

Fact Sheet 12 Strategies for prevention of HIV

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• **Introduction:**

There are four major sources of HIV infection:

sexual transmission,

transfusions of blood or blood products, or transplanted tissue or organs obtained from HIV-infected donors,

using skin piercing instruments or injecting equipment that is contaminated with HIV (Fact Sheet 1), and

transmission from mother to child during pregnancy, labour, or following birth through breast feeding (Fact Sheet 10).

This Fact Sheet will attend to prevention through sexual transmission, blood transfusions and injecting drug use.

There is ample evidence globally that well-designed prevention programmes can reduce the incidence of HIV. In societies where services and programmes were in place before the epidemic, the creation of new initiatives and the re-orientation of existing initiatives led to a gradual decline in the incidence of HIV by the mid-1990's. A similar trend is observed even in resource-poor settings, in part a result of rigorous prevention efforts.

However, prevention is a very complex challenge. Some prevention strategies need to be addressed at the greater society (or macro) level, such as strengthening or changing government policies, modifying laws, and enforcing new laws or human rights policies. Other prevention strategies must address the behavioural, social and cultural context (the micro level) of the individual. At both the macro and micro level, policies, programmes and practices should address both harm reduction and prevention of HIV.

At the macro level, governments and governing bodies have to be aware of the magnitude of the HIV epidemic in their country, and be mobilized to face this challenge. Nurses and midwives can play an important role in promoting such awareness. However, it is at the micro level, where behavioural, social and cultural influences have the most affect on communities, families, and individuals, that nurses and midwives can make the greatest contribution to HIV prevention.

Although HIV prevention and harm reduction have been separated into challenges at the macro and micro level, in practice, they are interdependent and closely related.

• Sexual transmission

The most common form of HIV transmission (as well as other STD transmission) is through sexual intercourse or through sexual contact with infected blood, semen, or cervical and vaginal fluids transmitted from any infected person to his/her sexual partner, whether it be man to woman, man to man, or woman to woman, although the latter is less likely. HIV transmission through sexual contact can occur vaginally, orally, anally or rectally.

Man to woman transmission, usually from a single partner, is now the most common form of HIV sexual transmission. Women (and to a lesser extent men) who remain faithful in their partnership, contract HIV when their partner has sexual contact with an HIV-infected person outside (or before) their relationship. Although this is the most common form of transmission, women still suffer more stigma, discrimination, and isolation (Fact Sheet 6) than their male partners. As a result there is often denial or a "conspiracy of silence." Acts of violence may also be directed toward the woman (Fact Sheet 10). In addition, other sexually transmitted diseases, which often go undiagnosed in women, contribute to a higher rate of HIV transmission.

Man to man transmission (Men who have sex with men: MSM)

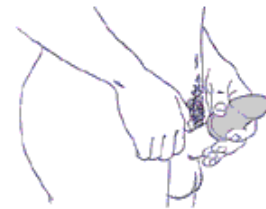
Unprotected penetrative anal sex carries a high risk of HIV transmission, especially in the receptive partner. This risk is several times higher than vaginal intercourse because the lining of the rectum is thin and can easily tear, and even small lesions can allow the virus easy access. Worldwide, a large percentage of MSM are married, or have sex with women as well. These men often do not identify themselves as homosexual or "gay." In addition, MSM is often stigmatized or criminalized, and therefore there is difficulty in reaching these men. The results are inadequate or inappropriate health care, and health promotion/preventive programmes.

Woman to woman transmission

Transmission of HIV from woman to woman is less common than MSM or heterosexual contact. However, the risk still remains. HIV transmission can occur through rough sex play where the mucous membrane of the external genitalia, vagina or cervix is torn. Also, if the woman has an STD, the likelihood of HIV transmission is increased.

• Prevention of sexually transmitted HIV

The safest form of prevention of sexually transmitted HIV is abstinence. However, in most instances, such practices are neither realistic nor desirable. Barrier methods that prevent semen and other bodily fluids from passing from one partner to another are the next most effective preventive methods. These barrier methods also reduce the risk of STDs, however, they also act as a contraceptive. Such barrier methods include the male and female condom.



