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## **THE NOSE-GEOGRAPHIC SITUATION OF KASHKADARYA REGION AND THE MAIN WAYS OF ITS IMPROVEMENT**

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### **Abstract**

The article analyzes nosogeographical research, which is the main direction of medical geography, the nosogeographical situation of Kashkadarya region and the main ways to improve it, the health care system, geographical, climatic and socio-economic factors affecting the spread of diseases. Also, recommendations were given on the mortality rate, the main causes of death and the prevention of diseases, their treatment and improvement of sanitary conditions.

**Keywords:** Medical geography, nosogeography, population, natural growth, mortality rate, diseases.

Solving the global environmental problems of our time, protecting the biosphere and improving the human environment determine the development of new areas of science. In particular, medical geography deserves special attention in this regard. This scientific field, which arose at the intersection of geography and medicine, initially developed as a complex science. Interdisciplinary trends derived from geography have become especially active in recent years in connection with the general development of sciences. The medical-geographical approach reflects the ecological way of thinking, which is increasingly penetrating the fields of medicine and the environment and is characteristic of the entire modern era. Nosogeography, as a scientific discipline in the field of medical geography, studies the interaction between the environment and human health. Geographical situation or geosituation is understood as a historical situation, a set of environmental conditions that determine the interaction of all components of the environment. It is expedient to study the environment at the level of geosituations, and situations should be



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managed to ensure the optimization of environmental conditions. The nosogeographic situation is a historically developed situation determined by the general level of morbidity of the population, including environmental diseases, and their geographical distribution in connection with the ecological state of the territory. A number of measures are being implemented in the republic to further strengthen the health of the population, modernize the healthcare sector, reduce the constantly increasing groups and types of diseases, and protect motherhood and childhood. Paragraph 5 of the Decree of the President of the Republic of Uzbekistan “On the New Development Strategy of Uzbekistan for 2022-2026” sets out tasks within the framework of the established tasks for ensuring the health of the population. In this regard, scientific research aimed at optimizing the influence of geographical factors on the nosogeographic situation that has arisen in the Kashkadarya region, where the ecological situation has become more acute, is of great importance.

In recent years, the system of modern geographical sciences has been paying increasing attention to social spheres. In particular, the unfavorable ecological situation that has arisen as a result of the intensification of the impact of modern scientific and technical activities on the natural environment has negative consequences for human health. This, in turn, poses new problems for medical geography, which is one of the specific areas of social geography, namely, the study of diseases and health, the level of morbidity and health of the population, and their territorial characteristics [2, 6].

World geography and medical science are conducting serious research on the main areas of correlation between the environment, human health, nosogeographical situation and geographical factors, and on the identification of the mechanisms of this relationship, the emergence of nosogeographical and nosogeographical situations, and the problems of their optimization. In particular, priority is given to the study of nosocomplexes as a separate category, the assessment of factors affecting them, the determination of the areas and dynamics of the spread of foci of diseases, and the development of forecasts in medical geography and nosogeography. The medical geographical situation in the regions is one of the important factors determining the development of society and the lifestyle of the population. Solving medical geographical problems and improving the health of the



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population, reducing morbidity among the population, and ensuring life expectancy are of great scientific and practical importance [3].

The main task of nosogeography is to determine the general geographical patterns of the spread of diseases in humans, to study the nosocomplexes and nosoareas of individual diseases, their dynamics. Therefore, nosogeography is a separate direction of medical geography with its own object of study. It also deals with the state of certain diseases in the past and in different periods. Because the evolution of the geography of diseases, the complete disappearance of some diseases, and, on the contrary, the spread of some over vast territories, means that such research has an important theoretical significance. In addition, in medical geographical studies, the analysis of territories from the point of view of the nosogeographic situation also has a profound meaning [1, 2, 6].

