Section II

Research Reports & Other Manuscripts

Research Report

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At the Endowed Department of Preventive Psychiatry, we engage in support and research activities that will be of use to disaster survivors alongside the Tohoku University Department of Psychoneurology and the Tohoku University Hospital Department Psychiatry as an arm of the Tohoku University Department of Psychiatry. In FY 2018, we collaborated with the Miyagi Disaster Mental Health Care Center and affiliated organizations on research activities whose results we report below.

1. Research on the mental health of supporters in disaster-affected regions and on support methods

(1) Problems and objectives

A great many individuals from different specialties participate in post-disaster recovery and reconstruction efforts. Previous research examining the mental health of individuals working in the aftermath of a disaster focused primarily on professional rescue workers who are active in the emergency phase (JSDF troops, firefighters, policemen, etc.). On the other hand, municipal workers, medical officials, social welfare servicemen, educators, and other individuals in public sector jobs play an equally important role as supporters in the recovery and reconstruction processes that take place after the emergency phase. Most of these individuals live in the area affected by the disaster; in addition to the stress of the disaster itself, they are also exposed to the stress inherent in post-disaster support work, placing them at high risk of developing mental health problems. However, research on the long-term mental health of these individuals remains insufficient. Thus, starting from the year after the disaster, we administered health surveys to municipal employees, SWC members, and nursing employees from regions affected by the Great East Japan Earthquake. While offering these individuals psychiatric support, we clarified the state of their health and conducted longitudinal research to help them better receive the support they require.

Reconstruction work continues, even as the disaster event recedes into the past. The nature of this work eventually comes to include the resumption of normal work as well, and it changes from year to year. Finally, as supporters from around the country slowly leave, local support systems are also constantly in flux. In this report, we will use the results of health surveys conducted among welfare council employees and nurses to examine the long-term mental health of supporters who work in disaster-affected regions; determine the factors that contribute to declines in mental health, and consider what sorts of policies would best protect the mental health of individuals participating in long-term support activities in the post-disaster recovery and reconstruction period.

(2) Research methods

Our subjects were SWC members living in the disaster-affected coastal regions of Tohoku. Between September 2017 and February 2018 we administered surveys to 265 individuals living in Miyagi Prefecture and collected usable data from 252 (95.1%) of them (data analysis was done in FY 2018, and results were reported to SWC members in various regions between April and June 2018).

Surveys were self-administered. Survey items were as follows: The status of your current work and the extent to which the disaster is affecting you; current health status; a depression/anxiety disorders screening questionnaire (Kessler Psychological Distress Scale: K6)1-3; evaluation of depressive symptoms and their severity using a mental and physical health questionnaire (Patient Health Questionnaire: PHQ-9)4,5; a three-item easy post-traumatic stress disorder screening test (PTSD-3)6; and a simple workplace stress assessment7 related to stress factors at work; and social support.

The freedom to participate was stated clearly on the questionnaire, and to ensure that they would not be read by workplace superiors or colleagues, responses were collected only after they had been sealed in envelopes by the participants themselves. As a post-survey consideration, individuals who expressed an interest in therapy were allowed to receive counseling from a clinical psychologist or a psychiatric care nurse. This option was available even to individuals who did not submit a questionnaire response. The research was carried out with the approval of the Tohoku Graduate School of Medicine Ethics Review Board.

