RISK ASSESSMENT OF HEAT WAVES IN KRASNOYARSK CITY

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The goal of this project is to estimate the impact of temperature waves on population health in Krasnoyarsk city. Heat and cold waves were defined (Revich, 2008) based on background data of meteorological station of the state monitoring network (Rp5.ru). Furthermore, the following parameters were detected: the relative risk of mortality caused by temperature waves (Varakina at al., 2011; Grzhibovskij, 2008), the emergence probability of temperature waves and probability of mortality during extreme temperature.

The research showed that the relative risk caused by heat waves is greater than risk caused by cold waves from 2000 to 2004. The influence on human health of cold waves prevails during the period from 2010 to 2014. The relative risk of mortality from cardiovascular diseases is higher than from other causes of death during both periods.

People who are more than 65 years old suffering from cardiovascular diseases are considered to be more sensitive to negative influence from temperature waves (both heat and cold). Risk of mortality for this group reaches the index of about 4.81 E-03.

Correlations between air temperature and mortality were studied via time lags. It was revealed that the so-called “mortality displacement effect” (deaths after heat event) occurred earlier than after cold event.

References

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