



Share-Net
Jordan
The Knowledge Platform on
Sexual and Reproductive Health
and Reproductive Rights



Fact Sheet

HIV/AIDS in Jordan





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2024



Introduction

In 1981, scientists in the United States announced the first clinical evidence of a disease that would later become known as AIDS. By 1983, the Human Immunodeficiency Virus (HIV) was identified as the cause of this disease. The World Health Organization defines HIV as an infection that attacks the immune system, targeting white blood cells and weakening the immune system. If untreated, HIV can progress from infection to AIDS. Therefore, AIDS (Acquired Immunodeficiency Syndrome) is the most advanced stage of HIV infection, characterized by a weakened immune system and a decrease in white blood cells known as CD4 cells to less than 200 cells per milliliter of blood, making it easier for the person to become infected with opportunistic diseases and various types of cancers.

According to a fact sheet from the Joint United Nations Programme on HIV/AIDS (UNAIDS)⁽¹⁾, approximately 88.4 million people have been infected with HIV since the beginning of the epidemic, and around 42.3 million have died from AIDS-related diseases. In 2023, an estimated 39.9 million people were living with HIV, including 1.4 million children aged 0-14. Of those living with the virus, 53% were women and girls.

The Sustainable Development Goals (SDGs) aim to "ensure healthy lives and promote well-being for all at all ages," including the target of ending the epidemics of HIV/AIDS, tuberculosis, malaria, and neglected tropical diseases, combating viral hepatitis, waterborne diseases, and other infectious diseases by the year 2030. Progress in addressing HIV will be crucial to achieving many SDGs related to gender equality and women's empowerment, reducing inequalities, and goals related to global partnerships and just, peaceful, and inclusive communities.

Both the World Health Organization and global organizations have translated these goals into global strategies to combat HIV, focusing on three key indicators: 95% of infected individuals knowing their HIV status, 95% of those diagnosed being on treatment, and 95% of those on treatment achieving viral suppression. In 2023, these figures were 86%, 89%, and 93%, respectively⁽²⁾.

In Jordan, the first reported case of HIV infection among Jordanians occurred in 1986. In response, the Ministry of Health established a National AIDS Programme to reduce the local spread of HIV and support those affected and their contacts. In 1999, the Ministry established a voluntary counseling and testing center to educate and guide citizens about HIV/AIDS and sexually transmitted infections, providing services with complete confidentiality and privacy. The Ministry of Health works to control the HIV/AIDS epidemic in collaboration with national and international institutions and partners, such as community organizations, NGOs, government agencies, and international organizations like the World Health Organization, the International Organization for Migration, the Joint United Nations Programme on HIV/AIDS, and the Global Fund to Fight AIDS, Tuberculosis, and Malaria, among others.

Aligned with the Higher Population Council's objectives of improving sexual and reproductive health, this

(1) Fact sheet 2024 - Latest global and regional HIV statistics on the status of the AIDS epidemic, <https://www.unaids.org/en/resources/fact-sheet>

(2) <https://www.unaids.org/en/resources/fact-sheet>

paper, presented by the council and Share-Net Jordan, aims to provide scientific evidence for policies and programs that prevent HIV transmission and mitigate the health risks for those infected. These efforts are grounded in the goals of the National Population Strategy and the Reproductive and Sexual Health Strategy, which seek to (ensure universal access to integrated reproductive and sexual health services and information to promote the well-being of individuals and families at all life stages).



1. Definition of HIV Infection

1.1 Modes of HIV Transmission

According to the Epidemiological Surveillance Guide issued by the Ministry of Health⁽³⁾, HIV can be transmitted through the following:

- Contaminated blood or its derivatives, where the virus is present in high concentrations, making it one of the most dangerous transmission methods.
- Exposure to contaminated needle sticks among healthcare workers.
- High-risk behaviors that can lead to virus transmission from an infected person to a healthy one, the most important being:
 - Sharing drug injections.
 - Sexual contact between men and women, especially with multiple sexual partners, which is the most common way of transmission. The risk of infection increases 3-5 times if other sexually transmitted infections are present.
 - Sexual contact between gay men, which is the highest risk type of sexual contact for virus transmission.
 - Transmission from an infected mother to her fetus during pregnancy, childbirth, or through breastfeeding.
- In rare cases, through organ transplants from infected donors or the use of unsterilized surgical instruments.
- Tattooing or the use of contaminated skin-piercing tools.

The Centers for Disease Control and Prevention⁽⁴⁾ notes that HIV can be transmitted through seminal fluid, pre-ejaculate, vaginal fluids, anal fluids, blood, and breast milk. However, HIV cannot be transmitted through activities that do not involve the exchange of bodily fluids. It cannot survive long outside the human body and cannot reproduce outside a human host.

Therefore, HIV cannot be transmitted through:

- Hugging, closed-mouth kissing, shaking hands, sneezing, coughing, or sweating
- Swimming pools, hot tubs, sharing toilets or towels
- Eating with or using shared utensils with an AIDS patient.
- Insects
- Air

(3) Ministry of Health, 2015, Epidemiological Surveillance Guide for Communicable Diseases

(4) <https://www.cdc.gov/hiv/causes/index.html>

1.2 Stages of HIV Infection

According to the HIV Information Program⁽⁵⁾ (HIV info), HIV infection progresses through stages if left untreated. Antiretroviral therapy (ART) cannot cure HIV, but it can slow its progression and prevent it from advancing to the next stage. ART can help people with HIV live longer, healthier lives. HIV.gov describes the three stages of HIV infection as follows:

Stage 1: Acute HIV Infection

Acute HIV infection is the first stage of HIV infection and typically develops within 2-4 weeks after exposure to the virus. Some individuals may experience flu-like symptoms, such as fever, headache, and rash. During this stage, the virus multiplies rapidly and spreads throughout the body, attacking CD4 cells, which are infection-resistant (T lymphocytes), and destroys them. During this stage, the level of HIV in the blood is very high, significantly increasing the risk of HIV transmission. A person may gain substantial health benefits if they begin antiretroviral therapy during this stage.

It's crucial to get tested during this stage of HIV because the amount of the virus in the bloodstream, known as the viral load, is high at this time. As a result, the infection spreads more easily to others during the initial stage compared to the next stage.

<https://www.mayoclinic.org/ar/diseases-conditions/hiv-aids/symptoms-causes/syc-20373524>

Stage 2: Chronic HIV Infection

Also known as asymptomatic HIV infection or clinical latency, this stage is characterized by the virus continuing to multiply in the body at very low levels. Individuals with chronic HIV infection may not experience any HIV-related symptoms. Without antiretroviral therapy ART, chronic HIV infection usually progresses to AIDS within 10 years or more, although it may progress faster in some people. With ART, individuals can remain in this stage for several decades, though it is still possible to transmit HIV to others during this stage.

Those who take ART exactly as prescribed and maintain an undetectable viral load have virtually no risk of transmitting HIV to an HIV-negative partner through sexual contact.

Stage 3: AIDS

AIDS is the last and most severe stage of HIV infection. Due to severe damage to the immune system, the body is unable to fight off opportunistic infections (infections and cancers that occur more frequently or are more

(5) HIVinfo.NIH.gov is a service of the U.S. Department of Health and Human Services (HHS) and is maintained by the National Institutes of Health (NIH) Office of AIDS Research (OAR)

<https://hivinfo.nih.gov/understanding-hiv/fact-sheets/stages-hiv-infection>

severe in people with weakened immune systems). People with HIV are diagnosed with AIDS if they have a CD4 count below 200 cells/mm³ or if they have certain opportunistic infections. Once diagnosed with AIDS, individuals may have a high viral load and easily transmit HIV to others. Without treatment, people with AIDS typically live about three years.

Once diagnosed with AIDS, individuals may have a high viral load and easily transmit HIV to others.

1.3 HIV Diagnosis⁽⁶⁾

The only way to know your HIV status is through testing. Tests can be done using blood, oral fluid, or even urine samples. According to the Centers for Disease Control and Prevention (CDC):

- Everyone between the ages of 13 and 64 should get tested for HIV at least once as part of their regular health-care routine.
- People with certain risk factors should be tested more frequently, at least once a year.

Knowing your HIV status empowers you to make informed decisions about your health and the health of your partner. If your test is positive, you can access HIV medication that can help you live a long and healthy life while reducing the risk of transmitting the virus to others. If your test is negative, you can take steps to prevent HIV infection.

<https://www.cdc.gov/hiv/testing/index.html>

There are three types of HIV tests:

1. Antibody Test:

This test detects HIV infection by searching for antibodies in your blood or oral fluids. Antibodies are proteins produced by your immune system in response to an infection. Antibody tests using blood drawn from a vein can detect HIV faster than those using finger prick or oral fluid samples.

2. Antigen/Antibody Test:

This test looks for both HIV antibodies and antigens in the blood. It involves drawing blood from a vein in a lab test. There is also a rapid antigen/antibody test using blood from a finger prick.

3. Nucleic Acid Test (NAT):

NAT looks for the actual virus in the blood. In this test, a healthcare provider draws blood from a vein and

(6) <https://www.cdc.gov/hiv/testing/index.html>

sends it to a lab for testing. NAT can detect whether a person has HIV or measure the amount of the virus in the blood (HIV viral load test). NAT can detect HIV faster than other tests and is recommended for those recently exposed to the virus, showing early symptoms of HIV, or having tested negative on an antibody or antigen/antibody test.

Test Results:

The Centers for Disease Control and Prevention (CDC) explains that no HIV test can detect the virus immediately after infection due to the window period—the time between exposure to HIV and when the test can detect the virus. The window period depends on the type of HIV test as follows:

- Antibody tests usually detect HIV 23 to 90 days after exposure.
- The rapid antigen/antibody test using blood from a finger prick usually detects HIV 18 to 90 days after exposure.
- The antigen/antibody test using blood from a vein detects HIV 18 to 45 days after exposure.
- The Nucleic Acid Test (NAT) can detect HIV 10 to 33 days after exposure.

