
**ROLE OF ECOLOGICAL FACTORS IN INCIDENCE FORMATION
POPULATION OF KARAKALPAKSTAN**

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Abstract:

In article it is considered researches of a role of ecological factors in formation of various diseases among the population of Karakalpakstan. Statistically significant dependence of a disease of respiratory organs on group of impurity is revealed.

Keywords: Karakalpakstan, ecological factors, allergic diseases, indicators.

Environmental protection in the interests of preserving human health, in particular reducing the negative consequences of exposure to harmful factors, remains a fundamental task of biomedical research. At the same time, the main way to formulate strategic directions for environmental safety and their implementation at the present stage is to assess risks and develop management decisions to optimize the environment, living conditions and health of the population [1, 19].

Health is an integral indicator of the quality of life in its objective manifestations [4, 124]. Technological progress, environmental pollution, increased health impacts of various biological, psychological and socio-economic factors, and a significant increase in the stress level of modern lifestyle increase the risk of developing diseases [7, 9-13].

Numerous studies of the state of public health in connection with the influence of various factors, which were carried out in our country and abroad, have convincingly proven that pollution of the environment and living conditions adversely affects the health of the population. The result of the influence of environmental factors of various nature (chemical, physical, biological) and character (social, economic, natural) is an increase in mortality, morbidity, deterioration in physical development and an increase in the number of people with premorbid conditions [13, 75-76; 2, 10-14].

Characterizing the role of individual factors in the formation of morbidity in the population, domestic and foreign researchers confirm that each subsequent doubling of environmental pollution causes an increase in morbidity by a certain percentage. Analysis of data from epidemiological studies has shown that a doubling of atmospheric air pollution, with other components of influence being equal, is manifested in an increase in overall morbidity by 20%, and in respiratory morbidity by 26% [14, 34].

It is known that the environmental conditions of the Southern Aral Sea region have deteriorated significantly in recent years. Among the environmental factors influencing the state of health of the population of the Aral Sea region, it should be noted desertification of the territory, shortage of good-quality drinking water, massive salinization of lands, chemical pollution of natural environments (water, air, soil, plants), increased air dryness, strong temperature changes [1, 5].

In recent years, there has been a sharp deterioration in the main health indicators of the population of the Southern Aral Sea region. According to a number of researchers, the health status of the population continues to deteriorate significantly across a number of indicators [8, 53-56]. The greatest changes have occurred in the health indicators of children, who, due to the imperfection of the body's defenses, are the first among other population groups to react to the unfavorable environmental situation in the Southern Aral Sea region. Health status is assessed based on the ratio of local and regional indicators. Favorable values are those ratios that are either equal to one or less than one. Unfavorable values are those exceeding one. Health indicators are analyzed for at least a three-year period, with annual indicators determined.

The establishment of statistically significant differences in health indicators associated with exposure to adverse environmental factors is evidence of the presence of an adverse influence of anthropogenic load [5, 130].

Currently, sufficient evidence has accumulated of certain connections between environmental pollution and an increase in the incidence of allergic diseases, disorders of neuropsychic and physical development. "Risk diseases" also include neoplasms, diseases of the nervous system and sensory organs, upper respiratory tract, digestive organs, genitourinary system, skin and subcutaneous tissue [6, 210].

It is well known that the environmental health indicators recommended by the WHO Regional Office for Europe within the framework of the "Health for All" strategy include allergic diseases [14, 230].

The problem of allergies and allergic diseases has occupied one of the key places in medicine in recent decades. Statistics inevitably record a significant increase in allergopathology, which is, apparently, a logical consequence of a fundamental change in a person's lifestyle. The avalanche-like process of urbanization, the rapid development of industry and the associated environmental pollution have caused massive "chemical aggression" on the human body [4, 124]. Allergic diseases and especially diseases of the respiratory tract are environmentally dependent diseases, since the phenotypic realization of hereditary predisposition to them is always carried out under the influence of environmental factors. That is why, for example, bronchial asthma, especially in children, is a sensitive marker of air pollution [11, 193; 10, 1139-1143]. The increase in bronchial asthma observed in recent years is largely associated with environmental pollution with xenobiotics [9, 13].

Our analysis revealed that the highest incidence of allergic rhinitis (immediate type allergopathology) is detected among the population of ecological group III (in areas with high aerogenic pollution - Kungrad, Muynak and Takhtakupir districts). Data that exceed the control at $\alpha = 0.05$ for the general incidence of allergic rhinitis are also detected in residents of groups I and II in conditions of moderate environmental pollution.

The results of the analysis show that under the influence of various harmful substances, along with violations of some mechanisms of nonspecific resistance of the body, indicators of humoral and cellular immunity change [3, 3-6]. Various chemical allergens

cause the development of bronchial asthma, urticaria, allergic lesions of the upper respiratory tract, allergic dermatitis and some other diseases [12, 2].

The mechanism of action of allergenic chemical and natural compounds has not been fully elucidated. According to a number of experts, low-molecular substances combine with tissue proteins, which creates an allergen depot in the body. The allergen is then captured by macrophages or other phagocytic cells, which in turn interact with lymphocytes, causing an immune reaction.

As a result of a comparative analysis of the general and primary morbidity of the population with respiratory diseases with an allergic component in ranked environmental groups, it showed that a statistically significant dependence of respiratory diseases ($R = 0.65$) on the pollution group was identified at a significance level of $a = 0.05$.

The assessment of correlations between the general morbidity of the population and various pollutants of atmospheric air in Karakalpakstan made it possible to identify a connection, in order of significance, with the concentrations of carbon monoxide, nitrogen oxides, and sulfur dioxide. There is also a direct connection between allergic morbidity and the increase in the number of vehicles in the central regions of the surveyed territory of Karakalpakstan.

Thus, in order to develop rational tactical decisions aimed at increasing the level of health and reducing pathological affliction of the population, a detailed study of the factors that determine and shape health in modern conditions and ways to prevent disorders of sanogenesis is necessary. The results of the studies show that the creation of a theoretically sound evidence base is necessary for the formation of clear, economically feasible and tactically thought-out mechanisms of primary prevention, including the development of a system of actions aimed at promoting a healthy lifestyle.

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