Must I Stay?

The Obligations of Physicians in Proximity to the Fukushima Nuclear Power Plant

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On March 11, 2011, Japan was devastated by a threefold disaster: a magnitude 9.0 earthquake, the ensuing tsunami, and the nuclear radiation crisis at the Fukushima Daiichi Nuclear Power Plant.[1,2] On March 14, the Japanese government issued an evacuation advisory to those living within a 20-kilometer radius of the power plant. The United States, however, based on the directives of the U.S. Nuclear Regulatory Commission (NRC), advised U.S. citizens residing within an 80-kilometer radius to evacuate. On the same day, the U.S. Department of Defense prohibited U.S. military personnel from entering within 50 nautical miles (roughly 93 kilometers) of the power plant. This advice was issued despite Japan's previous 20-kilometer evacuation advisory. The NRC defended the wider evacuation area, citing U.S. standards.

Against this backdrop, we were receiving urgent requests for help from hospitals in the affected areas. The large tsunami that followed the earthquake caused widespread devastation. Residents were either swallowed up by the tsunami or managed to survive without major injuries. This led to a situation in which the need for acute medical assistance was minimal, although many medical teams from around the world offered assistance. However, those who were able to escape the tsunami and earthquake fled and were forced to live at evacuation centers. Life at the evacuation centers was incredibly taxing, given the scarcity of basic necessities such as water, food, and blankets. Although some elderly people with chronic medical issues such as high blood pressure, diabetes, and kidney diseases survived the earthquake, they were left without even basic medical care, due to the lack of medicine, doctors, and nurses.

In the regions surrounding the nuclear power plant, the situation had become increasingly complicated. For example, a general hospital 45 kilometers away from Fukushima faced a critical shortage of medical staff. Only 60 of the 108 physicians were reporting to work: "Either they can't show up because they don't have the gas to drive here," the hospital director said, "or they don't come because they're worried about radiation exposure." Many of the physicians had stayed away because of fear of a nuclear catastrophe.[3]

It is easy to criticize physicians who absent themselves in these circumstances; however, their conduct raises a complex ethical question. Namely, to what extent are physicians obliged to treat patients in the face of a potential nuclear plant meltdown?

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I was forced to confront this question personally when I received a telephone call six days after the earthquake. To provide context, I live in the Tokyo area—more than 200 kilometers away from Fukushima.

Dr. N's Request to Leave

In my capacity as a medical ethics specialist, I received a telephone inquiry on March 17 from the head of internal medicine in a hospital located a little more than 20 kilometers from the affected nuclear reactors after the Fukushima earthquake. I was asked the following question: "A young female physician, Dr. N, wants to go home to Hiroshima, but we don't have enough physicians at the hospital. If she leaves, there will be no one to take care of her patients and the evacuees. What should we do?"

At this time, higher-than-normal radiation levels had been detected around the hospital, although Japanese nuclear experts suggested that these levels were not harmful to human health.

Dr. N's argument was as follows: "My parents are pleading with me to come back home to them in Hiroshima. I have a family that needs me. . . . What are you going to do for me if I can't have any more children because of this? . . . I can't continue treating patients under threat of contamination. I have the right to escape. Indeed, the Americans are evacuating, aren't they?"

Does Dr. N have a duty to remain, despite her reasons for leaving? Her superiors insisted that she stay, but does she have an obligation to comply? Should the hospital demand that she remain treating her patients? These are difficult ethical questions.

To the best of my knowledge, there are no published papers that discuss a physician's duty to care in the midst of a nuclear disaster. The issues described previously are akin to other ethical questions in medicine, such as whether it is acceptable to refuse to treat patients with highly infectious and fatal diseases like avian flu or SARS,[4,5] or whether a surgeon can refuse to perform open surgery on HIV positive patients.[6] How far does the physician's duty to treat reach when the cost is personal danger?

