

Camp Project for Parents and Children in Disaster-Affected Areas

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1. Background and Objectives

In recent years, natural disasters such as earthquakes and floods have occurred frequently in Japan, and the mental health support system for affected residents is gradually being expanded. Children are one of the vulnerable groups that are at risk of slipping through the gaps in support systems in situations where physical rebuilding is a priority. The Great East Japan Earthquake in 2011 damaged Miyagi prefecture's coastal areas over a wide area, significantly reducing the space for children to play freely. Various studies have been reported on the significant changes in residents' living environment due to the earthquake and the tremendous impact on the minds and bodies of children 1) 2).

Against this background, we conducted a camp project for parents and children in the disaster area to provide a space where children can play with peace of mind and share their thoughts with other children who have been through similar experiences. By incorporating psychological education into the program and providing correct knowledge about disasters, we aimed to help children understand the mechanisms of their minds and taught them how to deal with anxiety.

This camp project was first held in July 2011 by Tohoku Fukushi University as part of its support for the disaster area, with the cooperation of local professionals and multiple volunteer groups 3). It has been operated as a yearly project under the umbrella of this Center since 2012. This project's progress has been posted as an activity report in the bulletin of this Center 4) -7). This paper is a helpful report on the tenth iteration of the day camp, held in October 2019.

2. Methods

As was done in FY 2018, the camp session consisted of two parts—a program designed for elementary school children, the “Parent-Child Survivors Camp Project” (“day camp project”), and a “Sub-leader Training Workshop for Teenagers”—for past participants who were teenagers.

(1) Camp Project (Table 1)

① Targets

In the three coastal cities affected, we received consent from six elementary schools and distributed information to the schools' children. Since the Center inherited this project, we have surveyed whether or not participants wished to have us send them information on the next session. We sent information about the event to 60 school-aged children of past participants who had requested it.

② Survey procedure

Explanations were given, and an agreement was obtained from the board of education in each of the three municipalities. Next, an explanation was provided to each target elementary school, and application guidelines were distributed to children in the elementary schools where consent had been obtained. The project's purpose was explained to the families who applied, and their cooperation with the survey was requested. At the time, we explained that they were free to cooperate with the study if they wished to do so, and could withdraw their consent at any time.

③ Survey content

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To understand the topics that required attention, we conducted pre- and post- questionnaires with children and parents to verify their living situations and the effects of the disaster at the time of the earthquake. To understand their effectiveness and psychological states, children took the Pre- and Post-Traumatic Stress Symptoms for Children 15 items (PTSSC-15) 8) 9), while parents took the Kessler Psychological Distress Stress 6 (K6) 10). The pre-questionnaire was conducted two weeks before the start of the parent-child camp, and the post-questionnaire was mailed around two weeks after completion. Only the data of those from whom research participation consent was obtained were analyzed.

④ Implementation

The camp was held at the Matsushima Outdoor Activity Center on Saturday, October 15, 2019. We included instruction on fire-starting as part of our disaster-preparedness education during our outdoor cooking activities. After lunch, we held a recreation period titled “Study of the Heart and Mind,” where we provided a program that included a picture-show story incorporating simple psychological education (Document 1) and a breathing method using a blow-up pipe.

⑤ Evaluation methods and feedback

Evaluation of the children’s psychological state was done using the PTSSC-15—the recommended cutoff score of 23 was used as a benchmark for flagging children needing support. Scores before and after the camp were compared to analyze its effect on the children’s mental state. The K6 scale was used to evaluate parents’ and guardians’ psychological state. A score of 13 or greater, widely considered indicative of moderate mental illness, was used as a benchmark for flagging individuals requiring support. Scores before and after the camp were compared to analyze its effect on parents’ and guardians’ mental state. Children flagged as needing support were given an individual interview where their results were explained to them, and any necessary support was provided.

⑥ Ethical considerations

This study was approved by the Miyagi Disaster Mental Health Care Center Ethics Committee and was carried out with the necessary safeguards for personal information.

(2) Sub-leader training workshop

① Target audience

We contacted the families of children that had participated in at least one of our past eight camps, were currently middle-schoolers, and had indicated that they would like to receive further information in the event of future camps.

② Survey procedures

The purpose of this project was explained to each family applying for the event, and their cooperation was requested. It was explained that participation was optional and that it was possible to withdraw consent at any time.

③ Survey content

The questionnaire survey was conducted in advance with participating junior high and high school students to verify the sub-leader training session's effectiveness. The PTSSC-15 was used as a measure to grasp the subjects’ psychological state in advance. The questionnaire was conducted two weeks before the start of the sub-leader training session, and the post-questionnaire was mailed around two weeks after completion. Only the data of those who gave their consent to participate in the research was analyzed.

