

# **Monitoring Compassion Fatigue and Compassion Satisfaction of Mental Health Professionals in a Prefectural Mental Health Care Team for Eastern Japan Earthquake Disaster: Prospective Longitudinal Cohort Questionnaire Assessment**

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## **Abstract**

The purpose of this study is to conduct the assessment of Compassion Fatigue and Satisfaction before going to the disaster zone, while in the disaster zone, and after the activities at the disaster zone. We used the Compassion Fatigue and Satisfaction Self-Test for helpers to assess the mental state of care or support givers.

This study is a prospective longitudinal cohort questionnaire assessment. The study subjects were mental health professionals who have joined a prefectural Mental Health Care Team for Eastern Japan Earthquake Disaster, and worked in seriously tsunami-suffered areas from April to August in 2011.

23 members of the prefectural Mental Health Care Team for Eastern Japan Earthquake Disaster were divided into two types: Compassion Fatigue Decrease Type and Compassion Fatigue Increase Type. We discussed the characteristics of these two types.

**Key words;** Compassion Fatigue, Compassion Satisfaction, Eastern Japan Earthquake Disaster

## **I Introduction**

Working as a mental health professional in a disaster area is extremely stressful, and, therefore, monitoring their mental health is one of the most important issues to build up functional mental health support system for natural catastrophic disasters<sup>1</sup>, especially in Japan, where many earthquakes and other natural disasters have been occurring, and will continue to occur. Compassion Fatigue is the term to express the secondary traumatic stress of mental health support caregivers in traumatic events. Compassion Satisfaction refers to their pleasure derived from being able to do his or her work effectively. There are some studies on compassion fatigue of helpers and healers in catastrophic situations, such as that of New York social workers following September 11 terrorist attacks on the World Trade Center<sup>2-5</sup>, and on relief workers and counselors who served during the Katrina and Rita hurricane disasters of 2005<sup>6-8</sup>. However, there is no studies related with the Great East Japan Earthquake. We have monitored compassion fatigue

and compassion satisfaction of mental health professionals in a prefecture Mental Health Care Team for Eastern Japan Earthquake Disaster in 2011. Our research was: "Are there any patterns of compassion fatigue and compassion satisfaction by elapsing time?". Our effort should contribute as a preliminary study for building up supporting system for mental health caregivers in disaster fields.

## II Compassion fatigue and Compassion satisfaction

Compassion fatigue (CF) was first used by Joinson<sup>9</sup> referring to the experiences of nurses with burnout. Figley later coined this term to describe the cognitive-emotional-behavior changes that caregivers experience from indirect exposure to traumatic survivors<sup>10-12</sup>. According to him, in most situations, the act of being compassionate- "bearing the suffering others"<sup>12</sup> -has implications such as becoming preoccupied with traumatized victims, which may lead to CF. He suggests that empathic engagement is the primary conduit for the transmission of traumatic stress from primary victims to their caregivers. CF is defined as "a state of tension and preoccupation with traumatized patients by re-experiencing the traumatic events, avoidance/numbing of reminders and persistent arousal associated with the patient "<sup>12</sup>... compassion satisfaction (CS) refers to the positivity involved in caring<sup>13</sup> ... Simply put, CS involves "the ability to receive gratification from caregiving"<sup>14</sup> .

## III Brief outline of the disaster and mental health care team

We Japanese will not and should not forget the day. On Friday, March 11, 2011, at 14:46 local time, an unsurpassable earthquake, which measured magnitude 9.0 on the Richter scale, occurred. The earthquake and the accompanying tsunami devastated the Tohoku region (the Pacific coast of northeastern Japan), especially coast areas of Iwate, Miyagi and Fukushima prefectures. The Meteorological Agency declared a tsunami warning 20 minutes after the initial major quake, but failed to estimate its actual extent, because the height of tsunami was far beyond what had been anticipated, which could not be measured adequately with ordinary equipment. As a result, the disaster created many casualties (15,870 dead, 2,814 lost, 6,114 injured) and even more structural damage (129,426 completely demolished buildings, 265,240 half demolished buildings, 727,054 partially damaged buildings) (Information from a National Police Agency survey as of September 19, 2012).

As a main countermeasure with regard to mental health, mental health care teams were addressed to the affected areas. These teams comprised psychiatrists, nurses, psychologists, and/or social workers. During the period of March 2011 and March 2012, a total of 57 teams and 3,504 members participated. The teams regularly stayed on site for a week, but dispatching Support Centers were located in distant areas, and were mainly organized by prefectural government. Some of them were sent from national hospitals who tried to rotate their own teams to maintain some form of continuity. This means that such services were actually ongoing for several months after the disaster...

It is hoped that foundations of team data for supporting the members dispatched to each disaster area

at the time of this unprecedented great disaster would be provided. We have to think how dispatched members were attacked by Compassion Fatigue in disaster area. It is our mission to provide data on how they were restored from temporary compassion fatigue, and how they recovered from severe situation in disaster area. This article is one part of the proof data for that purpose. We believe that we are obliged to report on this examination sequentially.

## IV Purpose of the study.

The purpose of this study is to resolve the research question, “Are there any patterns of compassion fatigue and compassion satisfaction by elapsing time?” We examined in detail that compassion fatigue and satisfaction before going to disaster zone, and just in disaster zone, after those activities.

We believe that our data could play an important role in this domain, which is called the “support for supporters”, at a significant point of human history, particularly in disaster zone.

## V Method

### 1 Respondents and Procedures

This study is a prospective longitudinal cohort questionnaire assessment. The study subjects were mental health professions being joined a prefectural Mental Health Care Team for Eastern Japan Earthquake Disaster working in a seriously tsunami-suffered area from April to August in 2011. The total population was 51. Time of measurement were, 1: Baseline (just prior to departure), 2: During mission (or activities in disaster zone), 3: Just after mission, 4: 1 week post mission, 5: 2 weeks post mission, 6: 3 weeks post mission, 7: 4 weeks post mission.

A Prefecture disaster area support group was set by ID number for each supporter under the cooperation agreement of respondents. Each dispatch supporter (respondent) was passed self check sheet (*Compassion Fatigue/Satisfaction Scale-short Version - (34 items)*). One person of a Prefecture who had the ID number and name of respondent received directly the self checked paper with envelope with personnel ID. Those envelopes were already closed and sealed by respondents themselves.

