

Pisma uredništvu

Climate change has become a big issue all over the world; meteorological values of the past decades show that the average air temperatures over land as well as the average rainfall quantities have increased significantly. Geographically, however, there has been a broad range in the extent of these changes.

Prognoses based on large amounts of data collected over the past 50 years suggest that the speed of these changes will increase significantly in Central Europe until the end of the 21st century. According to these prognoses, a global warming of between 1,8 and 4 °C must be expected. These values, however, have continuously been corrected upwards over the past few years. For Central Europe, higher minimum temperatures, more intensive and prolonged time periods of extremely increased temperature, a significant decrease in the number of frost days and an increase in the number of days with strong precipitation are expected. Doubts with regard to the impact of human activities on this climate change decrease as the number of data increases.

Simultaneously, physicians and biologists, epidemiologists and ecologists report drastic changes with regard to infectious diseases, especially vector-borne and zoonotic diseases. Significantly increased incidences, changes in risk areas, detection of vectors, pathogens and clinical disease in regions where these had previously been unknown seem to suggest or even prove a direct correlation between the climate change and the development of these infectious diseases. The dilemma of the scientist who conducts research in this field begins as soon as he takes a more detailed look at these data and notices that suddenly they become so incoherent that they make a simple direct explanation of this correlation impossible.

To be able to explain simultaneous changes with regard to important zoonoses, it is necessary to take geographic and microclimate characteristics independent of the climate change into consideration. Political and socioeconomic changes in certain countries lead to significant changes in the exposure to pathogen-transmitting vectors. In addition, the number of vectors has also changed in certain regions. The demographic structure in combination with the physical and mental constitution of the population differs between the countries. The same applies to the attitude of the population towards prophylactic measures

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against vaccine-preventable diseases. The individual influence of these and many other factors which are not listed here as well as that of so far unidentified factors is completely unknown. Especially the epidemiology of TBE in Europe is a good example for the present dilemma; for the Asian region an epidemiology has not even been established so far. For Europe, large amounts of data are available, which, however, have been collected in very different ways, so that they cannot be compared directly. On the other hand, the climate and weather conditions, the situation with regard to hosts and vectors and the socioeconomic, political and other ecological conditions differ strongly, are unknown or have changed during the observation period, sometimes dramatically or within extremely short time periods.

These factors must be analysed in highly complex scenarios to assess their significance and to develop and establish successful control strategies for the respective zoonotic and vector-borne diseases on a scientific basis. We must not forget that independently of the above-mentioned correlation the sometimes extreme weather and climate conditions also have a direct influence on human health and make humans more susceptible to certain infectious diseases.

This short and incomplete statement shows that only an intensive and broad interdisciplinary cooperation of all scientific branches of human and veterinary medicine, biology and pharmaceuticals and of the administrative bodies will permit to understand the current developments and to develop effective preventive and control strategies against these infectious diseases.

Therefore, it is highly appreciated that the 73rd Meeting of the Croatian Society of Infectious Diseases directed by its president Professor Tatjana Jeren focuses on these questions.

General and specific aspects of climate change and health are discussed for infectious diseases specific for Croatia and possible correlations are established. Tick-borne encephalitis is a good example to demonstrate on a national and global level that there is a close correlation between climate, vectors, pathogens and other factors, which, however, remains to be explained. The meeting further focuses on mosquito-borne diseases and rickettsioses, forest ecosystems and zoonoses and the problems of travel

medicine. Most of the contributions show that the quality of the collected data is very good, but that research on the causes of the changes we observe has just begun. It will be an attractive challenge for future research to solve these problems and to contribute to the control of a number of diseases. National and international cooperations are the only way to achieve considerable progress.

Finally, I would like to take this opportunity to thank the organisers for the kind invitation to participate in this symposium and for the warm welcome in Zagreb. My special thanks go to Professor Jeren and Dr. Rok Čivljak.

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