After Receiving Results:

If the result is positive: For any type of antibody test, a follow-up test is required to confirm the results, usually using the same blood sample that was used for the first test. Therefore, if the follow-up test is positive, this means infection with HIV, and treatment should begin as soon as possible. HIV treatment can reduce the amount of HIV in the body to such a low level that the test cannot detect it (undetectable viral load). Achieving and maintaining an undetectable viral load is the best way to stay healthy and protect others. At this point, the infected person must share the test result with their sexual partner(s) or anyone they share needles with, as reporting HIV status allows the partner to take the necessary steps to stay healthy. A positive HIV test result does not mean the person has AIDS (Acquired Immunodeficiency Syndrome), which is the most advanced stage of HIV. However, HIV can lead to AIDS if the infected person does not receive treatment or take care of their health.

If the result is negative: A negative result does not necessarily mean the person is not infected due to the window period. Another test should be conducted after the window period for the specific type of test. If the test is repeated after the window period, there has been no potential exposure during that time, and the result is negative, the person is not infected with HIV. It's important to note that a person's HIV test result only reveals their status, not their partner's. Both partners should be tested to know their HIV status and take necessary steps to protect their health.



2. The Global Scale of the Problem

Based on Table (1), the following indicators can be observed:

- Since 2000, the number of people living with HIV has increased by 46.7%, from 27.2 million in 2000 to 39.9 million in 2023.

- Since 2000, new HIV infections have decreased by 53.6%, from 2.8 million to 1.3 million in 2023.
- Since 2000, new HIV infections among people aged 15+ have decreased by 48%, from 2.3 million in 2000 to 1.2 million in 2023.
- Since 2000, new HIV infections among children have decreased by 77%, from 530,000 in 2000 to 120,000 in 2023.
- The availability of effective treatment has reduced AIDS-related deaths globally by 65%, from 1.8 million in 2000 to 630,000 in 2023.
- Despite the decline in new HIV infections, there are still significant numbers of new infections and AIDS-related deaths. In 2023, 1.3 million people contracted HIV, and about 630,000 people died due to AIDS-related illnesses.

Table (1): Global HIV Spread Indicators

	2000	2005	2010	2020	2022	2024
People coexistent with HIV million	27.2	29.4	32	38.7	39.5	39.9
New HIV infections(million)	2.8	2.5	2.1	1.5	1.4	1.3
New HIV infections Of adults Over 15 years old (million)	2.3	2	1.8	1.3	1.2	1.2
New HIV infections from Children aged 0-14 years (one thousand)	530	470	300	150	130	120
AIDS-related deaths(million)	1.8	2	1.3	0.73	0.67	0.63

Source: UNAIDS 2024 epidemiological estimates

Based on UNAIDS data⁽⁷⁾, the following trends can be observed in different world regions:

- 1. Eastern and Southern Africa:** HIV cases dropped from 1.1 million in 2010 to 450,000 in 2023, a 59% decrease. Deaths also declined from 600,000 in 2010 to 260,000 in 2023, a 56.7% decrease.
- 2. Asia and the Pacific:** HIV cases fell from 350,000 in 2010 to 300,000 in 2023, a 13% decrease. Deaths decreased from 310,000 in 2010 to 150,000 in 2023, a 51.6% reduction.
- 3. West and Central Africa:** HIV cases decreased from 350,000 in 2010 to 190,000 in 2023, a 46% decrease. Deaths fell from 290,000 in 2010 to 130,000 in 2023, a 55.2% decline.
- 4. Eastern Europe and Central Asia:** HIV cases increased from 120,000 in 2010 to 140,000 in 2023, a 20% rise. Deaths also increased from 33,000 to 44,000, a 33.3% rise.
- 5. Latin America:** HIV cases increased from 110,000 in 2010 to 120,000 in 2023, a 9% rise. Deaths, however, decreased from 42,000 in 2010 to 30,000 in 2023, a 28.6% decrease.

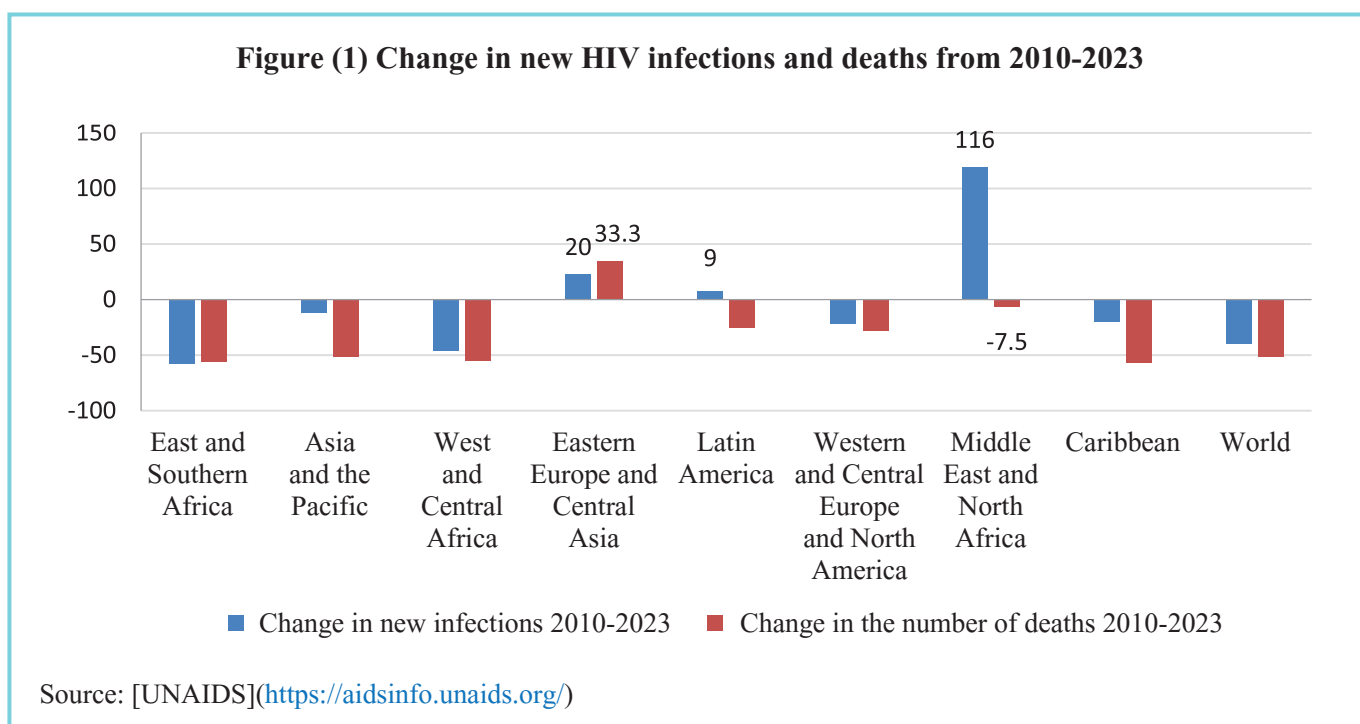
(7) <https://aidsinfo.unaids.org/>

6. Western and Central Europe and North America: HIV cases decreased from 74,000 in 2010 to 56,000 in 2023, a 24% reduction. Deaths also decreased from 19,000 in 2010 to 13,000 in 2023, a 31.6% decline.

7. Middle East and North Africa: The number of new cases rose from 11,000 in 2010 to 23,000 in 2023, an increase of 116%. Meanwhile, the number of deaths decreased from 6,700 in 2010 to 6,200 in 2023, a reduction of 7.5%.

8. Caribbean: The number of new cases fell from 19,000 in 2010 to 15,000 in 2023, a decrease of 22%. The number of deaths, however, increased from 12,000 to 5,100, a rise of 57.5%.

While the world has made significant strides in reducing new cases and deaths from AIDS in many regions, the Middle East and North Africa continue to face challenges. The region has seen a concerning 116% increase in new infections from 2010 to 2023, while the global decline is 39%. Additionally, the reduction in deaths in the Middle East and North Africa is the lowest compared to other regions, with a decrease of 7.5% from 2010 to 2023, compared to a global reduction of 51.5%. The following graph illustrates these trends.



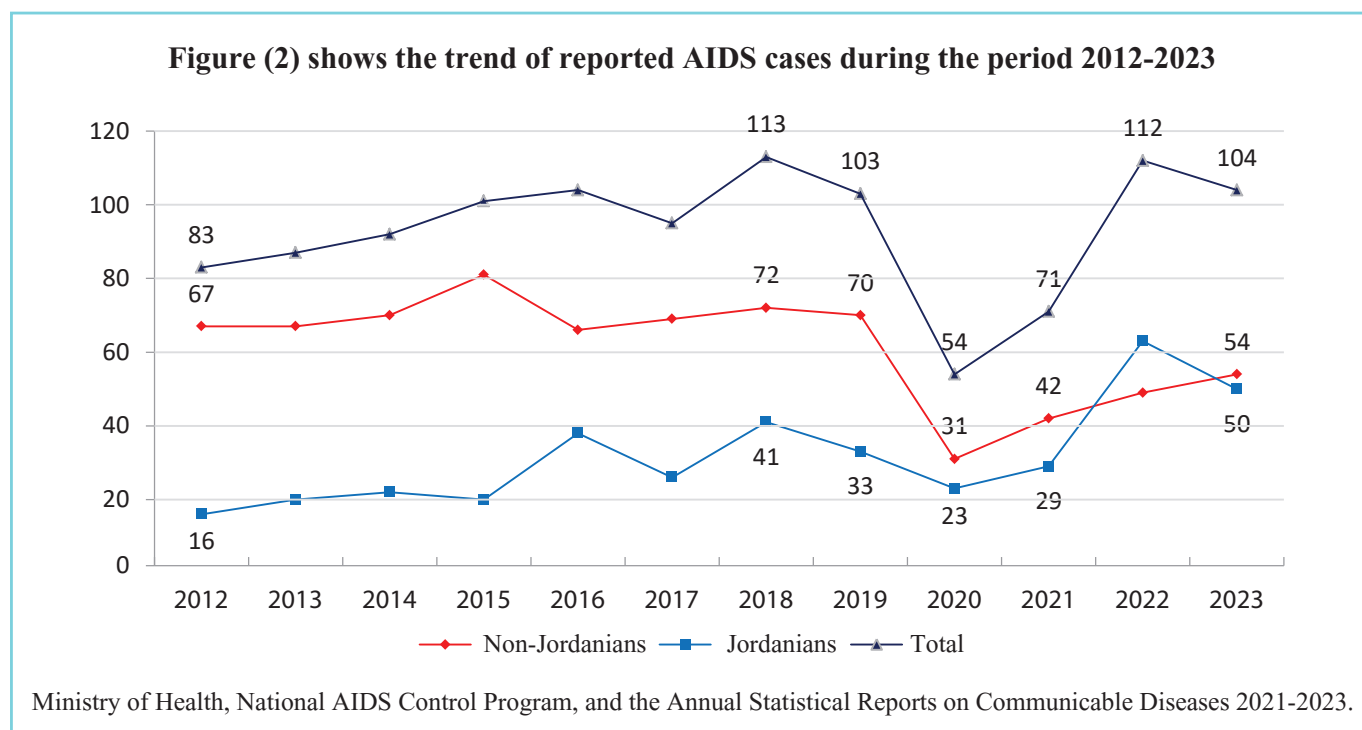
3. National Scope of the Problem

3.1 AIDS Epidemiological Situation in Jordan

The published statistics from the Ministry of Health reflect the data monitored through the national reporting system, which includes reports on infections among specific groups like blood donors, foreign workers, and those seeking voluntary counseling. However, the actual numbers remain unknown due to underreporting, despite its importance for conducting research, improving health responses, allocating resources, developing prevention and treatment strategies, and identifying areas needing intervention. Accurate data is crucial for predicting epidemic spread and making informed decisions about addressing it.