Based on arguments for a physician's duty to provide care in these somewhat related situations, there are significant reasons as to why we might refuse Dr. N's request to leave. The rule of beneficence demands that physicians must work to enhance the health of their patients. Medical practitioners are educated at institutions supported by public funds. Physicians also enjoy certain privileges, such as a monopoly on medical practice, high salaries, and high social standing. The concept of reciprocity dictates that in exchange for these privileges, medical practitioners are obligated to assume a degree of risk when treating patients. In the case under discussion, the head of internal medicine also pointed out that certain moral sanctions could be imposed on a physician who leaves in times of crises. He said, "If you abandon your patients and run away, you cannot return to this hospital. You'll be ostracized." His comments bring to mind the notion of solidarity among healthcare workers, which is used as grounds for a physician's duty to care in public health emergencies such as a pandemic flu or SARS.[7,8]

There are, however, good reasons to grant Dr. N's request. First of all, the arguments presented previously for justifying a physician's duty to care are sometimes challenged by bioethicists as insufficient for requiring physicians to stay in a treatment facility and risk their health.[9] When we consider reciprocity, even if a physician has received special privileges or benefits, it is unclear whether the doctor then has an obligation to help others to the extent of

being exposed to excessive risk. Even if there is a duty to treat, it is not based on general beneficence. Rather, it is a special duty underpinned by the existence of the physician-patient relationship. Furthermore, it might be argued that the concept of solidarity is too vague to serve as a standard for physician behavior in times of emergency.

Dr. N was explicit in arguing that she also had an ethical obligation to protect her family. In the Japanese tradition, in which emphasis is placed on familial bonds, the urgent request from her parents for Dr. N to return home is significant. This cultural sense of duty to parents can be traced to Confucian thought and is a commonly accepted tenet in Japanese culture. Respect for the elderly, particularly one's own parents, is highly valued. For example, Japan has a national holiday called Respect for the Elderly Day. It might therefore be argued that treating patients under such circumstances is not an obligation but rather a supererogation—work performed above and beyond the call of duty. Thus, there are good reasons for granting Dr. N's request.

What is the legal answer to the question raised here? After receiving the phone call, I immediately contacted a legal expert at my university, who responded that if the hospital was within 20 kilometers of the plant, leaving would not have legal consequences—it would be considered an emergency evacuation, given the evacuation advisory. However, for locations more than 20 kilometers away, the physician's legal obligation to treat patients could become an issue. Nonetheless, although Dr. N was outside the 20 kilometer radius, she was clearly exposed to more radiation than those 200 kilometers away in Tokyo, such as myself. Therefore, although the legal position is clear, the ethical situation remains complex.

How then can we resolve this case? Evidence-based medicine is the accepted norm in our field. Dr. N's request to leave the area was based on her fear of excessive radiation. However, evidence suggests that the risks are negligible when a person is more than 20 kilometers away from the source of radiation. This would suggest that the risk to Dr. N is not higher than normal. Her obligation to provide care remains intact, and the risks to health from radiation do not serve as grounds to refuse to treat patients. By this reasoning she should remain at the hospital.

This conclusion, of course, is based on the immediate risk Dr. N. faced. But even if the degree of risk seems highly relevant to the extent of ethical duty, as Brody and Avery state, it is difficult to base a duty to treat solely on the existing risk.[10] We must also consider what might happen if the situation deteriorated and the risk increased. Would this give Dr. N grounds to abandon her patients and choose precautionary evacuation? The U.S. government's evacuation advisory for residents within 80 kilometers was based on this consideration. I continued to be bothered by the question posed to me, and not just for the reasons discussed previously. This case contains one more complicating element. Dr. N is originally from Hiroshima (the first city in the world to be hit by an atomic bomb). One could expect her to be particularly sensitive to nuclear issues and the dangers they pose. Thus, we must ask the following: does her life history require additional ethical consideration?

In the time frame I was given, I was unable to come up with a clear decision when faced with the problem of a physician's duty to provide care during a nuclear disaster. As I have not been directly affected by the radiation and am in a "safe" place more than 200 kilometers from Fukushima, perhaps I cannot fully identify with Dr. N. Nevertheless, as has been discussed with respect to the

Fukushima 50,[11,12] those nuclear power plant workers who remained at the Fukushima plant to handle the disaster, and physicians who remain at their hospitals and continue to provide care despite the risk of radiation, at the very least they should be praised for their courage.

In the end, after struggling with this case, I told the head of internal medicine that, at least from a legal perspective, Dr. N had an obligation to provide treatment. My answer may have sounded as though I was implying that this was also the *ethically* preferable position. I am not aware of the details of the discussion that took place between the head of the internal medicine department and Dr. N afterward. However, I later heard that Dr. N confided that initially she had been overcome by her emotions but then decided to remain at the hospital. It is unclear to me how she came to reconcile the multiple conflicts of risks to her health, obligations to her parents, and her personal history as a native of Hiroshima. I still cannot say if her final decision was the correct one. However, there is no doubt that Dr. N behaved as befits a brave and virtuous doctor.

Notes

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