Researchers could not know any proper nouns of the ID number. And only one person of a Prefecture who had the ID number and name of respondent could not know the content of the completed questionnaires.

### 2 The measures

#### ***Compassion Fatigue/Satisfaction Scale-short Version - (34 items)***

Compassion Fatigue/Satisfaction was measured with the Compassion Fatigue/Satisfaction Scale (based on Figley and Stamm, 1996<sup>15</sup> ; Stamm, B. H. 2002<sup>16</sup>; Fujioka 2007<sup>17</sup>, 2010<sup>18</sup> ). The Compassion Fatigue/Satisfaction Short Version is a 34-item self report instrument that instructs respondents to indicate how frequently they experienced each of 34 symptoms during the previous week using a 5-choice, Likert-

type response format ranging from never (1) to very often (5). The 34 items of the Compassion Fatigue/Satisfaction are designed to be congruent with the 17 symptom criteria of Compassion Satisfaction and 17 symptom criteria of Compassion Fatigue by factor analysis of 66 original items of Compassion Fatigue and Satisfaction self check lists (Figley and Stamm, 2002<sup>15</sup>). These Compassion Fatigue/Satisfaction Scale-short Version-have 8 factors; **4 factors on Compassion Fatigue, (1, Secondary Traumatic Stress or compassion fatigue accumulated as a substitution-related trauma, 2, PTSD-like compassion fatigue, 3, Feelings of Denial, 4, Trauma Experience of care worker or social worker oneself) and 4 factors on Compassion Satisfaction (1, satisfaction in relations with fellow workers, 2, satisfaction in relations with a child or children, 3, satisfaction as nature of care workers or social workers, and 4, feeling of satisfaction in life)** by Factor Analysis (based on Figley and Stamm, 1996<sup>15</sup>; Stamm, B. H. 2002<sup>16</sup>; Fujioka 2007<sup>17</sup>, 2010<sup>18</sup>).

### 3 Ethics

The examination about ethical problems of this study was made by the Ethics Committee, Japan College of Social Work. As a result, there were no ethical problems in this research. Approval number was 11-0201.

## VI Results

### 1 Respondents

The total population was 51. 25 male (49.0%) and 25 female (49.9%). 1 was unknown. Age composition: 20-29 years of age was 8 (15.7%), 30-39 was 9 (17.6%), 40-49 was 24 (47.0%), 50-59 was 8 (15.7%), 60-69 was 1 (0.02%). 1 was unknown. Occupation: Psychiatrists were 9 (17.6 percent), Clinical psychologists 8 (15.7 percent), Psychiatric Social Workers 4 (7.8%), 17 Nurses (33% 3), Administrative Officials 9 (17.6%), Paramedical staffs (i. e. occupational therapists, etc.) 3 (6.9%). 1 was unknown. 27 persons answered at seven times. From this 27, we excluded administrative officials (4 persons). 23 were analyzed in this article.

In this 23, who found there were two subgroups. Compassion Fatigue (CF) significantly increased during mission compared with the base line in 11 persons and we defined them as the CFI or CF/I subgroup. Whereas, CF significantly decreased during mission compared with the base line in 9 persons and we defined them as the CFD or CF/D subgroup.

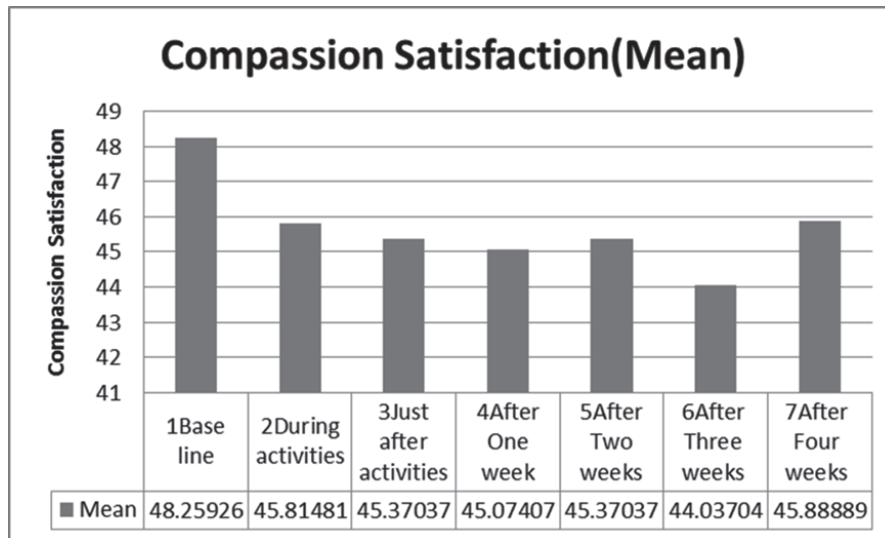
We could not differentiate 3 people to two subgroups, because 3 people did not change from the time in the baseline to the time of activities in disaster area in compassion fatigue total, change was only one point (4→3 ;23→22 ;22→21).

CFI subgroup contained 11 persons. 2 male and Female 8. 1 was unknown. Age composition: 20-29 years of age was 1, 30-39 was 0, 40-49 was 8, 50-59 was 1, 60-69 was 0. 1 was unknown.

CFD subgroup contained 9 persons. , 6 male and Female 3. Age composition: 20-29 years of age was 3, 30-39 was 3, 40-49 was 1, 50-59 was 2, 60-69 was 0.