Male condom (Credit: JHU/CCP)

Male condom

The male condom is placed over the erect penis before penetration occurs. The condom then remains on the penis until after ejaculation when it should be immediately removed, knotted and discarded in a safe place such as a toilet, latrine, or in a safe disposal unit. It is vitally important that people are given accurate information and an opportunity to practice using condoms. Information should include:

how to place the condom on the erect penis, leaving space at the top to receive the ejaculate,

how to unroll the condom down to the base of the penis,

how to ensure that the condom remains in place throughout intercourse, and

how to remove the condom before the penis loses its erection.

It is important to emphasize that individuals may practice using condoms on a model or other object, such as a banana or cucumber. A new condom must be used for each sexual act. Condoms should be easily accessible for both men and women, and are best distributed in places where a sense of privacy is increased and embarrassment is reduced. Wherever possible, free condoms should be available.

Female condom

The female condom is a soft yet strong polyurethane sheath, about the same length as the male condom, only wider. A plastic ring at the closed end helps keep the condom fixed within the vagina during sex. A larger ring at the opening stays outside the vagina, spreading over the woman's external genitalia.

The female condom provides extra protection to men and women because it covers both the entrance to the vagina and the base of the penis, both of which are areas where STD sores make it easy for HIV to enter. Female condoms should only be used once and do not require a prescription. However, they are more expensive than male condoms and not as easily acceptable or accessible. Because the external ring is visible outside the vagina, using a female condom might require the agreement of both partners. However, because it can be inserted hours before intercourse, it can provide protection in situations where consumption of alcohol or drugs may reduce the chances that a male condom will be used. Less is known by the public about the female condom than about the male condom, and use of the female condom is less widespread. Therefore, there needs to be education for both health care workers and women in general.

The condom is inserted with the finger, making sure no damage is done to the polyurethane by finger nails or other sharp objects. The condom should then fit snugly against the cervix. During intercourse, it is necessary to guide the penis in or check that the penis has entered the condom and not entered the vagina outside the condom wall. The condom should be removed as soon possible after male ejaculation, and disposed of in the same ways as the male condom.

Other barrier methods

Other barrier methods exist to help reduce the sexual transmission of HIV, but these are less reliable, and often not as readily available. The female diaphragm prevents semen from entering the cervix. However, it does not protect the vagina or the external genitalia from exposure to HIV. Special mouth condoms are available for oral sex. However, these are not readily available and are rarely used. Scientists are working on a vaginal cream that would kill the HIV virus, but it is not yet available.

• Blood transfusions

There is a 90-95% chance that someone receiving blood from an HIV infected donor will become infected with HIV themselves. Millions of lives are saved each year through blood transfusions, even in countries where a safe blood supply is not guaranteed. However, recipients of blood have an increased risk of HIV-infection. This risk can be virtually prevented by a safe blood supply, and by using blood transfusions appropriately. Difficulties hindering a safe blood supply include:

lack of national blood policy and plan
lack of an organized blood transfusion service
lack of safe donors or the presence of unsafe donors
lack of blood screening, and
unnecessary or inappropriate use of blood.

• Minimizing the risk of HIV infected blood transfusions

In many countries, regulations on blood donations, screening and transfusions exist, but are not adhered to. It is vitally important that regulations be established and rigorously enforced.

Three essential elements must be in place to ensure a safe blood supply:

1. There must be a national blood transfusion service run on non-profit lines which is answerable to the Ministry of Health.
2. Wherever possible, there should be a policy of excluding all paid or professional donors, but at the same time, encouraging voluntary (non-paid) donors to come back regularly. People are suitable donors only if they are considered to have a low risk of infection.
3. All donated blood must be screened for HIV, as well as for hepatitis B and syphilis (and hepatitis C where possible). In addition, both donors and patients must be aware that blood should be used only for necessary transfusions.

Screening

The majority of tests done for detection of HIV detect the presence of antibodies to HIV, not the virus (Fact Sheet 1). However, there is a window period (with the most sensitive tests about 3 weeks, and longer with less sensitive tests) when the test may provide a false negative result and the blood be infected with HIV. Tests also exist (called HIV antigen tests), that detect the virus in the blood, but these are more expensive and of limited value. In many countries, correct screening of

blood is still applied to some but not all blood donations. For example, in many developing countries, blood is screened in the capital city, and perhaps in one or two other larger towns, but not screened in rural districts. Lack of screening is most often due to lack of funding, and it is expensive to set up a national system to test all donated blood. Good organization, planning, and management are necessary, as well as trained staff at all levels and the availability of test kits.