Since the first AIDS case was reported in 1986, the cumulative number of infections among Jordanians reached 628 by the end of 2023, while the cumulative number of non-Jordanians infected was 1,347, most of whom were repatriated. From 1986 to 2023, the cumulative number of AIDS cases was distributed as 31.8% Jordanians and 68.2% non-Jordanians.

Figure 2 illustrates the trend of reported AIDS cases among Jordanians and non-Jordanians from 2012 to 2023. The annual number of reported cases did not exceed 113 (Jordanians and non-Jordanians) in 2018. The number of cases declined to 103 in 2019, a decrease of 9.7%. The number of cases further declined to 54 in 2020, a reduction of 47%, possibly due to disruptions in the monitoring system during the COVID-19 crisis. Cases then increased again in 2021 to 71, an increase of 31.5% from the previous year. In 2022, the number of cases rose to 112, reflecting a 57.7% increase as the monitoring system returned to full operation. In 2023, cases decreased to 104, which is lower than the number of cases reported in 2018.



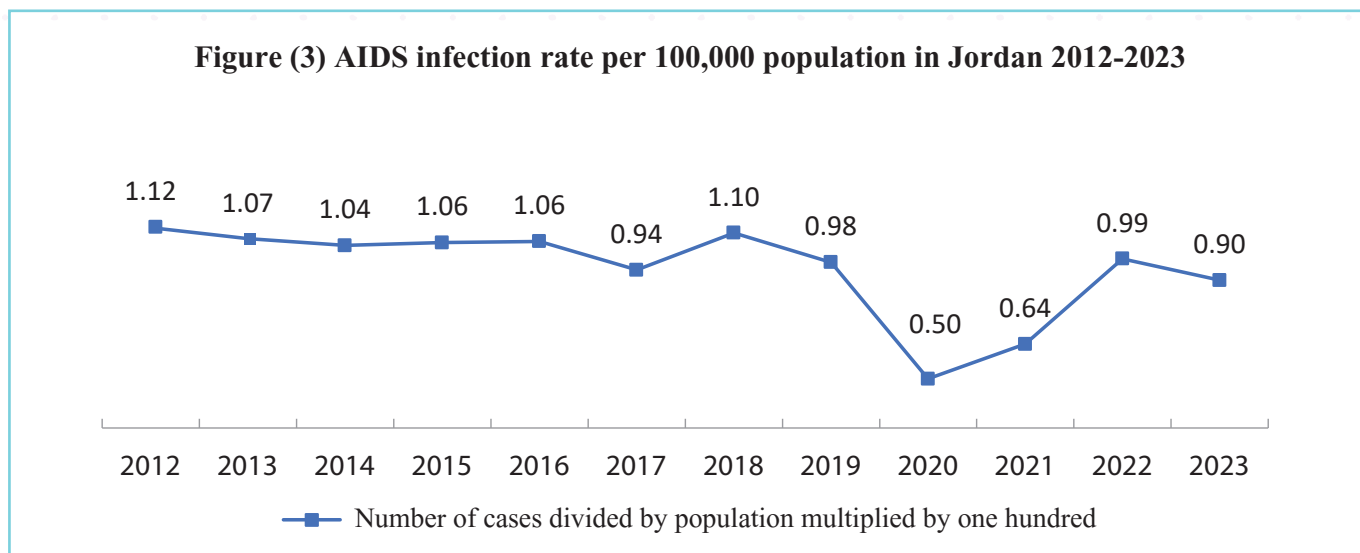
The trend of reported AIDS cases among Jordanians shows a similar pattern between 2018 and 2023, However, the number of cases recorded in 2022 and 2023 remained higher than their level in 2018, and in fact, they were the highest during the period from 2012 to 2023.

For non-Jordanians, the trend indicates an increase in cases after 2020, rising from 31 cases in 2020 to 54 cases in 2023. However, the number remains lower than in 2018 and less than the number of cases recorded from 2012 to 2019.

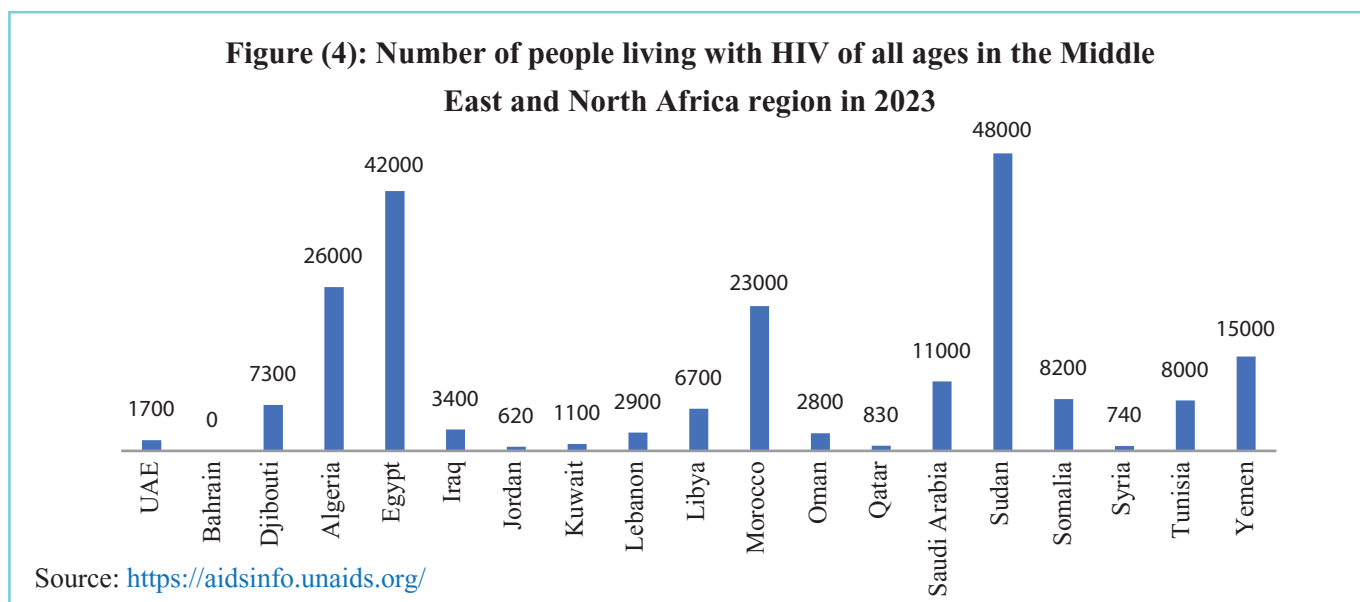
According to the 2015 Epidemic Surveillance Guide, countries are classified based on the prevalence rate of the epidemic. A country is considered to have a low prevalence rate when it is less than 5% among high-risk groups (sex workers, injecting drug users, and men who have sex with men) and less than 1% among the

general population. Based on epidemiological data, the guide classifies Jordan as a country with a low prevalence of AIDS⁽⁸⁾.

The calculation of the AIDS incidence rate, based on the number of cases per year divided by the population for the period 2012-2023, shows that the incidence rate did not exceed 1%, reaching less than one per 100,000 in the last five years (2019-2023), as illustrated in the following graph.



Comparing Jordan with Arab countries based on the number of people living with HIV according to the UNAIDS program⁽⁹⁾, as shown in Figure 3, Jordan has the lowest number among Arab countries. Sudan, Egypt, Algeria, and Morocco lead in terms of the number of people living with the virus.



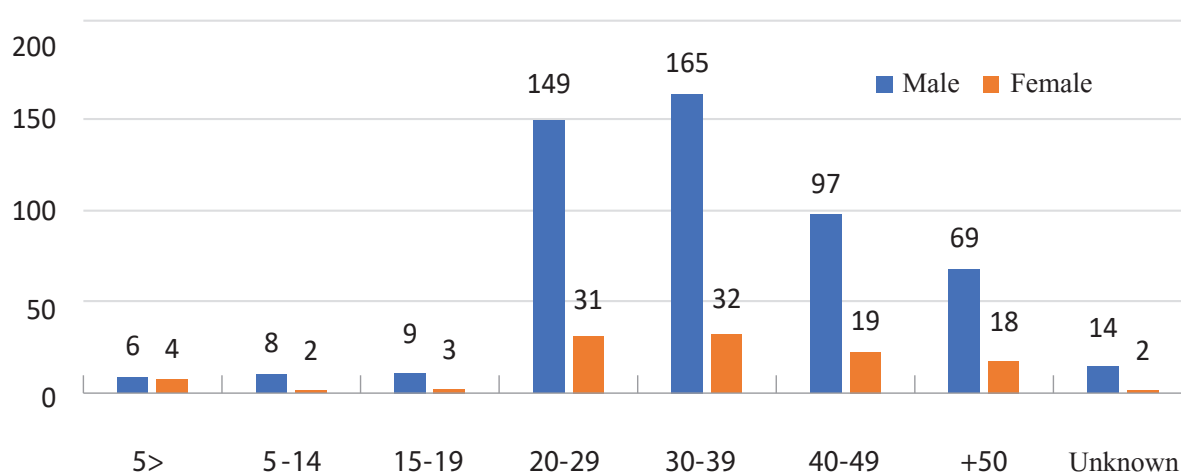
(8) According to the epidemiological surveillance guide for communicable diseases issued by the Jordanian Ministry of Health in 2015, countries are classified based on their epidemic prevalence rate into: (1) a country with a low prevalence rate, (2) a country with a concentrated prevalence rate, when the prevalence rate is 5% or more in one of the three high-risk groups and less than 1% in the general population, and (3) a country with a generalized epidemic when the prevalence rate is 5% or more in one of the three high-risk groups and 1% or more in the general population

(9) <https://aidsinfo.unaids.org/>

3.2 Distribution of Cumulative Cases Among Jordanians by Gender and Age

The cumulative number of Jordanians with AIDS from 1986 to 2023 is 628, with 82.3% being male and 17.7% female. The data shows that the infection rates are higher among males. The following graph illustrates the distribution of cumulative cases by gender and age. It shows that infections span all age groups for both genders, though they are more prevalent in the 20-39 age group, accounting for 60.7% of male cases and 56.7% of female cases. This pattern was observed among males in 2022 and 2023, with infection rates at 69.4% and 60.4% respectively. Infections among both males and females decrease in those aged 40 and over.

