

Stress Factors for Disaster Victims

- **Future uncertainty**
- **Uncertainty about residence and workplace security**
- **Social prejudice**
- **Media influences**
- **Differences of climates and customs**

Characteristics unique to
radiation disasters



- **Unable to predict disasters**
- **Difficult to determine the extent of damage**
- **Possible radiation effects that might arise in the future**

Source: Prepared based on the "Mental Support at the Chernobyl Accident," Material 3-2 for the 3rd meeting of the Investigative Commission for Mental Care and Measures against Health Concern, Exposure Medicine Sectional Meeting, Nuclear Regulation Authority (former Nuclear Safety Commission)

<http://warp.da.ndl.go.jp/info:ndljp/pid/8422832/www.nsr.go.jp/archive/nsc/senmon/shidai/kokoro/kokoro003/siryu2.htm> (in Japanese)

Anxiety caused by radiation accidents

- Anxiety over health effects of radiation
- Anxiety over health effects on children now and in the future

Psychological effects from protracted anxiety

- Possibility that mental health may deteriorate
- Possibility that mothers' anxiety may affect the mental state and growth of children

Factors that increase anxiety

- Unable to acquire reliable information
- Confusion caused by scientifically inaccurate information
- Stigmas and stereotypes

Psychiatric Effects on Children

Possible psychological effects of radiation issues:

- Parents' anxiety over radiation proves that they are dedicated parents.
- Parents' excessive concern over radiation could affect children mentally and physically.

Regarding fetal exposure and neuropsychological disorders caused by the Chernobyl accident:

- The results of studies on the neuropsychological disorders of children who were fetuses at the time of the accident are not coherent.
- Although there is a report that exposure affected the IQ of the fetuses, no correlation has been found between thyroid exposure doses and children's IQs.

Regarding a questionnaire on the emotions and behavior of children in Fukushima

Tendencies found through a survey using SDQ (Strengths and Difficulties Questionnaire) as an index to evaluate the mental health of children:

- The percentage of respondents whose SDQ score was 16 or higher was 9.5% in a previous study targeting the general Japanese population unaffected by any disasters. Compared with this, the survey revealed that the percentages of those scoring 16 or higher were high in both the 4-6 age and 6-12 age groups.
- However, the same percentages tend to be lower in both the 4-6 age and 6-12 age groups in the survey conducted in FY2014, compared to that in FY2011, i.e., the year of the accident.

SDQ : Strengths and Difficulties Questionnaire

Source:

- A debriefing report from "Mental Health and Lifestyle Survey," Fukushima Health Management Survey in FY2014, Fukushima Medical University, June 2016
- Kolominsky Y et al., J Child Psychol Psychiatry, 40 (2): 299-305, 1999

Conclusion from dialogue with the local residents 1

(View of the International Commission on Radiological Protection (ICRP))

- Participants recognized the importance of developing radiation protection culture to allow inhabitants to understand and evaluate the information on the consequences of the accident and to take informed actions for reducing radiological exposure.
- They recognized the need for a more detailed characterisation of the radiological situation to allow people to know where, when and how they are exposed.
- They underlined their concern about the future demographic pattern due to an acceleration in the younger generations leaving the prefecture and abandoning farming activities.
- They discussed with great emotion the issue of discrimination of people in the affected areas, especially for those of pre-marital age to marry and have children .
- The preservation of the traditional and popular activity of gathering wild vegetables (sansai) was identified as culturally important in maintaining the cohesion of the Fukushima community.

Conclusion from dialogue with the local residents 2

(View of the International Commission on Radiological Protection (ICRP))

- Develop a mechanism to support projects proposed by local communities and residents to improve living conditions.
- Support community expectations that decisions on recovery actions reflect their priorities, be based on their knowledge of the local context, and support their current and future interests.
- Continue efforts to monitor individual internal and external exposures, and to provide information and tools in order to help people to make their own judgments.
- Create a forum for a permanent dialogue between all concerned parties (producers, distributors and consumers) on the issue of foodstuff.
- Promote the involvement of parents, grand-parents and teachers to develop radiation protection culture among children.
- Strengthen dialogue and cooperation with stakeholders elsewhere in Japan and abroad.

