

State and cause of psychological changes of victims suffered from the Great East Japan Earthquake during 7-year after the occurrence



Akiko Sakai, MS, RN University of Fukui, Japan
Chie Isomi, MS, RN University of Fukui, Japan
Satomi Shigetani, MS, RN University of Fukui, Japan
Takako Shimizu, MS, RN University of Fukui, Japan

NATIONAL UNIVERSITY CORPORATION
UNIVERSITY OF FUKUI

Email:sakaiaki@u-fukui.ac.jp

Background and Purpose of Study

Background

Purpose of Study

The Great East Japan Earthquake was a magnitude 9.0 undersea megathrust earthquake which was occurred off the coast of Japan at 14:46 on Friday, March 11th, 2011. The earthquake triggered powerful tsunami waves that reached up to 40.5 metres (133 ft). During the 7-year after the occurrence, the government has been proceeding to construct tide embankments, to rise the foundation of the areas and to build housings for the victims. On other hand, from social perspectives, victims have been constructing new communities and beginning their new lives, thought psychological recovery will require more time than it will for infracture reconstruction.

This study aims to clarify the state and causes of psychological changes of victims suffered from the Great East Japan Earthquake during 7-year after the occurrence.

Methods

Data Analysis: content analysis method

- The typical tendencies were obtained by analysing the characteristics of the participants' psychological changes.
- The factors affecting the participants' psychological changes were coded and categorized into some similar factors as subcategories with abstract titles.
- Carefully analysing the relationship between the line and factor of psychological changes.

Ethical consideration:

The research methods were approved by the Ethical Review Committee of Department of Medical Sciences, the University of Fukui in 2018

- Protecting the human right of volunteers
 - Careful consideration for the circumstance of the experiment and for the participants' privacy.
 - Keep participants' personal information anonymous..
 - Restrict data use for other purposes
- Informed consent
 - Explanation of study purposes, methods and ethical considerations.
 - Freedom to refuse or decline study participation after the agreement with this study; there is no disadvantages for dropout from the study.

Participants of this study:

The victims from the earthquake (aged from 60 to 80), who lives in Iwate and Miyagi prefectures. The number of participants were as follows; 1st year - 20 participants (5 males and 5 females), 4th year - 10 participants (6 males and 4 females), 7th year - 10 participants (5 males and 5 females)

Data Collection: Semi-structured interview

The participants were asked to draw the line which shows the state of mental changes from the time of disaster till each point of the examination (1st, 4th, 7th year). They were also asked to talk about their experiences as a victim of the disaster and the inferred factors causing the changes of mental state. The interview took approximately an hour and it was recorded upon their consent.

