



PGA Background Briefing Paper on the Impact of Nuclear and Radiological Weapons and Materials on Women

Impacts on physical health

Scientific researchers have definitively established that women face a significantly greater risk of developing cancer compared to men when exposed to equivalent levels of ionizing radiation, highlighting the impact of nuclear weapons. The immediate effects of a nuclear explosion, including the blast, heat, and intense flash of light capable of causing severe eye damage and burns over vast distances, affect individuals of all genders and ages indiscriminately. Furthermore, depending on the detonation altitude, radioactive fallout can contaminate regions, presenting prolonged health hazards.

According to the UNIDIR¹ women experience more pronounced impacts from ionizing radiation compared to men due to having 50% more high-risk body tissues, including sensitive reproductive and adipose tissue, along with metabolic differences. An examination of survivors of the 1945 nuclear attacks in Japan revealed that women faced approximately twice the risk of developing and succumbing to cancer resulting from exposure to ionizing radiation, in comparison to men. Notably, gender-specific cancers such as breast cancer contribute significantly to the heightened risk faced by women.

¹ <https://www.unidir.org/files/publications/pdfs/gendered-impacts-en-620.pdf>



Women's reproductive health is susceptible to the effects of emitted radiation. In the Marshall Islands, where numerous nuclear tests were conducted by the United States (67 nuclear detonations between 1946 and 1958), it was found that women living downwind had a high stillbirth rate and that some newborns were born without bones, with severe deformities such as transparent skin or with displaced organs. Studies of those exposed to the Chernobyl incident in 1986 also show that radiation is responsible for a significantly higher level of thyroid cancer in women. In addition, high doses of ionising radiation poses a risk to pregnant women as it creates threats of harm to their children such as malformations, spontaneous abortions and stillbirths. Fetuses are also vulnerable because they have no protective mechanisms to metabolise or protect themselves against weapons of mass destruction. Leukaemia rates were much higher for those exposed *in utero* than for others. Additionally, there exists a potential risk of contamination through breastfeeding. Historical findings from the 1960s detected traces of strontium-89 and strontium-90 in breast milk, which could subsequently be transmitted to newborns. Another concern is related to the manufacturing process of numerous vaccines, including those developed against agents used in biological warfare, where the subjects used in the sample population are predominantly male. This limitation hinders the ability to enhance protection specifically for women.

Psychological impacts

Invisible contamination can also inflict profound psychological effects, with the lack of information and uncertainty surrounding health risks becoming sources of stress. There is evidence suggesting that these psychological impacts may be more severe for women,

given their role as mothers. Research conducted by Bromet², indicates a higher prevalence of mental health problems among mothers following nuclear incidents such as Three Mile Island and Chernobyl. Preliminary data from Fukushima similarly suggests that mothers of young children face increased risks of depression, anxiety, psychosomatic symptoms, and post-traumatic symptoms. These risks stem from both the fear of invisible contamination and the social stigma associated with it. Additionally, women affected by nuclear weapons tests in the Marshall Islands have reported enduring feelings of shame and stigma, as they fear that radiation will continue to impact future generations.

Evacuation and Displacement and Access to Health Care

Potential contamination resulting from nuclear materials can lead to both short-term and prolonged population displacement. During conflict situations, women and girls face heightened vulnerability to domestic violence, rape, forced prostitution, and other crimes that disproportionately target them, leaving them dependent on others for assistance and safe passage. Furthermore, women often encounter greater challenges in accessing protection, assistance, and their rights to health, housing, and property, exacerbating existing patterns of discrimination. These circumstances can have lasting effects on both psychological and physical well-being. According to the World Health Organization (WHO), an estimated 287,000 women of reproductive age lose their lives each year due to complications during pregnancy and childbirth, making it the second leading cause of death among this group of women. If the hospital and health care infrastructure are damaged or inaccessible due to the use of weapons of mass destruction, this threat to women's health could be exacerbated. Reduced access to reproductive health can be a death sentence for

² Bromet, Evelyn & Gluzman, Semyon & Schwartz, Joseph & Goldgaber, Dmitry. (2002). Somatic Symptoms in Women 11 Years after the Chornobyl Accident: Prevalence and Risk Factors. *Environmental health perspectives*. 110 Suppl 4. 625-9. 10.1289/ehp.02110s4625.

women in countries where, even in times of peace, the risk of dying from pregnancy is incredibly high.

Social Stigma and Discrimination

Survivors of mass destruction attacks also endure social stigma. This was notably the case for Japanese survivors of the bombings in Hiroshima and Nagasaki, who were labeled as "contaminated" and faced fear and suspicion within Japanese society. Hence, they were given the name "Hibakusha" (被爆者). Some people wrongly believed that Hibakusha suffered from congenital diseases, that radiation was contagious, or even that their association with Japan's defeat in the war was to blame. Women, in particular, experienced discrimination compared to men and encountered challenges in finding marriage partners, as societal members often held the belief that they would give birth to malformed babies. Tragically, Hibakusha women also had a high suicide rate. Studies on female landmine survivors reveal that women are at a greater risk of facing similar stigmatization and marginalization from their husbands due to their injuries. Consequently, it is widely recognized that injuries or disfigurements resulting from nuclear weapons have a comparable impact.