

Courage and selflessness in professional actions: but are they enough?

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Background: The Great East Japan Earthquake on 11 March 2011 caused considerable loss of life, destruction of livelihood and infrastructure. Linked to this event but not its cause, was the meltdown and radioactive contamination of the environment from Fukushima Dai-ichi power plant. This disaster, in turn, led to the enforced evacuation of populations at risk. Japanese nurses, physicians, paramedical staff and faculty from nearby universities all volunteered to staff decontamination centres for evacuees and survivors.

Aim: This commentary critically reflects on the insights provided in this issue by Noto, Kitamiya, Itaki, Urushizaka & Yamabe (pp. 196–200) on the role of nurses in the Fukushima Dai-ichi disaster, extending that critique to evidence that has emerged through official and unofficial sources.

Discussion: Disaster planning is not a popular subject for societies in general nor is it a finite art or process. Civil authorities often work under restricted or reducing budgets and resources while serving increasing demands. Disaster planning requires multidisciplinary skills sets to be able to work across the many different departments, agencies, interest groups and budgets. Planners need to think outside the box, allocate resources and training to a level that justifies known and/or projected threats in preparing first responders with the correct tools, training and time to practise skills they may never be called upon to use.

Conclusion: Disasters will always happen be they natural or man-made. To rely on the courage and selflessness of professionals is not enough. Training and learning from previous disasters can help in responsible planning.

Keywords: Communication Pathways, Decontamination, Disaster Planning, Fukushima Dai-ichi Disaster, Nuclear Emergency Response, Nursing, Radiation Skill Sets

Background

The Great East Japan Earthquake on 11 March 2011 caused considerable loss of life, destruction of livelihood and infrastructure. Linked to this event, but not its cause, was the meltdown and radioactive contamination of the environment from Fukushima Dai-ichi power plant. This disaster, in turn, led to the enforced evacuation of populations at risk. Japanese nurses, physicians, paramedical staff and faculty from nearby universities volunteered to staff decontamination centres for evacuees and survivors.

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Problematic aspects of the Fukushima Dai-ichi disaster

This particular disaster has some unique and troubling aspects. First, the declaration of an International Nuclear and Radiological Event Scale at the Fukushima Dai-ichi power plant that was eventually declared a level 7 event, its highest level. The Japanese government released a statement comparing Fukushima to Chernobyl (Kantei 2011). The cause being four damaged reactors that had a core meltdown and involved nuclear contamination into the environment, and resulted in the enforced evacuation of the population from the affected areas.

Second, the unprecedented live media coverage as the disaster unfolded live on the world stage via television, YouTube and online blogs, which contributed to misunderstandings and high degrees of panic and fear that persist to this day.

Third, nurses were at the heart of the first response; being situated in decontamination centres and working in a situation for which Japan, its government and the company responsible for the safety of the reactors were unprepared.

Fourth, accurate, informative public information disseminated to the average citizen in the initial months after the disaster was highly problematic. The results of the citizens of Japan not knowing the risks, degree or extent of current and continuing contamination were, and still are, surrounded by public confusion, and sometimes apparently misleading information. Internet sites and blogs with conflicting opinions, scholars, journalists (Momboit & Caldicott 2011), scientists (Kaka Michio 2011), Nobel Peace Award holder Helen Caldicott (2011, 2012) and physicians are all saying different things.

This apparent confusion in information is contributing to a deep distrust of official communications and fuelling high levels of public anxiety as to what the future may hold. Noto, Kitamiya, Itaki, Urushizaka & Yamabe (pp. 196–200) in this issue on nurses' role in nuclear disaster open a revealing window as to what happened from the perspective of those who were on the ground, coping with a situation that no one had ever expected to happen, and in which no resources in terms of disaster planning were available. Their account narrates for us the actions of nurses, physicians, paramedical staff and faculty as they volunteered to help, and placed themselves at risk in a situation that was, and still is, very unclear as to its consequences. Noto et al. do not write about courage, but their actions embody selflessness and dedication to their community and country. Nothing can detract from such acts of selflessness from all the responders who volunteered, or from the countless examples of courage shown by those who survived the horror and loss of the tsunami only to face un-quantified problems of enforced evacuation and the possible long-term effects of radiation contamination in themselves, the environment, food and water supplies.

The implicit compassion shown by Noto et al., combined with sense of just not being prepared, is inspiring yet at the same time chilling to read. However, being professionals, they discharged their duty of care. The account rings with a quiet dignity and truth. Confused in places as would be expected in any disaster situation, for often individuals can only focus on their localized context. The larger picture often remains unclear until reliable command and control protocols are activated. Their account tells of the lack of training, planning and the total unpreparedness of all official systems to a disaster of this nature and magnitude. The responders resorting to solving problems on the spot as best they could. Debate still rages in Japan over the handling of the situation by the Japanese government (Kurokawa 2012). However, it is a part of Japanese character not

to discuss fears and worries in the public domain, something that is not helpful in a situation Japan is currently experiencing.

The origins of the problems

While understanding this cultural positioning in Japan, this disaster was not a natural one. It was man-made. The consequences, however, are not just a Japanese local issue, but also one of global importance. It is therefore a matter of international interest that the events and responses are researched in a transparent manner and that information should be made readily available to the international community. This will assist in the rebuilding of issues of trust, and help to ease the international tensions that exist concerning this disaster. For it has been argued that the origins of this disaster were based in profits and the personal gains of an elite, which may have to be paid for by the world, and future generations (Kurokawa 2012).

