

Epidemiological Analysis of Hiv Infection in Labor Migrants, Pregnant, Future, and Medical Workers

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Abstract. The article is devoted to studying data on the state of HIV infection among labor migrants, pregnant women, persons entering into marriage, transmission routes, and current problems in organizing preventive work in the Samarkand region over the past 2 years. To prevent the epidemic of HIV, preventive measures are being organized with testing of the population for HIV. For this reason, determining the prevalence of HIV infection among the population is of particular importance for determining the level of the epidemic. For this purpose, the state of HIV infection in the above-mentioned population groups of the region for the next 2 years (2024-25) and what preventive measures should be observed to avoid HIV infection were recommended.

Keywords: AIDS, HIV infection, prevention, ART.

Relevance of the topic. Human immunodeficiency virus (HIV) is still one of the most important global health problems. The United Nations Joint Programme on HIV/AIDS (UNAIDS) reports that there are over 40 million humans who live with HIV, more than 1.5 million new infections reported each year. Although remarkable progress has been made in ART and prevention approaches, the epidemic remains focused among certain subpopulations with significantly higher exposure risks and limited access to care. This study focuses on analyzing the epidemiological characteristics of HIV infection in four key vulnerable groups:

Labor migrants represent a large group of the population with increased vulnerability to HIV infection. The socio-economic conditions of migration, often including the instability of housing conditions, lack of social protection, and limited access to prevention information, contribute to the increase in morbidity. According to statistics, among this group, there is an increased prevalence of HIV compared to the general population in a number of countries.

Pregnant Women and HIV Pregnant women infected with HIV require special consideration on account of the risk of vertical transmission of infection. Failure to treat can result in a high risk of transmission up to 45%. Despite an optimal antiretroviral therapy, the probability of transmission decreases substantially, but it needs continuous follow-up and support. Youth and future generations continue to account for a greater proportion of new cases of HIV. Adolescents and youths (15-24 years) are high risk group with a tendency for behavioral vulnerabilities along with poor knowledge on preventive measures, and social vulnerability.

Medical staff, as a professional category, are subjected to certain occupational hazards related to the contact with biological fluids of patients. Risk management and prevention still represent a challenge, even if the occupational infection rate is relatively low (about 0.3% following exposure to HIV-infected blood). The widespread prevalence and steady growth of HIV infection in the population is one of the pressing and serious problems of modern medicine. Currently, more than 70 million people in the world live with HIV infection. More than 9 million people are registered with HIV infection (1,2,4,5,6). This disease is also encountered among the population of the Republic of Uzbekistan. More than 70,000 people are living with HIV infection, including more than 5,206 cases among the population of the Samarkand region (3). The number of people registered with HIV infection was 389 in 2024 and 439 in 2025 (Table 1). This is due to the decrease in infection rates, the intensification of awareness campaigns among the population, and the acceleration of HIV testing.

The purpose of the study is to analyze the HIV infection of the population (2024-2025) using the example of the Samarkand region and to implement preventive measures.

Research materials and methods. Population research was conducted at the Samarkand Regional AIDS Center. The data of the study were based on annual final reports, and the detection of HIV infection among the population was observed and analyzed.

Results obtained. Of the total population examined, an average of 439 cases in 2024 and 389 cases in 2025) or 100,000 people (10.3 and 9.0) were infected with HIV infection in the last 2 years (Table. No1). The highest number of HIV infections is recorded in the city of Samarkand, where 98 cases, or 15.4 cases, are registered intensively (per 100,000 population), exceeding the regional indicator. The epidemiological situation with HIV infection in the region in 2025 is 40 cases less than in 2024. This decrease occurred in recent years due to the well-established promotion and timely detection of HIV infection. When analyzing the situation in the region in 2025, that is, when 5206 people were tested for HIV infection, 389 cases were identified, of which 314 (80.7%) were sexually transmitted, 17 were medical, 30 were non-medical, and the rest were infected through unknown routes. Of these, 190 (65.51%) are men and 124 (43.49%) are women. The higher incidence among men is due to their high migration rate abroad, as well as irregular sexual intercourse. If we consider the epidemiological situation among HIV-infected migrants, pregnant women, persons entering into marriage, and medical workers, the following was revealed. In 2024, when 21,071 migrants were tested for HIV infection, 75 were found to be infected, and in 2025, out of 18,384 migrants, 63 contracted this infection. This condition was detected in 11 cases among pregnant women in 2024 and 99,518 cases in 2025. HIV infection was detected in 32 out of 66620 cases in 2024 and in 23 out of 66986 cases in 2025. Among medical workers, HIV infection was detected in 4 cases in 2024 and in 2 cases in 2025.

Conclusion:

1. As of 2025, the number of people living with HIV infection is 389 people, of which 314 (80.7%) contracted it sexually, 17 (4.3%) - through medical treatment, 30 (7.7%) - through non-medical means, and 28 (7.1%) - through vague means.

HIV infection among migrants was detected in 75 cases in 2024 and in 63 cases in 2025, among persons entering into marriage - in 32 cases in 2024 and in 23 cases in 2025. Among medical workers, 4 cases were identified in 2024, and 2 cases in 2025. It is felt that migration and promiscuous sexual intercourse contribute to the manifestation of the disease in this state. The decrease in examinations among pregnant women at the age of three months indicates that medical workers have knowledge of this infection. If the screening of the population for HIV infection is properly organized, and timely coverage of the population with advocacy work and ART is ensured, the prevention of infection will be successful.

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