Results

victims' mental state line

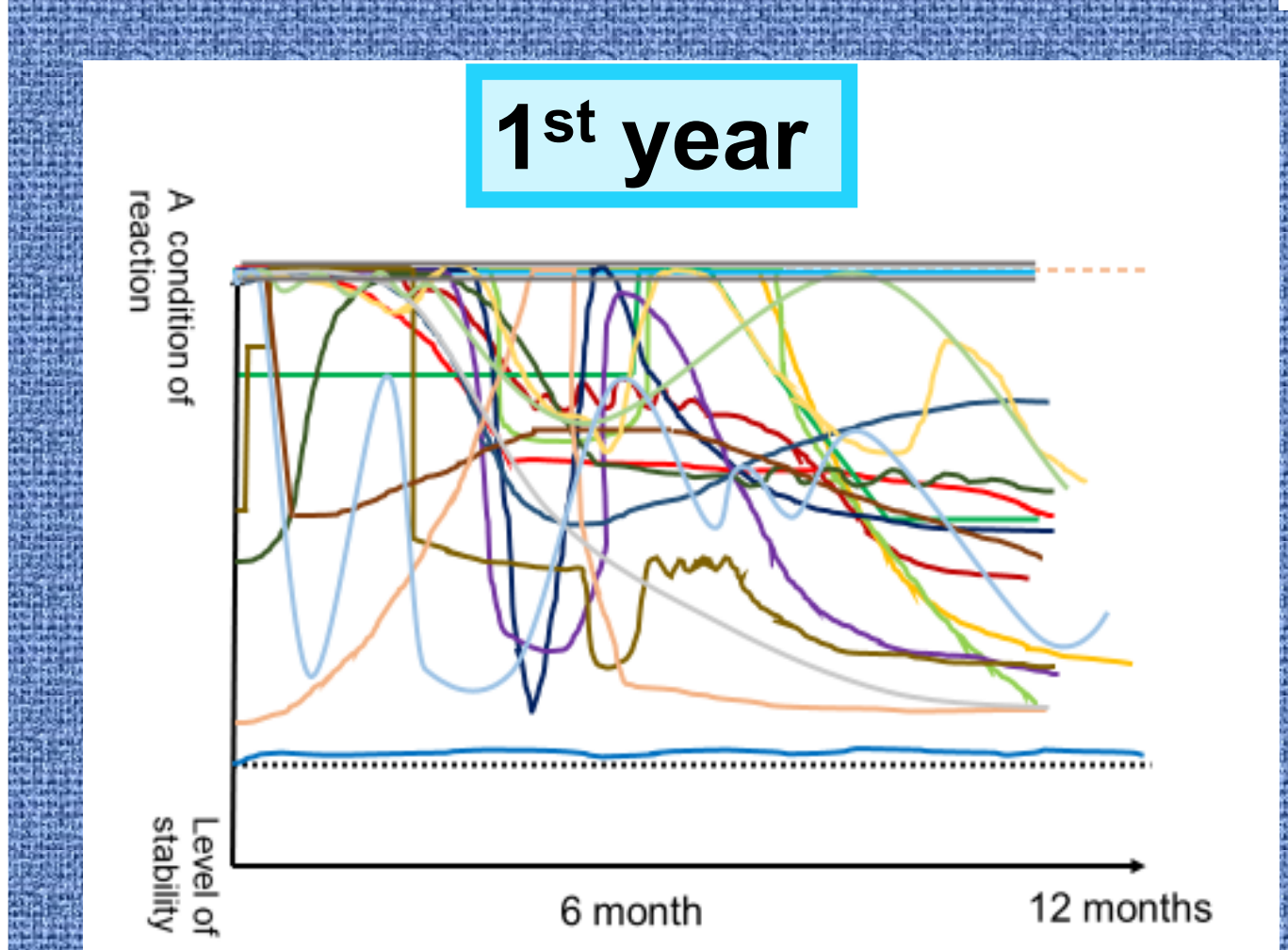


Fig 1. victims' mental state line (1st year)