Summary of effects on mental health



World Health Organization (WHO) Report issued in 2006 upon the 20th anniversary of the Chernobyl accident

- **Anxieties and medically unexplained physical symptoms including depression and Post Traumatic Stress Disorders (PTSD) are increasing as stress-related disorders among the group of disaster victims, compared to a control group.**
- **The effects of the Chernobyl accident on mental health have been the biggest health issue for the residents.**

Studies in the 2006 World Health Organization (WHO) Report



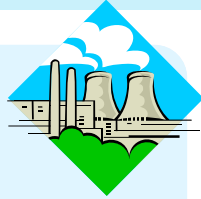
- (i) Stress-related symptoms**
- (ii) Concern over effects on brains in development (fetal effects)**
- (iii) Effects on decontamination workers**
 - High suicide rate
 - Some scholars point out concerns over functional brain disorders

Summary by Bromet et al. (2011)

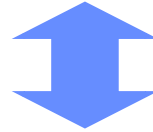


- (1) Among workers who participated in emergency work immediately after the accident and decontamination operations, a significant percentage is still suffering from depression and PTSD, even after the lapse of 20 years from the accident.**
- (2) Different studies show different results about psychiatric effects on children in the highly contaminated areas.**
- (3) Studies on general populations have found that the percentages of self-reported health problems, clinical or preclinical depression, anxiety and PTSD are high.**
- (4) Mothers remain in a psychiatric high-risk group as they have been concerned about family health at all times.**

2006 World Health Organization (WHO) Report :
Mental health such as anxiety is the biggest problem for regional healthcare.



Against this,



concerns have been raised over the decrease in international investigations since the 2006 WHO Report.

- (i) It has been pointed out that the physical effects and damage from the Chernobyl accident might be greater than the estimate in the WHO Report, and that it would be necessary to continue international investigations.*¹**
- (ii) There has been a criticism that the WHO's view would make people less wary of foods from the contaminated areas and could impede future investigations and research.*²**

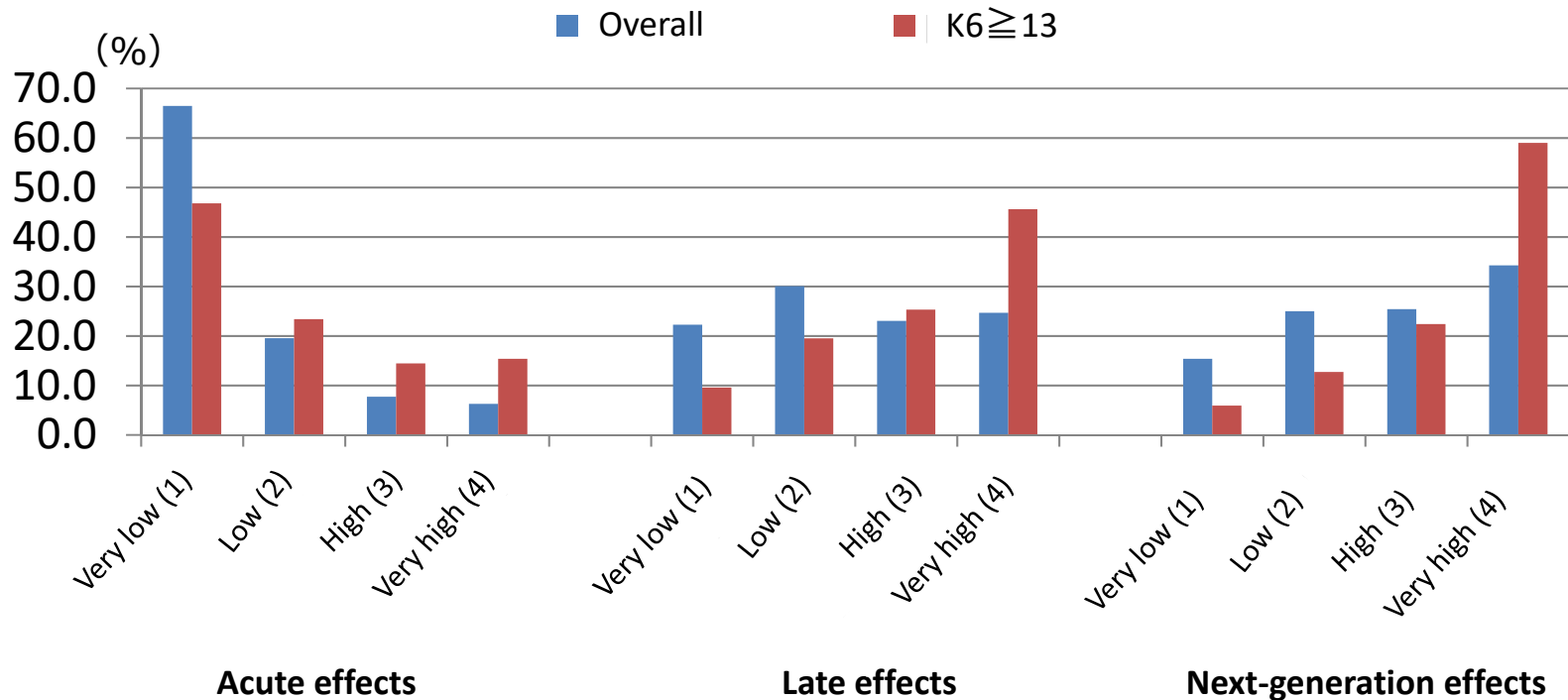
*1: This view is based on the fact that in Rivne in Ukraine, the incidence of neural tube defects is 22.2 per 10,000 people, the highest throughout Europe. (Wertelecki, Pediatrics, 125, e836, 2010)