Figure (5): Distribution of the cumulative number of Jordanians infected with AIDS by gender and age for the period 1986-2023



Source: Ministry of Health / Annual Statistical Reports on Infectious Diseases 2021, 2022, 2023

3.3 Modes of HIV Transmission Among Jordanians

Table 2 shows that over half of the reported cases were due to sexual transmission from man to woman. The virus can enter the body through small tears that may occur in the vagina during intercourse. The second most common mode of transmission is sexual contact between men, which accounted for 20.4% of cases from 1986 to 2023. In 2022 and 2023, this mode of transmission represented 31.3% of the total cases from 1986 to 2023, indicating an increase in cases through this route. Therefore, sexual contact (both man-to-woman and man-to-man) is the primary mode of HIV transmission, representing 71.7% of all HIV cases from 1986 to 2023. These two population groups will be discussed in detail elsewhere in this paper.

The third transmission mode is through blood, accounting for 11.3% of cases from 1986 to 2023. The number of cases decreased to two in 2022 and 2023, possibly due to blood banks and hospitals' adherence to

testing blood donations for HIV. Injection drug use ranks fourth, with 5.6% of cases. The table also shows a low number of mother-to-child transmission cases, dropping to zero in 2022 and 2023.

Table (2): Distribution of the cumulative number of Jordanians infected with AIDS according to the method of transmission for the period 1986-2023

Means of transportation	preparation			Total 1986-2023	
	2021 - 1986	2022	2023	Number	Ratio
Blood transfusion	69	1	1	71	11.3
From man to woman	265	32	25	322	51.3
Sexual intercourse between a man and a man	88	22	18	128	20.4
injection drug use	32	2	1	35	5.6
From mother to child	10	0	0	10	1.6
Unknown	51	6	5	62	9.9
Total	515	63	50	628	100.0

Source: Ministry of Health / Annual Statistical Reports on Infectious Diseases 2021, 2022, 2023

3.4 Distribution of Cumulative AIDS Cases Among Jordanians by Place of Infection

As shown in Table 3, infections acquired within Jordan constituted 53.6% of the total cases, while those acquired outside Jordan accounted for 40.1%.

Table (3): Distribution of the cumulative number of Jordanians infected with AIDS according to the place of infection for the period 1986-2022

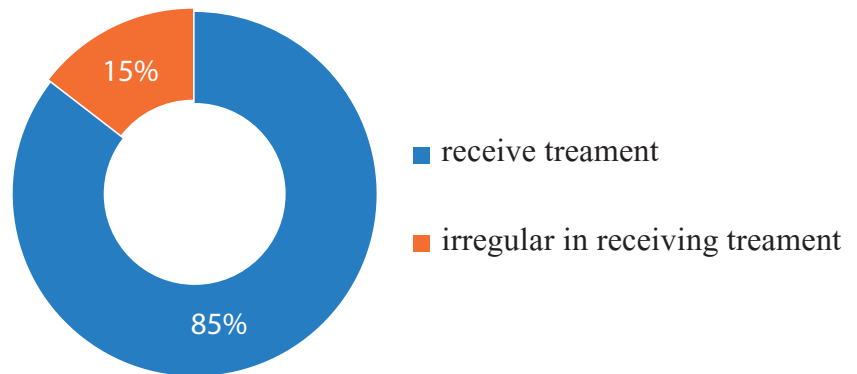
Location of infection	preparation	ratio
Inside Jordan	310	53.6
Outside Jordan	249	43.1
unknown	19	3.3
the total	578	100

Source: Ministry of Health, Annual Statistical Report on Communicable Diseases 2021, 2022

3.5 Distribution of Cumulative AIDS Cases Among Living Jordanians by Treatment Status

The total number of living AIDS cases among Jordanians for the period 1986-2022 is 385. As shown in Figure 6, 85% receive regular treatment, while 15% are irregular.

Figure (6) : Distribution of Jordanians living with AIDS according to whether they received treatment 1986-2022

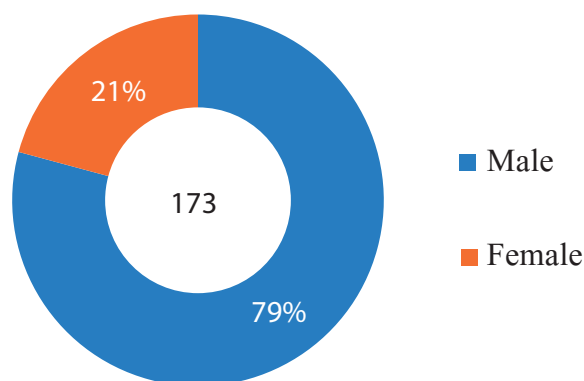


Source: Ministry of Health, Department of Infectious Diseases, National AIDS Program

3.6 Deaths Among Jordanians Due to AIDS

The cumulative number of deaths among Jordanians from AIDS for the period 1986-2022 is 173. These deaths occurred before treatment began and were at advanced stages of the disease. As shown in Figure 7, 79% of these deaths were among men, and 21% were among women.

Figure (7) : Cumulative number of Jordanian deaths due to AIDS during 1986 - 2022



Source: Ministry of Health, Department of Infectious Diseases, National AIDS Program

4. Knowledge and Attitudes Toward HIV and Prevention Methods

4.1 Knowledge of HIV or AIDS

As shown in Figure 8, the percentage of men and women aged 15-49 who had heard of AIDS was (87.7% and 96.7%) respectively.

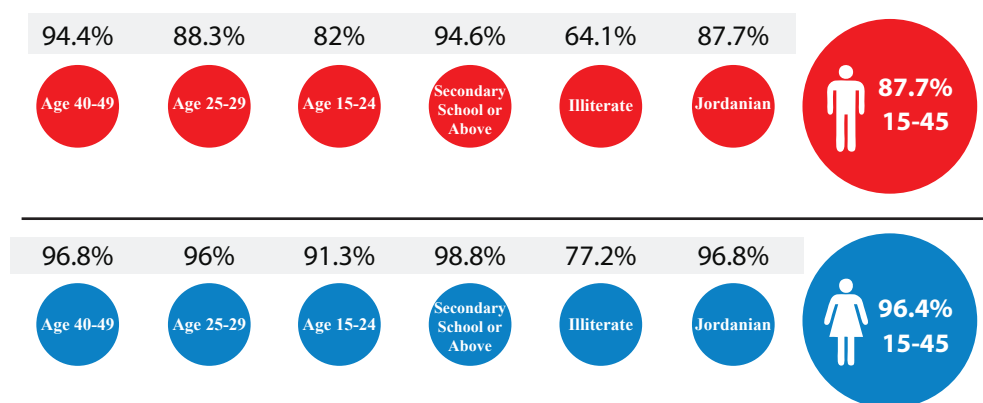
The percentages increased with age for both men and women; for men, the percentage increased from (82%) in the 15-24 age group to (94.4%) in the 40-49 age group, and for women, the percentage increased from (91.3%) in the 15-24 age group to (96.8%) in the 40-49 age group.

The percentages also increased with higher levels of education; for men, it reached 94.6% among those with a high education level compared to (64.1%) among the illiterate, and for women, it increased to 98.8% among those with a high education level compared to 77.2% among the illiterate. This indicates a need to focus on educating young people about the disease and the illiterate.

There was no significant difference in the percentages between Jordanians and Syrians; for Jordanian women, the percentage was (96.8%) while for Syrian women it was (95.5%), and for men, it was (87.7%) for Jordanians and (88.1%) for Syrians.

Compared to the results of the 2017/18 Population and Family Health Survey on those who had heard of AIDS, the percentage among men was (89.1%), while among women it was 94.5%, indicating a slight improvement according to the 2023 Population and Family Health Survey. However, the percentage of women who heard about AIDS increased, while it decreased among men, indicating a need to strengthen programs aimed at raising awareness about AIDS.

Figure (8): The percentage of women and men aged between 15 and 49 years who have heard about AIDS, according to certain characteristics.



Department of Statistics - Population and Family Health Survey 2023

4.2 Knowledge and Attitudes Towards Medications Used for Treating or Preventing HIV

Awareness of medications for preventing HIV infection, such as PrEP⁽¹⁰⁾, and a positive attitude towards their use in the community is one of the strategies and measures that can be used to prevent and reduce HIV infection among those who are not infected but are at higher risk. Figure 9 from the 2023 Population and Family

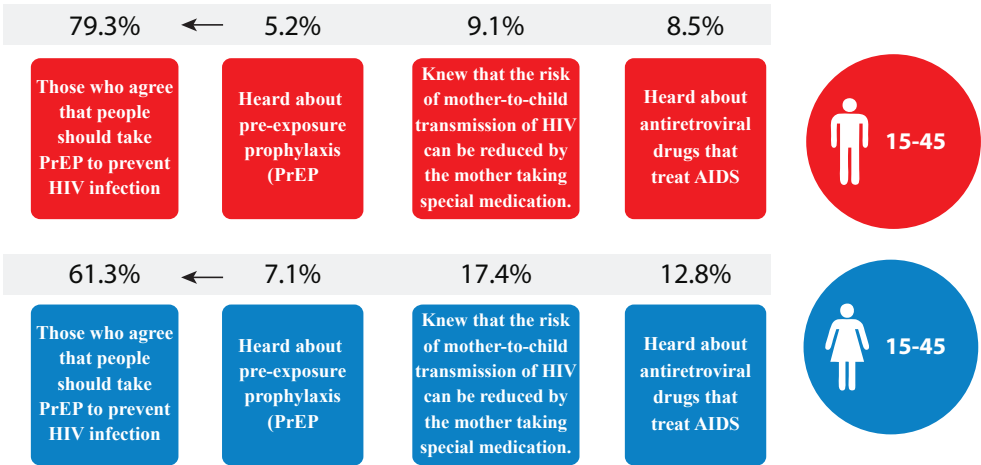
(10) Pre-exposure prophylaxis (PrEP) is defined as any medication or treatment used to prevent infection in individuals before they are potentially exposed to the infectious agent.