(3) Research results

Results of the health survey of SWC members

We administered a survey to multiple SWCs in coastal disaster-affected regions of Miyagi Prefecture. Of the 252 respondents that returned usable survey forms, 24.0% were male, and 75.0% were female (unknown 1.0%), and their average age was 49.2 years. The results of our self-administered survey are as follows: In FY 2017, 6.1% were K6 high-risk individuals, 9.9% were PHQ-9 high-risk individuals, and 4.8% were PTSD- 3 high-risk individuals. Changes in the percentages of K6 and PHQ-9 high-risk individuals from FY 2012 to FY 2017 are shown in Figure 1.
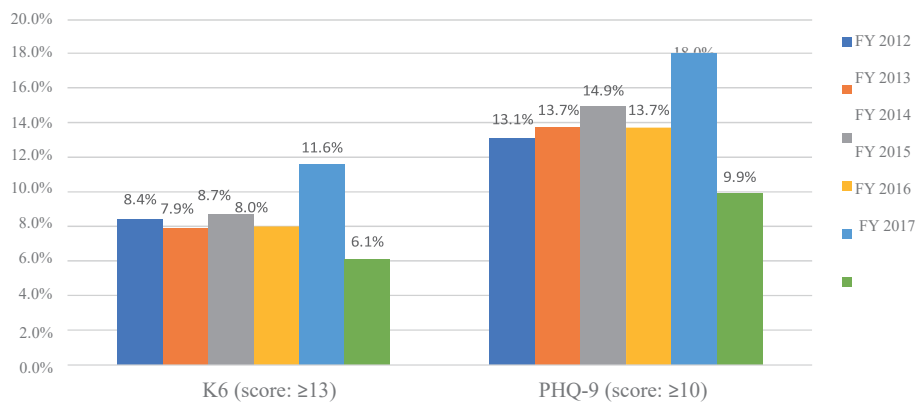

Figure 1. Percentages of K6 and PHQ-9 High-Risk SWC Members

(4) Discussion

If do a chronological comparison of the results of this year's cross-sectional survey of SWCs with those done in the last 5 years, we see that the percentages of K6 high-risk individuals changed thus: 8.4%→ 7.9% → 8.7%→ 8.0% → 11.6% → 6.1%. A large decrease occurred this year, giving us the smallest percentage seen since the survey was first administered. However, this value is still greater than Miyagi Prefecture's total average before the disaster (FY 2005 survey of the whole prefecture: 5.5%). A similar decrease was seen in the percentage of PHQ-9 high-risk individuals, which has changed thus: 13.1% → 13.7% → 14.9% → 13.7% → 18.0% → 9.9%. To evaluate the severity of PTSD symptoms, we administered the PTSD checklist (PCL) up until FY 2015; PCL high-risk patients changed thus: 4.1% → 4.1% → 3.7% → 3.3%, i.e., declining gradually. However, since FY 2016, we have used the PTSD-3 scale, whose percentages have changed thus: 6.8%→ 4.8%. Here, again, a decline is seen. However, the fact remains that this number is significantly higher than it was during the 12-month long prevalence of PTSD in Japan, 0.4%[8].

In comparison to FY 2016, there was a decrease in the number of individuals with mental instability in FY 2017. Indeed, the values obtained were the lowest they have been in the last six years. While it is not that easy to compare data across the years, as the SWC members polled have not always been the same, the results we see here suggest that, in the seven years that have passed since the disaster, the number of staff members that present with psychological stress, depression, PTSD, and other mental instabilities has fallen. No drastic improvement in the mental health of mental health and welfare workers in disaster-affected areas has been seen over the last six years, but it may well be the case that the long-term mental health initiatives of SWCs and other organizations are beginning to bear fruit. Nevertheless, the rate observed here is still considerably higher than the national average, and it remains to be seen whether or not this downward trend will continue.

It was not uncommon for the staff that visited us for counseling, to express in follow-up interviews, the difficulties they faced in their workplace relationships, and communication. While how this stress contributes to mental health is still quantitatively unclear, such an effect is highly plausible.

In light of this reality, we believe SWCs and municipalities must promote initiatives that prevent mental instability from occurring. For example, in addition to an individual noticing their stress and seeking out their self-care, managers and supervisors ought to also take quick notice of stress-related changes in their employees and refer them to organizations that can teach them self-care techniques. To achieve such a system, countermeasures such as training sessions and workshops that focus on improving workplace environments to reenergize inter-employee communication may be effective at improving mental health.