However, it has not been clear what is causing this.

*2: Holt, Lancet, 375, 1424 - 1425, 2010

Relationship between Mental Health and Perception of Risks Concerning Health Effects of Radiation

Results of the Mental Health and Lifestyle Survey of the FY2011 Fukushima Health Management Survey



*K6 is a self-recording scale to measure general levels of mental health. Scores exceeding 13 show strong depression and anxiety symptoms.

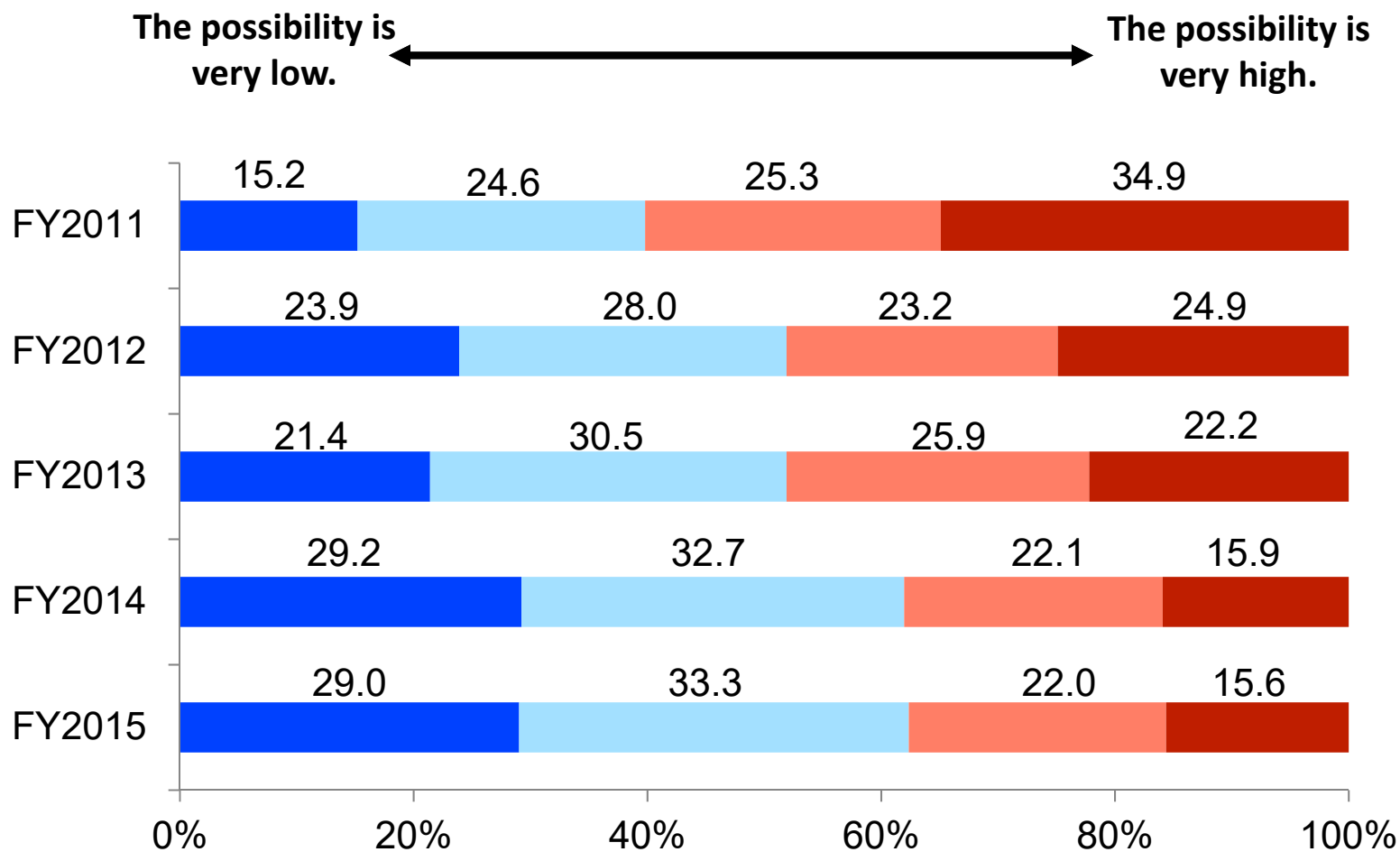
- Overall trend**

The majority answered that the possibility of acute effects is very low. Opinions vary with regard to late effects. The largest number of respondents chose the option "very high" for next-generation effects.

- Among people with mental disorders**

The percentages of respondents who chose the option "very high" were large for all three types of effects.

Changes in Perception of Radiation Risks (Next-generation Effects)



Increase in Induced Abortions in Europe

- Chernobyl Accident -

The Chernobyl accident occurred on April 26, 1986.