Health Survey shows that 5.2% of men and 7.1% of women aged 15-49 have heard of these medications. Among those who are aware, 79.3% of men and 61.3% of women approved of their use. Although the percentage of those aware of these medications is low, it increases with higher educational levels among both men and women. For men, it rose from 2.3% among those with no education to 8.6% among those with higher education (more than secondary). Similarly, for women, it increased from 4.5% among those with no education to 8.7% among those with higher education. These indicators support the need for more awareness programs about these medications, especially among the uneducated.

Knowledge of antiretroviral medications for treating those infected is also crucial for reducing and preventing viral replication in infected individuals. According to the World Health Organization, these medications can stop symptoms and allow people to live full and healthy lives. People with HIV who are on antiretroviral therapy and have no detectable viral load in their blood do not transmit HIV to their sexual partners. As shown in Figure 9, the percentage of men and women in Jordan aged 15-49 who have heard of antiretroviral medications for treating HIV is 8.5% for men and 12.8% for women. Despite these low percentages, awareness increases with educational level. Among uneducated men, the percentage is 3.2%, while it rises to 13.3% among those with higher education (more than secondary). Among women, the percentage increases from 11.1% among the uneducated to 15.5% among those with higher education.

According to the World Health Organization, antiretroviral treatment should be made available to pregnant women with HIV as soon as possible. This protects the mother's health and helps prevent the transmission of the virus to the fetus before birth or to the infant through breast milk. Knowledge about the role of these treatments is therefore an important strategy in reducing the transmission of the virus to the fetus. As shown in Figure 9, the percentage of people who know that the risk of HIV transmission from mother to child can be reduced by the mother taking medications is 9.1% for men and 17.4% for women aged 15-49.

Figure (9): The percentage of women and men aged between 15 and 49 years according to their knowledge and attitudes towards medications used to treat HIV or prevent the transmission of HIV.



Department of Statistics - Population and Family Health Survey 2023

4.3 Knowledge About HIV Prevention Methods Among Youth

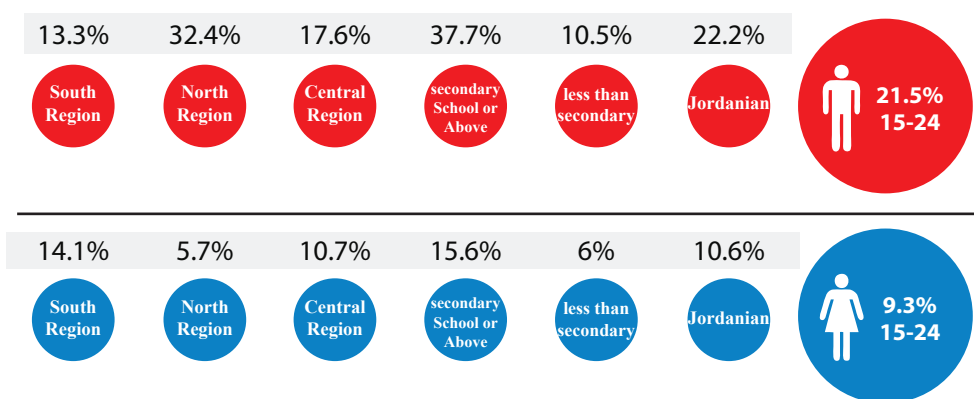
Knowledge about how HIV is transmitted and prevention methods is crucial for enabling individuals to avoid HIV infection, especially among youth who are often at higher risk due to having shorter-term relationships with more partners or engaging in other risk behaviors. The 2023 Population and Family Health Survey assessed comprehensive knowledge about HIV as follows:

- Proper use of condoms during sexual intercourse.
- Understanding that having a single uninfected partner can reduce the risk of HIV infection,
- Awareness that a healthy-looking person can still be infected with HIV.
- Refusal of the most common misconceptions about HIV transmission or prevention (e.g., HIV can be transmitted by mosquitoes or through sharing food with an infected person).

As shown in Figure 10, the percentage of young women (15-24) who have this knowledge is 9.3%, compared to 21.5% among young men (15-24) regardless of marital status. Knowledge levels vary by nationality, with 10.6% of Jordanian young women and 3.7% of Syrian young women having this knowledge. Among young Jordanian men, the percentage is 22.2%, compared to 15.5% among Syrian young men. The educational level also affects knowledge; among young people with less than secondary education, 10.4% have this knowledge, rising to 37.7% among those with higher education (beyond secondary). Similarly, among young women, the percentage increases from 6.6% with less than secondary education to 15.6% with higher education.

There are also notable regional differences. Knowledge is highest among youth in the northern region (32.4%), compared to 17.6% in the central region and 13.3% in the southern region. Among young women, the highest knowledge is found in the southern region (14.1%), followed by the central region (10.7%) and the northern region (5.7%).

Figure (10): The percentages of young women who have ever been married and all young men aged 15-24 who have knowledge about HIV prevention, according to certain characteristics.

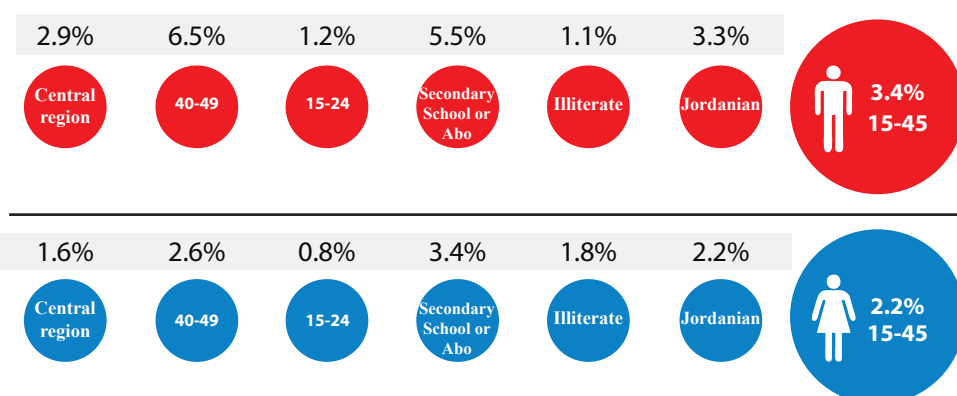


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4.4 HIV Testing

HIV testing programs diagnose individuals with the virus so that they can access care and receive antiretroviral treatment. Additionally, knowing one's HIV status helps uninfected individuals reduce their risk of infection. As shown in Figure 11, the percentage of people who underwent HIV testing among men and women aged 15-49 is low, at 3.4% among men and 2.2% among women. Given the importance of testing, there is a need for increased awareness about the availability and location of testing services.

Figure (11) Percentage of men and women aged 15-49 who have been previously married and have undergone an HIV test, according to basic characteristics



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4.5 Discriminatory Attitudes Towards People Living with HIV

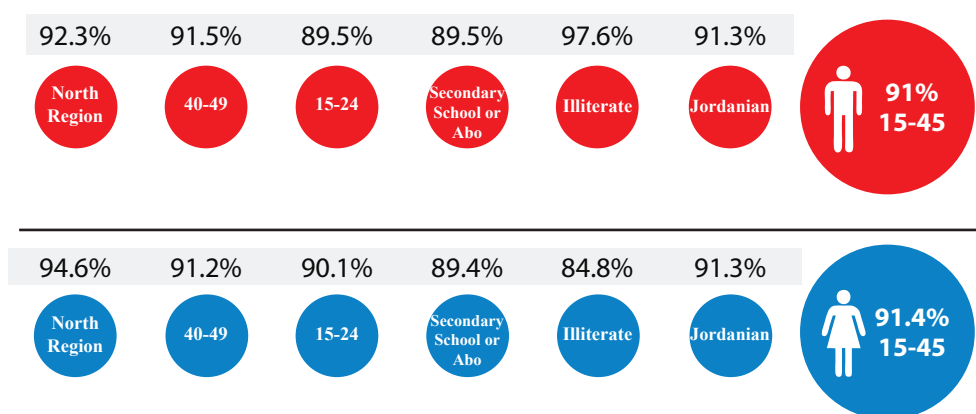
Lack of knowledge about HIV, misconceptions, fear, and the association of some transmission routes with socially rejected practices such as sex or legally criminalized practices such as injecting drug use; these factors contribute to stigma and discrimination. Stigma and discrimination manifest in various forms, including:

- Stigma and discrimination faced by people living with HIV when seeking services.
- Mandatory HIV testing for all government job applicants and scholarship recipients, and denying them employment or scholarships if they are positive.
- Weak legal protection for the rights of people living with HIV, such as employers refusing to hire them or arbitrarily dismissing them from private sector jobs.
- Deportation of foreign nationals living with HIV.
- Refusal of health insurance companies to cover people living with HIV, even if they are employed in the private sector.
- Social rejection and isolation, as manifested by some families abandoning people living with HIV, divorces occurring due to HIV infection, and the stigmatization of families of people living with HIV, affecting other family members.

The persistence of discriminatory attitudes towards people living with HIV/AIDS poses a challenge to efforts to prevent HIV infection, as it negatively impacts people's willingness to get tested for HIV, marginalizes people living with HIV, and discourages them from seeking HIV-related health services.

