The Romanian Population Health State Analysis near Kosloduy NPP, Bulgaria

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Background

The aim of this study is highlighting the possible effects of the long term exposure to small doses of radiations, bringing arguments for health strategies, and last but not least, offering some answers to the press and population’s questions.

The Kosloduy Nuclear Power Plant is located on the territory of another state which has always created suspicions and discussions.

When the plant works normally, there are no public health problems for the residents in the neighbourhood.

Methods

The study was carried out between 2009–2014, by monitoring the environment factors correlated with the evolution of the population health state in the Bechet area at 30 km away from the plant, compared to the same state in Craiova, a city situated some 60 km away.

There have been followed the evolution of congenital malformations, the frequency of malignant tumours, and leukemias, as well as the specific mortality due to cancer.

Results

There has been noted an increase in the number of malignant tumours in the Bechet area every year, but under the values registered in Craiova. At the same time, the population suffered a process of aging, the youngsters between one and fourteen representing only 14.7%, while those over 45 represent 48.9%. Finally, we couldn’t notice an artificial radioactive pollution due to the plant, the obtained values being comparable both between the two lots and from one year to another.

Conclusions

We can state that there can be made no causal connection between the impact of the nuclear plant over the environment and the population health state in the region (p < 0.001).

There haven’t been noted significant differences of incidence and trend between the two areas regarding the congenital malformations, malignant tumours and cancer deceases (p < 0.001).

Key messages

- We couldn’t find conclusive proofs that the NPP affects the population health state
- The increase in the number of cancers and general mortality is mainly justified by the aging process of the population