Increase in induced abortions in remote places

Greece: sharp decline in birthrate in January 1987

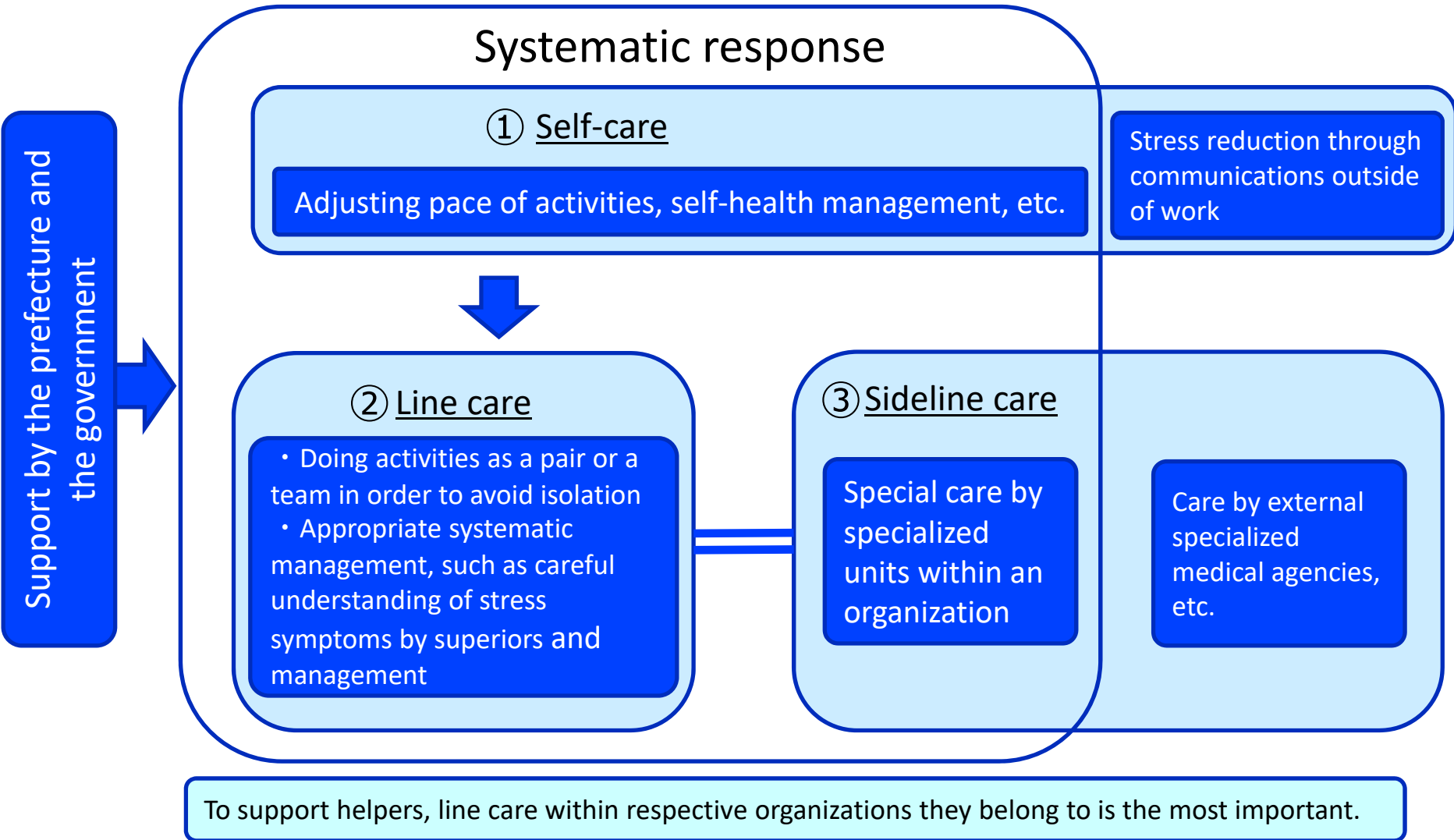
⇒ Induced abortions for 23% of fetuses in the early stage of fetation in May 1986 (estimation)

Italy: Approx. 28 to 52 unnecessary abortions per day for five months after the accident (estimation)

Denmark: Slight increase

Sweden, Norway, Hungary: None

Support for Helpers: Three Stages of Care



Support for helpers within respective organizations

1. Set work goals

- Clarify the importance and goals of jobs
- Keep daily reports, diary or a note of activities to organize thoughts

2. Maintain the pace of life

- Get enough sleep, nutrition and water

3. Take rest when possible

4. Figure out how to get refreshed

- Take a deep breath, close eyes, meditate, do stretches
- Take a walk, do exercise, listen to music, have meals, take a bath, etc.

5. Socialize as a way of relieving stress

- Contact family, friends, etc. when possible (preferably people unrelated to work)

Self-support of helpers

a. Avoid overworking

- Know your limits and adjust the pace of activities

b. Be aware of stress

- Manage your own health and detect stress symptoms at an early stage

c. Try to relieve stress

- Relaxation, body care, refreshment
- Communicate with people outside work (family, friends, etc.)

d. Avoid isolation

- Work as a pair or a team

e. See things differently

When Feeling Depressed or Anxious

Consult a public health nurse, a nurse or a special institution nearby if you are aware of any change as follows in yourselves. It is important to share everything and be listened to.

