



Short Communication

The ongoing activities of livelihood support counselors following nuclear disaster under the COVID-19 restrictions: A preliminary survey



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ABSTRACT

Background: This preliminary study aims to understand the state of support provided in the evacuation areas of the 2011 Fukushima nuclear disaster, during the novel coronavirus 2019 (COVID-19) restriction.

Methods: A self-administered survey was conducted with 18 livelihood support counselors from two Social Welfare Councils in November 2020. We investigated the number of consultations since the COVID-19 pandemic and the impact of telephonic consultation as opposed to in-person consultations through visits to counselees' homes.

Results: Counselors have been continued offering supports to their counselees even under the COVID-19 restrictions, in fact, fifty percent of counselors have increased the consultations. Although some counselors had a sense of unease or concern about telephonic consultation due to the inability to see their non-verbal expressions, there were some advantages of telephonic consultation, in that the counselors were able to have longer sessions and listen more attentively to severe issues.

Conclusions: Notably, livelihood support counselors in this study have increased the number of consultations while utilization telephonic consultations, despite the adverse conditions created by the COVID-19 restriction. Moreover, certain advantages of telephonic consultation instead of in-person consultation have been identified. It may be an effective support method avoiding in-person contacts, that also considers infection-prevention measures.

1. Introduction

The Great East Japan Earthquake (GEJE), which occurred on March 11, 2011, subsequently generated a devastating tsunami. The earthquake was followed by a separate tsunami that hit the Fukushima Daiichi Nuclear Power Plant operated by the Tokyo Electric Power Company, causing a nuclear disaster. This disaster and the aftermath led to a large-scale evacuation; consequently, the evacuees were forced to live under highly stressful conditions [1]. Following the GEJE and the Fukushima nuclear disaster, many livelihood support counselors were employed newly by Social Welfare Councils in Fukushima to provide social and emotional support to survivors. The counseling included 1) carrying out regular visits to evacuees' homes to support them in their daily lives; 2) listening to them empathetically to reduce their feelings of discomfort; 3)

connecting them to professional services like medical facilities, health centers, or elderly care centers; and 4) coordinating the operation of the "watch-over system" at the community level [2]. These counselors were not mental health professionals but community life-support providers who acted for the benefit of the evacuees. The activities of these livelihood support counselors—aimed at helping the evacuees cope with the hardships of evacuation and reducing their feelings of unease—have still continued even after 10 years of the disaster [3].

However, the COVID-19 pandemic (COVID-19, Coronavirus 2019) has affected Japan like every other country. Following the outbreak, the Japanese government declared a state of emergency and issued stay-at-home orders. Economic and work activities had to be minimized in all areas without exception, including even the evacuation areas of Fukushima [4]. As a result, livelihood support counselors were also

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forced to temporarily suspend their in-person consultations during the declaration of the state of emergency. Instead, telehealth support, such as telephone-based or online consultations were provided, following the recommendations of the Japanese government. However, there was a lack of clarity about the state of these disaster-related consultation activities [5].

We hypothesized that 1) a decrease in the number of ongoing consultations and 2) difficulties and limitations connected with telephonic consultation must have emerged. This preliminary study aimed at understanding the state of the ongoing GEJE and Fukushima nuclear disaster-related consultations under the conditions of the COVID-19 pandemic. Moreover, limitations and advantages of telephonic consultation, as opposed to in-person consultation, were assessed, and an effective support method avoiding in-person contacts, that considers infection-prevention measures, was discussed.

2. Methods

A self-administered questionnaire survey was conducted on 18 livelihood support counselors from two Social Welfare Councils: Minami-Soma city and Iitate village. Minami-Soma city includes relatively urban areas, with large restoration public housings, where many evacuees relocated from other municipalities reside. In contrast, Iitate village is a rural area where almost all evacuees have relocated to their original living place, that they had before the disaster. Therefore, the primary activity place for counselors in Minami-Soma is the restoration of public housings. The evacuees in Iitate have their own housings.

Since we held training programs aimed at providing appropriate support to alleviate residents' mental health concerns (e.g., radiation health anxiety and other mental health issues) [6], we conducted follow-ups with these Social Welfare Councils. The questionnaire was distributed in November 2020, using the placement method.

The survey consisted of the questions related to the counselors' years of work experience, respondents' certification/licensing status, and the state of addressing cases (e.g., support and consultation in daily lives and connection with professional services). Furthermore, we investigated the changes in the number of consultations as follows: "Has the number of consultations (including consultations through telephone) with counselees changed due to the COVID-19 pandemic compared to the number during normal times?" Additionally, we asked the counselors for their comments about the impact of telephonic consultation on their practice; telephonic consultation defined coping with mental health issues (e.g., alcoholism, depression, and suicide), and the anxiety caused by the COVID-19 pandemic (not limiting it to only simple safety confirmation).

The survey was approved by the Ethical Review Committee of the Fukushima Medical University on September 1, 2020 (No. 2020-142).

3. Results

Out of 26 livelihood support counselors in Minami-Soma and Iitate Social Welfare Councils, 18 (69.2% response rate) counselors responded to the survey questions. The majority (76.5%) of the counselors had five or more years of experience, while the rest had one-four years' experience. Eight counselors (44.4%) held a health or welfare practice license.