Selecting blood donors

Paid donors very often come from the poorest sectors of society. They may be in poor health, undernourished and at risk of having infections that can be passed on through transfusions. In some places, paid donors sell blood in order to buy drugs to inject themselves, often using shared, unsterile equipment. In addition, paid donors are more likely to give blood too frequently, making their blood substandard, and increasing the possibility of damage to their own health. The practice of paying donors usually goes hand-in-hand with the practice of selling blood to people who need it. Under such a system, poor families may not be able to afford vitally needed blood.

Replacement donors have also been found to be problematic. In the replacement donor system, families of people needing a transfusion are asked to donate the same quantity as that given to their relation. This blood may be used directly for the relative, or placed in the general pool. This practice is strongly discouraged because the "relation" is often a paid donor, and even if the person is a relative, there are doubts about the safety of the blood, as normal criteria for selecting donors cannot be applied.

Therefore, the safest type of blood donor is the voluntary, unpaid donor. Such donors give their blood for humanitarian reasons and are more likely to meet national criteria for low-risk donors. Every effort should be made to educate, motivate, recruit and retain low-risk, unpaid donors.

Avoiding unnecessary or inappropriate transfusions

Unnecessary transfusions increase the risk of transmitting HIV, especially in places where there is no adequate screening programme. Additionally, unnecessary or inappropriate transfusions can create a shortage of the blood supply, which in turn encourages professional donors to become more active, thus reducing the safety of the supply.

Doctors and other health care workers should be educated to avoid prescribing inappropriate transfusions. Blood substitutes should be given where appropriate. In addition the underlying cause for the blood transfusion should be considered. For example, blood transfusions are often given for anaemia. Instead, the underlying cause of the anaemia should be investigated. Anaemia may be due to malnutrition, slow blood loss, and to infections such as malaria. Blood is often needed during complications accompanying childbirth. However, providing proper care for women before, during and after delivery, can decrease the need for blood transfusions.

Creating a national blood transfusion service

A national blood transfusion service means making all transfusion centres and blood banks part of a national network accountable to a government appointed nonprofit organization. This service must be developed within the framework of the country's health service, and must have an adequate budget and trained staff. There must be a national system of regulations, and regular, independent monitoring of the blood transfusion service. There is no guarantee that blood can be 100% free of HIV, however, with political commitment, good organization, sufficient funding and donation of blood from low-risk, voluntary, non-paid donors, the risks can be reduced to a minimum.

Body organs and tissue transplantation

HIV transmission can also occur through transplantation of body tissue or organs from an HIV-infected donor. This body tissue should follow the same screening programme as blood.

• Injecting drug users and other skin piercing practices

This Fact Sheet focuses on HIV prevention in injecting drug users (IDUs). Prevention of HIV infection through other skin piercing such as accidents at work, surgical interventions, tattooing, female and male circumcision, and scarification have been described earlier (see Fact Sheet 11 Universal Precautions).

Injecting drug users

HIV can spread very rapidly among IDUs, and from them to their sex partners and children. However, this spread can be prevented or slowed significantly if interventions are designed which take into account specific local characteristics of the IDUs. IDUs are usually a hidden and stigmatized group, because their drug-usage behaviour is illegal. Often caught in a cycle of poverty and faced with the cost of the drugs, IDUs often engage in criminal activities such as theft, and in high risk behaviours for HIV infection such as commercial sex work and paid blood donation. To date, the only effective responses to HIV transmission among IDUs to date are those based on the philosophy of harm reduction. Harm reduction is compatible with proven public health principles, and need not conflict with demand and supply reduction (law enforcement) programs. Harm reduction programs approach drug abuse primarily as a public health rather than a law and order issue. Such programs take into account:

Promoting use of sterile equipment

The most common pathway for HIV transmission among IDUs is the sharing of non-sterile injecting equipment. Scarcity, or lack of access to safe injecting equipment, and legal sanctions against possessing injecting equipment, are the two main reasons for reusing or sharing needles and syringes. Other reasons include ignorance of the risks of HIV infection and prevention methods.