Signs of depression - Signs you can notice yourselves

- Feel sad, gloomy, down
- Easy to get tired, feeling unwell (lethargic)
- Hard to sleep, get up earlier than usual in the morning
- Feel worse in the morning than in the evening
- Unable to overcome failure, sorrow, disappointment
- Disinterested in everything, have no fun
- Feel weaker, less motivated, less focused (dull)
- Less appetite, in no mood to meet people
- Unable to get rid of worries, paranoid
- Blame yourself, feel worthless, etc.

("Do you know what depression is like?" (pamphlet for the general public (draft)), Ministry of Health, Labour and Welfare;
<http://www.mhlw.go.jp/shingi/2004/01/s0126-5d.html>)

Below are consultation services you can turn to when you have problems with yourselves or your family, such as worries, anxiety, loneliness and alcohol problems.	Consultation service	Phone number	Business hours
	Fukushima Mental Care Centre Telephone Counselling Service for Disaster Victims, Fukukoko Line	024-925-8322	9:00-12:00 and 13:00-17:00 from Mon. to Fri. (except national holidays and the year-end and New Year holidays)
	Telephone Mental Health Counselling Service (For people residing in Fukushima Prefecture) (For people residing outside Fukushima Prefecture)	024-535-5560 0570-064-556	9:00-17:00 from Mon. to Fri. (except national holidays)
	Fukushima Counselling Service	024-536-4343	10:00-22:00 every day (open 365 days a year)
	Fukushima Mental Health and Welfare Centre	024-535-3556	9:00-17:00 from Mon. to Fri. (except national holidays and the year-end and New Year holidays)

Child counseling (under age 18): If you have any concerns, turn to the nearest health center in your municipality.

Reference Materials on General Psychological Care (1/3) General Information on Psychological Care

	Title	Issued by	Issued in	URL
(i)	Psychological First Aid (PFA) Field Guide	World Health Organization (WHO) Japanese translation: National Center of Neurology and Psychiatry, Care Miyagi, (Public Interest Incorporated Foundation) Plan Japan	2011	http://saigai-kokoro.ncnp.go.jp/pdf/who_pfa_guide.pdf
(ii)	Guidelines for Local Mental Health Care Activities after a Disaster	Ministry of Health, Labour and Welfare, Health and Labour Science Research Grants Health and Labor Science Special Research Program	Updated in March 2011	http://saigai-kokoro.ncnp.go.jp/document/medical_personnel05.html
(iii)	Roadmap for Local Mental Health Care Activities after a Disaster	National Center of Neurology and Psychiatry, National Information Center of Disaster Mental Health	Updated in March 2011	http://saigai-kokoro.ncnp.go.jp/document/pdf/mental_info_map.pdf
(iv)	Mental Health Manual for Disaster Rescuers and Helpers	National Center of Neurology and Psychiatry, National Information Center of Disaster Mental Health	Updated in March 2011	http://saigai-kokoro.ncnp.go.jp/document/pdf/mental_info_saigai_manual.pdf
(v)	Guide for Providing Psychological Support in the Event of a Nuclear Disaster - How to Respond to Local Residents -	(Public Interest Incorporated Foundation) Nuclear Safety Research Association (Project commissioned by the Ministry of Education, Culture, Sports, Science and Technology)	March 2009	http://saigai-kokoro.ncnp.go.jp/document/pdf/mental_info_nuclear.pdf

