

# LONG-TERM EFFECTS OF CHERNOBYL NUCLEAR ACCIDENT ON THE EPIDEMIOLOGY OF LEUKEMIA AMONG THE POPULATION OF GEORGIA

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**C**urrent knowledge of the long-term health effects of the Chernobyl nuclear accident (1986) reveals serious gaps. Epidemiological studies provide contradicting data. Studies in 1986-1997 revealed significantly elevated incidence rates of leukemia (one of the most typical consequences of exposure to ionizing radiation) in emergency cleanup workers; no such increase was reported in the general population in contaminated areas in Belarus, Russia and Ukraine by part of the studies, whereas other studies reported significant increases in the incidence of all forms of leukemia in both adult and child population of above mentioned regions from 1992. The radioactive contamination of the territory of Georgia as a result of Chernobyl accident has never become the subject for the consideration by Soviet and international societies, even though the pollution by radioactive isotopes of the territory of Western Georgia, particularly that of the Black Sea coastal region, had been much higher than in some regions of Belarus and Krasnodar. In the atmosphere of Sukhumi (Black Sea city) the monthly concentrations of beta-active aerosols in May' 1986 was  $210,313.9 \times 10^5$  Bequerel/m<sup>2</sup> (Bq/m<sup>2</sup>). In 1995-2005, average radioactive contamination of the surface of soil by cesium-137 in Black Sea coastal region was 530 Bq/kg. Incidence rate of leukemia in Georgia had been increased by 100% in 1988-1992. Since 2011, the incidence rate has considerably increased again and retains growing tendency. Dynamics of new cases of leukemia remarkably differs in various regions of the country. In 2008-2013, low incidence rate maintained in the regions of Western Georgia, the most contaminated as a result of Chernobyl accident whereas it has significantly increased in Tbilisi and other regions. Thereby, we conclude that later increase in incidence rate of leukemia cannot be attributed to consequences of Chernobyl accident and may be linked to other factors that still need to be identified.

## Biography

Marika Gamkrelidze has graduated from Tbilisi State Medical University. She has completed her PhD from Tbilisi Institute of Experimental Morphology and Postdoctoral studies from Tbilisi State Medical University. She worked as a Physician in Military Hospital in Tbilisi. She is an Associate Professor in the University of Georgia, delivers lectures in Physiology and Biophysics at the University of Georgia and Tbilisi State Medical University. She works at the Department of Biophysics, Iv Beritashvili Center of Experimental Biomedicine. She has published 2 monographs and over 20 scientific articles.

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