

ADAPTATION OF THE HUMAN ORGANISM TO THE CONDITIONS OF CLIMATE CHANGE

Qallieva Rayxan Torebaevna

Intern Teacher of the Department of Biology and Physiology of the University

Sipatdinova Gulnaz Asamatdinovna

Intern Teacher of the Department of Biology and Physiology of the University

Abstract

The article Adaptation of the human organism to the conditions of climate change. Among the ecological factors, various diseases appear in the human body as a result of the transfer of pollutant compounds to food products through air pollution, water resource pollution, and soil pollution. According to scientific sources, the incidence is high in Nukus district.

Keywords: factor, disease, pollution, organism, external environment.

Introduction

Protecting the health of the population is a very important task today. This, in turn, determines the need to study the physiological mechanisms of population adaptation. Newly formed human communities in unusual environmental conditions are often exposed to extremely unfavorable natural and climatic factors.

Adaptation of the organism to various environmental factors is a long historical process aimed at forming an ecological type that provides optimal conditions for its integrity and life. Therefore, assessment and forecasting of the medical and biological condition of the population in an unfavorable living environment is an urgent task [1]. In recent years, especially environmental problems related to environmental pollution are the most acute. It is known that the environment is characterized by the presence of negative anthropogenic factors that can significantly affect the health of the population and the possibility of the development of certain diseases [2].

Carrying out a scientific and practical assessment of the complex impact of environmental factors on the level of human health causes certain difficulties, because the issues of determining the indicators of the level of individual health are methodologically insufficiently developed [2,3].

It is clear from the presented data that the gradual transition from health to illness is associated with a decrease in the ability of the organism to adapt to changing environmental conditions. The body's ability to adapt naturally decreases with age. One of the effective criteria of the level of health is the adaptive potential of the circulatory system, which should be understood as a quantitative value expressed in conditional, points or other units, mathematically related to specific physiological indicators that reflect the state

of various adaptive homeostatic mechanisms [6]. At the same time, the role of various functional indicators in the assessment of adaptive potential depends on the level of health and age. In pre-clinical conditions, when the homeostatic mechanisms are still intact, indicators describing the vegetative regulation of the heart and the energy supply of the myocardium are of great importance [5.].

Physiological responses develop during long-term exposure to the greatest intensity factor (close to background values) or short-term exposure to greater intensity factors, but homeostasis is not disturbed due to available energy and plastic reserves. Compensation for destabilization of homeostasis by external physical factors can be carried out, on the one hand, at the expense of internal reserves without activating homeostatic structures, and on the other hand, at the expense of special production of substances consumed in the process of adaptation to the destabilizing factor [3].

It has been proven that the nature of the interaction of functional systems at the homeostatic level, their stability, depends on the individual combination of typological characteristics at different levels in conditions of low intensity impact of a negative factor on the body [4]. Among the latter, the type of vegetative regulation, the features of the endocrine system and the external respiratory system occupy a special place [4]. Therefore, a decrease in the adaptive capacity of the organism is observed in diseases based on the disruption of endocrine and vegetative connections in the regulation of homeostasis [1].

The ability to eliminate potential threats to health from adverse environmental factors depends on taking into account the environmental and socio-economic characteristics of habitats associated with specific exposures [2].

Atmospheric air pollution leads to an increase in diseases of both the respiratory system and the cardiovascular system. Almost 20% of all respiratory diseases and 10% of circulatory system diseases are related to air pollution. Currently, more than 50% of the population can be classified as living in ecologically dangerous industrial cities, because the amount of pollutants in their atmosphere significantly exceeds the maximum permissible concentration [2].

In this case, the gases emitted by motor vehicles play a major role in air pollution, in particular, heavy metals, including lead, are highly toxic and have the ability to accumulate in the body. Lead accumulates in the human body and, together with other harmful substances, can cause long-term negative consequences, because it has mutagenic, carcinogenic, teratogenic and embryogonadotoxic properties [5].

Unfavorable ecology has a negative impact on human health. Many respiratory diseases are caused by air pollution. Because of this, people are prone to bronchitis, asthma, allergies, and are more prone to cancer. Water contaminated with hazardous waste is also not dangerous. According to environmentalists, most of the world's diseases are caused by the use of contaminated water.

Common diseases from drinking dirty water:

- genetic mutations
- oncology

- diseases of the gastrointestinal tract
- problems with immunity
- infertility

This is only a small part of the whole list, so you should understand that the influence of nature on human health is huge. Chronic exposure to a low concentration of chemical components of water, lowering the body's protective function to an appropriate level, slows down the body's general resistance to other harmful factors and leads to a general increase in general morbidity indicators, including infectious diseases, and a decrease in immune reactivity [6].

Taking into account the above, the violation of the ecological balance of the natural environment in the South Aral Bay region significantly determines the state of population diseases. The analysis of forms of diseases and their interaction with negative environmental factors showed a stable tendency to increase the group of diseases directly related to excessive pollution of water, soil, air, etc.

Thus, the multifactorial nature of the processes of formation of human health makes it difficult to assess its condition and determine the cause and effect relationships between the effects of environmental factors and health. All this requires the selection of the most important indicators of the living environment and health of the growing generation. Environmental factors, educational environment and lifestyle, which lead to a decrease in students' functional reserves, increased morbidity, educational institutions, identified during the research, require correction to maintain health. Thus, the same level of environmental pollution often causes different reactions both in the population and in the same person. On the other hand, the higher the sensitivity of the methods, the lower the threshold. Theoretically, even small amounts of biologically active substances react with biological substrates and are therefore effective.

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