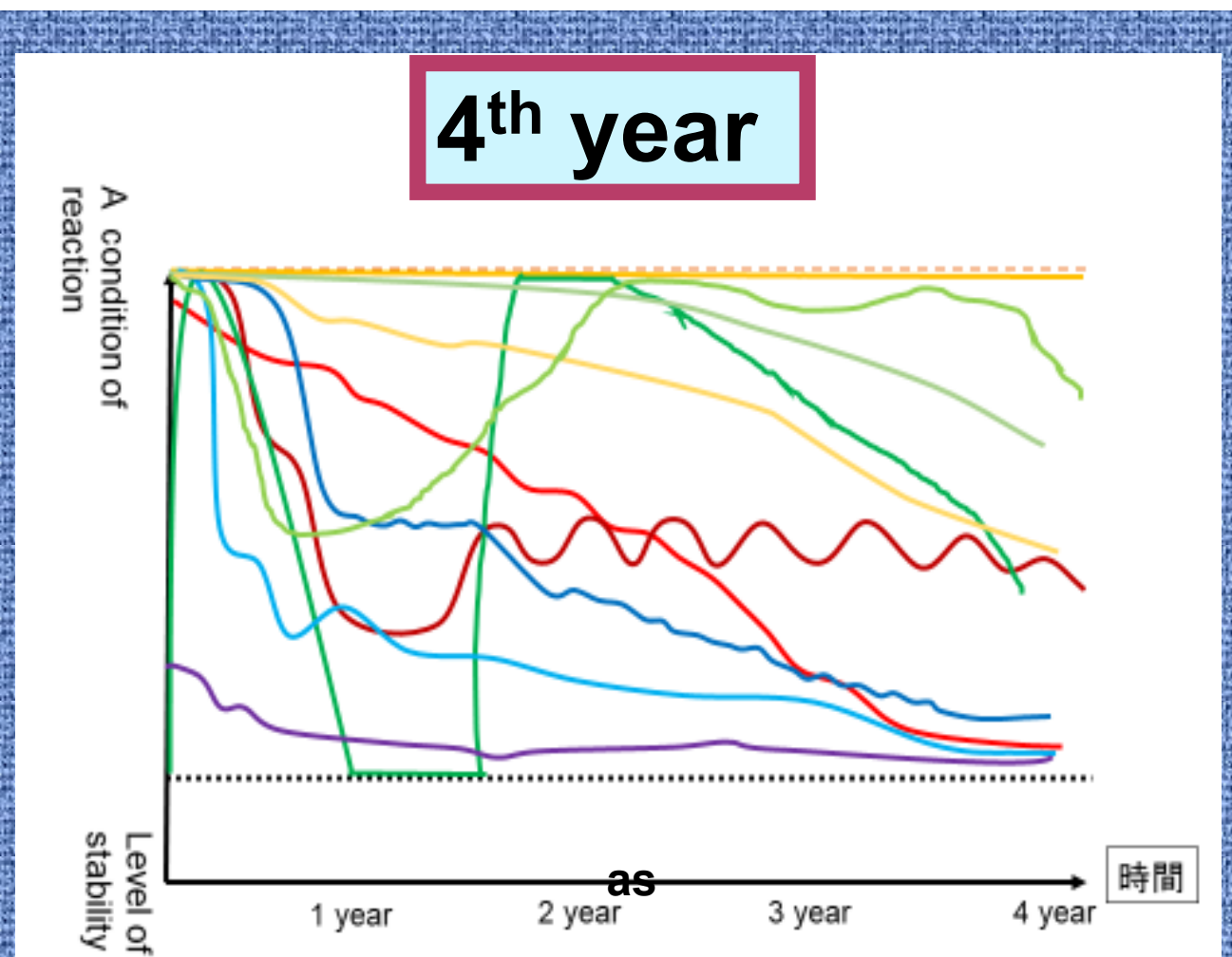


Fig3. victims' mental state line (4th year)