2. Research on positive examples of school-mental health and welfare collaboration
(1) Problems and objectives

The number of young people who are also psychiatric patients is on the rise. It has been reported that about 75% of people with mental illness develop it by 24 years of age and that the onset of mental illness in young people leads to great losses to society. Therefore, early detection and early intervention are required, but in practice, there are often long periods between onset and treatment. Adolescence and young adulthood are periods in life when one must confront a host of physical and social changes, which can lead to mental instability. At the school level, this kind of instability can surface as truancy, *hiki-komori*, bullying, violence, delinquency, developmental disorders, child abuse, self-harm, problematic sexual behavior, drug abuse, and internet-use problems. It is usually the case that secondary disorders such as mental illness or developmental disorders underlie these symptoms, meaning that the appearance of such issues often hides the real threat to mental health.

Mental health countermeasures at the school level are necessary for early detection of, and intervention in, cases of mental instability in adolescents and young adults. Unfortunately, school mental health policies in Japan are simply not sufficient. Very few individuals specialize in youth mental health issues. Not just that, but youth mental health issues are often also complicated and idiosyncratic, leading to the need for varied professionals—like school officials and medical personnel—to collaborate on a solution. Regrettably, schools, and mental health and welfare organizations, rarely work together in such ways.

Recently, several mental health countermeasures have been proposed for youths in Miyagi Prefecture as well. While efforts to strengthen mental health infrastructure in schools, including suicide countermeasures, are underway, most of these initiatives are isolated from, and independent of, each other. At the big-picture level, it is not clear what other types of efforts may be necessary, and information on the topic has not been neatly compiled. The barriers to mental health initiatives in Japanese schools can be attributed to a lack of knowledge on the part of most school administrations and limited cross-institutional collaboration—both of which could compensate for such a lack of expertise.

Employees of mental health and welfare institutions need to understand school culture and collaborate with educational specialists—something that can only happen if they build good relationships with education officials first. Initiatives that allow medical professionals to intervene appropriately in school environments—i.e., "good examples of school-mental health and welfare collaboration,"—must be analyzed, and the essence of this relationship must be identified. Following the Great East Japan Earthquake of March 11, 2011, worries about children's healthy mental development in Miyagi Prefecture has increased. Educators and doctors must work together on this issue, and measures to strengthen efforts at collaboration between these organizations are necessary.

By analyzing the issues that these different cases deal with, we expect to be able to discover the fundamental issues at play in collaboration between schools and mental health and welfare. Thus, in this report, we have collected examples of good practices of such school mental health initiatives. We will examine what sort of interventions and policies are possible if such collaboration is present.

(2) Methods

Our target cases comprise schools in Miyagi Prefecture (elementary, middle, high, and vocational schools) as well as initiatives involving the students of t schools. Of these, we have specifically listed those in which education officials and employees of mental health and welfare institutions have collaborated (through case study conferences, case consultations, and individual counseling for students and faculty by medical professionals, etc.). The targets of our questionnaire and interview surveys are representative of each case or have been designated as such in their stead. We did not target school counselors, school social workers, or their efforts, i.e., things that have already been systematized at the national level. The survey was carried out according to steps ① to ④ below.

① Collecting information on "good" cases: We collected information on good examples of youth mental health measures in Miyagi Prefecture, that accounted for collaboration between schools and mental health and welfare institutions. In addition to publicly available documents, we found information on best practices by approaching specialists involved in mental health welfare activities at Miyagi Prefecture schools and by gathering information on normal regional mental health activities.

② Sending out surveys (questionnaires): We requested survey targets to come interview with us; we also sent them a questionnaire on their school mental health work ahead of time. The surveyed items were as follows: responder information (age, sex, attributes, profession, job title, participation in the activities in question) and activity-related information (activity objective, activity support target, activity participants and their professions, activity period, activity overseer, source of funding, current issues, activity results).

③ Interview survey: The questionnaire results were used as an interview guide, based on which we asked the survey targets specific details about their work. Interviews were recorded using an IC recorder and transcribed verbatim.

④ Based on the content of the interviews, we categorized cases by activity content; support targets; the number of activity participants; activity location; activity period and frequency; activity overseer; source of funding; activity results; and activity issues. This research initiative was approved by the Ethics Committee of the Tohoku University Graduate School of Medicine.

(3) Results

So far, we have interviewed five people about school-mental health and welfare collaboration in Miyagi Prefecture, and we have collected the following six cases/practices (Table 1).

