

## **EPIDEMIOLOGICAL SITUATION OF JIZZAKH REGION — GEOGRAPHICAL FOCI OF INFECTIOUS DISEASES**

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In our country, extensive work is being carried out in the field of protecting human health — considered one of our most valuable national assets. In particular, the people-oriented reforms implemented over the past 4–5 years in this sphere have become clearly visible in the daily lives of every citizen. When discussing the reforms in the healthcare sector of Uzbekistan, it is important to first mention the adoption of the *Concept for the Development of the Healthcare System of the Republic of Uzbekistan for 2019–2025*. This programmatic document, along with other legislative acts, has contributed to the annual increase in the amount of funding allocated to the sector, leading to numerous positive changes.

A detailed analysis of the overall morbidity rate of the population, as well as the dynamics of certain widespread diseases and their future trends, is of significant theoretical and practical importance from a medical-geographical perspective.

### **The Level of Sanitary and Epidemiological Achievements:**

1. Determined by indicators defining the population's health status (demographic data, morbidity, disability rates, and levels of physical development);
2. Includes factors such as the state of the environment (pollution of water, air, and food products, as well as working and living conditions, etc.).

The research area — **Jizzakh Region** — is located in the southwest of the Mirzachul economic district. Its total area is **21.21 thousand km<sup>2</sup>**, which constitutes **4.7%** of the country's territory, with a population density of **61 people per km<sup>2</sup>**. The overall morbidity rate of the population is **294.3‰**, while the nosogeographical index of the region is **0.53**. The general mortality rate is **4.3 per 1,000 people**, and infant mortality stands at **9.6 per 1,000 live births**.

The territory is mainly desert, receiving an annual precipitation of **200–350 mm**, and the relative humidity during the hot season ranges from **20–30%**. Precipitation levels are higher in mountainous areas. Hot and dry *garmsel* winds are frequently observed during the summer. Such

climatic conditions, particularly in summer, negatively affect people suffering from cardiovascular diseases, such as hypertension and stroke.

In the national division of labor, the region's economy is specialized in **cotton and silk production, horticulture, livestock breeding, construction materials, light industry, and food processing**. It should be noted that due to the activities of certain industrial sectors in the region, the mortality rate from malignant tumors and diseases related to the blood and hematopoietic organs is relatively high. In 1991, the mortality rate from malignant tumors in Uzbekistan was **53.0 per 100,000 people**, while in Jizzakh Region it reached **63.7**. Although this figure has slightly decreased in recent years (**34.3**), it still remains close to the national level.

Moreover, the **expansion of the Aydarkul Lake area** has had a negative impact on the region's ecological situation. As a result, the general morbidity rate among the population in the northern districts and neighboring border areas has increased. If appropriate measures are not taken in the near future, the situation could worsen, leading to even more serious consequences. The unique nosogeographical zone of the region includes its foothill areas — in particular, **Gallaorol** and **Bakhmal** districts. Currently, **Bakhmal District** and the neighboring **Bulungur District** of Samarkand Region are considered nosogeographical centers (especially for infectious diseases).

The **Aydarkul–Arnasay lake system**, which is considered environmentally problematic, was formed in **1969** as a result of wastewater accumulation from the Chordara Reservoir. At that time, the water volume was **21 km<sup>3</sup>**, covering an area of **2,175 km<sup>2</sup>**. Today, the total area of the lakes has expanded to **3,702 km<sup>2</sup>**, with a water volume of **44.1 km<sup>3</sup>**. This situation has led to several environmental problems. For instance, the large-scale evaporation of water has contributed to climate change in the region. The sharp rise of groundwater levels has intensified soil salinization, while the expansion of the lakes has flooded large areas of farmland. The mineralization level of the surrounding waters has also changed, adversely affecting the local flora and fauna.

All these factors have significantly influenced the nosogeographical situation in the region. If the necessary environmental measures are not implemented, the epidemiological situation in the region may deteriorate in the coming years. In particular, diseases such as tuberculosis and other infectious illnesses could become more widespread.

In some regions of Uzbekistan (including **Jizzakh, Kashkadarya, and Khorezm Regions**, as well as the **Republic of Karakalpakstan**), the population still lacks access to clean drinking water. The use of river, canal, and well water directly for consumption has led to an increase in certain diseases among the population. Consequently, this situation causes numerous challenges in providing effective medical services. As is well known, the composition of drinking water is

closely linked to the spread of many diseases, including infectious diseases and gastrointestinal disorders.

Currently, medical services in Jizzakh Region — with a population of **1,301,000 people** — are provided by **176 healthcare institutions**, including:

- 55 rural medical points;
- 26 rural family polyclinics;
- 13 multi-specialty central polyclinics;
- 5 city family polyclinics;
- 1 regional dental polyclinic (including pediatric services);
- 12 district and 1 city medical associations (with emergency departments in 13 central hospitals);
- 37 inpatient hospitals (16 of which are regional institutions), dispensaries and centers, and 90 private medical facilities.

In accordance with the **Presidential Decree of the Republic of Uzbekistan No. PF-5032 of May 3, 2017**, the “**Zomin Farm**” **Free Economic Zone** was established. In 2017, *Zomin Farm LLC* began operating in Zomin District, producing four types of pharmaceutical products. Additionally, since 2015–2017, four enterprises have been engaged in packaging medicinal plants, utilizing the region’s natural

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