

Editorial

Environmental Medicine at the Threshold of a New Millennium

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Environmental medicine is concerned with the preservation of health and the prevention of disease. According to the definition of the World Health Organization, human health is not only an absence of disease but a state of complete physical, mental and social well-being. Health, according to this definition, is not only impaired by infection diseases in the epidemiological sense of the term but also as a result of various pollutants which are released into the environment as a result of our way of life. In order to attain physical, material wealth, humans, defining themselves as the measure of all things, have signed themselves over to technology. Humans have succumbed to the fascination of the enormous technological progress. For decades, they have continued to maximize production in spite of the pollutants which have enveloped this magic technology like an invisible mist. Industrialized production have indeed lowered costs and have made products available to a large number of people but the various industrial processes have also impacted on the environment so that the global ecosystem is now threatening to collapse. Since human beings are a part of this ecosystem, they are also endangered. Humans can no longer belittle or ignore these dangers the way they have done for years.

Already the Greeks of the Classical Antiquity and the Chinese took an interest in environmental medicine. Already at that time, there were recommendations in order to limit air and water pollution and to protect the soil. At that time, medicine was decidedly influenced by Hippocrates. He was the first to attempt to explain diseases through direct observation and included environmental factors (water and air quality) for the explanation of the origin of diseases.

The scientific advances of the Middle Ages were especially shaped by Paracelsus. In his scientific writings he has stressed the significance of experiments, of the nexus between dosage and effects of chemical substances and has described the toxic effect of chemical substances.

The second half of our century is characterized by an enormous progress in the technology of environmental medicine. New technologies have been developed which enable us to detect pollutants in minimal, hardly imaginable concentrations. The effects of pollutants in humans and animals can now be verified. New methods in molecular biology have enabled scientists to study the influence of pollutants, from their effects on cells all the way through the activation of genes. Today, we need to evaluate these results in order to relate pollutants to health hazards.

In modern times, a public consciousness and a public concern for the state of the global and local environment have developed. This development was triggered by the growing evidence of a serious damage to the environment as a result of increasing pollution. The release of noxious substances into the environment, was proven to affect adversely human health, agricultural productivity and the natural ecosystem. Even though the destruction of precious ecological systems, soil erosion and the disappearance of species are all key problems for the future of humankind, environmental pollution usually meets with the greatest interest. Human beings have recognized that environmental pollution affects them directly, their health, their food supply, through the decay of buildings and cultural landmarks. Moreover, the obvious consequences for forests, rivers, coast lines and other familiar ecosystems are taken into consideration.

All discussions relating to pollutants include calls for an increase of research in environmental medicine and for strengthening the infrastructure for research in this field. Education of medical students and professional training of physicians should include environmental medicine which needs to address suspected damages or actual damages.

The congress in Graz will provide theoretical and applied knowledge and thereby contribute to solutions to problems dealt with by Environmental Medicine.