① A case study conference where mental health care workers visited schools (Happy Mind Plan).

② School visits and individual counseling by mental health and welfare institution employees, as one of many regional support activities (Miyagi Disaster Mental Health Care Center resident support counseling support project [MDMHCC Counseling Project]).

③ Psychology education implemented collaboratively at schools by employees of local mental health and welfare institutions (Mental Health and Medical Welfare Liaison Conference [Working] within Kesennuma jurisdiction).

④ A joint case study conference and study session organized by education officials and employees of mental health and welfare institutions (Kesennuma Child Development Study Group).

⑤ A one-stop, counseling/home visit support project for local children and youths (Ishinomaki Wide-Area Child/Youth Support Consortium [CYSC]).

⑥ A youth support collaboration where administrative agencies and private organizations stand on an equal footing (Ishinomaki Regional Truancy/Hikikomori Support Network [Ishinomaki Network]).

Table 1: List of Cases Exemplifying Good Collaboration Between Schools and Mental Health and Welfare Institutions

	① Happy Mind Plan	② MDMHCC Counseling Project	③ Working	④ Child Development Study Group	⑤ CYSC	⑥ Ishinomaki Network
activity objective	·Greater mental health knowledge and capacity of middle-school faculty to respond to crises ·Improved collaboration between hospitals and external organizations	Post-disaster regional counseling support in disaster-affected regions (Kesennuma)	Mental health awareness activities among youths in disaster-affected regions (Kesennuma) (countering the negative effects of the disaster, and isolationism)	Development of a regional network of professionals that work with children	·Regional information gathering and case management ·Working on cases that schools cannot handle, as a form of outreach	·Create space where each organization can operate on equal terms, divide their work, and promote support for youth ·Support for private organizations from the prefectural mental health center
support targets	Students attending the target school	Students (aged 10-22) from Kesennuma elementary school and to college, and their guardians	High-school students attending schools in disaster-affected areas	Youths from school-age to early adulthood	Youths aged 0-39 in the Ishinomaki Metropolitan Area (Higashimatsushima, Ishinomaki, Onagawa)	Youths (from elementary school students to 45-year-olds) supported by each organization
activity participants	Less than 10 per session including the [school] principal, vice-principal; nursing teachers; SC; SSW; homeroom teachers; coordinating faculty; etc. [Specialists] Doctors; PSWs; administrative PHNs	The individuals themselves, school faculty (homeroom teacher, headteacher, nursing teacher, etc.); parents; Miyagi Disaster Mental Health Care Center staff, etc.	Agencies and professions: Miyagi Disaster Mental Health Care Center; Health and Welfare Office; prefectural mental health and welfare center; municipal Social Welfare, Health Promotion, and Health and Welfare Divisions; support center for the disabled; hospitals (Ns, PHN, PSW, administrative staff, etc.)	Faculty of special support schools; public health nurses; SCs; SSWs; orphanage staff; physicians from regional hospitals; medical residents; NPO staff; Miyagi Disaster Mental Health Care Center staff (all of these people work with school-age children)	Consortium staff (PSWs, career consultants, faculty); college student volunteers; other agency staff (from rehabilitation/caregiving, education, employment, medical, health/welfare, NPOs, SWC, and other resident organizations)	[5 core organizations]: Ishinomaki NOTE; Ishinomaki Support-Stay; Japanese Association of Social Workers in Health Services; Eastern Japan Health and Welfare Office; Eastern Japan Education Office Child Student Mental Health Support Team [Observer]: Board of Education, etc.
activity location	Public middle school	School or Miyagi Disaster Mental Health Care Center	Meeting rooms inside schools and Health and Welfare offices	Local school or community center	Base: TEDIC Activities were held at offices, homes, etc.	Meeting rooms, etc., in various organizations, and the Health Care Center
activity content	1. Case study conference 2. Mental health lecture for students 3. Joint student-targeted lecture with homeroom teachers 4. Training workshops for faculty	1. Conference: Based on the issue at hand, participants would share information, etc. 2. School visits (case consultation, information sharing) 3. Individual interviews / joint interviews (support target, family, etc.)	1. Short skits (performances that communicate the importance of counseling) 2. Introduction to counseling organizations 3. Management of working (meetings, etc.)	1. Case study conference 2. Introduction of work duties by participants 3. Secondary activity via participant exchange (visits to schools, NPOs, hospital psychiatrists) 4. Collaborations (school-NPO, school-public health nurse, school-child counselor, etc.) 5. Creation of a mailing list (management consultation, posting of opinions, provision of training information, etc.)	1. "Free school" (a non-school-like facility for truant children) 2. A place for children to spend the night (they provide dinner, organize study sessions, transportation, etc., for children from poor families) 3. Outreach (support via home visits, etc.) 4. Telephone counseling, Web counseling 5. Walk-in counseling (Three consultations, then a conference involving an external SVer and then consider referrals/follow-ups)	Management meetings by the core organizations (decide activities in collaboration with the needs of private organizations) Symposium (16 organizations participated, shared their support work and issues) Projects with the entire network Creating and updating the support map Establishing a free counseling service for participating organizations at the symposium (FY 2016)