The nosogeographic situation or situation is characterized, first of all, by the general level of morbidity of the population in a certain place or region, the presence of foci or areas of certain groups of diseases. The nosogeographic situation, as a very delicate territorial system, is extremely variable under the influence of various natural and socio-economic factors. In particular, factors such as environmental pollution have a great influence on the spread of infectious diseases [1]. The nosogeographic situation, in turn, is closely related to the demographic and ecological situation. It also determines the general social situation of this region or country, the standard of living of the population. From this point of view, the identification and assessment of the nosogeographic situation is of great importance in social geographical research. For Uzbekistan, which has its own natural conditions, nosogeographic and medical-landscape features, the study of the geographical aspects of nosogeographic research is of great importance. Because in our country, there are natural complexes of mountains and plains, deserts and oasis, large urbanized cities, sparsely populated villages and auls, and industrial centers with large manufacturing enterprises, specific diseases are manifested among the population.

Surface and groundwater play an important role in the formation of the medical geographical situation of the Kashkadarya region. Bacteria that cause many diseases among the population of the region, as well as various viruses that carry them, are



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associated with the aquatic environment and its quality. The surface waters of the Kashkadarya region consist of the transboundary Amu Darya and Kashkadarya rivers and their tributaries, and in recent years, river water has been polluted under the influence of natural and anthropogenic factors. River water pollution, typical of all river basins, varies from its upper to its lower part. Pollution of rivers and groundwater creates a unique medical geographical, medical geoecological and epidemiological situation in the Kashkadarya region, causing the widespread spread of gastrointestinal, kidney, gallbladder, infectious and parasitic diseases among the population. Socio-economic factors also play a major role in the formation of the nosogeographic situation in the region.

Kashkadarya region occupies an important position in the national economy of the country, where the mining industry, gas and chemical industry, food industry, agriculture, as well as processing and service sectors are well developed [5]. When analyzing the diseases occurring among the population in the region by district, it is obvious that the nosogeographic situation is precisely related to specialization. In recent years, in most regions of Uzbekistan, including Kashkadarya region, diseases whose origin and geographical distribution are associated with environmental, socio-economic, sanitary-hygienic, household-hygienic, lifestyle of the population, specialization of the economy, as well as anemia, respiratory diseases, blood and blood-forming organs, gastrointestinal tract, kidney (stone formation), infant mortality, nervous, hepatitis, endocrine and malignant tumors, occupy a leading place.

The analysis of the health status of the population is carried out using a number of indicators, including demographics, morbidity, ecological and sanitary conditions of the regions, the level of development of medical institutions, the share of expenditures on the health system, the qualifications of medical workers and other indicators. In addition, more often indicators of mortality and life expectancy are used. Death is an inevitable legal cessation of the life activity of an organism, after which it is recorded, it is impossible to restore life functions, and no resuscitation measures can bring a person back to life. The total mortality rate is calculated by dividing the total number of deaths in the reporting year by the average number of permanent residents in the reporting year, multiplying by 1000, and is measured per



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1000 population (per mille) [4]. The main goal of all reforms carried out in the republic is to increase the standard of living of the people and improve living conditions.

The population of the region as of January 2022 was 3,408,313 people, and when comparing the data for the last 3 years, the population has increased significantly due to the increase in the recent birth rate. As of 2018, the birth rate was 25.5 and the death rate was 4.1 per thousand, and the natural growth rate was 21.4 per thousand, while as of 2021 (January-September), the birth rate was 28.6 and the death rate was 4.2 per thousand, and the natural growth rate was 24.4 per thousand. In terms of these indicators, the high birth rate is observed in Chirachchi, Guzar, Dehqonabad, Kamashi, Nishon districts, and the high mortality rate is observed in Karshi district and Karshi city (5 per thousand), Guzar, Yakkabog (4.6 per thousand), and Kasbi districts.