④ Implementation

The session was held at the Ashinaga Sendai Rainbow House on Wednesday, August 8, 2018. A total of five hours of morning and afternoon training sessions were offered. In the morning, we planned group work, including icebreaker activities. In the afternoon, the international NGO Save

the Children Japan facilitator gave a lecture. The senior students conducted a training session on psychological first aid (PFA) to support the junior students.

⑤ Evaluation methods and feedback

The evaluation of junior high school students' psychological state was conducted using the PTSSC-15; the recommended cutoff value of 23 points was used to designate individuals in a "needs-support" state. Results were delivered in the form of personal feedback given to the junior high school students' parents who were assessed as needing support, with an evaluation according to the criteria and the observation conducted on the camp's day. We compared the PTSSC-15 results before and after the sub-leader workshop and camp project and analyzed whether the teenagers' psychological burden had changed.

⑥ Ethical considerations

This study was approved by the Miyagi Disaster Mental Health Care Center Ethics Committee and was carried out with the necessary safeguards for personal information.

Table 1: Overview of day camp project and sub-leader training workshop

	"Parent-Child Survivors Camp Project" (day camp project)	Sub-leader training workshop for teenagers (subleader training workshop)
Targets	<ul style="list-style-type: none"> • Current elementary school children and their parents whose families have participated in any of the past nine sessions and asked to receive information about future events • Elementary school students of seven schools in three disaster-affected coastal municipalities from which we obtained prior consent 	Among families of children that had participated in at least one of our past eight camps and had indicated that they would like to receive further information in the event of future camps, any children that were currently middle-schoolers
Survey content	<ul style="list-style-type: none"> • Pre-event questionnaire • PTSSC-15 • Post-event questionnaire 	<ul style="list-style-type: none"> • Pre-event questionnaire • PTSSC-15 • Post-event questionnaire
Program	<ul style="list-style-type: none"> • Group work ("Today's goals," etc.) • Fire-starting experience and cooking • Psychological education through a picture-show story • Breathing techniques using a blow-up pipe 	<ul style="list-style-type: none"> • Group work (icebreaker, "What is a sub-leader?" "Finding your strengths.") • "Let's think about what we can do." • Senior students conducted a training session on psychological first aid (PFA) to support the junior students

3. Results

(1) Camp project

① Target attributes

A total of 27 children participated, but after excluding those children for whom participation in this study was not obtained and those that did not fill out the questionnaires, 19 children were selected as analysis targets. Thus, 19 targets were analyzed (9 boys, 10 girls), with a mean age of 8.2 years (SD – 1.36). Their disaster experiences have been summarized below. Six of these children were born after the disaster and did not directly undergo any traumatic experiences.

Table 2: Attributes of participating children

		Number of children (%)
Participants		19
	boys	9
	girls	10
Mean age		8.2 years
Born after the disaster		6 (31.2%)
Damage to their home (destroyed)		1 (5.3%)
Dangerous experience		0 (0%)
Saw wounded individuals		1 (5.3%)
Lost something important		2 (10.5%)
Had a loved one die in the disaster		2 (10.5%)
Witnessed the tsunami		1 (5.3%)

② Changes in children’s psychological state

Figure 1 shows PTSSC-15 scores for the 19 analyzed children before and after the camp. Before the camp, seven children exceeded the 23-point cutoff value for the PTSSC-15, while afterward, six exceeded it. THE mean PTSSC-15 score for participants was 18.6 (SD = 14.7) before the camp and 16.6 (SD = 14.4) afterwards. No statistically significant difference was observed as a result of verifying pre- and post-camp scores with the corresponding t-test ($t(18) = 2.10, p = .50, p > 0.05$).

