

Epidemiological Analysis of Hiv Infection Among the Population of Samarkand Region

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Abstract: This article is dedicated to studying the urgent issues related to the incidence, transmission routes, and preventive measures of HIV infection among the population of the Samarkand region over the past 2 years. The study analyzes data on the spread of HIV and highlights the importance of testing and preventive measures to curb the epidemic. Given the significance of identifying infection cases and determining the epidemiological status of the region, this research focuses on analyzing HIV infection trends among the local population between 2024 and 2025. Based on the findings, recommendations are provided on essential preventive measures that should be observed to reduce HIV infection rates.

Keywords: HIV/AIDS, HIV infection, prevention, ART.

INTRODUCTION. The problem of HIV infection remains one of the most pressing medical and social problems of our time, requiring constant monitoring and analysis of the epidemiological situation at the regional level. The Samarkand region, being one of the largest administrative-territorial entities of the Republic of Uzbekistan with a population of over 4 million people, is of particular interest for studying the patterns of HIV infection spread. According to the World Health Organization, the Central Asian region is characterized by relatively low rates of HIV infection spread compared to other regions of the world, however, there is a trend towards an increase in the number of new infections, which necessitates a detailed epidemiological analysis. The peculiarities of the Samarkand region's geographical location, including transit migration routes, developed transport infrastructure, and high population density in urban centers, create specific conditions for the spread of infectious diseases transmitted through various routes.

The purpose of the study is to conduct a comprehensive epidemiological analysis of the spread of HIV infection among the population of the Samarkand region to develop scientifically based recommendations for improving preventive measures and optimizing the epidemiological surveillance system.

Materials and methods of research. Population research was conducted at the Samarkand Regional AIDS Center. The study data were based on annual final reports, and the occurrence of HIV infection among the population was observed and analyzed. The widespread prevalence and steady growth of HIV infection in the population is one of the urgent and serious problems of modern medicine. Currently, more than 60 million people worldwide are living with HIV infection. Over 1.9 million people are registered with HIV infection annually. This disease is also present in the population of the Republic of Uzbekistan. The number of people living with HIV infection exceeds 60,000, including more than 5,206 cases among the population of the Samarkand region (3). The number of people registered with HIV infection over the past 2 years was 328 in 2024 and 308 in 2025. This decrease occurred due to increased awareness among the population and increased HIV testing.

Research results. Obtained results. Of the total examined population, an average of (328 cases in 2024 and 308 cases in 2025) or (7.0 and 6.5 per 100,000 people) were recorded as infected with HIV in the past 2 years (Table No1). The epidemiological situation regarding HIV infection in the region shows

that since 2024, an average of more than 282.4 people have been registered annually, but in 2025 there was a decrease in registration. This was due to well-established awareness campaigns in recent years and the timely implementation of HIV testing.

Table 1. Comparative analysis of HIV infection cases in the Samarkand region for 2024-2025

№	City & regions Samarkand city Kattakurgan city	2024				2025			
		Abs		Per 100,000 population		Abs		Per 100,000 population	
		Total	From this Of these, children under 18 years old	Total	From this Of these, children under 18 years old	Total	From this Of these, children under 18 years old	Total	From this Of these, children under 18 years old
1	Bulungur	75	7	11,9	0,4	66	2	9,9	1
2	Jomboy	12	1	13,4	0,3	16		17,7	
3	Ishtikhan	10	1	5,1	0,1	13		6,6	
4	Kattakurgan	15		7,9		12	1	6,2	1,3
5	Kushrabad district	18	2	6,6	0,2	14		5	
6	Narpay	17	2	5,8	0,2	20		6,7	
7	Nurabad	4		2,9		7		4,9	
8	Okdar	18	1	8,4	0,1	11	1	5,1	1,4
9	Payarik	8	1	5,0	0,2	3		1,8	
10	Pastdargom	11	1	6,6	0,2	15		8,8	
11	Cotton grower	19		6,8		12	2	4,1	1,8
12	Samarkand	27	4	6,9	0,3	28	1	7	0,7
13	Taylak	10	2	6,5	0,4	13		8,2	
14	Urgut	31	1	11,1	0,1	19		6,7	
15	City &	11		5,0		17		7,6	
16	regions	42	3	7,7	0,1	42	1	7,6	0,4
	Total	328	26	118	3	308	8	7,1	0,5

When analyzing the situation in the region in 2025, 5206 people were registered with HIV infection in 2025, of which 2847 were men and 2359 were women, as can be seen, there are slightly more men. The epidemiological situation regarding HIV infection in the region shows that since 2024, an average of more than 282.4 people have been registered annually, but in 2025 the number of registrations has decreased. This was due to the well-established promotion in recent years and the timely implementation of HIV testing. When analyzing the situation in the region in 2025, 5206 people were registered with HIV infection in 2025, of which 2847 were men and 2359 were women, as can be seen, there are slightly more men. In 2024, 328 people were infected with HIV, of which 243 (74.1%) contracted the disease sexually. This indicates an increase in promiscuous sex in recent years.

Conclusions. As of 2025, the number of people living with HIV infection was 5,206, of which 2,847 (54.7%) were men and 2,359 (45.3%) were women. One of the main drivers of the epidemic in sexually transmitted infections is the increase in the number of people living promiscuously. With a

well-established screening of the population for HIV infection and timely coverage with ART, the prevention of infection with this infection will be successful.

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