into the air. Now it has been revealed that a level 7 meltdown had occurred at an early stage. In response to the leak of radioactive materials, the government ordered the evacuation of all inhabitants living within 3 km of the plant. The fragile or aged were carried out by the Japanese Self Defense Force, and people living within a 20-km radius were recommended to evacuate. The cooling down of the plant took several months, and radioactive contamination was found repeatedly, not only in Fukushima but also adjacent prefectures, although the levels rarely reached health-threatening levels.

In a review of the consequences 20 years after the Chernobyl accident disasters, the WHO concluded that mental health was the most serious public health problem (Bennet *et al.* 2006). A recent study (Kim *et al.* 2011) shows that psychological exposure to Nagasaki atomic bomb explosion, without substantial health harming radiological exposure, generated prolonged distress after half a century and the poor information provision was correlated. A study after Chernobyl has shown that diagnosis of depression and PTSD increased among clean-up workers 18 years after the accident (Loganovsky *et al.* 2008). Fukushima prefectural government and mental health professionals are seriously concerned about mental health problems among residents. As yet, the problems observed include anxiety about the health effects of radiation, and its effect on children, lifestyle, community and economy, most of which remain within natural reaction to the situation and thus do not need to be medicalized. In Fukushima, a long-term health survey including mental health assessment is being prepared together with supporting measures.



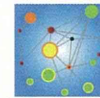
A sense of losing control over their lives and being powerless is another issue of concern (International Atomic Energy Agency, 2006). In order to empower local people again, it will be important to not merely offer services or health check-ups, but also to help them make their own decisions and take action based on sound information. Also, the health community must exercise more dialogue with local inhabitants to get them more actively involved. Mental health is a good agenda for encouraging this kind of response, because mental well-being is everyone's business and optimizing it is universally paramount.

#### Conflict of interest

None.

#### References

- Bennet B, Repacholi M, Carr Z (2006). *Health Effects of the Chernobyl Accident and Special Health Care Programmes*. World Health Organization: Geneva.
- Everly Jr. GS, Boyle SH (1999). Critical incident stress debriefing (CISD): a meta-analysis. *International Journal of Emergency Mental Health* 1, 165–168.
- Inter-Agency Standing Committee (2007). IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings. Available at: [http://www.who.int/mental\\_health/emergencies/guidelines\\_iasc\\_mental\\_health\\_psychosocial\\_june\\_2007.pdf](http://www.who.int/mental_health/emergencies/guidelines_iasc_mental_health_psychosocial_june_2007.pdf).
- International Atomic Energy Agency (2006). *Chernobyl's Legacy: Health, Environmental and Socio-economic Impacts. The Chernobyl Forum: 2003–2005*. Second revised version. Vienna, Austria
- Japanese Society of Psychiatry and Neurology (2011). Emergency statement on the investigation and research practices concerning the Great East Japan Earthquake. Available at: [http://www.jspn.or.jp/english/info/2011\\_03\\_11info/es\\_inve\\_statement\\_kashima.ht](http://www.jspn.or.jp/english/info/2011_03_11info/es_inve_statement_kashima.ht).
- Kim Y, Akiyama T (2011a). Editorial: Great East Japan earthquake and early mental-health-care response. *Psychiatry and Clinical Neurosciences* 65, 539–548.
- Kim Y, Akiyama T (2011b). Post-disaster mental health care in Japan. *Lancet* 378, 317–318.
- Kim Y, Abe Y, Hitoshi A, Masako F, Keiji I, Hiroshi K, Naoko N, Kazuhiro W, Kohei Y (2004). *Guideline for Local Mental Health Care Activities after a Disaster*. National Institute of Mental Health, National Center of Psychiatry and Neurology: Tokyo, Japan.
- Kim Y, Tsutsumi A, Izutsu T, Kawamura N, Miyazaki T, Kikkawa T (2011). Persistent distress after psychological exposure to the Nagasaki atomic bomb explosion. *British Journal of Psychiatry* 199, 411–416.
- Loganovsky K, Havenaar JM, Tintle NL, Guey LT, Kotov R, Bromet EJ (2008). The mental health of clean-up workers 18 years after the Chernobyl accident. *Psychological Medicine* 38, 481–488.
- McCurry J (2011). Japan: the aftermath. *Lancet* 377, 1061–1062.
- National Center of Neurology and Psychiatry, Japan (2011). Information site for the Great Easter Japan Earthquake (in Japanese). Available at: [http://www.ncnp.go.jp/mental\\_info/index.html](http://www.ncnp.go.jp/mental_info/index.html).
- Rose SC, Bisson J, Churchill R, Wessely S (2009). Psychological debriefing for preventing post traumatic stress disorder (PTSD). *Cochrane Database of Systematic Reviews* 2002. Art. No.: CD000560. DOI: 10.1002/14651858.CD000560.
- Shinfuku N (2002). Disaster mental health: lessons learned from the Hanshin Awaji earthquake. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA)* 1, 158–159.
- Shioiri T (2010). Psychological care during disasters: through the experience during the 2004 Niigata-Chuetsu Earthquake. *Seishin Shinkeigaku Zasshi = Psychiatria Et Neurologia Japonica* 112, 521–529.
- Suzuki Y, Weissbecker I (2011). Post-disaster mental health care in Japan. *Lancet* 378, 317.