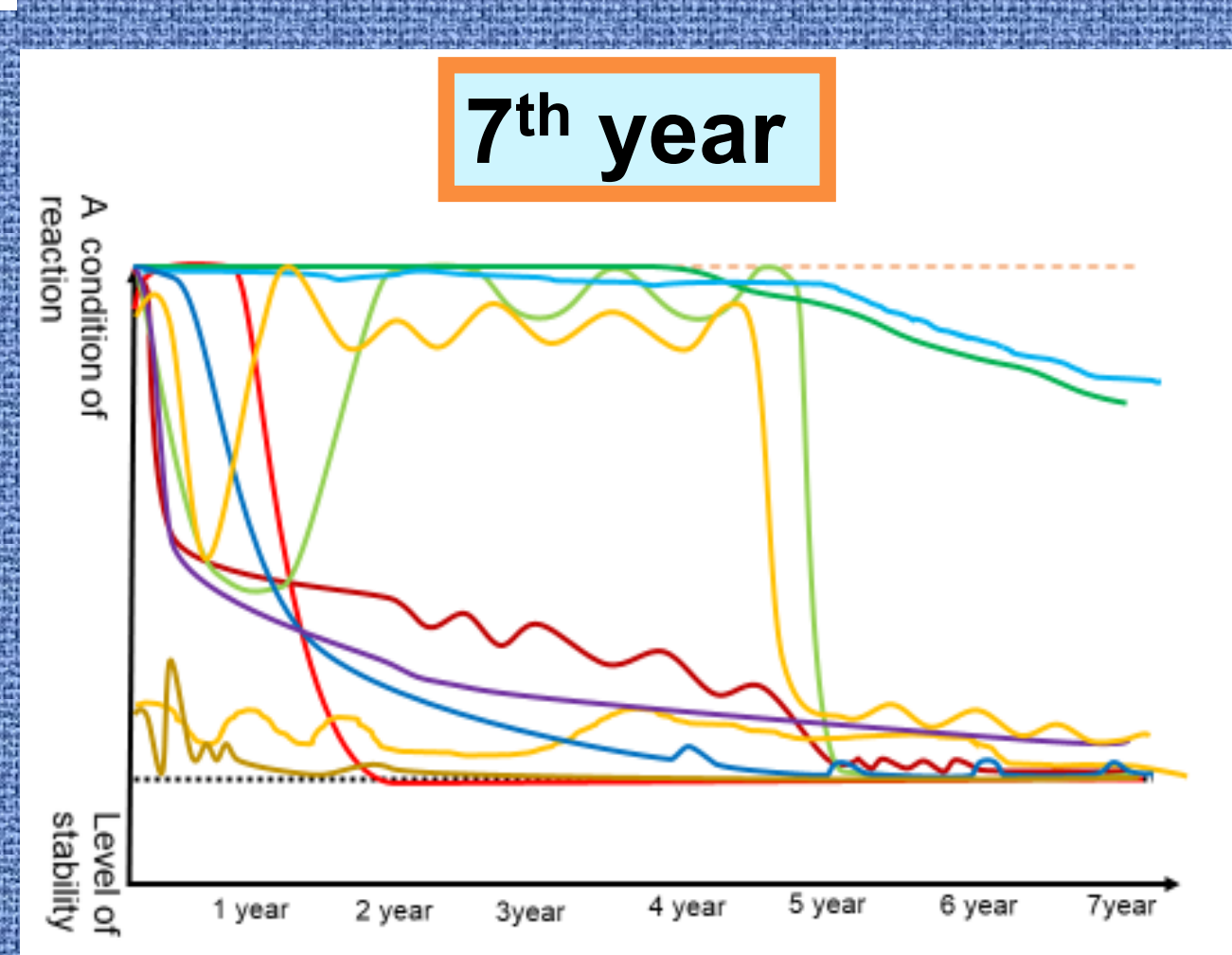
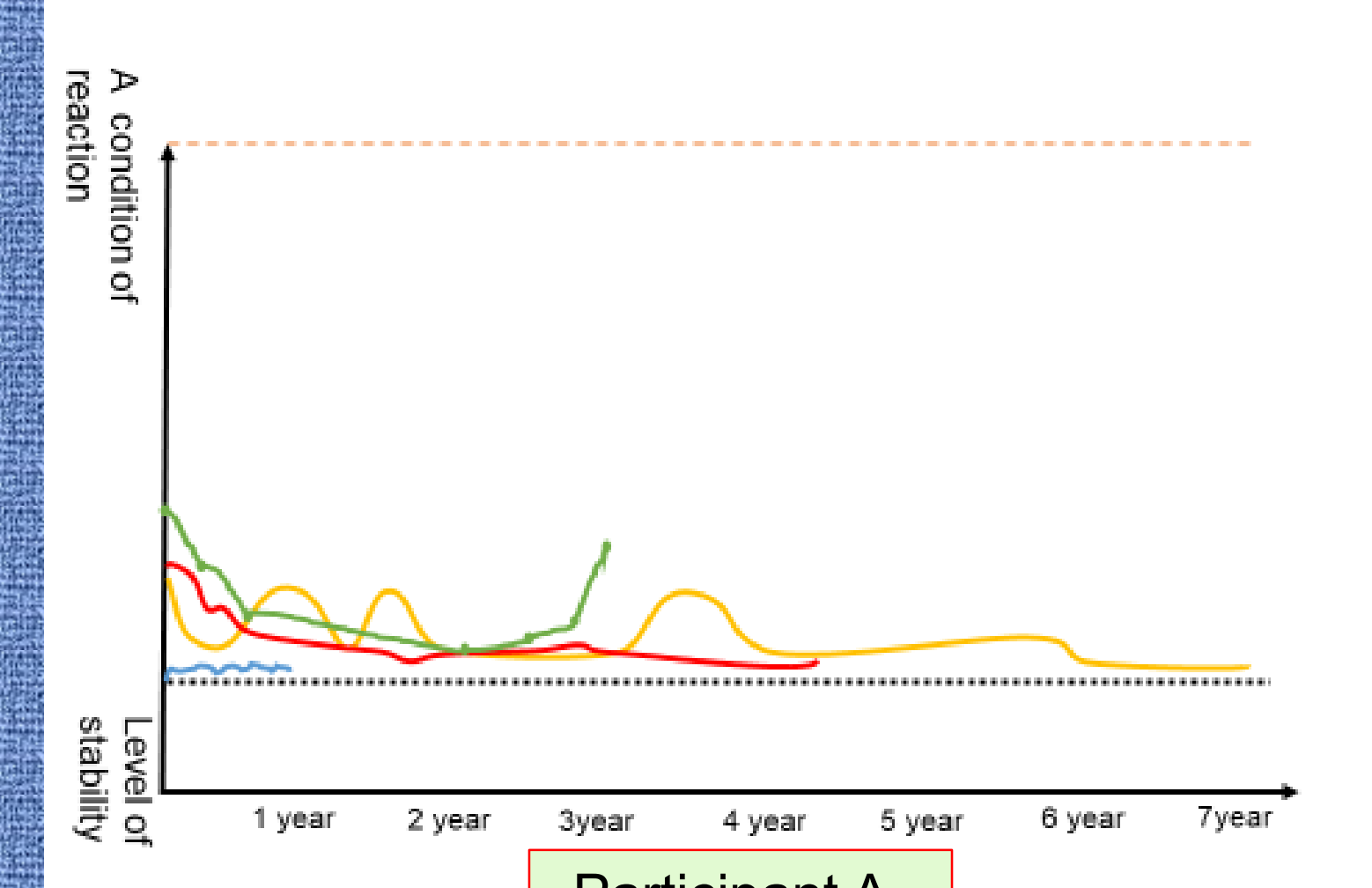


