

The Psychosocial Effect

Keith Baverstock

Radiation is an established threat to our health, one which is impossible to detect through our own senses, i.e., without instrumentation.

It is not, therefore, surprising that radiation generates fear in those who have reason to believe they are being, or have been, exposed to radiation – it would be unnatural if this were not the case.

Fear generates stress which causes physiological changes in our bodies – we all know the sensation we feel when fearful.

Stress is unhealthy if it persists over long periods, leading, through various mechanisms, such as changes in diet, tobacco use etc., to serious illnesses.

This is the psychosocial effect as we have come to understand it since the Chernobyl accident. It is a natural consequence of the stress of being faced with an unknown risk.

If the fear of the health damage due to radiation can be removed or even just much better understood, the psychosocial effect will be reduced, or even not occur.

The Chernobyl accident is a landmark event as far as the psychosocial effect is concerned. One specific researcher from Sweden, Professor Lennart Levi, took a close interest in the response of the exposed populations in the years immediately following the accident. He, a specialist in stress related disease, stated that the situation was:

“An epidemic of stress related disease”.

This stimulated the WHO Regional Office for Europe (EURO) to convene an expert group to study the phenomenon and make recommendations of how to prevent it in future accidents.

The principle conclusion of the expert group was that the psychosocial effect was a SYMPTOM of lack of TRUST in the competent authorities to protect the public health.

This confirmed that the psychosocial effect is to a large extent preventable if the authorities, and those may be the nuclear power providers, the regulatory agencies, the international agencies and, at a more local level, professionals such as teachers, doctors and politicians, commanded the trust of the public.

Above all this means being honest – once the public realise that they have been lied to that trust is gone and will not return.

In the case of the Chernobyl accident the then Soviet authorities first denied that an accident had taken place and then, when they had to admit there had been an accident said that it was minor and there would be no consequences for public health.

The rest is history.

Mainly for economic reasons (trading of foodstuffs) following the Chernobyl accident, the UN, through the IAEA, initiated two legally binding conventions on EARLY NOTIFICATION of nuclear accidents and ASSISTANCE in the event of nuclear accidents.

The EURO (WHO Regional Office for Europe) saw the second of these conventions as a means of reducing the psychosocial effects of future accidents. They recommended that nations should use their radiation emergency response centres to inform the public of the situation and the measures being taken to protect public health.

The EURO took on the role of coordinating the national emergency response centres, setting up a Project Office in Helsinki and working in collaboration with the Finnish Radiation and Nuclear Safety Authority (STUK).

The Helsinki Project office was closed in 2000 and was never called upon to coordinate the response to a nuclear accident.

In March 2011 the IAEA led UN emergency response system DID NOT FUNCTION for at least three days after the accident at Fukushima Daiichi.

When the IAEA's emergency response website did start to operate (13/14 March Vienna time) it gave no indication that there had been releases of radioactivity. It did not refer to melting of the core's, although those of us familiar with the technology knew that this must have happened.

Notwithstanding two legally binding conventions and some 25+ years of preparation and several exercises, the UN emergency response system failed.

The Finnish emergency response system did, however, work but such was the demand for information that the website crashed early on and after that it was only available in Finnish.

Yesterday I presented the evidence that doses below 100 mSv carry the same risk per Sv as those above 100 mSv.

The 2013 UNSCEAR report, while not saying that it supports the concept that there is a threshold of dose below which there will be no health effects, nevertheless, in a Press Release dated 2 April 2014 stated that cancers were UNLIKELY as a result of Fukushima exposure.

However, the report gives data on both doses to workers and the public which indicate, using well established risk factors that there will be cancers, for example, some 50 excess cancers in the lifetimes of the workers receiving doses more than 10 mSv in the first 18 months after the accident. To make this statement UNSCEAR must be applying a threshold.

It is a disappointment for me that some respected Japanese scientists with whom I have worked in the past are not upholding the position that there is no evidence for a threshold and that the effects of 10 mSv are 1% of those of 1 Sv and NOT ZERO.

Finally, those who support nuclear power generation (I incidentally take a neutral position because I am a kind of referee in disputes over risk) and the IAEA in particular, whose mandate is to promote it, recognised after the Chernobyl accident that the psychosocial effect is real and damaging and is NOT radiophobia.

They believe that if the public understood better, were better educated about, the nature of ionising radiation and the health risks involved by being exposed, there would be no fear or anxiety and, therefore, psychosocial effect.

I would remind them that they have had nearly 30 years since the Chernobyl accident to educate the public on their view of radiation risks.

The psychosocial effect should be regarded as an objective effect of radiation exposure on the same basis as cancer – it is not an irrational failure of the exposed population to “resist” the effects of radiation exposure.

Thank you for your
attention!