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PAPER TITLE

Long-term uptake of cesium-134,137 by the body of inhabitants of Russian territory contaminated as a result of the Chernobyl accident

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ABSTRACT (See instructions overleaf)

To find out regularities of formation of internal dose of the Russian population living on the territory contaminated with long-lived radionuclides, we investigated food rations of over 2700 inhabitants of the Bryansk region and measured actual content of Cs-134,137 in the body of them in different periods after the Chernobyl accident| in 1987, 1990, 1993, 1994-1995. The paper presents the data about urban and rural inhabitants of both sexes. The questionnairy included information about annual food ration of a person before the accident, its changes connected with the accident, the results of radiometry of the body and information about individual countermeasures. We have also studied the content of Cs-134,137 in agricultural and natural food products. Thus, the internal exposure dose was estimated by two methods| as calculated with contaminated ration and according to the actual content of radionuclides in the body. The role of natural products (mushrooms, forest berries, fish)in the formation of the dose undoubtedly increases in remote terms, since natural decontamination of the natural ecosystem from transportable forms of radioactive cesium occures considerably slower than that of the agricultural ecosystem. Countermeasures in agricultural product ion and delivery of non-contaminated products decreased intake of Cs-134,137 with food ration by a factor of 3-10. The paper presents quantitative statistical analysis of the role of different food products and of different countermeasures in formation of the internal doseof the population in different periods after the Chernobyl accident.