In response to the question, "Has the number of consultations (including consultations through telephone) with counselees changed due to the COVID-19 pandemic compared to the number during normal times?" nine counselors (50.0%) answered *Increased*, while the others (44.4%)—except for one—answered *No change*. These findings suggest that the counselors have been providing the ongoing support to counselees even under the conditions created by the COVID-19 pandemic.

The free comments regarding telephonic consultation as opposed to in-person consultation in counselees' homes were implemented through qualitative content analysis using text mining. First, the important score was calculated based on the frequency of appearance and variation of words in free comments. Subsequently, high-scoring important words

were categorized into 1) counselees' appearance: *facial expression* and *complexion*; 2) counselors' behaviors: *ask*, *consult* and *counseling*, and *listening carefully*; and 3) confirmation safety: *confirmation* and *securing*, *living condition*, and *voice*. With regard to the counselees' appearance, the difficulties in understanding the counselees' life health conditions due to the inability to see their non-verbal expressions were noted. On the other hand, regarding the counselors' behaviors the advantages of telephonic consultation were that the counselors could have longer sessions and listen more attentively to severe issues. Additionally, they could ask counselees certain questions on phone, which they could not ask them at their homes. For example, one counselor reported that counselees might hesitate to tell the truth about their mental health when other family members were around. Regarding the confirmation safety, counselors could directly confirm the evacuees' living conditions without face-to-face contact (Table 1).

4. Discussion

According to a previous study, of the long-lasting health consequences of major natural and man-made disasters, health surveillance and support programs are critical for managing the survivors' health

Table 1

Text mining analysis of free comments regarding counseling by telephone instead of face-to-face counseling by visiting residents' homes under the COVID-19 pandemic.

1. Counselees' appearance: Facial expression (0.55), Complexion signs (0.51)
<ul style="list-style-type: none"> It was difficult to understand residents' life and health conditions because I had to manage to understand the situation only through their telephone voice. It is difficult to give counseling without residents' facial expression or complexion signs like face-to-face counseling. I can see a resident's situation a little through conversation and inflection of voice through the telephone. But I think that it is easier to notice their changes in appearance and physical condition from their complexion while face-to-face counseling. It was impossible to see residents directly, so I had concerned that I could not get any information from their complexion or facial expression. Elderly people may be deaf, so I realized again that it was important to look at their faces and read their feelings from their facial expressions through face-to-face contact. I cannot see the residents' facial expressions because of only contact by telephone.
2. Counselors' behaviors: Ask (0.59), Consult and counseling (0.31), Listening carefully (0.37)
<ul style="list-style-type: none"> To infection prevention measures, I must cope with counseling to residents at the only entrance, so the time of counseling is shorter than before. As a result, it is difficult to listen carefully. I was able to ask by phone what I could not ask directly while visiting home. He/she also responded politely. I have not experienced it myself, but I have heard from another counselor. Some residents talked more than usual. And the number of cases who have consulted more severe has increased. It may be because they were able to consult by the telephone when they were alone without family members. It is based on visiting residents' homes and meeting face-to-face. But I respond to counseling by telephone sometimes. It is possible to listen carefully to it for a long time than before. Besides, due to the stay-home orders, I can talk a resident who is always going out. There is a positive aspect.
3. Confirmation safety: Confirmation and securing (0.50), Living condition (0.34), Voice (0.54)
<ul style="list-style-type: none"> I was struggling to confirm of resident's safety because their phone number is not known. On the contrary, I think listening carefully to the phone was effective. I was able to confirm their living conditions without face-to-face contact directly. I was also able to touch the resident's living conditions from their voice through the telephone. But I have been concerned about how I am thought of by counterparts from only my voice on the telephone. I think that telephone counseling is effective for some residents who tend to be withdrawing from their homes. Because calling can secure the connection with outside.

(): Important score, calculated based on frequency of appearance and variation of words.

conditions [7]. Moreover, the suicide rates in disaster-affected areas have increased, even in the recovery-phase, due to the increasing economic hardships and disruption of social networks [8]. Therefore, it was deemed essential to continue to provide consultation services to residents, even under the condition of the COVID-19 pandemic. Nevertheless, there were few reports to indicate that following the GEJE/Fukushima nuclear disaster, the care activities for evacuees/residents were continuing under the conditions of the COVID-19 pandemic [5]. In this study, we can confirm that despite the pandemic, livelihood support counselors continue to provide support to evacuees who have concerns about life and mental health issues (e.g., depression, alcoholism, concern of low-dose radiation exposure and isolation or a shortage of social networks). Our findings show that the number of consultations has increased. One reason may be the presence of the increased psychological distress among the Japanese under the condition of COVID-19 pandemic and the consequent social and economic impact [9].