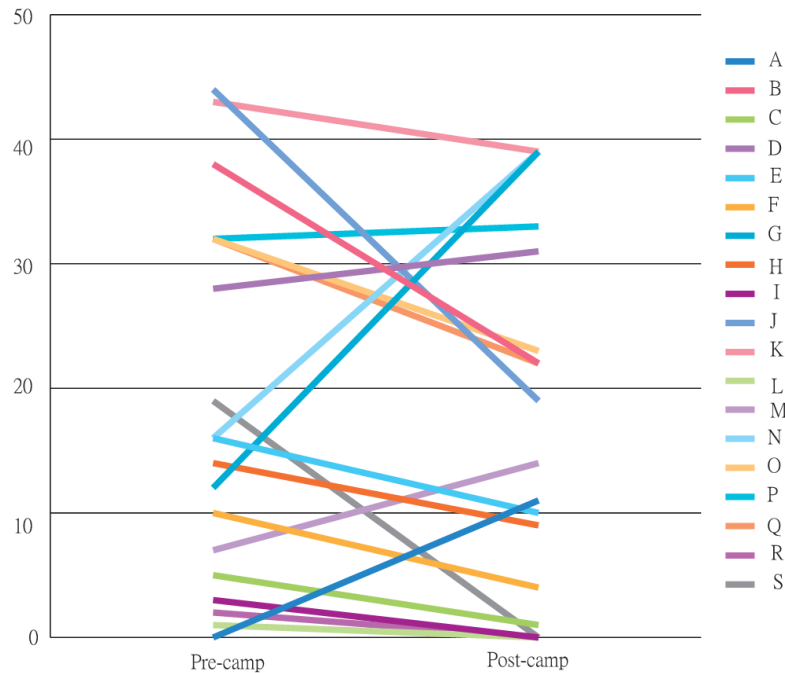


Figure 1: Changes in children’s pre- and post-camp PTSSC-15 scores

③ Changes in parents' psychological state

The pre- and post-camp scale values of the parents of the 19 children that participated were analyzed. Figure 2 depicts the pre- and post-camp K6 scores of these 19 individuals. Before the camp, 0 parents exceeded the 19-point cutoff value for the K6 scale, while afterwards, 1 exceeded it. The average value of the K6 was 4.0 (SD = 3.1) before the camp and 3.3 (SD = 3.6) afterwards. No statistically significant difference was observed as a result of verification of pre- and post-camp scores with a corresponding t-test ($t(18) = 2.10, p = .25, p > 0.10$).

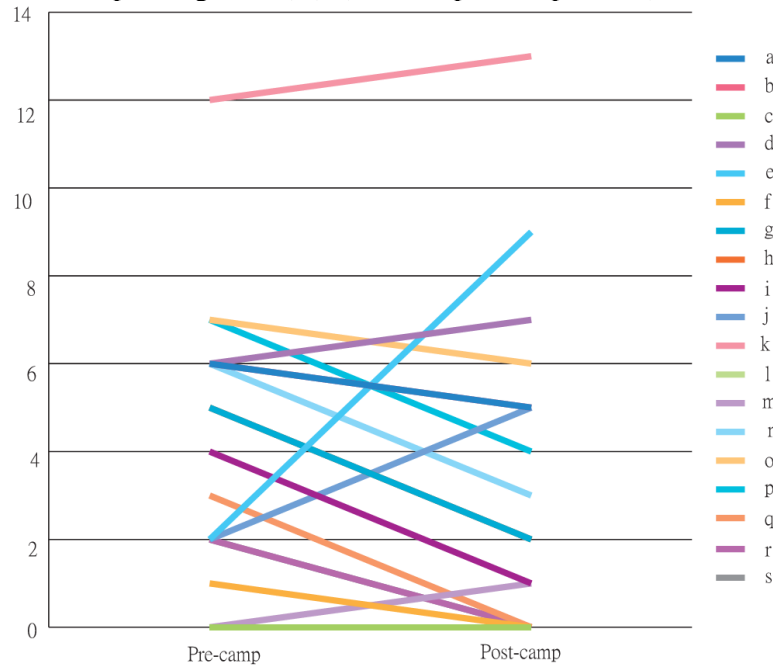


Figure 2: Changes in parents' pre- and post-camp K6 scores

(2) Subleader training workshop

① Targets

Two children applied to participate (one 10th grade boy and one 9th grade girl). Both had participated in the camp project multiple times before and had also taken part in the 2018 subleader training workshop.

② Changes in participants' psychological state

We evaluated both participants using their pre- and post-camp PTSSC-15 scores. The boy went from 23 points (pre-camp) to 19 points (post-camp), whereas the girl went from 0 points (pre-camp) to 8 points (post-camp). Both were evaluated. Because we did not have enough subjects for this metric, we did not test these values for significance.

4. Discussion

The first camp session was held in July 2011 by Tohoku Fukushi University, and the center has continued these sessions since FY 2012. A total of 10 sessions have been conducted to date. Because the children who were directly impacted by the disaster have now grown older, and because children born after the disaster have started to participate, we decided to conclude this project this year, making the tenth iteration the final one. Over the past nine iterations, the number of participants had decreased with each passing year, but we received many applications this year. We believe that a lack of scheduling overlap with school and regional/community events is part of the reason we received so many applications.