Questions raised by an account of nurses' roles

Many questions arise from Noto et al.'s account, which warrant further investigation. Questions at a local level concern what training did the responders receive? How did they practise for the possibility of such an event? Issuing a Hazchem Nuclear protection suit is, by itself, not guaranteed to protect the individual against hazardous radiation levels for extended periods. How did they eat, drink, sleep, carry out normal bodily functions and decontaminate? What personal decontamination drills and procedures were carried out? What happened to the decontaminated clothing that was removed from the survivors? What were the volunteers' pre- and post-exposure levels to radiation? Have there been any regular follow-ups?

Questions at local government level concern how the chain of contamination was contained. What happened to the radioactive contaminated clothes after they were removed from the decontamination area? The issuing of masks would be of little use unless the masks were adequate to prevent particle contamination, and were correctly fitted and sealed.

The measuring of radiation levels is but one small part of a radiological response. The reported use of X-ray staff to measure the radiation is an interesting move. However, fallout contamination is very different from the controlled exposure of X-rays. What was the thinking behind this? Missing from the account is the response of military nurses who are trained in Nuclear and Biological and Chemical warfare. Many of these questions cannot be answered immediately for, as Noto et al.'s account reveals, there were no systems in place. However, at some time in the future, these issues need to be addressed so that we can all to learn from this experience.

Discussion

To say that Japan was shocked to its very core by the events of the Fukushima Dai-ichi disaster is something of an understatement. Anger and distrust of government authorities and the people whom the Japanese hold responsible fuels heated debates, often held in private. Nevertheless, in the report of the Fukushima Nuclear Accident Independent Investigation, Mr Kiyoshi Kurokawa (2012), Chairman of the Fukushima Nuclear Accident Independent Investigation Commission, in his opening message to the Commission's Report to the Japanese government at the conclusion of their investigation, said the following, which embodies deep implications for the Japanese people and culture:

... Although triggered by these cataclysmic events, the subsequent accident at the Fukushima Dai-ichi Nuclear Power Plant cannot be regarded as a natural disaster. It was a profoundly man made disaster – that could and should have been foreseen and prevented. And its effects could have been mitigated by a more effective human response ... Our report catalogues a multitude of errors and wilful negligence that left the Fukushima plant unprepared for the events of March 11. And it examines serious deficiencies in the response to the accident by the Tokyo Electric Power Company (TEPCO), regulators and the government.

... For all the extensive detail it provides, what this report cannot fully convey – especially to a global audience – is the mind-set that supported the negligence behind this disaster. What must be admitted – very painfully – is that this was a disaster 'Made in Japan'.

Its fundamental causes are to be found in the ingrained conventions of Japanese culture: our reflexive obedience; our reluctance to question authority; our devotion to 'sticking with the program'; our groupism; and our insularity. (p. 7)

In Japanese culture, such words used in the Executive Summary of the Fukushima Nuclear Accident Independent Investigation Commission Report took great courage to bring into the public domain. For the truth of power does not like to be confronted with the power of truth. The incident at Fukushima is just the tip of the iceberg. The Chairman calls for the ordinary citizen of Japan to look deeply at the issues. Some universities are taking positive steps; these now need to be coordinated and practised at local and national level.

I respectfully suggest that we *all* need to look deeply at what we are doing and how we are living. What happened in Japan should act as a wake-up call for many nations. Such events are no longer national issues contained within borders, but global concerns. When profits become more important than public health, the foundations for disaster are laid. Being silent is not

an option. Nurses in every country that uses nuclear energy could one day find themselves in the very position that the Japanese authors, Noto et al. courageously reported here in their article. The answers required to resolve these issues will not be easily found and will require re-evaluation as to how people live, and the type of world in which we wish to live in future.

Conclusion

The explosion of reactor no. 4 at the Chernobyl Nuclear power plant on 26 April 1986 has shown the world what can happen when things go wrong in a nuclear plant. The Great East Japan Earthquake on the 11 March 2011 confirmed again the issues and dangers to the people and to the environment. On 27 September 2012, Japan's then Prime Minister Yoshihiko Nado told the United Nations Assembly in New York that Japan will share the lessons from Fukushima Dai-ichi nuclear disaster to promote nuclear safety and committed his government to taking steps to end Japan's dependence on nuclear power by 2030 (United Press International 2012). On 2 January 2013, the new prime minister was reported to have reversed the direction and stance that the previous government had taken for the reduction of nuclear reactors by saying that he would support the building of new reactors in Japan (United Press International 2013).

Whatever happens, Japan has changed and the Japanese people will need to find ways of living with the changes and seek a workable solution. There is no doubt about the courage shown by the nurses, first responders and the ordinary people's response. Yet, courage is not enough. The question remains: *Can Japan bring about the changes that are needed to secure the future they want?* They do so under the critical eyes of world scrutiny. It can only be hoped that such solutions will never again place nurses inadequately prepared and trained, into situations like those that we have seen, and that Japan is given the time it needs to bring about change, for Japan has 54 nuclear reactors, all situated along vulnerable coastline regions. At this moment, it is not a matter of if, but when, the next nuclear issues present themselves to world.

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