To assess discriminatory attitudes towards people living with HIV, two questions were asked of women and men in the 2017 and 2023 Population and Family Health Surveys. For the purpose of data analysis, respondents were considered to have discriminatory attitudes towards people living with HIV if they answered that they would not buy fresh vegetables from a shop owner or seller they knew was HIV-positive, and/or if they said that children living with HIV should not be allowed to go to school with children who are not infected. Figure 12 shows that the percentage of men and women aged 15-49 who had heard of HIV/AIDS and had discriminatory attitudes towards people living with HIV⁽¹¹⁾ was 91% for men and 91.4% for women according to the 2023 Population and Family Health Survey. As such, differences according to characteristics were minimal. Compared to the results of the 2017/18 Population and Family Health Survey, the percentages were 87% for men and 90% for women, indicating that the stigma associated with HIV infection is still prevalent in Jordan and affects people living with HIV, and that awareness-raising efforts in this area have not made a difference. The persistence of this situation poses a risk to efforts to reduce the spread of the disease.

Figure (12) Percentage of women and men aged 15-49 who have heard about HIV or AIDS and have discriminatory attitudes towards people living with HIV.



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5. Key Population Groups at Risk of HIV Infection

The Jordan Progress Report⁽¹²⁾ on the Global AIDS Response for 2014 presents the results of a comprehensive

(11) The proportion of people who disagree with the idea that children with HIV should attend school with HIV-negative children or buy fresh produce from an infected store owner

(12) The Global AIDS Response Progress Reporting, Country Progress Report, Hashemite Kingdom of Jordan, January 2012-December 2013. https://www.unaids.org/sites/default/files/country/documents/JOR_narrative_report_2014.pdf

biological and behavioral survey conducted in 2013 among key populations at higher risk of HIV transmission or acquisition (men who have sex with men and female sex workers) in the three main cities: Amman, Irbid, and Zarqa. The study involved 1,328 participants in these three cities, including 656 men who have sex with men and 672 female sex workers. This section will highlight the survey results for Amman, as presented in the aforementioned Jordan report, due to their significance in providing evidence to inform national efforts to reduce HIV transmission among these key populations.

1. Men Who Have Sex with Men

A total of 313 men who have sex with men participated in the survey, with 67% aged between 18 and 25. Of these, 61.5% were Jordanian and 37.5% were of other nationalities.

- 72.5% of participants reported having tried alcohol, followed by hashish (13%), and 2.4% tried heroin. 6% had injected any of these drugs in the past twelve months.
- A quarter of participants reported receiving money in exchange for sex with other men. Of those who received money for sex, 35% had 2 to 5 clients in the past six months, 27.5% had more than 5 clients, 26% reported having one client, and 11% had no clients. 89.4% of them reported doing this for the first time at the age of 19 or younger.
- Only 19% of those who reported receiving money for sex used condoms during their last sexual encounter. Regarding the frequency of condom use in the past six months, only 4.4% reported always using condoms, 52% reported never using them, and 27% reported using them infrequently.
- 64% of participants reported having casual partners in the six months before the survey, with 17.5% having one partner, 42% having 2 to 5 partners, and 4.6% having more than five partners. 85% of participants who reported having sex with casual partners in the past six months reported not using condoms the last time they had sex.
- 29.5% of participants reported having had sexual experiences with women. A third of the men who had previously had sex with women reported not having a female sexual partner in the past six months; 35% had one, and the rest had two or more female partners. Only 13% of respondents who reported having sex with a female partner in the past six months used condoms.

2. Female Sex Workers

A total of 358 female sex workers participated in the survey, with 89% being Jordanian and 11% of other nationalities. In terms of marital status, 36% of participants were currently married, 32% were divorced, and only 20% were single and had never married.

- The majority of participants (59%) reported having 2-5 male clients on the last day of work; 30% had one client and 10% had more than five. The average number of clients on the last day of work was approximately three.

- 80% of participants reported using condoms the last time they had sex with a client. Additionally, 50% of them reported that their last clients were Jordanian citizens.
- 51% of participants reported having sex with more than five male clients in the past month; 43% reported having sex with 2-5 clients, and 2.3% reported having sex with one client. The average number of clients in the past month was approximately nine.
- The average number of non-paying partners with whom participants had sex in the past month was approximately two; 68% had sex with one non-paying partner in the past month, 23% had sex with two, and 8% had no non-paying partners in the past month.

Based on the aforementioned findings, sex workers and men who have sex with men are considered individual hotspots for HIV exposure or transmission. The survey highlights the following risk factors:

- **Unprotected sexual practices:** Low condom usage increases the likelihood of virus transmission between sexual partners.
- **Multiple partners:** Sex workers may interact with a large number of clients, increasing their risk of exposure to the virus, especially if some of their clients are infected. Additionally, sex workers themselves may be infected, increasing the risk for their clients.
- **Transmission to uninfected partners:** Clients may transmit the virus to their sexual partners, leading to a wider spread of the virus in the community.
- **Diverse workplaces and mobility:** The nature of their work involves frequent location changes, which can contribute to the spread of the virus.

Given that these practices are prohibited in our society, reaching sex workers poses a significant challenge to national efforts to curb the spread of the virus. This is especially true considering that statistics from the National AIDS Control Program from 1986 to 2022 indicate that 53.6% of all infections occurred within Jordan. Moreover, more than half of the cases reported during this period were a result of male-to-female sexual contact, while 20.4% were due to male-to-male sexual contact.

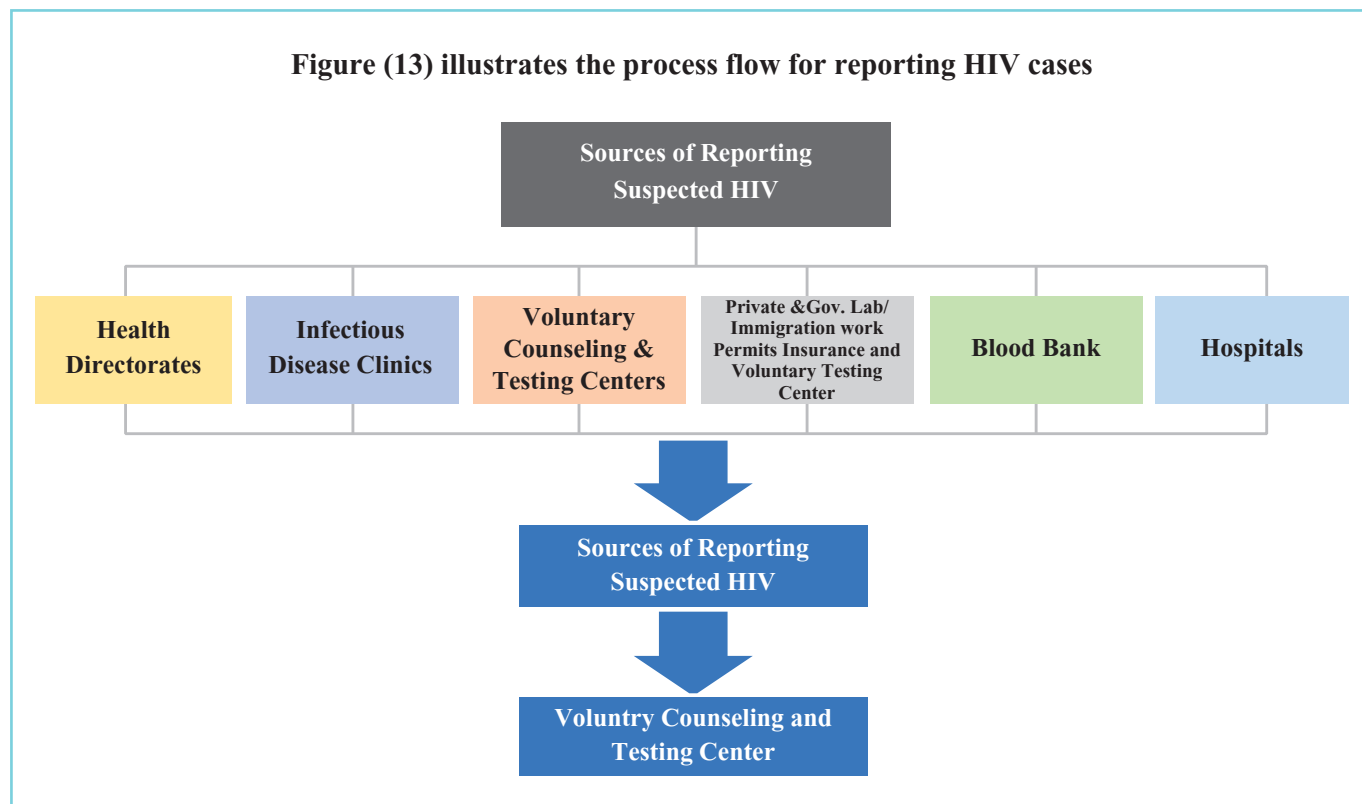


6. Surveillance System in Jordan and Case Detection

Following the first reported case of AIDS in 1986, the Jordanian Ministry of Health established the National HIV/AIDS Control Program, which operates under the Directorate of Communicable Diseases within the Primary Health Care Administration.

In terms of maintaining the national information system, all samples suspected of HIV infection, whether from blood banks, private laboratories, or hospitals, are legally required to be sent to the central laboratory of the Ministry of Health in Amman for further testing. A series of confirmatory tests, agreed upon within the medical

protocol and consistent with global protocols, are conducted to confirm or deny the presence of the virus. If the central laboratory in Amman confirms a positive HIV diagnosis, it sends the results directly to the sexually transmitted diseases department (voluntary counseling and testing center) to contact the infected individual and initiate the necessary procedures. The following diagram (Figure 13) illustrates the process flow for reporting HIV cases.



- Cases are recorded in the records of the voluntary counseling and testing center. Standard procedures are followed, including requesting a personal identification document from every confirmed case. A database is then created for each infected individual based on an epidemiological investigation form approved by the center. This form aims to collect information on the social and behavioral characteristics of the infected individuals.

- The data monitoring and analysis department/Directorate of Communicable Diseases is regularly updated with the latest statistics related to the epidemiological situation of HIV, without disclosing the personal information of infected individuals.

- To ensure privacy and confidentiality, all personal information of infected individuals is kept solely within the center and is not shared with any external party except in specific cases where it is necessary. A unique code, agreed upon for each infected individual, is used to arrange laboratory tests and specialist clinic visits as needed, without the need to disclose the individual's personal information.