## 2 Basic results of Compassion Satisfaction and Fatigue

### (1) Compassion Satisfaction of 27 people who filled self-test at all seven times of self-checks.

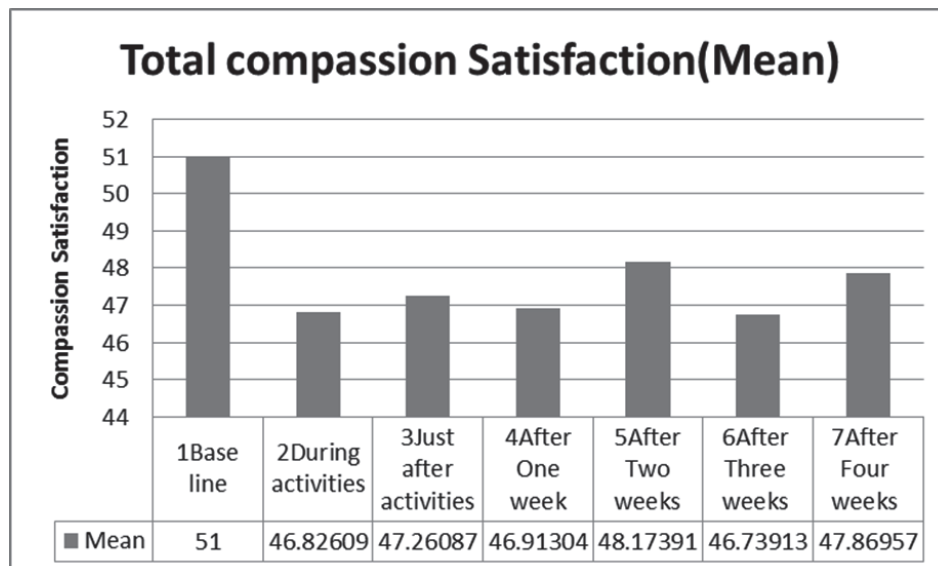


**Fig.1 Compassion Satisfaction (27 persons) contained staffs of a prefecture**

Compassion fatigue of 27 persons decreased from a baseline and became lowest three weeks later to see Fig.1. And four weeks pass Compassion fatigue recovered to some extent.

### (2) Compassion Satisfaction of 23 Professionals who filled self-test at all seven times of self-checks.

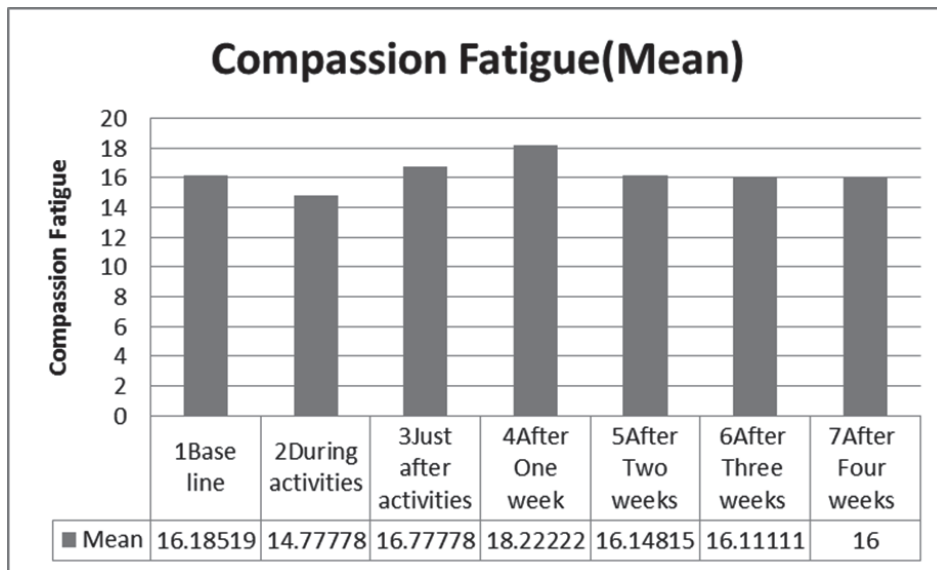
The result of compassion satisfaction of 23 Professionals who filled self-test at all seven times of self-checks is as follows.



**Fig.2 Compassion Satisfaction not contained staffs of a prefecture (23); Only Professionals**

In Fig.2, Compassion Satisfaction became a lot low during activity and became higher a little in two weeks later after they came back to their workplace. Compassion Satisfaction became higher again four weeks later than before 3 periods, but CS did not recover by the numerical value at the period of baseline.

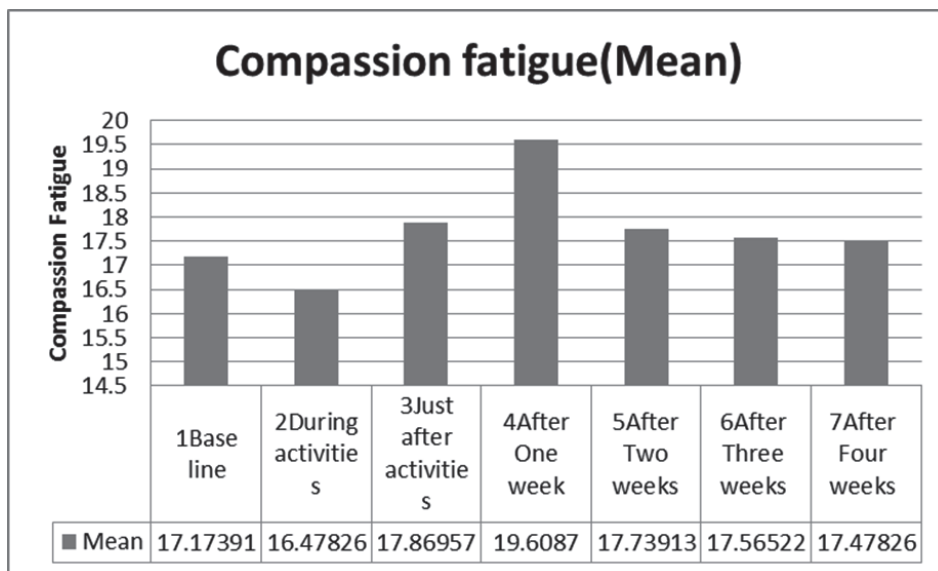
**(3) Compassion Fatigue of 27 people who filled self-test at all seven times of self-checks.**



**Fig.3 Compassion Fatigue (27 persons) contained staffs of a prefecture**

In Fig.3, compassion fatigue undergo a change of high degree through seven times of checks.

