

Letter to the Editor

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Latest Topics of Interest on Radiation Risk Communication: A Decade After Japan's Fukushima Daiichi Nuclear Power Plant Accident

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We have spent the past 12 years studying the accident that occurred at the Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Plant (FDNPP). Our study clarifies topics of interest related to radiation among the people affected by the accident. Tomioka is a town located within 20 km of the plant, and all of its residents were evacuated immediately after the accident. Six years later, approximately 90% of the evacuation orders had been lifted. Although the town still has an area designated as a difficult-to-return zone (about 10% of the area) where people cannot live, it has begun to devise an intensive decontamination strategy for the people who want to return to that area.¹

We conducted a survey of 9655 residents (ages > 18) who held Tomioka residence cards as of March 11, 2011, and who still had them as of August 2021, in cooperation with the town's government. Of the 2899 responses we received (response rate: 30.1%), 2546 were regarded as valid, after excluding for incomplete responses (valid response rate: 87.8%). The collected data included 2260 evacuees, 286 who had returned, and a few new residents in the town. All processes of the study were reviewed and approved by the Nagasaki University Graduate School of Biomedical Sciences Ethics Committee (No. 21082702). The qualitative data were collected based on the prompt "Please let us know what you have concerns about or want to know regarding the topic of radiation." We analyzed replies using content analysis. Although few respondents provided written answers to the questionnaire, a total of 78 codes were extracted and analyzed. We classified respondents' topics of interest about radiation classified into 3 categories: radiation health effects, the situation of environmental radioactivity, and other. The "other" category included reconstruction statutes of the town (8 replies) and prevention measures for a nuclear disaster (2 replies). The topics of interest concerning radiation health effects were thyroid cancer and the results of related examinations (12 replies), basic knowledge of radiation health effects (8 replies), health effects of living in a lifted evacuation order area (7 replies), cancer incidence due to radiation exposure (5 replies), internal exposure (4 replies), effects on children (3 replies), and effects on future offspring (2 replies).

Concerning the situation related to environmental radioactivity, the discharge of treated water from the FDNPP, with 13 replies, was the most reported topic of interest in the study. The current situation of the decommissioning process in the town (6 replies), radiation doses in forests (5 replies), and radioactivity in food collected in the town (2 replies) were also noted.

In August 2023, the Japanese Government began discharging treated water from the FDNPP into the Pacific Ocean. This is not only of concern to the people who lived around the FDNPP, but also has been an international issue for the past decade.²

We have observed that the topics of interest related to radiation have gradually changed since the accident.³ It is essential to pay attention to the most recent topics of concern or interest and to use them to develop effective risk communication efforts and to prepare for future nuclear disasters.

References

1. Environmental Remediation, Results and Effects of Decontamination. Ministry of the Environment (MOE), Japan. Accessed May 16, 2023. <http://josen.env.go.jp/en/decontamination/>
2. Matsumoto H, Shimada Y, Nakamura AJ, et al. Health effects triggered by tritium: how do we get public understanding based on scientifically supported evidence? *J Radiat Res.* 2021;62(4):557-563. doi: [10.1093/jrr/rrab029](https://doi.org/10.1093/jrr/rrab029)
3. Murakami M, Sato A, Matsui S, et al. Communicating with residents about risks following the Fukushima nuclear accident. *Asia Pac J Public Health.* 2017;29(2 Suppl):74S-89S. doi: [10.1177/1010539516681841](https://doi.org/10.1177/1010539516681841)