Fig 4. victims' mental state line (7th year)



Participant A

Combination of rising and dropping lines were found in the result. Although the emergence and level of stress were diversified, most of the line reached higher level. And no one reached the base line showing the stability before the disaster.

No one shows the increing stress level but feels stable. One participant reached the base line just after a year, however, the level increased again in half a year.

The clear distinction between participants with higher and lower stress levels. Participants with higher stress levels experienced the loss of other families. The lines of the other participants tend to decrease to the base line of stability between 2nd year and 5th year.

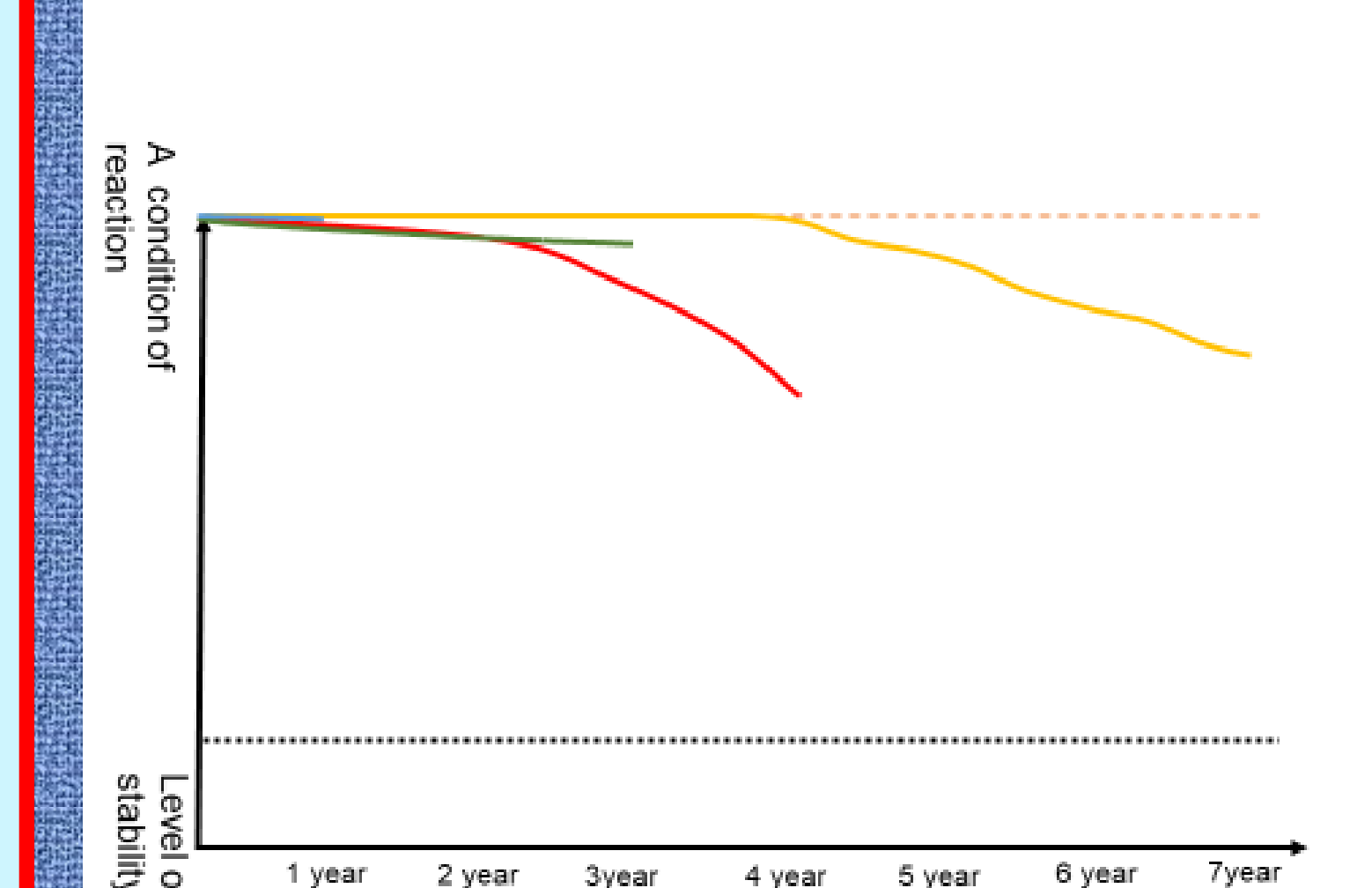
Participant A:
Male, 93-year-old, living alone. His house were destroyed due to Tsunami.
For the 1st year, he mentioned that his mental is stable as he experienced the War.
For the 3rd year, reflecting the past while preparing for death in a physically unwell condition.
For the 4th year, reflecting himself who refused to take supplies because of self-esteem.