**(4) Compassion Fatigue of 23 people who filled self-test at all seven times of self-checks.**



**Fig.4 Compassion Fatigue (23 persons) does not contain prefectural staff; only professionals**

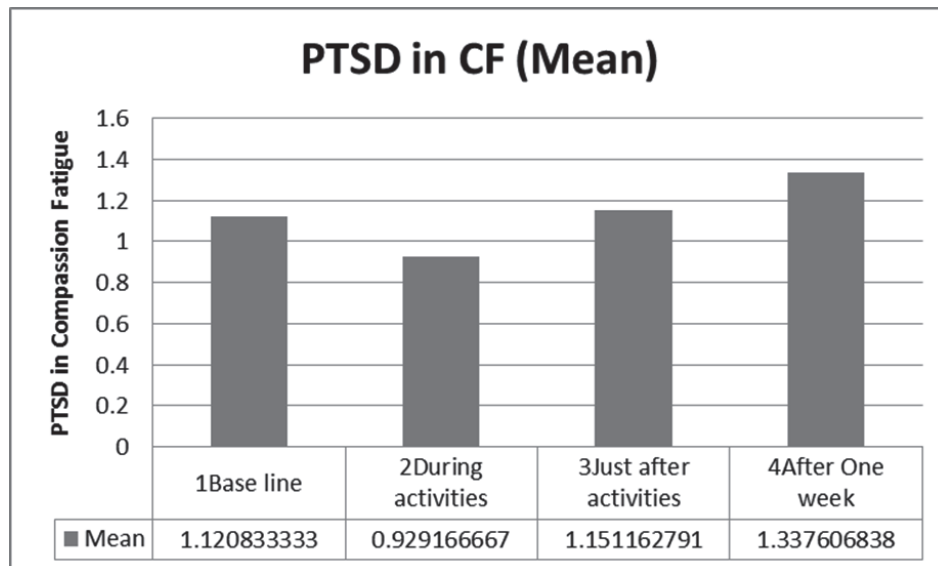
In Fig.4, Compassion Fatigue rose after the activity most in four weeks through seven times.

Total compassion fatigue was not different according to time by 1 factor ANOVA results, no-significantly ( $F=1.0111n.s.$ ) Compassion fatigue Factor 1 (secondary trauma) total value was not different according to time by 1 factor ANOVA results, no-significantly ( $F=1.229 n.s.$ ).

**(5) PTSD Factor in Compassion Fatigue of 23 people who filled self-test at all seven times of self-checks.**

In Fig.5, Compassion Fatigue was reduced during activity and increased afterwards.

Compassion fatigue Factor 2 (PTSD) was tend to be different according to time (initial four periods) by 1 factor ANOVA results, tended significantly ( $F=2.237, P=0.085<.10$ ). By Tukey multiple comparisons method, we found significantly difference between During Activities(2) and After One Week ( $q=2.61, p<.05$ ) on PTSD factor in compassion fatigue.



**Fig.5 PTSD in CF (Mean)**

**3 The longitudinal trends of CF and CS in the two subgroups.**

By comparison between the baseline and the time of during activities, we divided 23 persons into two groups. One is Compassion Fatigue increase group (CFI), and the other is Compassion Fatigue decrease group (CFD) group. We show the results below.

**(1) IF/ I group**

Compassion fatigue of IF/ I group (11 persons) was shown below (Table 1).

**Table 1 Compassion Fatigue; CF Increase Type (11 persons)**

	1Base line	2During activities	3Just after activities	4After One week	5After Two weeks	6After Three weeks	7After Four weeks
CF/I 1	11	18	17	25	16	15	13
CF/I 2	12	16	12	12	13	17	16
CF/I 3	22	33	31	24	25	25	20
CF/I 4	8	21	26	38	33	30	28
CF/I 5	6	8	5	10	5	4	6
CF/I 6	8	25	25	30	29	30	31
CF/I 7	21	25	23	25	25	15	14
CF/I 8	8	11	7	6	2	2	2
CF/I 9	14	34	38	38	38	38	15
CF/I 10	14	21	21	18	29	28	25
CF/I 11	16	31	40	22	29	31	27

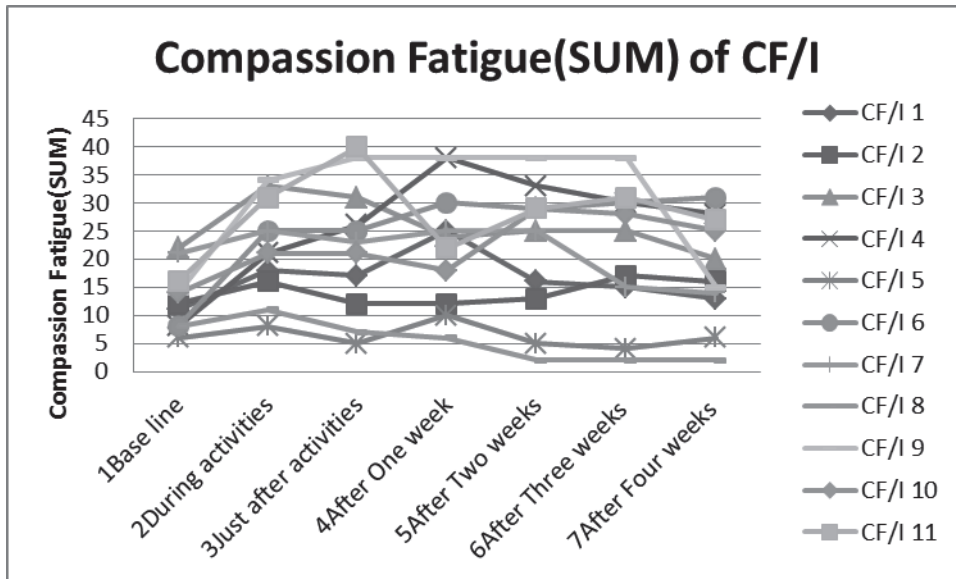


Fig.6 Each Compassion Fatigue (SUM) ; CF Increase Type (11 persons)