activity period and frequency	·Activity period: April 2014 to April 2017 ·Activity frequency: Regular (approx. once monthly)	·Activity period: April 2012 to the present ·Activity Frequency: Irregular (respond as cases come in)	·Activity period: April 2015 to the present ·Activity frequency: Once yearly (meetings: 5-6 times yearly)	·Activity period: June 2013 to the present ·Activity frequency: Regular (approximately once monthly)	·Activity period: July 2018 to June 2021 (4 years) ·Activity frequency: Continuous	·Activity period: June 2013 to the present ·Activity frequency: Irregular (at least 3 times a year)
activity overseer	Working Group on Measures for Youth Suicide Countermeasures Emergency Project	Miyagi Disaster Mental Health Care Center	Administrators: Miyagi Disaster Mental Health Care Center; Health care center	·Core members included teachers at local special support schools and doctors at the Miyagi Disaster Mental Health Care Center (total: 4-5 people)	Ishinomaki Wide-Area Child/Youth Support Consortium (3 groups: Switch, TEDIC, Sanaburi Fund)	·No parent organization or headquarters established (five core organizations)
funding	Miyagi Prefecture	Miyagi Disaster Mental Health Care Center budget	Health care center budget and Miyagi Disaster Mental Health Care Center budget	No funding (requested 500 yen from each participant to arrange light refreshments)	·Miyagi Prefecture "Child/Youth Support System Strengthening Project" ·Great East Japan Earthquake Reconstruction Support Foundation "Child Support Fund"	Funding from the various organizations
activity results	The expected improvement in mental health knowledge and responsiveness among involved faculty Specialist results: knowledge of the school environment and relationships with schools	1. Possibility that community members now understand that there is one more place they can go for counseling 2. Possibility that this program can take on "gray" issues (cases with difficult to name disorders or problems) 3. It provides a space for targets to receive counseling outside of work/school hours and on holidays	1. Raising mental health awareness among high school students (through collaboration with SC, SSW, faculty, etc.) 2. Improvement in awareness of, and desire to use, regional counseling agencies (from questionnaire results) 3. Opportunity to meet and become acquainted with mental health and welfare specialists 4. Strengthening of the network between participating specialists	1. Strengthening collaborations with psychiatrists (connected to visits to psychiatrists, etc.) 2. Improvement of collaborative ability inside the community (professionals from separate organizations can be introduced to each other) 3. Origin of independent activities (even without the founders, doctors from the Miyagi Disaster Mental Health Care Center, it continues to be held)	Team outreach became possible (could protect against false or insufficient information; information became easier to collect) Responding to difficult cases became possible (can offer to counsel to cases that get shunted around; can refer these individuals to the appropriate organizations)	1. Impression that it became easier to refer cases to others by developing face-to-face relationships and interacting with them regularly 2. Ability to work with educational institutions 3. Creation of support map (established and usable at Health care center; used to respond to supporter needs) 4. By having the administration participate in a horizontal, non-hierarchical manner, the hurdles that private organizations face in requesting things from them are lowered (PR, etc.)
activity issues	1. Case study conference attendees' list is inflexible, so non-participating faculty could no participate/be reached 2. Instability of the group due to faculty change (currently, the principal and VP have changed, so the program has concluded) 3. Difficulty consulting when an attending physician was present (something we would like the school to understand) 4. Incomplete achievement of objectives (program might be more reliable if we limit it to nursing teachers and SCs and focus on skill improvement)	1. Because this program operates according to the community's needs, it is approaching certain limitations (overtime work, securing places for interviews, personnel shortages, etc.) 2. The fact that only the Miyagi Disaster Mental Health Care Center is working closely with educational institutions is a problem. Health care centers, the city itself (Health Promotion Division, Social Welfare Division, Child Support Division), and child counseling centers, etc., must also get involved.	1. Budget issues (music, etc., make short skits expensive) 2. Whether or not activity oversight can be smoothly transferred from the Miyagi Disaster Mental Health Care Center to other regional organizations (working participants, etc.)	1. Impression that professional skills such as information gathering abilities; interpersonal support technology; and decision-making ability have not been improved 2. Budget issues (after the funding has been exhausted, eliciting participation from doctors will prove difficult) 3. Would like younger people (especially doctors) to participate 4. Management issues due to faculty changes (passing the project on, etc.) 5. Because this is a volunteer initiative, it must meet outside of work times	1. Insufficient collaboration with medical professionals and doctors: More doctors need to participate (especially child psychiatrists) 2. Issues finding caseworkers, psychologists, and student volunteers 3. Difficulty providing support to regions with poor social resources (no base of operations, so it is difficult to operate)	1. Organization member change: Becomes difficult to maintain continuous management (the issue is that change in desire/motivation to participate causes member switch-out, accompanied by changes in organizational needs) 2. Differences in expectations: Issue with the impartiality of the administration. 3. Barriers with education: PR, etc., are difficult (principals refuse opportunities for private organizations to introduce their work)