The telephonic consultation was viewed by counselors as having some limitations. It was reported that consultation without contextual information from non-verbal expressions presented certain difficulties, which showed some counselors had a sense of unease or concern about telephonic consultation. Therefore, it is necessary for livelihood support counselors to receive regular training in effective telehealth consultation to improve their skills [5]. Conversely, there were some advantages of telephonic consultation, such as, the counselors could have longer sessions, listen more attentively—especially about more severe issues—and ask questions which were difficult to inquire about when at their homes. Therefore, it is recommended to combine in-person consultation with telephonic consultation when providing disaster-related support to residents, thereby making use of the advantages of telephonic consultation [10].

The present study has some limitations. First, the sample size was small, and there was no control group. The second limitation concerns the representativeness of the participants as the survey was not conducted in all the Social Welfare Councils in the evacuation areas of the 2011 Fukushima nuclear disaster. Therefore, it is necessary to expand the survey to other Social Welfare Councils. Additionally, further investigation will need to distinguish whether the difficulty of the consultation is in case of the infectious diseases added to the nuclear accident or the infectious diseases alone.

Despite these limitations, this preliminary study has confirmed that livelihood support counselors have continued to provide support despite adverse conditions created by the COVID-19 restriction. Moreover, it has been identified that telephonic consultation has certain advantages over in-person consultation. The telephonic consultation is an effective support method that avoids in-person contacts and serves as an infection-prevention measure. Finally, it is necessary to extend the survey to other Social Welfare Councils to increase the reliability of our findings in relation to the ongoing disaster-related support under the conditions of the COVID-19 pandemic.

Availability of data

Data can be provided on a properly justified request.

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Author contributions

Norito Kawakami designed the framed study and acquired funding. Norito Kawakami and Yuriko Suzuki conceived and designed the study. Masatsugu Orui, Maiko Fukasawa and Naoko Horikoshi contributed to designing the questionnaire. Masatsugu Orui conducted the questionnaire survey. Masatsugu Orui conducted data analysis. All authors contributed to revisions of the manuscript and critical discussion.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

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References

- [1] H. Yabe, Y. Suzuki, H. Mashiko, Y. Nakayama, M. Hisata, S. Niwa, et al., Psychological distress after the Great East Japan earthquake and Fukushima Daiichi nuclear power plant accident: results of a mental health and lifestyle survey through the Fukushima health management survey in FY2011 and FY2012, *Fukushima J. Med. Sci.* 60 (1) (2014) 57–67.
- [2] Fukushima Disaster Volunteer Center, Fukushima Prefectural Council of Social Welfare, About livelihood support counselors [cited 2012], Available from: <http://pref-f-svc.org/seikatsushien> (last accessed 1 March 2021). [(in Japanese)].
- [3] M. Orui, Y. Kuroda, S. Yasumura, Suicide rates and mental health measures after the lifting of the evacuation orders following the Fukushima Daiichi Nuclear Power Plant accident: a practical report developed in collaboration with the local municipality, *Nihon Koshu Eisei Zasshi* 66 (8) (2019) 407–416, <https://doi.org/10.11236/jph.66.8.407> [(in Japanese)].
- [4] The Ministry of Health, Labour and Welfare, Japan, Basic policies for novel coronavirus disease control by the government of Japan (summary) [cited 2020], Available from: <https://www.mhlw.go.jp/content/10900000/000634753.pdf> (last accessed 1 March 2021).
- [5] M. Momoi, M. Murakami, N. Horikoshi, M. Maeda, Dealing with Community Mental Health post the Fukushima disaster: lessons learnt for the COVID-19 pandemic, *QJM* 113 (11) (2020) 787–788, <https://doi.org/10.1093/qjmed/hcaa213>.
- [6] M. Orui, M. Fukasawa, N. Horikoshi, Y. Suzuki, N. Kawakami, Development and evaluation of a gatekeeper training program regarding anxiety about radiation health effects following a nuclear power plant accident: a single-arm intervention pilot trial, *Int. J. Environ. Res. Publ. Health* 17 (12) (2020) 4594, <https://doi.org/10.3390/ijerph17124594>.
- [7] R.G. Lucchini, D. Hashim, S. Acquilla, A. Basanets, P.A. Bertazzi, A. Bushmanov, et al., A comparative assessment of major international disasters: the need for exposure assessment, systematic emergency preparedness, and lifetime health care, *BMC Publ. Health* 17 (2017) 46, <https://doi.org/10.1186/s12889-016-3939-3>.
- [8] M. Orui, Re-increased male suicide rates in the recovery phase following the Great East Japan earthquake, *Crisis* 41 (6) (2020) 422–428, <https://doi.org/10.1027/0227-5910/a000656>.
- [9] H. Kikuchi, M. Machida, I. Nakamura, R. Saito, Y. Odagiri, T. Kojima, et al., Changes in psychological distress during the COVID-19 pandemic in Japan: a longitudinal study, *J. Epidemiol.* 30 (11) (2020) 522–528, <https://doi.org/10.2188/jea.JE20200271>.
- [10] N. Horikoshi, M. Maeda, H. Iwasa, M. Momoi, Y. Oikawa, Y. Ueda, et al., The usefulness of brief telephonic intervention after a nuclear crisis: long-term community-based support for Fukushima evacuees, *Disaster Med. Public Health Prep.* (2020) 1–9, <https://doi.org/10.1017/dmp.2020.161>.