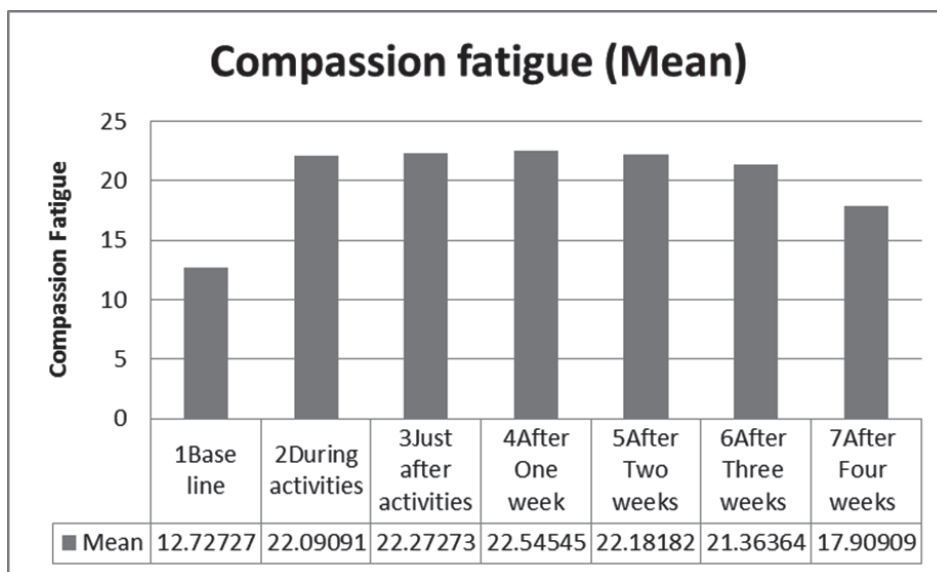
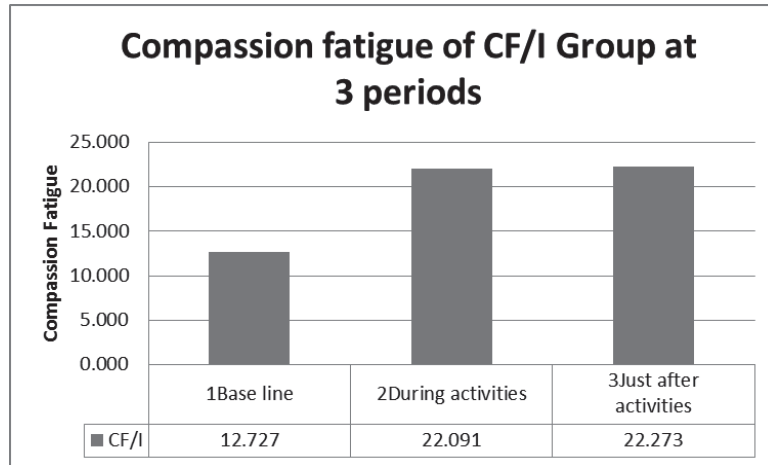


Fig.7 Compassion Fatigue (Mean) of Increase Type (11 persons) at each 7 periods

Compassion Fatigue of CF/I Type was analyzed through one factor analysis of ANOVA results in statistically no significant ( $F(6.76)=1.459$  n.s). So the process from base line(1) to just after activities (3) was made additional analysis by one factor analysis of ANOVA, as a result statistically significant differences were found in these three periods ( $F(2.32)=4.124, p<.05$ ). Figure 8 shows the results. Additional analysis using the Tukey method results in significant difference between Base line and During activities, Base line and Just after activities. Significant difference among two parts (between Base line and During activities,  $q=2.484, p<.05$ ; between Base line and Just after activities,  $q=2.532, p<.05$ ).





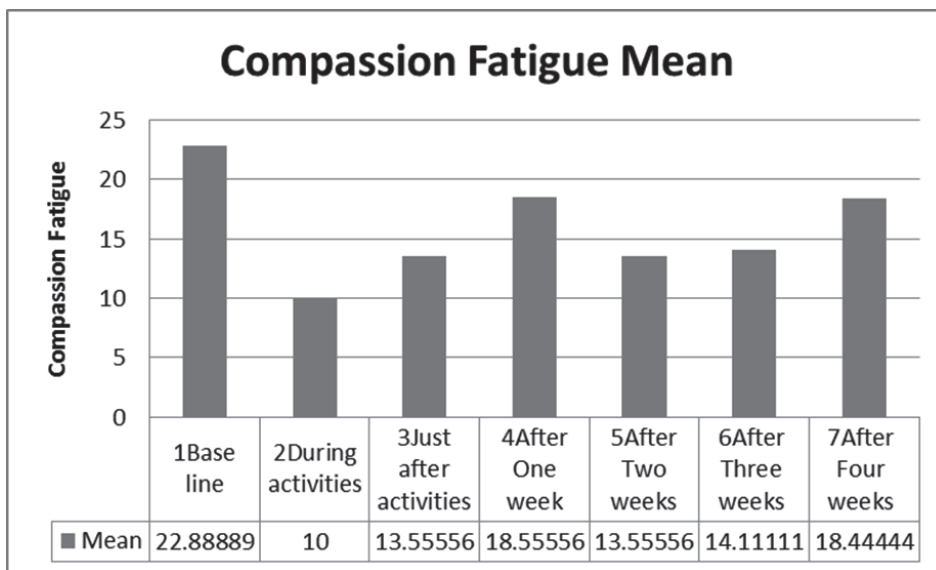
**Fig.8 Compassion Fatigue (Mean) of Increase Type (11 persons) at initial three periods**

**(2) IF/D (Decrease) Group**

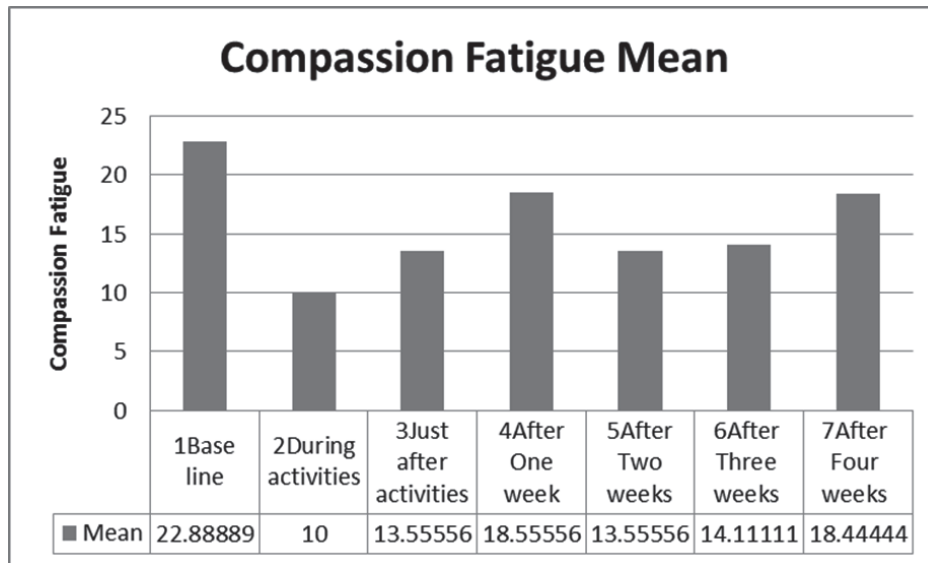
Compassion fatigue of IF/D group (9 persons ) was shown below (Table 2).