*Notes: SC = school counselor, SSW = school social worker, PHN = public health nurse, PSW = psychiatric social worker, PR = public relations

(4) Discussion

Of the six cases we looked at, only one was rolled out because of administrative policy (case ①). The others were rolled out after the Great East Japan Earthquake in disaster-affected areas (cases ②-⑥). We also observed activities that were funded by disaster aid grants (case ⑤). Mental health and welfare activities that began as disaster reconstruction measures can ultimately strengthen collaboration between schools on the one hand, and the mental health and medical welfare field, on the other.

These initiatives—their objectives and content—appear to have been responsive to the needs of the parties involved and the phase of activity. We believe that this kept these initiatives exciting and inspiring, and leading to their prolongation (cases ②-④). Any program that strengthens the collaborative relationship between schools and mental health and welfare institutions, stands to benefit from a system that facilitates and maintains mutual communication. This allows stakeholders to rethink the content and nature of their programs as they respond to each other's needs.

Their work has resulted in the construction of regional supporter networks and the strengthening of collaborative bonds (case ①-⑥). On the other hand, some noticeable issues were preventing them from continuing their activities like financial hurdles, for example, which led to hiatuses/terminations in their activities. Organizational restructuring due to member flux, and the need to come in on weekends or work overtime to participate in these efforts were some of the other difficulties that they faced (cases ①-④, ⑥).

Currently, to the state of school-mental health and welfare collaboration in Miyagi Prefecture, it appears that education officials and employees of mental health and welfare institutions are well aware of the major problems and the continued need to collaborate. However, such collaborations suffer from the disparity between the educational administration's and health and welfare administration's purviews, and public support or efforts to create a framework for it is essentially non-existent. To achieve collaboration, further resource investment, and the creation of a methodology for effective collaborative practice, are both needed.

