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Factors Influencing the Behavior of Population in Case of Radiation Accidents

Content

Radiation accidents and incidents cause negative socio-psychological and behavioral consequences in population involved even many years later. The performed studies showed that 73.6% of accidentally exposed residents of the territories of the South Urals are characterized by high level of anxiety; 53.6% of respondents believe that socio-psychological environment is “unfavorable” and “tense”.

Such consequences are the result of a set of factors that go with radiation accidents. Among them we can distinguish main (obligatory) factors that have immediate connection to radiation exposure and additional (optional) ones.

The following factors are considered to be the main ones by population: radiation exposure itself, absence of sense perception of ionizing radiation, absence of the knowledge about ionizing radiation, exposure doses, ability to protect oneself and one’s nearest and dearest, apprehension concerning the appearance of adverse effects of radiation exposure on their own health throughout the lifetime and the health of their offspring.

For example, according to the data of face-to-face poll of the residents of the territories of the Chelyabinsk Oblast that were contaminated due to releases of radioactive waste into the Techa River and accident at the Mayak PA in 1957, the main problems of the day for them are their own health (55.4%), radiation hazard (50%) and fear for their children’s future (39.3%).

The respondents associated their health problems with the effect of elevated level of radiation (80.5%), and had fears of radiation (71.5%). The respondents also noted maladjustment to the changed living conditions, uncertainty about tomorrow, feeling that social problems are not being solved (64.2%). Against this background, residents of radioactively contaminated territories developed behavioral stereotypes characterized by social immaturity and consumer attitude.

The following factors belong to the group of additional (optional) factors influencing behavioral reactions of the population and socio-psychological environment: stress due to emergency situation, the scale of which was determined by abruptness and involvement of a great amount of people (as a rule the whole population of a village, settlement or city); absence of adequate information about the accident together with the introduction of recommendations concerning the protective measures and etc.; lack of sufficient competence and special knowledge in people who made decisions on conducting protective measures (relocation); forced long-term participation of the population in restrictive measures implementation.

The very relocation of population from radioactively contaminated territories is a stressful event. Stereotypes of daily behavior are broken, fear concerning the employment in a new place arises, long-term personal relationships are destroyed. Between 2006 and 2010 the residents of Muslyumovo settlement in Chelyabinsk oblast were relocated. This measure aimed at preventing radiation exposure of people caused negative attitude both among the residents of the Muslyumovo settlement (45.6%), and among the residents of the settlements that did not fall within the scope of relocation program (41.2%). The latter expressed the intention to seek for additional benefits and compensations for the residence in radioactively-contaminated territories (69.7%).

Informational factor had a considerable influence on socio-psychological environment and behavioral strategies of the population. Appearance of unverified and contradictory information in mass-media formed the ground for manipulation of the public opinion and escalation of distrust to the public authorities. In this context the information sharing is a prerequisite of the development of subjective assessments of radiation risk that are in line with the real radiation situation. This task remains one of the most challenging and important

tasks of interaction with the population.

The influence of a set of psychogenic, somatogenic, radiation and social factors creates negative socio-psychological background. Such situation requires the development of the models of interaction between the public authorities, representatives of nuclear industry with public interest organizations and population as a whole to develop adequate radiation risk perception in stakeholders.

Summary

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