**Table 2 Compassion Fatigue (SUM); CF Decrease Type (9 persons)**

	1Base line	2During activities	3Just after activities	4After One week	5After Two weeks	6After Three weeks	7After Four weeks
CF/D1	33	5	6	32	23	27	44
CF/D2	19	0	29	13	6	1	0
CF/D3	17	12	18	15	17	16	17
CF/D4	30	21	22	24	23	23	19
CF/D5	12	7	6	4	7	4	4
CF/D6	26	7	15	14	0	0	21
CF/D7	14	1	3	12	5	5	1
CF/D8	42	29	20	50	39	45	42
CF/D9	13	8	3	3	2	6	18

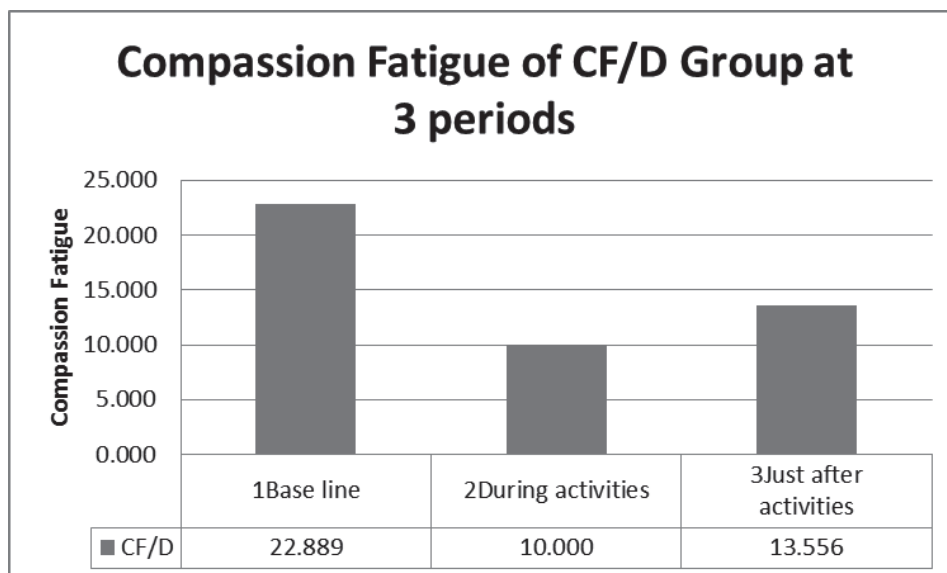


**Fig.9 Each Compassion Fatigue (SUM) of Decrease Type (9 persons)**



**Fig.10 Compassion Fatigue (Mean) of Decrease Type (9 persons)**

Compassion Fatigue of CF/D Type was analyzed through one factor analysis of ANOVA results in statistically no significant ( $F(6.62)=1.001$  n.s). So the process from base line(1) to just after activities (3) was made additional analysis by one factor analysis of ANOVA, as a result statistically significant differences were found in these three periods ( $F(2.26)=4.167, p<.05$ ). Figure 11 shows the results. Additional analysis using the Tukey method results in significant difference only between Base line and During activities. Significant difference among only one part (between Base line and During activities,  $q=2.795, p<.05$ ).



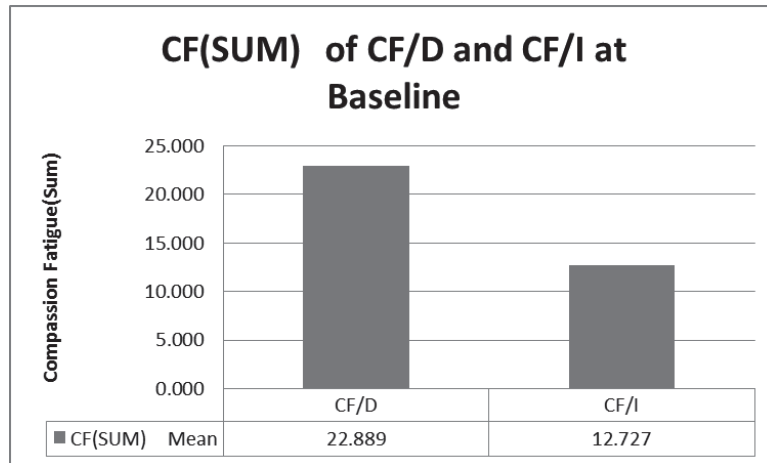
**Fig.11 Compassion Fatigue (Mean) of Decrease Type (9 persons) at initial three periods**

### (3) The result of ANOVA for two groups

We cut the data of two people seen only improvement only 2 and 3 in Compassion Fatigue in CF/I group, CF/I 5 and CF/I 8 in Table.1. We compared two groups about same 9 persons. The result is shown

below.

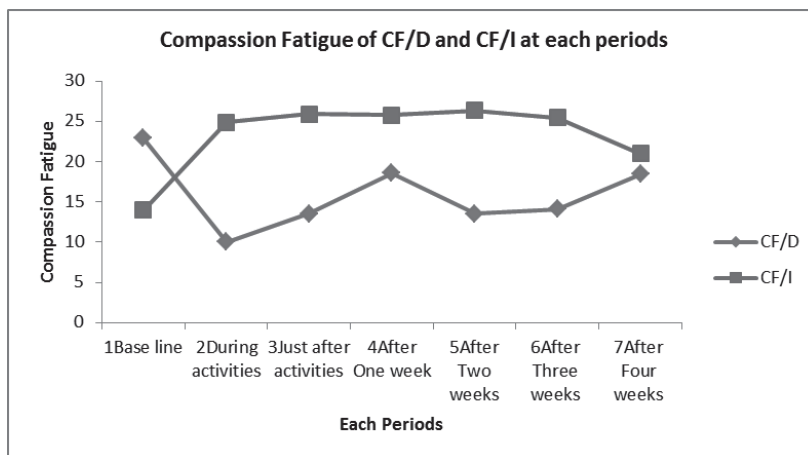
Difference between the two groups at baseline, one factor examined in the analysis of variance (ANOVA). As a result, differences in compassion fatigue of two groups at baseline (before going to disaster area) was different significantly as a result of ANOVA ( $F(1, 19) = 7.951$ ,  $p < .05$ ). The result is shown in Figure 12.