RESEARCH

Open Access

# Development of disaster mental health guidelines through the Delphi process in Japan

Yuriko Suzuki<sup>1\*</sup>, Maiko Fukasawa<sup>2</sup>, Satomi Nakajima<sup>1</sup>, Tomomi Narisawa<sup>1</sup> and Yoshiharu Kim<sup>1,2</sup>

## Abstract

**Background:** The mental health community in Japan had started reviewing the country's disaster mental health guidelines before the Great East Japan Earthquake, aiming to revise them based on evidence and experience accumulated in the last decade. Given the wealth of experience and knowledge acquired in the field by many Japanese mental health professionals, we decided to develop the guidelines through systematic consensus building and selected the Delphi method.

**Methods:** After a thorough literature review and focus group interviews, 96 items regarding disaster mental health were included in Delphi Round 1. Of 100 mental health professionals experienced in disaster response who were invited to participate, 97 agreed. The appropriateness of each statement was assessed by the participants using a Likert scale (1: extremely inappropriate, 9: very appropriate) and providing free comments in three rounds. Consensus by experts was defined as an average score of  $\geq 7$  for which  $\geq 70\%$  of participants assigned this score, and items reaching consensus were included in the final guidelines.

**Results:** Overall, of the 96 items (89 initially asked and 7 added items), 77 items were agreed on (46 items in Round 1, and 19 positive and 12 negative agreed on items in Round 2). In Round 2, three statements with which participants agreed most strongly were: 1) A protocol for emergency work structure and information flow should be prepared in normal times; 2) The mental health team should attend regular meetings on health and medicine to exchange information; and 3) Generally, it is recommended not to ask disaster survivors about psychological problems at the initial response but ask about their present worries and physical condition. Three statements with which the participants disagreed most strongly in this round were: 1) Individuals should be encouraged to provide detailed accounts of their experiences; 2) Individuals should be provided with education if they are interested in receiving it; and 3) Bad news should be withheld from distressed individuals for fear of causing more upset.

**Conclusions:** Most items which achieved agreement in Round 1 were statements described in previous guidelines or publications, or statements regarding the basic attitude of human service providers. The revised guidelines were thus developed based on the collective wisdom drawn from Japanese practitioners' experience while also considering the similarities and differences from the international standards.

**Keywords:** Disaster mental health, Delphi process, Guidelines development, Consensus building

## Background

Japan has a history of large-scale disasters, the most recent of which was the Great East Japan Earthquake that occurred on March 11, 2011. This magnitude 9 earthquake and subsequent tsunami resulted in the loss of nearly 20,000 lives. At the time of this disaster, the

Japanese Ministry of Health, Welfare and Labour coordinated the deployment of a disaster mental health team from outside the affected prefectures following requests from local governments there. The team was most active in the early phase of the disaster and has since handed over cases requiring continuous care to local mental health services.

The disaster mental health services were fairly well coordinated by prefectural mental health and welfare centers in terms of assessing the needs in their affected municipalities and requesting dispatch of the disaster

\* Correspondence: yrsuzuki@ncnp.go.jp

<sup>1</sup>Department of Adult Mental Health and National Institute of Mental Health, National Center of Neurology and Psychiatry, 4-1-1 Ogawa-Higashi, Kodaira, Tokyo 187-8553, Japan

Full list of author information is available at the end of the article



mental health team. As is often the case in the time of disaster, however, the workload was overwhelming and there were problems with communications in the affected area. Nevertheless, in our view, the services were coordinated well overall, and this rested on the team's previous experience of disasters in Japan.