	Title	Purpose and Target	Issued by	Issued in	URL
(i)	Child-friendly Space Guidebook, Part 1 (Key concepts)	<ul style="list-style-type: none"> • Purpose: To create a space where children can stay safe with peace of mind in an emergency and explain how to make preparations therefor and actual procedures to be followed • Target: Children 	(Public Interest Incorporated Foundation) UNICEF Japan National Center of Neurology and Psychiatry, National Information Center of Disaster Mental Health	Updated in December 2016	https://www.unicef.or.jp/kin-kyu/japan/pdf/cfs.pdf
(ii)	To Those who Support Child Disaster Victims - About Acute Psychological Support-	<ul style="list-style-type: none"> • Purpose: To provide psychological support to children immediately after the disaster • Target: Children 	The Japanese Society for Child and Adolescent Psychiatry, Disaster Contingency Planning Committee	March 2011	http://saigai-kokoro.ncnp.go.jp/document/pdf/mental_info_childs_02.pdf
(iii)	To Those who Support Child Disaster Victims - About Mid- and Long-term Psychological Support -	<ul style="list-style-type: none"> • Purpose: To provide mid- and long-term support to child disaster victims • Target: Children 	The Japanese Society for Child and Adolescent Psychiatry, Disaster Contingency Planning Committee	July 2011	http://child-adolesc.jp/wp-content/uploads/tebiki_chuuchouki.pdf
(iv)	To Helpers - Guideline on How to Deal with Disabled Children after a Disaster	<ul style="list-style-type: none"> • Purpose: To deal with physical, psychological and behavioral issues in supporting disabled children after a disaster • Target: Disabled children and their guardians 	The Japanese Society for Child and Adolescent Psychiatry	March 2011	http://saigai-kokoro.ncnp.go.jp/document/pdf/mental_info_handicapped_child.pdf

Reference Materials on General Psychological Care (3/3) Post-disaster Psychological Care for Each Disease

	Title	Purpose and Target	Issued by	Issued in	URL
(i)	A Manual on How to Promote Measures against Depression - for Prefectural and Municipal Officials -	<ul style="list-style-type: none"> • Purpose: To appropriately treat depression • Target: Local residents 	Ministry of Health, Labour, and Welfare Regional Anti-Depression Committee	January 2004	http://www.mhlw.go.jp/shingi/2004/01/s0126-5.html#1
(ii)	A Manual on How to Deal with Depression - for Health and Medical Personnel -	<ul style="list-style-type: none"> • Purpose: To appropriately treat depression • Target: Local residents 	Ministry of Health, Labour, and Welfare Regional Anti-Depression Committee	January 2004	http://www.mhlw.go.jp/shingi/2004/01/s0126-5.html#2
(iii)	Drinking Problems after Disasters	<ul style="list-style-type: none"> • Purpose: To treat people suffering from alcoholism • Target: Alcohol addicts after a disaster 	National Center of Neurology and Psychiatry, National Information Center of Disaster Mental Health	Updated in April 2011	http://saigai-kokoro.ncnp.go.jp/document/pdf/mental_info_alcohol.pdf
(iv)	To Support People Inclined toward Suicide - Guideline for Counselors -	<ul style="list-style-type: none"> • Purpose: To confirm the basic knowledge and action guideline required for counseling and supporting activities • Target: People inclined toward suicide, including survivors of suicide attempts, suicide repeaters, and people contemplating suicide 	Ministry of Health, Labour and Welfare, Health and Labour Science Research Grants Mental Health Science Research Program	January 2009	http://www.mhlw.go.jp/bunya/shougaiho ken/jisatsu/dl/02.pdf
(v)	A Guideline on Evaluating and Supporting Social Recluses	<ul style="list-style-type: none"> • Purpose: It is created as a practical guideline on how to evaluate and support social recluses. • Target: People who fall under the category of social recluses 	Ministry of Health, Labour and Welfare, Health and Labour Science Research Grants Mental Health Science Research Program	May 2010	http://www.zmhw.jp/pdf/report/guidebook.pdf
(vi)	A Manual on How to Support Disaster Victims Suffering from Dementia and Their Family (for Medical Purposes)	<ul style="list-style-type: none"> • Purpose: For medical purposes • Target: People with dementia living in evacuation centers and their family 	Japan Society for Dementia Research	April 2016	http://dementia.umin.jp/iryoku419.pdf
(vii)	A Manual on How to Support Disaster Victims Suffering from Dementia and Their Family (for Nursing Purposes)	<ul style="list-style-type: none"> • Purpose: For nursing purposes • Target: People with dementia living in evacuation centers and their family and nursing personnel 	Japan Society for Dementia Research	April 2016	http://dementia.umin.jp/kaigo419.pdf