The number of children who exceeded the cutoff value of PTSSC-15 is 7 (37%) before the camp and 6 (32%) after the camp, indicates those living with a psychological burden. A brief evaluation interview was conducted with children and parents before and after the camp, and it was confirmed that none of them

required treatment. Since these children had less direct trauma due to the earthquake, it was considered that non-earthquake stress or indirect stress related to the earthquake might have affected them. Changes in the mean value of PTSSC-15 were examined before and after the camp project, but no statistically significant improvement was observed, and no effect of the camp intervention was identified.

No parent exceeded the K6 cutoff value before the camp, but one did after the camp. A brief evaluation interview was conducted with this one person before and after the camp, and it was confirmed that treatment was not required. The percentage of at-risk individuals measured by the K6 score was below the reference point of 5% for the general population (2). The change in the mean value of K6 scores was checked before and after the camp; no statistically significant improvement was observed, and no effect of the camp intervention was identified. Therefore, we believe that the parents of the participating children were able to maintain their psychological health. However, the participating families' bias cannot be ignored. The families that participated were those who had the peace of mind and psychological stability to leave their children for such an event. Therefore, we believe it is necessary to consider methods other than this camp project to refer families that cannot easily participate in this project to supporters.

The sub-leader workshop is a new initiative that began with the seventh session in 2017. We reached out to junior and senior high school students who had participated in the camp in the past, conducted training to provide preliminary knowledge in advance, and asked them to participate as staff members. The number of participants was small in all three instances. It became clear that junior and senior high school students are usually busy with their studies and club activities and find it challenging to participate. We provided a shortened version of "Psychological First Aid for Children, PFA," a guideline for psychological support, and devised ways to use it concerning the camp. Attempts to provide PFA for junior and senior high school students have been rarely reported in the past. We believe that this may serve as a model for training human resources to support the community.

5. Conclusion

This project has been ongoing since the disaster in 2011 to help children cope with stress and reduce the burden on parents. Many children participated repeatedly, and we were often surprised by their growth when we met them each year. It seems that our staff's role was effective in monitoring the children's development in the area. Additionally, we received management support from entities outside this center, strengthening our local network.

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Camp Project for Parents and Children in Disaster-Affected Areas

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Document 1: Psychological education via a picture-show story

①

We're going to start our "Studying the Heart and Mind" exercise now.
Put out your yoga mats and wait for everyone else to get ready.



②

Studying the Heart and Mind

③

There are different feelings inside each of us.

Which feelings do you have?



④

Sometimes, bad things happen. They can make you feel...

⑤

Sad and blue



⑥

Or red and angry

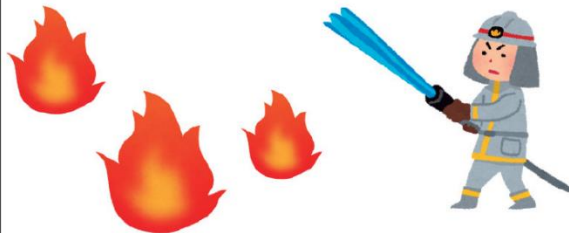


⑦

When do you have bad feelings?

⑧

Let's try to fix those bad feelings!



9

The trick for that...

10

Is to breathe!



11

Let's try "deep breathing."

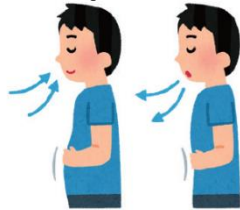


12

We're going to learn how to do a special kind of breathing today. It's called "deep breathing."

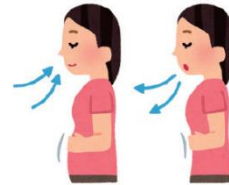
13

When you breathe in, stick out your tummy!



14

When you breathe out, suck your tummy in!



15

Let's put our hands on your tummy and make sure we're "deep breathing" correctly!

16

Next, we're going to "deep breathe" using a tool.

17

Let's try using our blow-up pipes!



18



When you breathe in, stick out your tummy! When you breathe out, suck your tummy in!

19

Did you get it?

20

Now, we're going to try "deep breathing" without any tools, while lying down, with the lights off, and with our eyes closed.

21

Close your eyes and take "deep breaths."



22

**Breathe in for 3 seconds.
Breathe out for 5 seconds.**

Let's try that 3

23

How do you feel now?

24

What you just learned is called "abdominal breathing."

If you learn how to do it on your own, you can get rid of bad feelings whenever you want!