The factors affecting victims' mental state

1st year		4th year		7th year	
Category	Frequency (%)	Category	Frequency (%)	Category	Frequency (%)
Existence of family and friends supporting victims	62 (25.1)	Decision making and regret on housings	36 (26.3)	Relaxation and giving up	33 (25.2)
Hope and anxiety for unpredictable future	45 (18.2)	Anxiety and decision for future	35 (25.5)	Continued symptoms and medication	22 (16.8)
Feeling of motivation and loss	38 (15.4)	Change of health status and taking medication	19 (13.9)	Concern over reconstruction and move, and affection for familiar places	21 (16.0)
Living in unfamiliar (temporal) situation	37 (15.0)	Family and friends	19 (13.9)	Loss of desire for lives	19 (14.5)
Health condition changes and supports from health care	34 (13.8)	Work and hobby	12 (8.8)	Continued thoughts for the disaster	12 (9.2)
Loss of familiar places and housings	16 (6.5)	Without self-decision (any reasons)	8 (5.8)	Isolation in unfamiliar community	11 (8.4)
Lack of information and validity	15 (6.1)	Remembering the disaster	8 (5.8)	Inheritance and financial problems	7 (5.3)
				Relaxation and giving up	6 (4.6)

1. The main factors in 7-year were **Existence of family and friends** **housing circumstances** **health condition** 2. The factor influencing psychological changes was ambivalently affected. For example, victims hope to come back to their home while understanding it is impossible. 3. In the 7th year, the new factors such as **less desire for live****[isolation in unfamiliar places]**

2 Psychological changes during 7-year (Individual) Fig



Participant B

Participant B:
Female, 65-year-old. Her only son was died due to Tsunami.
For the 1st year, she continued to wash his clothes everyday (uncertainty).
For the 3rd year, she started telling a story of his last time and looking back missing people. For the 4th year, she started remembering the conversation with her son and reflecting herself in the past and present.

Conclusions

The result showed that victims who experienced severe disasters spontaneously begin to accept circumstances and "the loss experience" after facing "uncertainty", "reinforced isolation" and "exploring meanings". This procedures let victims gain mental stability. From the traits from the psychological changes, it can be said that it is significant to intervene at appropriate phase with appropriate care and construct psychological support system to promote victims to join a community, in order to foster them to be independent from supports.

Future Consideration

As stated in the investigation of the mental status changes, the most significant factors for victims are continuous cares at appropriate periods, supports for victims' difficulties such as anxieties over livings and occupations, and mental care to help victims to separate from any supports in cooperation with regional communities.

This study was a part of a research project funded by JSPS Grant-in-Aid for Scientific Research (C) 2009-2018ID

東日本大震災後の長期的な心理的回復過程について、研究を行っています。

現在行っている永平寺町福祉避難所に関する研究です。