7. Status of Services for People with HIV/AIDS in Jordan

7.1 Ministry of Health

The Ministry of Health (Voluntary Counseling and Testing Center) provides virus treatment services, conducts laboratory follow-ups, and refers patients to hospitals for symptoms related to the virus. The center also offers the following services:

- **Hotline:** The hotline provides answers to all questions and inquiries about sexually transmitted diseases, testing locations, and treatment. The responses are provided by experts and are completely confidential.
- **Counseling:** The center provides voluntary counseling services to help individuals make informed decisions about their treatment plan, prevention of opportunistic infections, and how to interact with their partners and others. They also provide health education on changing bad habits such as smoking and encouraging exercise and a healthy diet to boost immunity.
- **Rapid Testing:** For any individual who suspects they may be infected, a test can be conducted at the counseling center confidentially without writing the patient's name. Instead, a code is assigned to the patient. The result is usually available within 15 minutes. If the test is negative, it is repeated according to schedule. If it is positive, it is sent to the central laboratory for confirmation.
- **Reporting Positive Cases:** If a case is reported, the individual is contacted by phone and informed of the need to visit the center. If the patient comes to the center and the result is not confirmed, the test is repeated. If the result is confirmed, the necessary tests are conducted before starting treatment, in addition to tests for other sexually transmitted diseases. The patient is referred to the chest diseases directorate for a tuberculosis test.
- **Monthly Medication:** Each patient is provided with monthly medication that is appropriate for their health condition and test results.
- **Regular Check-ups:** Every six months, each patient undergoes a follow-up examination to monitor their overall health, the effectiveness of the treatment on the viral load and immunity, and to adjust the medication, if necessary, as determined by the specialist.
- **Patient Education:** Patients are educated about viruses, opportunistic infections, and how to prevent them.
- **Infertility Counseling:** The center assists couples who wish to conceive by helping them choose the right time to conceive and by conducting the necessary tests for both parents. If the mother is infected, the treatment is changed if she is using a medication that is not compatible with pregnancy. She also undergoes regular check-ups and the fetus is given preventive medication for 6 weeks until it is confirmed that the fetus is not infected.

- **Psychological Counseling:** The center provides psychological counseling and behavioral modification services by a psychiatrist for those who need assistance.
- **Liaison Officers:** There are liaison officers in hospitals and governorates who have been trained to deal with infected patients.

7.2 Forearms of Change Center for Community Empowerment:

To empower the community, the Forearms of Change Center for Community Empowerment implements educational and awareness programs, reaching out to the most vulnerable population groups in four governorates (Amman, Mafrqa, Irbid, and Zarqa). It provides counseling services, rapid testing (if a positive result is found, the individual is referred to the Ministry of Health for confirmatory testing and treatment initiation), referral to private sector clinics, and the provision of psychosocial support and financial support when needed. Additionally, the center offers a hotline service that answers callers' inquiries and connects them to services. It also launches annual media campaigns to combat stigma and discrimination associated with HIV/AIDS, aiming to reduce stigma and discrimination against people living with HIV and the most affected groups.

7.3 Royal Medical Services:

The Royal Medical Services conducts tests for its members when they participate in missions outside the country, in addition to testing within its blood banks. The private sector also conducts laboratory tests when requested by the service recipient.



8. Costs of Testing and Treatment in Jordan

According to Table (4), the total expenditure on HIV testing and treatment was 15,304,856 JD. The Ministry of Health spent 11 million JD, while other government institutions spent 3 million JD, totaling 14,168,910 JD or 92.6% of the total expenditure in 2019. International organizations and donors contributed 1% of the total expenditure, the private sector spent 2.7%, and self-funding accounted for 3.7% of the total expenditure in 2019.

Table (4) shows the sources of spending on AIDS in Jordan in 2019

No.	Source	Total spending	Percentage of expenditure to total
1	Government	14168910	92.6%
2	International organizations and donors	144122	1%
3	Private sector and civil society	415824	2.7%
4	Self-Financing	576000	3.7%
	The total	15304856	100%

Source: Forearms of Change Centre to Enable Community, Analysis of HIV Expenditures in Jordan and Domestic Resource Mobilization for Forearms of Change Centre to Enable Community (FOCCEC), 2021

The Ministry of Health estimates the expenditure per person living with HIV to be around 1,000 JD per month, with 700 JD allocated for antiretroviral treatment. The cost of an ELISA test in the public sector is approximately 6 JD, compared to 20-40 JD in the private sector. The cost of a viral load test is estimated at 50 JD in the Ministry of Health, compared to 100-190 JD in the private sector.

Table (5) shows the expenditure on the treatment of people with HIV for 2019 in the Ministry of Health:

Table (5) Size of Spending On the treatment of people infected with the virus for the year 2019 in the Ministry of Health

Medical and health service	Value in Jordanian Dinars	ratio
Antivirals	2136000	76%
Preventive treatments for opportunistic infections	18000	0.6%
Examinations and dealing with complications inside and outside hospitals	230000	8.2%
Voluntary counseling and testing	82800	3%
tuberculosis screening	3450	0.1%
Routine check-up and follow-up	222900	8%
Other services	115000	4.1%
The total	2808150	100%

Source: Forearms of Change Centre to Enable Community, Analysis of HIV Expenditures in Jordan and Domestic Resource Mobilization for Forearms of Change Centre to Enable Community (FOCCEC), 2021

9. Treatment

Significant progress has been made globally in treating HIV, allowing individuals to live healthy and positive lives without the virus affecting their life expectancy. Since 1986, when early treatment trials began, until mid-2023, people with HIV now take a single daily pill of a combination or triple antiretroviral therapy. This has led to the life expectancy of someone adhering to treatment being comparable to that of an uninfected person.

The world has reached the conclusion that individuals who consistently adhere to treatment do not pose a risk of transmitting the infection and can lead a normal life. Not only that, but some countries have started administering treatment through injections, with a single injection lasting anywhere from one to six months. There are also trials for injections that last for a full year.

Current treatments prevent the virus from reproducing and can make it undetectable in the blood by PCR tests, though they do not cure the virus completely. The virus remains latent and can reactivate when drug when drug levels drop.

There is no vaccine to prevent infection, but antiretroviral drugs are used to suppress the virus.

These drugs include:

1. Nucleoside Reverse Transcriptase Inhibitors (NRTIs): Block the enzyme needed by HIV to replicate.
2. Non-nucleoside reverse Transcriptase Inhibitors (NNRTIs): Inhibit the enzyme that assists in forming viral DNA, thus stopping replication.
3. Protease Inhibitors: Disrupt the protease enzyme required by HIV to replicate.
4. Fusion Inhibitors: Prevent HIV from entering CD4 cells, and integrase inhibitors block the protein HIV uses to insert its genetic material into CD4 cells.

Key Points from the U.S. Centers for Disease Control and Prevention (CDC):

- There is no cure for HIV, but HIV treatment can reduce the amount of HIV in the body.
- All people living with HIV should take HIV treatment, regardless of how long they have been infected or their current health status. Delaying treatment allows HIV to continue damaging the immune system, increasing the risk of transmission to others and progressing to AIDS.
- HIV treatment prevents the transmission of the virus to others and helps the person stay healthy.
- HIV medications can reduce the viral load in the body to undetectable levels, making it untraceable by tests (undetectable viral load).
- Having an undetectable viral load prevents the transmission of HIV to others.

<https://www.cdc.gov/hiv/treatment/index.html>



10. HIV Prevention Approaches

The study⁽¹³⁾ discussed seven different approaches to prevent the transmission of HIV. These approaches are primarily based on behavioral changes and the use of protective measures.

(13) Mona Larki , Elham Manouchehri , Robab Latifnejad Roudsar, ABC complementary approaches for HIV/AIDS prevention: a literature review, HIV AIDS Rev 2022; 21, 2: 89-98

1. ABC Approach⁽¹⁴⁾: Used in sub-Saharan Africa, it focuses on abstinence, being faithful, and condom use. It emphasizes cultural values that encourage delaying sex until marriage, monogamy, or reducing the number of sexual partners and using condoms.

2. ABCDE Approach⁽¹⁵⁾: Adds two components to ABC: "D" stands for avoiding drug use as it leads to inconsistent condom use and increased risk of STIs, including HIV, especially with multiple partners. "E" represents avoiding equipment that causes injury, like tattooing tools and acupuncture needles used by others.

3. ABCDs Approach⁽¹⁶⁾: This approach was used in Pakistan to enhance preventive measures and provide information on home care. It builds upon the first approach by adding a component 'Ds' which means 'do not share needles

4. ABCD Approach⁽¹⁷⁾: The National AIDS Council of Singapore utilized this strategy. Additionally, home care policies in Uganda highlighted its importance. This approach expands on the original model by incorporating an additional element, 'D', which signifies early HIV diagnosis

5. ABCD Approach⁽¹⁸⁾: Created with the help of the Catholic Bishops' Conference of South Africa and the Catholic Higher Education Student Association, it modifies ABC to include "C" for changing lifestyles and "D" for awareness of AIDS risk.

6. SAVE Approach⁽¹⁹⁾: The African Network of Religious Leaders implemented this approach, which comprises four components. The first, 'S', stands for 'safer practices,' including prevention of mother-to-child transmission, post-exposure prophylaxis, male circumcision, avoidance of sharp objects, safe blood transfusion, delayed sexual debut, and mutual faithfulness within a committed relationship. Safer sexual behaviors, such as condom use, are also encouraged. The second component, 'A,' represents 'available medicines,' emphasizing the importance of affordable HIV medications. The third component, 'V,' stands for 'voluntary counseling and testing,' which helps people reduce risky sexual behaviors. The final component, 'E,' stands for 'empowerment through education,' providing opportunities for HIV/AIDS education in schools and economic empowerment

7. 7. GEM Approach⁽²⁰⁾: The element 'G' represents 'gender relations,' signifying that HIV prevention for

(14) ABC approach: ("Abstinence, be faithful, Use a Condom")

(15) ABCDE: ('Abstinence, be faithful, use a Condom, do not use drugs, equipment")

(16) ABCDs :(Abstinence, be faithful, use a Condom, do not share needles")

(17) ABCD approach (Abstinence, being committed to one uninfected partner who has no other partners', 'consistent and correct condom use', early diagnose of HIV)

(18) ABCD: 'A' represents 'abstain', 'B' – 'be faithful', 'C' – 'change your lifestyle', and 'D' – 'danger of contracting AIDS

(19) SAVE: ('S' component represents safer practices, available medication, 'voluntary testing and counseling', 'empowerment through education

(20) GEM: (gender relations, economic and educational contexts', migration)

women must consider the underlying power imbalances between genders. This is rooted in the understanding that the primary drivers of the epidemic among women and girls lie in gender inequality. For instance, toxic masculinity empowers men to engage in risky sexual behaviors and prevents women from accessing HIV prevention, testing, and care services. The second element, 'E,' stands for 'economic and educational contexts.' A woman's socioeconomic status is a significant determinant of her HIV risk. Factors such as unemployment and financial need may drive women into transactional sex, increasing their vulnerability to HIV. Limited financial resources can also hinder their access to healthcare, HIV testing, and medication. Lastly, 'M' represents 'migration.' Separation from family, partners, and familiar social and cultural norms can increase the vulnerability of migrants to HIV infection. Moreover, migrants may face barriers to accessing HIV prevention services, counseling, testing, and treatment.