3. Interventional research examining the feasibility of a health promotion support program for community residents using an ICT-based cognitive behavioral therapy approach

(1) Problems and objectives

In recent years, there has been an increase in the number of patients examined at medical institutions for mental illnesses such as depression, anxiety disorder, schizophrenia, and dementia. According to Health Japan 21, which is a set of government guidelines to promote the health of Japanese citizens, countermeasures that protect community residents' mental health include early intervention in mental illnesses such as depression; countermeasures against suicide; improved ability to cope with stress or enrichment of support, and adjustment of one's social environment to reduce stressors. The scope of the Great East Japan Earthquake was vast enough and horrible enough that even though it has been eight years since it occurred, the deteriorating state of people's mental health is still a concern. This is why initiatives that protect and enhance community mental health and seek to prevent the onset of mental illnesses are necessary. Given the fact that Japan is aging at a globally unmatched rate, we must focus on elderly individuals, who make up a large chunk of the populace, and come up with an effective system of support.

One effective approach to treating mental health issues is cognitive-behavioral therapy. Cognitive-behavioral therapy is an effective treatment for depression and a variety of other mental illnesses and is widely used even outside clinical settings. Combining it with PCs, internet media, and another ICTs has made effective mental health and medical services accessible to large numbers of people. ICTs' capacity to contribute to the primary prevention of mental illness is highly anticipated; such applications are still in development. Proven use cases involving elderly people are quite rare.

In light of the dangers that accelerated aging and depopulation pose to the mental health of community residents, especially those living in areas affected by the Great East Japan Earthquake, this study will examine the feasibility of a health promotion support program (prototype), based on cognitive-behavioral theory and practice, that uses smart-device ICTs.

(2) Research methods

　　Our targets were elderly individuals, who worked or lived (alone) in Miyagi Prefecture. We advertised this study in newspapers, etc., and enrolled individuals that met our eligibility criteria into the program. The survey period extended from September 2017 to April 2019.

　　After first piloting our survey on a small group of individuals (3-4), we will carry out a before-and-after (non-randomized) comparison study of 6-12 participants. Over four weeks, when they are at home, research participants will either use a robot (name: PaPeRo-i), or a tablet, capable of the following: activity record and monitoring system; behavioral activation training; and providing health information. To examine the effects of our intervention, on top of requesting subject background information (birth date, age, sex, treatment history for physical and mental illness, current medications, and current state of health), we will evaluate participants a total of two times (before and after the study) on the following items using the following metrics: positive emotions (Environmental Reward Observation Scale, EROS), loneliness (Japanese version of the UCLA Loneliness Scale), subjective happiness (Philadelphia Geriatric Center Morale Scale), self-esteem (Rosenburg self-esteem scale), social capital (12-item questionnaire developed by the Aichi Gerontological Evaluation Study (AGES)), and mental health (General Health Questionnaire, GHQ-30). After they complete the program, we will interview the subjects, and ask them their opinions about having used it (Did it harm your mood?; How easy was it to use?; What did you feel was useful about it?; What can we improve? etc.) This study has received the approval of the Tohoku University Graduate School of Medicine's Ethics Committee.

(3) Progress

　　We recruited for our preliminary trial via our PR magazine, and regional health and welfare project managers. Between March and October 2018, we were able to enroll three women (mean age 65.0, SD 2.7) as preliminary trial subjects for our health promotion support program. We upgraded our system based on their feedback, after 4-months of use. Of the items that were mentioned in post-intervention interviews, one feature that we implemented was a delete function for activity record entries on the tablet device.

　　Afterward, we carried out recruitment using our PR magazine (Figure 2) and began the main trial in November 2018. By April 2019, we had implemented our intervention in 10 cases and had completed intervention in a total of 9 cases (one individual withdrew). Now, we will endeavor to analyze the data we have obtained.

Figure 2. A Sample Recruiting Advertisement We Used for This Trial

4. Survey interview of experiences receiving disaster preparedness support from the social welfare council
(1) Problems and objectives

　　In disaster situations, acceptance of volunteers and responsibility for regional health and welfare fall disproportionately to SWCs. This is why SWCs are chronically overworked in the immediate aftermath of a disaster, and many members and employees come down with mental health (MH) issues. Over the past year, we of the Tohoku University Endowed Department of Preventive Psychiatry have provided MH support for SWCs in disaster-affected areas. Here, we report what we have learned from interviews with supervisors looking back on their work, about what sort of support SWCs need, and what sort of support-receiving systems must be built to streamline the process.