The number of deaths in Kashkadarya region in January-December 2022 amounted to 17,017 people, an increase of 2,036 people or 13.6% compared to the same period in 2021 (14,981 people). Accordingly, the mortality rate was 4.9 per thousand (4.4 per thousand in January-December 2021). High levels of mortality were observed in Kasbi (from 4.7 to 6.7 per thousand), Dehqanabad (from 4.0 to 5.7 per thousand), Mubarak (from 4.3 to 5.8 per thousand), and Karshi (from 5.0 to 6.5 per thousand) districts, while low levels were observed in Guzar (from 5.0 to 4.7 per thousand), Yakkabog (4.4 to 4.5 per thousand), and Mirishkor (4.3 to 4.7 per thousand) districts. In the medical geographical assessment of any region or areas, along with certain types of disease groups, the general morbidity of the population is also analyzed in detail. In recent years, the general morbidity of the population has increased in the Kashkadarya region due to the deterioration of the ecological situation, changes in the social security of the population, and the above-mentioned reasons. Among them, the increase in diseases of the circulatory system, digestion, blood and blood-forming organs is of concern to everyone today. The analysis of the number of deaths in the Kashkadarya region by the main causes of death makes it possible to assess the medical geographical situation of the region. In 2022, the main types of diseases causing death in the Kashkadarya region were: 21.3% of the population died from circulatory system diseases, 17.2% from respiratory diseases, 4.7% from digestive



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diseases, 5.9% from infectious and parasitic diseases, 4.5% from tumor diseases, 0.9% from accidents, poisoning and injuries, and 43.2% from other causes. The overall mortality rate of the Kashkadarya region, when assessed at the national level, is slightly lower than that of other regions, at 38.6 people per 10,000 population, with the highest rate recorded in Tashkent region. The number of cases and deaths from Covid-19 and pneumonia are interpreted in the following indicators: As of April 14, 2022, the number of patients infected with Covid-19 infectious disease in the Republic of Uzbekistan was 238,242 people, of whom 236,186 recovered, and 1,637 died, while the total number of cases of pneumonia was 27,411 people. These indicators are expressed as follows in the Kashkadarya region: 2,836 patients were infected with Covid-19 infectious disease, 2,661 of whom were among those who recovered, and 175 of whom died.

Strengthening the health of the population and developing the healthcare system will lead to a decrease in mortality and an improvement in the quality of life. To improve the nosogeographic situation in the Kashkadarya region, the following measures should be taken:

- Promoting a healthy lifestyle: It is necessary to carry out large-scale information and propaganda work to promote a healthy lifestyle among the population, abandon negative habits such as unhealthy eating, smoking, alcohol consumption, increase physical activity and support psychological health;
- Improving sanitary and ecological conditions: It is necessary to improve water supply, sewage systems and waste treatment, reduce environmental pollution sources and take measures against environmental hazards;
- Improving the quality of medical care: It is necessary to improve the material and technical base of medical institutions, provide them with modern medical equipment, improve the skills of specialists and make medical services more accessible to the population. It is also necessary to strengthen medical examinations and preventive measures;
- Strengthening the prevention of infectious diseases: To prevent the spread of diseases, it is necessary to strengthen vaccination programs, increase awareness of infectious diseases, and improve sanitary and epidemiological services. It is





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important to regularly inform the population about infectious diseases and take preventive measures;

- Creating easy access to medical services: It is necessary to create easy access to medical care for the population, especially citizens living in rural areas, and to provide comprehensive support to the population by expanding the network of mobile clinics and health services;
- Improving the skills of medical personnel: Improving the skills of health care workers, ensuring the acquisition of new medical technologies and scientific achievements. Through this, qualified specialists can effectively work to improve the health of the population.
- Measures against climate change: To reduce the impact of climate change on health, it is necessary to take preventive measures to control and prevent diseases that occur in hot and humid climates.
- Scientific research and monitoring of health care: Continuous monitoring and analysis of the spread of diseases and the effectiveness of medical services in the region, conducting scientific research to identify new diseases and treat them at an early stage.

By implementing these measures, it is possible to improve the nosogeographical situation of the Kashkadarya region and strengthen the health of the population, which will help not only to reduce the mortality rate, but also to significantly improve the quality of life of the region's population.

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