

Lifetime risk of suicide among survivors of the atomic bombings of Japan

Psychological effects among survivors of the Hiroshima and Nagasaki atomic bombings are not well understood. In this study, based on statistical analysis, RERF scientists estimated whether exposure severity, as an indirect measure of psychological trauma¹ from the atomic bombings, was associated with suicide mortality among A-bomb survivors.

When considering the entire study population without regard to age, there was found to be no association between suicide mortality and distance from the hypocenter,² presence or absence of structures that shielded the survivors from radiation, type of structure or building surrounding the survivor, or serious injuries, as measures of exposure severity. However, individuals less than 25 years of age at the time of bombing who were exposed outdoors and reported flash burns³ were found to be at higher risk of suicide than those who had been shielded within a structure. Gender-adjusted analysis indicated that these particular associations were observed only in men. Although a statistically unclear increase was observed in the association between being near the hypocenter and suicide risk in women, a statistically clear association was seen in women who were exposed at less than 15 years of age at the time of bombing, when considered separately by age at exposure.

From the study findings, such factors as distance from the hypocenter, presence or absence of structures that shielded the survivors from radiation, and serious injuries did not seem to affect the risk of suicide when considering this study's overall A-bomb survivor study population. However, the impact from such factors on suicide risk in A-bomb survivors varied by age at the time of bombing and gender in the study population, with A-bomb survivors who were younger at the time of bombing appearing as if they might have been more susceptible.

Notes

¹ Psychological trauma:

A mental state of extreme shock lasting for a long time caused by a very frightening or unpleasant experience

² Hypocenter:

Location on the ground below the location in the air at which an atomic bomb exploded (for a visual representation of the hypocenters in Hiroshima and Nagasaki, click here: <https://www.rerf.or.jp/en/glossary/hypocent-en/>)

³ Flash burns:

Burns caused by heat released at the speed of light from the explosion of an atomic bomb

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RERF's objective with this brief outline is to succinctly explain our research for the lay public. Much of the technical content of the original paper has been omitted. For further details about the study, please refer to the full paper published by the journal.