(2) Methods

We interviewed six SWC members from disaster-affected areas in Miyagi Prefecture on the following topics: ① the MH support they received in various post-disaster period phases (acute phase, subacute phase, medium-term), ② the advantages and disadvantages thereof, ③ the MH support required in each period, and ④ the systems necessary to effectively use MH support. The data was anonymized and organized. Participants were provided with a description of the study before participating; we obtained written consent to publicize the results.

(3) Results and discussion

Many of the subjects had identified the need for MH support in the wake of the disaster but had had trouble receiving it. Factors contributing to this difficulty included organizational and occupational quirks (they were already short-handed, and any breaks taken would mean that work would just pile up; they were being looked to by residents and citizens, and they couldn't take time off to receive support). Additionally, the fact that their usual "peacetime" labor-management policies did not make any allowances for MH countermeasures was raised. We, therefore, believe that support receivers should, in peacetime, promote MH countermeasures as a preventive measure, and support providers should proactively back such efforts.

References

1) Kessler RC, Andrews G, Colpe LJ, Hiripi E, Mroczek DK, Normand SL, Walters EE, & Zaslavsky AM. (2002) Short screening scales to monitor population prevalences and trends in non-specific psychological distress. Psychological Medicine. 32: 959-976.

2) Furukawa TA, Kessler RC, Andrews G, & Slade T. (2003) The performance of K6 and K10 screening scales for psychological distress in the Australian National Survey of Mental Health and Well-Being. Psychological Medicine. 33: 357-362.

3) Furukawa TA, Kawakami N, Saitoh M, Ono Y, Nakane Y, Nakamura Y, Tachimori H, Iwata N, Uda H, Nakane H, Watanabe M, Naganuma Y, Hata Y, Kobayashi M, Miyake Y, Takeshima T, & Kikkawa T. (2008) The performance of the Japanese version of the K6 and K10 in the World Mental Health Survey Japan. International Journal of Methods in Psychiatric Research. 17(3): 152- 158.

4) Muramatsu K, Miyaoka H, Kamijima K, Muramatsu Y, Yoshida M, Otsubo T, & Gejyo F. (2007) The patient health questionnaire, Japanese version: validity according to the mini-international Neuropsychiatric interview-plus. Psychological Report. 101: 952-960.

5) Kumiko Muramatsu, Kuniyoshi Kamijima (2009) Primary Care Practice and Evaluation Tool for Depression Screening: Patient Health Questionnaire-9 Japanese version of "Kokoro and Body Questionnaire" Diagnosis and Treatment. 97: 1465-1473.

6) Norihito Kawakami, Hisaaki Tatemori, Yuki Shimoda, Kiyomi Sakata, Kotaro Otsuka, Ruriko Suzuki, Yukari Yokoyama, Kenji Kawano, Ryo Yamashita, Keisuke Shirakami, Rouka Otsuki (2014). Examination of the validity of the mental health survey in the affected area of Iwate prefecture. 2013 Ministry of Health, Labor and Welfare Grant-in-Aid for Health, Safety and Crisis Management Countermeasures Project "Large-Scale Cohort Study in Iwate Prefecture of Survivors of the Great East Japan Earthquake and Tsunami."

7) Teruichi Shimomitsu (2009). A Manual for Understanding Stress Condition Using a Simple Workplace Stress Survey: More Effective Measures for Improving the Workplace Environment. 2002-2004 Ministry of Health, Labor and Welfare Grant-in-Aid for Occupational Health and Safety Research. Research on Mental Health Measures for Improving Workplace Environments.

8) Kawakami, N, Takeshima, T, Ono, Y, Uda, H, Hata, Y, Nakane, Y, Nakane, H, Iwata, N, Furukawa, T, & Kikkawa, T. (2005). Twelve‐month prevalence, severity, and treatment of common mental disorders in communities in Japan: preliminary finding from the World Mental Health Japan Survey 2002–2003. Psychiatry and clinical neurosciences, 59(4): 441-452.