**Fig.12 Compassion Fatigue (Mean) of both Types at initial period (Base line).**

As a result, there were significant difference in interactions of CF/D and CF/I group and factor of groups and process factors. Group factors of CF/D and CF/I groups was significant ( $F(1, 125) = 15.733$ ,  $p < .01$ ). Interaction of process factors and compassion fatigue 2 group was significant ( $F(6, 125) = 2.784$ ,  $p < .05$ ). Because the interaction was significant, we examined additional analysis with Tukey method. As a result, it was made clear that for each period of 2 During activities, 3 Just after activities, 5 After Two weeks, 6 After Three weeks difference of CF/D and CF/I group was significant (2 During activities,  $q = 2.992$ ,  $p < .01$ , 3 Just after activities  $q = 2.479$ ,  $p < .01$ , 5 After Two weeks  $q = 2.568$ ,  $p < .01$ , After 6 Three weeks  $q = 2.778$ ,  $p < .05$ ). In addition, compassion fatigue of both groups in the period of Base line was shown significant tendency ( $q = 1.786$ ,  $p < .10$ ).

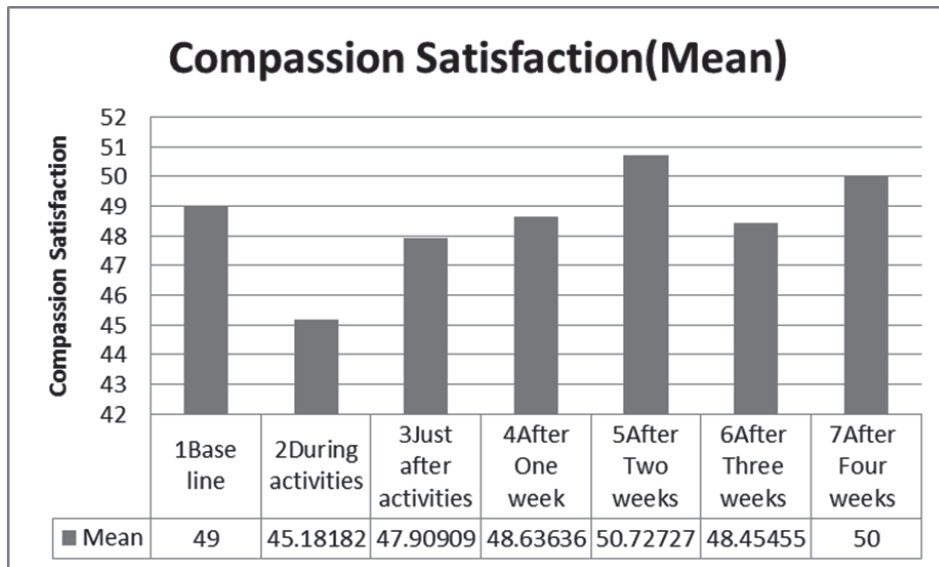
As a result, this results was shown in Figure 13 as follows.



**Fig.13 Compassion Fatigue(Mean) of both Types at 7 periods**

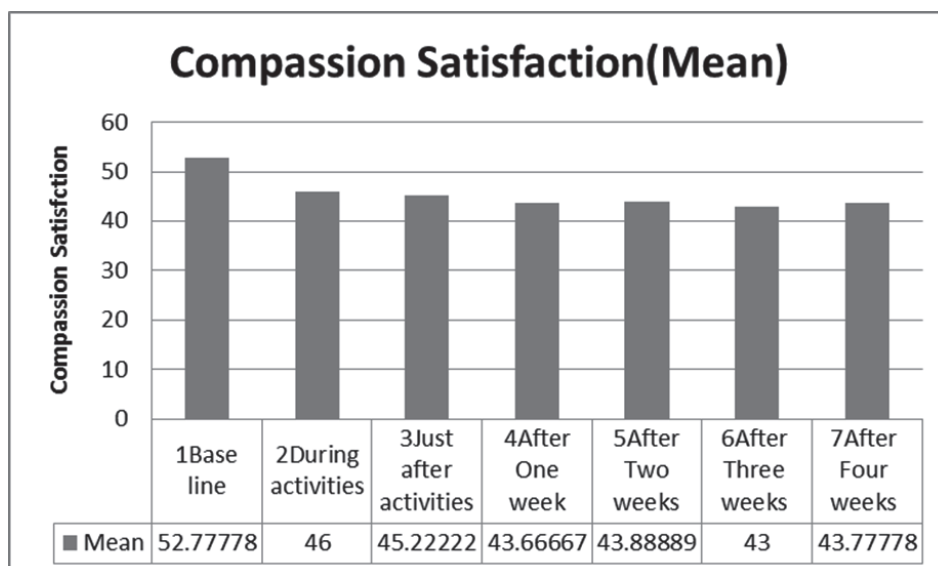
**(4) The results of Compassion Satisfaction in two CF/D and CF/I groups.**

Results can be summarized as shown below. Compassion Satisfaction in CF/I group decreased after going to disaster zone. And coming back from disaster area CS increased after 1 week and 2week gradually. And after those periods, CS decreased after 3 week and after 4 week increased again than period of 3week later.



**Fig.14 Compassion Satisfaction; CF Increase Type (11 persons)**

There were no significant difference of CS of Compassion Fatigue Increase Type (CF/I Type) by one factor analysis of ANOVA ( $F(6.76) = 0.314$  n.s).



**Fig.15 Compassion Satisfaction; CF Decrease Type (9 persons)**

CS of Compassion Fatigue Decrease Type (CF/D Type) results in no statistically significant by one factor analysis of ANOVA ( $F(6.62) = 0, 525$  n.s).

The results may be summarized like this. In Compassion Fatigue Decrease type compassion satisfaction was maintained in high level, and declined gradually from just after to 4weeks later. Getting satisfaction activities during the satisfaction decreased just a little.

## VI Discussion

### 1 The meaning of two Compassion Fatigue types

In CFI subgroup, CF increased during mission compared with baseline, and after coming back to their daily regular work, they kept this high CF until at least 3 weeks later. Even though CF seemed to start being lower at 4 weeks post mission period, the level was still higher than baseline. CS decrease during mission compared with baseline, but it recovered from just after mission. It recovered as the baseline level in 1 week.

CF decreased during mission compared with baseline in CFD subgroup, but after coming back to their daily regular work, CF started to up. The first peak was at 1week post mission which was still low compared with baseline, and after slightly down at two weeks post mission, CF re-upped at 3 weeks and at 4 weeks.

We found two types in Compassion Fatigue. We have to examine and consider the optimal support for two types.