The mental health community in Japan has a wealth of experience in disaster response. In particular, many lessons were learnt from the Hanshin-Awaji earthquake which hit the Kobe area in 1995. Many local government departments of mental health have now prepared a disaster response manual [1], which reference national guidelines published by Kim [2]. The national guidelines were developed and disseminated by the Ministry of Health following a team of experts' review of the disaster mental health activities conducted following the Hanshin-Awaji earthquake and other natural and man-made disasters. Since their publication, more experience and knowledge has been accumulated following tragic events that occurred in Japan and other countries, such as the Indonesian Sumatra Tsunami and the 9.11 terrorist attacks. In 2007, international guidelines were published after intense discussion by different sectors [3-5]. In light of this and the fact that Japanese mental health professionals have accumulated more knowledge and skills in the decade since Japan's original guidelines were developed, we sought to develop new guidelines through systematic consensus building and examine the degree of agreement of Japanese experts with the principles of disaster mental health in a systematic manner. In this article, we describe the Delphi process we used to revise the guidelines.

## Methods

### (1) Item development: focus group interview

To ensure we had a comprehensive view of mental health and psychosocial care after a disaster, we conducted a thorough literature review. Using PubMed and Google, we searched the scientific literature, guidelines, and manuals, which were written in English or Japanese, using search terms including "disaster", "emergency", "mental health", "psychiatry", "psychology", "manual", and "guidelines".

To reflect local practitioners' experience and views, focus group interviews were conducted in three areas which experienced a massive earthquake in Japan, one in an urban area and two in rural areas. Local practitioners with diverse professional backgrounds were invited to attend and represented such professions as psychiatry, psychology, social work, nursing, public health, school counseling, and emergency medicine. Each interview was conducted with 5 to 9 participants (24 participants in total

number), with great attention given to the representativeness of the participants as members of mental health teams.

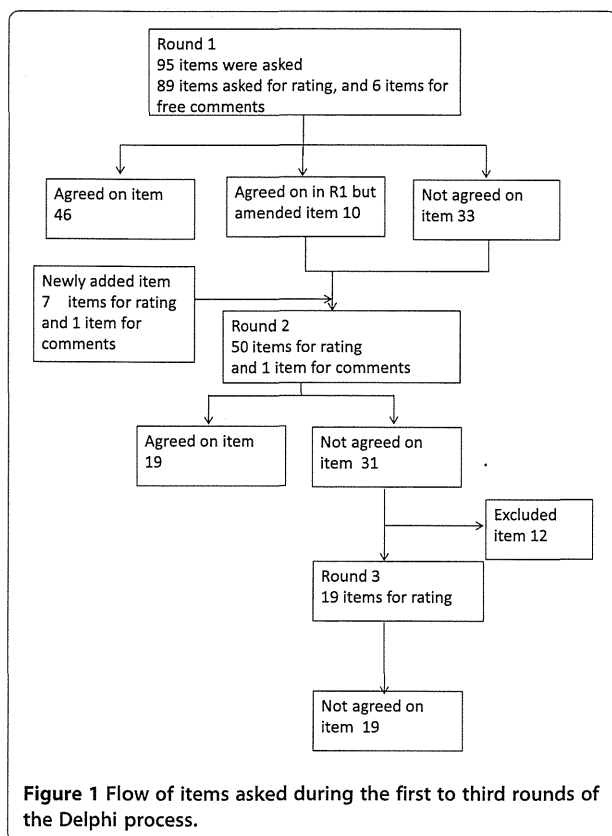
After the three focus group interviews, the contents were transcribed and researchers categorized them into four domains regarding disaster management: 1) the disaster mental health system, 2) initial to early response (from the first week to the first month), 3) management of deployed mental health team, and 4) staffs' stress management.