The previous seven methodologies primarily focused on behavioral interventions at the individual and community levels, reflecting advancements in HIV prevention. Although they represent the unique characteristics and priorities of the communities from which they originated, overall, they constitute general methodologies for preventing HIV infection. The following section presents preventive measures based on the epidemiological surveillance guide for communicable diseases issued by the Ministry of Health , as well as the World Health Organization and Mayo Clinic websites⁽²²⁾.

First: General Prevention Measures

- Health education about the disease, transmission, and prevention, targeting young people and high-risk groups (sex workers, people who inject drugs).
- Ensure sexual partners are tested for HIV.
- Use high-quality condoms correctly if the HIV status of a partner is unknown. Note that condoms do not eliminate the risk.
- Male circumcision can reduce the risk of HIV infection.
- Ensure blood is tested for infections, including HIV, before transfusions, especially outside Jordan.
- Voluntary counseling and testing for people with extramarital sexual practices at least annually, maintaining confidentiality.
- Monitor and manage pregnant women to reduce mother-to-child transmission.
- Provide post-exposure prophylaxis (PEP) to healthcare workers exposed to HIV within hours (preferably less than 7 hours) of exposure, continuing for 28 days.

(21) Ministry of Health, 2015, Epidemiological Surveillance Guide for Communicable Diseases

(22) <https://www.mayoclinic.org/ar/diseases-conditions/hiv-aids/symptoms-causes/syc-20373524>

The Mayo Clinic website adds that taking pre-exposure prophylaxis (PrEP) medications can reduce the risk of contracting HIV through sexual activity by about 99% and by at least 74% through needle drug use, according to the Centers for Disease Control and Prevention (CDC). Healthcare providers prescribe these medications to prevent HIV infection only for people who are not already infected with the virus. Therefore, an HIV test must be conducted before starting any PrEP medications, and testing must continue every three months throughout the period of taking PrEP.

Secondly: people living with HIV

- Report cases to the national HIV program while maintaining patient confidentiality.
- Prevent others from coming into contact with bodily fluids by informing sexual partners and using condoms for each sexual encounter.
- Avoid sharing needles, razors, or toothbrushes.
- Do not donate blood or organs.
- Strictly adhere to antiretroviral therapy to control viral replication and delay resistance.
- Pregnant women with HIV should seek specialist care to reduce the risk of transmission to their babies.
- Mayo Clinic also suggests treatment as prevention (TasP), where undetectable viral load means the virus cannot be transmitted through sex.

Thirdly: close contacts

- Avoid contact with infected bodily fluids during sexual activity using condoms.
- Use household disinfectants like bleach if there is contact with blood and gloves if the contact involves open wounds or infections.
- Apply infection control procedures when handling blood and contaminated materials.



11. Conclusion

This paper aimed to provide scientific evidence to support policies and programs designed to prevent the transmission of HIV and reduce health risks for those infected. It presented numerous scientific findings, of which the most important are highlighted below, along with some recommendations:

Firstly: Statistics published by the Ministry of Health reflect what is monitored in the national surveillance system through reporting of cases among specific groups, including blood donors, foreign workers seeking work permits, and voluntary counseling seekers. Consequently, the actual numbers remain unknown due to underreporting of cases. Given the importance of accurate numbers for conducting studies and research to improve health response, allocate resources, develop prevention and treatment strategies, identify areas with the greatest need for intervention, and establish a strong foundation for predicting the spread of the epidemic and making informed decisions, there is a need to:

- Improve registration and tracking systems by creating a central database for HIV/AIDS patients that allows for ongoing updates and accurate monitoring of cases.
- Conduct comprehensive national surveys to investigate the prevalence rate among the population, with a focus on at-risk groups. It is beneficial to continue implementing the Integrated Biological and Behavioral Survey conducted in 2013.
- Strengthen early testing and awareness through awareness campaigns and increasing the number of health centers that offer HIV testing, including rapid and self-testing.
- Partner with civil society organizations working with at-risk groups to promote testing, monitoring, and support for patients, and to encourage voluntary reporting.
- Analyse the statistics data and estimate the future Views.

Secondly: HIV infections among Jordanian youth aged 20-39 years between 1986 and 2023 were concentrated in this age group, accounting for 60.7% of male cases and 56.7% of female cases. At the same time, knowledge of HIV transmission and prevention methods among youth was low, with only 9.3% of married young women and 21.5% of young men, regardless of marital status, reporting such knowledge. The following educational and awareness strategies tailored to the local community and Jordanian culture are proposed:

- Incorporate HIV topics into Jordanian school and university curricula, focusing on transmission and prevention methods.
- Promote the use of male and female condoms as effective prevention tools.
- Organize health campaigns led by the Ministry of Health to educate youth about HIV, including free

testing and awareness campaigns in schools, universities, and youth centers, with the participation of the Ministry of Social Development and Youth and civil society organizations.

- Reduce the stigma associated with HIV through campaigns aimed at correcting misconceptions, encouraging youth to seek information and help without fear.

Third: Statistics from the National AIDS Control Program for the period 1986-2022 indicate that 53.6% of all Jordanian cases were acquired locally, and over half of Jordanian cases between 1986 and 2023 were the result of male-to-female sexual contact, with 20.4% of cases resulting from male-to-male sexual contact. A behavioral and biological survey conducted in 2013 revealed a high prevalence of risky sexual behaviors among the targeted population groups (men who have sex with men and sex workers), including unprotected sex and multiple partners. These groups constitute individual hotbeds for exposure to or exposure to the risk of HIV infection, whether from workers to clients or from clients to workers, in addition to putting the wives of clients at risk of infection, thus threatening the occurrence of more infections and the wider spread of the virus in the community. Since these practices are taboo in our society and there is sensitivity in discussing them, reaching them remains a challenge for national efforts to reduce the spread of the virus. Therefore, we propose a high-level national dialogue to address these risks and reduce their spread, rather than leaving them untouched due to the sensitivity of discussing them.

Fourth: Despite high levels of self-reported knowledge about AIDS among men and women aged 15-49 (87.7% and 96.7% respectively), there are significant knowledge gaps in the following areas:

- Knowledge of Pre-Exposure Prophylaxis (PrEP) was low, with only 5.2% of men and 7.1% of women aged 15-49 reporting awareness.
- Knowledge of antiretroviral therapy (ART) for treating HIV was also low, with only 8.5% of men and 12.8% of women aged 15-49 reporting awareness.
- Awareness of the possibility of reducing mother-to-child transmission of HIV through the use of maternal medications was low, with only 9.1% of men and 17.4% of women aged 15-49 reporting such knowledge.

Fifth: Given the importance of promoting knowledge about PrEP for uninfected individuals and ART for people living with HIV in reducing and preventing HIV replication, we propose implementing comprehensive awareness strategies combining education, information dissemination, and access to information through various channels such as schools, universities, media campaigns, healthcare facilities, and civil society organizations.

HIV testing rates among men and women aged 15-49 were low, at 3.4% and 2.2% respectively. Given the importance of testing for early detection and control of the epidemic, we propose the following strategies:

- Work to eliminate the stigma associated with HIV testing through awareness campaigns that explain that testing is a routine medical procedure.

- Raise awareness about the importance of early HIV detection in improving treatment outcomes and quality of life, and that early detection can lead to better disease management and reduce the risk of transmission to others.
- Make testing confidential and easily accessible to protect individuals' privacy.
- Provide free or low-cost testing and support for at-risk populations.

Integrate HIV testing with routine check-ups or offer HIV testing as part of routine check-ups during doctor visits or annual exams.

Sixth: Despite high levels of awareness about HIV, there was also a high prevalence of discriminatory attitudes towards people living with HIV among both men and women (91% and 91.4% respectively). This negatively impacts people's willingness to get tested and can lead to marginalization and deter people from seeking HIV-related health services. To reduce discriminatory attitudes, we propose the following strategies:

- Community education and correcting misconceptions about HIV and its transmission.
- Disseminating scientific facts about HIV, including the possibility of living a normal life with the virus through antiretroviral therapy (ART), the need for regular testing, and how to prevent it using PrEP.
- Including information about HIV and AIDS in school curricula to promote awareness among youth.
- Enacting laws criminalizing discrimination against people living with HIV in employment, education, and healthcare.
- Training healthcare providers on how to provide non-discriminatory care to people living with HIV.
- Providing a safe environment in healthcare facilities where people living with HIV can access testing and treatment without fear of discrimination or stigma.
- Strengthening the role of civil society organizations in providing education and support to people living with HIV.
- Promoting regular HIV testing and early detection, and widely promoting testing to encourage people to get tested without fear of stigma.

Seventh: Since the above recommendations intersect with many national institutions, we propose forming a national committee at the level of decision-makers to coordinate national efforts and follow up on the implementation of these recommendations, headed by the Ministry of Health and including representatives from the Ministries of Awqaf and Islamic affairs, the Ministry of Social Development, the Ministry of Youth, the Ministry of Education, the Ministry of Labor, the Ministry of Interior, the Royal Medical Services, Jordan Center Disease Control, universities, the private sector, relevant civil society institutions and donors, with the participation of the Higher Population Council.



1. Ministry of Health. Epidemiological Surveillance Guide for Communicable Diseases, 2015.
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Amman - Madena Monawara Street
Faeg Haddaden Street, Building No. 13

Tel: 00962 6 5560748

Fax: 00962 6 5519210

P.O.Box 5118 Amman 11183 Jordan

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