

## HUMAN IMMUNODEFICIENCY VIRUS INFECTION: MEDICAL AND BIOLOGICAL PERSPECTIVES

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**Abstract:** Nowadays, venereal diseases and HIV/AIDS remain among the most serious global public health challenges. According to WHO data, more than 39 million people worldwide are living with HIV infection, and over 1.3 million new cases are recorded annually. Specialists recognize AIDS as the first truly global epidemic in human history, since neither plague nor smallpox ever simultaneously affected the entire planet to such an extent. The spread of HIV infection has led to the emergence of serious social, biological, and legal consequences, including restrictions on individual freedom and public health risks. Despite the existence of legal and preventive mechanisms aimed at reducing HIV transmission, their ineffective implementation and lack of accountability among responsible institutions continue to endanger human lives. December 1 is recognized globally as World AIDS Day, emphasizing the necessity of raising awareness and uniting global efforts against the epidemic. The ongoing increase in HIV incidence, especially in developing regions, highlights the urgent need for improved preventive strategies, enhanced diagnostic screening, and effective educational campaigns. This article examines the current legal and social framework related to HIV prevention in Uzbekistan, identifies several shortcomings in national legislation, and proposes possible solutions to improve the effectiveness of public health and legal responsibility measures. The purpose of the study is to increase public awareness of HIV/AIDS, to highlight its potential global threat, and to strengthen the mechanisms of criminalization and accountability for deliberate HIV transmission.

**Keywords:** HIV / AIDS, legal responsibility, World AIDS Day, virus transmission, public awareness, criminal liability, investigative measures, principle of justice .

### Introduction

Human Immunodeficiency Virus (HIV) infection, which leads to Acquired Immunodeficiency Syndrome (AIDS), is a newly emerging infectious disease caused by retroviruses that progressively destroy the immune system, primarily affecting cellular immunity. The hallmark of the disease is the continuous decline of CD4+ T-lymphocytes, resulting in severe immunodeficiency and the development of opportunistic infections and malignancies.

HIV is primarily transmitted through **sexual contact**, **parenteral exposure** (such as blood transfusions or shared needles), and **vertical transmission** from an infected mother to her fetus via the placenta. According to the **World Health Organization (WHO, 2024)**, over **39 million people** worldwide are living with HIV, and approximately **1.3 million new infections** occur annually. Despite global efforts, about **630,000 people die every year** due to AIDS-related complications. Experts recognize AIDS as **the first true global epidemic in human history** — unlike previous pandemics such as the plague or smallpox, which affected only certain regions, HIV/AIDS has spread across every continent simultaneously. Moreover, while historical pandemics rarely caused 100% mortality, untreated AIDS inevitably leads to death, marking it as one of the most lethal viral infections known to humankind.

Although HIV cannot survive outside the human body for more than a few minutes in water or open air, infection can occur easily through damaged skin or mucous membranes.



Effective prevention of HIV transmission and ensuring care for infected individuals require addressing **systemic barriers** and revising outdated legal frameworks. Current scientific and medical evidence strongly suggests that **criminalizing the behavior of people living with HIV** is counterproductive, often increasing stigma and hindering access to healthcare. Therefore, it is essential that governments reconsider and reform obsolete laws and policies, ensuring that public health approaches are guided by scientific evidence, human rights, and social responsibility. In this paper, we discuss the biological, legal, and ethical aspects of HIV prevention and accountability, focusing on the importance of justice, education, and the modernization of national regulations.

## Materials

## and

## Methods

In conducting this research, a range of general scientific and analytical methods was employed, including historical analysis, inductive reasoning, logical examination, systemic approach, and the comparative legal method. These methodologies allowed for a comprehensive exploration of the subject matter, combining both theoretical and practical aspects of HIV/AIDS prevention and legal responsibility.

The study involved the analysis of scholarly opinions and scientific publications from both domestic and international experts in the field. On the basis of these findings, several proposals and recommendations were developed to enhance the effectiveness of legal and preventive mechanisms related to HIV infection. In order to provide a deeper and more structured understanding of the issue, the research also utilized the scientific insights and methodological guidance of Professor Rustambaev, whose expertise in law and public health contributed significantly to the analytical depth of this study. Furthermore, the paper integrates comparative data and best practices derived from a number of foreign scientific sources, reflecting the global dimension of the HIV/AIDS problem and its legal implications.

## Results

## and

## Discussion

The findings of this research indicate that individuals infected with sexually transmitted diseases, particularly HIV/AIDS, often experience significant psychological distress. This emotional burden may lead to social isolation, resentment, and, in rare cases, antisocial behavior. Such psychological reactions can become a trigger for unlawful acts, which emphasizes the need for preventive psychological and legal measures.

According to the Plenum Resolution of the Republic of Uzbekistan, when a person is diagnosed with HIV, they must undergo further medical counseling and are placed under dispensary supervision. The individual is officially notified in writing of their criminal liability for the transmission of HIV to others. From this point, the person becomes a legal subject under Article 113 of the Criminal Code. However, experience shows that mere notification is insufficient to prevent offenses motivated by emotional or social isolation.

Statistical analysis reveals several problematic aspects in current HIV prevention and control practices. Approximately 70% of new infections in Uzbekistan are suspected to be linked to medical procedures, particularly within dental settings, due to the reuse of non-sterile instruments. Furthermore, the confidentiality of individuals registered as HIV-positive prevents healthcare workers from being adequately informed, thereby increasing the risk of occupational transmission. This situation demonstrates that the current legal and healthcare systems require revision and stronger intersectoral coordination.

Despite continuous research, no effective vaccine or complete cure for HIV/AIDS has yet been discovered. The fatal progression of the disease and its irreversible outcome raise serious ethical and legal questions about justice and proportionality of punishment. Classifying HIV transmission crimes as “minor offenses,” with penalties of up to five years of imprisonment,



seems inconsistent with the principle of justice, considering that HIV infection ultimately leads to death.

Current legal norms state that even if a victim is aware of the risk of infection and consents to a relationship with an HIV-positive person, this does not exempt the perpetrator from criminal liability. However, this article argues that if the HIV-positive individual has explicitly warned the partner about their health status, the legal qualification of such cases should be reconsidered and differentiated.

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