### (2) Delphi process

The Delphi process is a structured communication technique, originally developed as a systematic, interactive method, which is often used in healthcare fields when scientific evidence is lacking [6]. Participants were recruited from professional networks of the Japanese Society of Traumatic Stress Studies, the Crisis Response Team which is deployed at a time of crisis at schools, and deployed and local mental and community health professionals who have experienced working following massive earthquakes, such as in Kobe, Chuetsu, and Chuetsu-oki in Japan. A total of 100 professionals were invited to join the internet-based survey. Participants invited represented a variety of professionals: clinicians, public health nurses, health authority administrators, and researchers. Many of the local practitioners were themselves survivors of a massive earthquake.

Figure 1 summarizes the flow of items asked during the first to third rounds of our Delphi process. In Round 1, our research team provided the participants with an anonymous summary of the items developed from the literature review and focus group interviews, and asked them to rate the appropriateness of the each item on a Likert scale (1: not at all appropriate, 9: very appropriate) and to comment freely on each item. This process was repeated three times via the internet to allow all participants to compare their ratings and comment on others' ratings.

In Round 2, the survey comprised those statements which did not reach consensus in Round 1. Positive consensus was defined as items for which the mean score was  $\geq 7$  and the proportion of participants scoring  $\geq 7$  was  $\geq 70\%$ . At this time, participants were provided with summary statistics indicating the number and percentage of participants who rated each score as well as the mean score for each statement. A summary of the comments was inserted underneath each statement for participants to consider when completing the second round. Some statements were amended slightly for clarification, as a result of comments from the first round.



Any statements that achieved positive consensus were removed for Round 3 along with any statements that were unlikely to achieve positive consensus (the proportion of participants scoring  $\geq 7$  was  $< 30\%$ ). Statements for which the proportion of participants scoring  $\geq 7$  was  $> 30\%$  and  $< 70\%$  were retained to determine whether positive consensus could be achieved. These statements were presented in the same format as for Round 2 (i.e. with summary statistics and comments from the previous round). Any items for which the proportion of participants scoring  $\geq 7$  was  $< 30\%$  and the mean score was  $< 5$  were excluded as an item for which there was no agreement. Participants had access to a list of all participants' comments and their own scores in Rounds 1 and 2. A full list of the statements is available from the authors on request.

In order to compare the opinions of our Japanese experts with those of European experts, some of the items from The European Network for Traumatic Stress (TENETS) guidelines [7] were included in our Delphi survey. In addition, data on basic characteristics such as sex, age, and professional background were collected from our participants during the online survey.

### (3) Analysis

Basic statistics, the proportion of the participants for each item rating, and the mean score of the item rating were generated using STATA 11.0 (StataCorp, College Station, Tx/USA). The comments were summarized by the research team and then the comments and summary were circulated and agreed among the research team members.

### (4) Guidelines development

After completing the three Delphi rounds, we drafted the guidelines using all of the statements that achieved consensus. The research team reviewed and clarified each statement when necessary. The draft guidelines were then circulated to the participants for final consensus and any comments. To agree the final wording of the guidelines, the comments were summarized and discussed among the research team and consultants with extensive experience of mental healthcare provision in the aftermath of a natural disaster. The final guidelines are publicly available at <http://cocorocare.jp/n/guideline/guideline/>.

### (5) Ethical consideration

This study protocol was reviewed and approved by the Ethics Committee of the National Center of Neurology and Psychiatry. Upon starting the survey, written informed consent was obtained by letter or email from each participant.

## Results

### Characteristics of participants

From the 100 professionals invited to join the survey, 97 agreed to participate. The response rates were 95.0%, 98.9%, and 93.8% for each round. Psychiatrists accounted for almost one third of participants ( $n = 28$ , 29.5%), followed by public health nurses ( $n = 21$ , 22.1%), other physicians ( $n = 13$ , 13.7%), psychologists ( $n = 12$ , 12.6%), psychiatric social workers ( $n = 11$ , 11.6%), and other professionals (see Table 1). The number of participants slightly decreased as the rounds progressed, but this caused no significant change in the professional backgrounds represented by the continuing participants.

The flow of the three rounds and consensus results is illustrated in Figure 1.

### Round 1

Overall, of 89 items initially asked, 46 (51.7%) achieved consensus and 10 items were agreed on but were amended and further clarification and confirmation asked for. Based on the comments obtained in Round 1, 7 items were newly formulated and asked in Round 2, together with the 33 non-agreed on items.