### 2 Satisfaction of two Compassion Fatigue Types

Compassion Satisfaction were different among two Compassion Fatigue types. Already we described that the result about CS.

Compassion Satisfaction in CF/I group decreased after going to disaster zone. We predicted this result as severe situation for them in disaster zone. And coming back from disaster area CS increased after 1 week and 2week gradually. Perhaps their workplace is not severe rather than disaster zone. Or they might be able to treat some stress in familiar work place. But they could not cope with new situation in disaster zone. They had to construct new coping skill for working with clients or patients. And after those periods, CS decreased after 3 week, and after 4 week CS increased again than period of 3week later. It would be time for adjust again to work place after coming back to home town from disaster zone.

The results of CS in CF/D group can be summarized this. In Compassion Fatigue Decrease type, compassion satisfaction was maintained in high level, and declined gradually from just after to 4weeks later. Getting satisfaction activities during the satisfaction decreased just a little. Perhaps we considered that this type adjusted the severe situation in disaster zone soon after going there. They had to adjust the new situation, but they might think some coping skills for new treatment to themselves and clients or peoples in disaster area.

### 3 Support for Two types

#### (1) CFI subgroup

Compassion Fatigue of CFI subgroup increased at during activities compared with period of base line.

And after coming back to workplace, they continued same level of Compassion Fatigue. So we think that they have to be supported by professionals after coming back to home town from disaster zone.

We named this type as “Increased Compassion Fatigue Type (ICF)”.

## **(2) CFD subgroup**

Compassion Fatigue of CFD subgroup decreased at during activities compared with period of base line.

In this type Compassion Fatigue decreased at during activities and just after activities compared with period of base line. But after 1 week Compassion Fatigue increased again. After 2 week Compassion Fatigue decreased again. Increasing and decreasing repeated after coming back to home town. We named this type as “ Time lag Type of CF”.

## **(3) Necessity of continual support for helpers or professionals**

Continuous follow-up for this type should be suggested. 1 week later after finishing activities is very important for this type.

We emphasized that it must be required for helpers and professionals who were active in disaster area to continue the assessment of CF and CS, at least one month after coming back to home town from disaster zone, in order to support them while they support the others.

## **VII Conclusion**

We divided two type of compassion fatigue through our investigation for supporters in disaster area. We discussed about two types, CFD and CFI. And in addition, we considered the necessity of continual support for helpers or professionals according to two types.

Perhaps these two types are both style for adjusting to disaster area. We think that supporters as one type (CFI) might have “feeling severe situation in disaster area” from negative orientation, while supporters as the other type (CFD) might have “feeling proactive situation for them in disaster area” from positive orientation. But this hypothesis was not to be examined in this article. We have mission to investigate these research questions on the stand points acquired through the findings in this article.

## **References**

1. Van der Auwera M, M Debacker, I. Hubloue Monitoring the mental well-being of caregivers during the Haiti-earthquake. *PLoS currents* 2012; 4: e4fc33066f1947.
2. Rabbi Stephen BR, Flannelly KJ, Weaver AJ, Figley CR. Compassion fatigue among chaplains, clergy, and other respondents after September 11th. *The Journal of nervous and mental disease* 2003; 191 (11): 756-8.
3. Adams RE, Figley CR, Boscarino JA... The Compassion Fatigue Scale: Its Use With Social Workers Following Urban Disaster. *Research on social work practice* 2008; 18 (3): 238-50.
4. C Tosone, Bettmann JE, Minami T, Jasperson RA... New York City social workers after 9 / 11: their attachment, resiliency, and compassion fatigue. *International journal of emergency mental health* 2010; 12 (2): 103-16.
5. JA Boscarino, Figley CR, Adams RE... Compassion fatigue following the September 11 terrorist attacks: a study of the secondary trauma among New York City social workers. *International journal of emergency mental health* 2004; 6 (2):

57-66.

6. L. Clukey Transformative experiences for Hurricanes Katrina and Rita disaster volunteers. *Disasters* 2010; 34 (3): 644-56.
7. Lambert SF, Lawson G. Resilience of professional counselors following hurricanes Katrina and Rita. *Journal of Counseling and Development* 2013; 91 (3): 261-8.
8. Pfifferling JH. The hidden cost of disasters: Supporting those healers exposed to trauma. *American Journal of the Medical Sciences* 2008; 336 (2): 201-3.
9. Joinson C. Coping with compassion fatigue. *Nursing* 1992; 22 (4): 116, 8-9, 20...
10. Figley CR. Compassion fatigue as secondary traumatic stress disorder: An overview. In: Figley CR, (Ed.) *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treated the traumatized*. New York: Brunner/Mazel; 1995.
11. Figley CR. Compassion fatigue self-test. In: Stamm BH, ed. *Measurement of stress, trauma, and adaptation*. Baltimore, MD: Sidran Press; 1996.
12. Figley CR. Compassion fatigue: psychotherapists ' chronic lack of self care. *Journal of clinical psychology* 2002; 58 (11): 1433-41.
13. Phelps, Lloyd D Creamer M, Forbes D. Caring for carers in the aftermath of trauma. *Journal of Aggression, Maltreatment & Trauma* 2009; 18: 313-30...
14. Simon CE, Pryce JG, Roff LL, Klemmack D. Secondary traumatic stress and oncology social work: protecting compassion from fatigue and compromising the worker's worldview. *Journal of psychosocial oncology* 2005; 23 (4): 1-14.
15. Figley C.R. Stamm, B. H. Review of the Compassion Fatigue Self-Test In B. H. Stamm(Ed.), *Measurement of stress trauma and adaptation*. Lutherville, MD: Sidran Press; 1996.
16. Stamm, B. H. Measuring compassion satisfaction as well as fatigue: Developmental history of the Compassion Satisfaction and Fatigue Test. In C. R. Figley (Ed.), *Treating compassion fatigue* (pp. 107–119). New York: Brunner-Routledge; 2002.
17. Fujioka, T. On the Structure of Compassion Satisfaction and Compassion fatigue in Child welfare facilities. *Study Report of Japan College of Social Work* 2007; Vol.54, 75-116. (In Japanese with English summary)
18. Fujioka, T. On the Construction of Support Program for Care Givers in Child Welfare Facilities on the Standpoint of Compassion Fatigue. *Study Report of Japan College of Social Work* 2010; Vol.57, 201-237 (in Japanese with English abstract)