

CANCER PROMOTION EFFECT AFTER THE CHERNOBYL ACCIDENT IN FINLAND?

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Background and Aims: 25 years after the accident at Chernobyl nuclear power plant people are still concerned about potential adverse health effects related to exposure to radiation. In order to test a hypothesis on cancer promotion we studied whether total cancer incidence due to the Chernobyl fallout was increased within the first eleven years after the accident.

Methods: A registry based cohort was constructed from the Finnish population with a stable residence in the first post-Chernobyl year. Exposure assessment was based on measurements of dose-rate made between May 1986 and August 1987 performed during a mobile survey with a route of 19,000 km. The analysis comprises overall cancer incidence in four exposure areas. Person-years and number of cases were stratified by sex; age group; house type; and socioeconomic status in 1985. A pre-Chernobyl period of 1981-85 was used as a baseline which reflects the underlying differences in cancer incidence between the exposure areas and represents the aggregate effect of confounding factors. Incidence rate ratios between the exposure areas in 1981-1985, 1988-1992 and 1993-1997 were estimated using the Poisson regression.

Results: In 1981-1985, the total cancer incidence rates were lower in the highest exposure area than in the other three areas where the incidences were close to each other. In 1988-1992 and in 1993-1997, the incidence rate ratios did not differ statistically significantly from those in the pre-Chernobyl period. **Conclusions:** The results do not support the promotion effect of cancers due to low doses from the Chernobyl fallout in Finland.