The two strategies that have proven effective are:

the sale of needles and syringes at minimum prices through pharmacies or other outlets,

needle and syringe exchange programs.

These exchange programs ensure that dirty syringes and needles are exchanged for sterile ones. In addition, if community acceptance of these programs is to occur, then needles and syringes must be safely and discretely disposed of after use, and must not pose a threat to the non-IDU community. Ball (1998) recommends a **hierarchy of decision making** related to the prevention of HIV through intravenous drug use:

reducing the frequency of sharing, and the number of sharing partners,

cleaning injecting equipment with bleach,

not sharing injecting equipment,

using sterile needles and syringes, and not sharing other equipment,

changing from the injection of illicit drugs to use of non-injecting drugs,
reducing the frequency of non-injecting drug use, and
abstaining from all drug use.

This hierarchy of decision-making can be a useful framework to consider HIV prevention programmes. However, it should be noted that people do not fall neatly into any one of these categories. For example, a person may regularly engage in a needle and syringe exchange program, but, because of unforeseen circumstances, finds him/herself sharing used injecting equipment. This hierarchy also assumes that there is collaboration between the principles of public health (i.e.. Safe injection practices) and law enforcement. This is often not the case. In order for DU HIV prevention programs to be effective, national and local policies must achieve a balance between their attempts to reduce the supply and use of illicit drugs and their efforts to decrease unsafe injection practices.

The principles of harm reduction that have been proven effective in reducing HIV transmission in IDUs include:

education, especially peer education (Fact Sheet 9) and counseling (Fact Sheet 7);
promotion of the use of sterile injecting equipment for every injection; increasing the availability of equipment; removing barriers that prevent access to the use of sterile equipment (especially policing and legal barriers);
increasing drug treatment availability, accessibility and options;
increasing access to primary health care, particularly through services designed to be "friendly" to, and appropriate for, the DU community;
research and education performed in collaboration with the affected community.

• Other mood altering drugs

It is important to note that although DU carries the greatest risk of HIV transmission, taking other mood altering drugs can also promote at risk behaviours. Alcohol, and other legal and illegal drugs taken orally or as an inhalant can affect a person's decision making abilities. In such circumstances, the use of condoms is less likely, and other behaviours and sexual practices that increase the risk of transmission of HIV/AIDS might occur.

• Populations at risk

The vast majority of people who become infected with HIV are from vulnerable segments of the population. Children and youth (including street youth), women (Fact Sheet 10), prisoners,

refugees, migrant workers, ethnic minorities, the military and people who live in poverty are some of the most vulnerable populations.

Youth

Over 50% of new infections with HIV are now occurring in young people ages 10-24. That is, 7,000 young people are infected with HIV every day with young women being infected and affected more frequently than young men (Fact Sheet 10).

The reasons for these alarming figures are very complex. The life situations of many young people may contribute to infection. They may be gay or bisexual youth, use alcohol or drugs, have been sexually abused, or live on the margins of society. Many live on the streets, where violence, abuse, and drug use (particularly intravenous drug use) are common. In addition, young people often feel invincible, and do not consider themselves to be at risk for HIV or any other life threatening situations.

Women

Women are particularly vulnerable to HIV because of their status in many societies. Poverty, lack of education, poor access to health care and jobs, and social and cultural practices all contribute to women's lack of power and control over decision making (see Fact Sheet 10).

Infants

Mother to child transmission accounts for most HIV infections in infants (Fact Sheet 10).

Prisoners

Prisoners are often injecting drug users before they enter prison. They continue (or begin) this practice while in prison, often with shared, unsterilized needles and syringes. In addition, they may have unprotected penetrative sex with other men, and may be tattooed with shared, unsterilized equipment.

Refugees and migrant workers

Poverty, drought, flood, earthquakes, and war or civil strife cause many people to leave their homes and communities. These people end up in special camps where there is increased danger of HIV transmission. Blood transfusions are often required in large numbers, especially during times of war. Social systems and ties disintegrate and unprotected sexual contact and prostitution is common. Refugees, particularly women and children, are highly vulnerable to sexual violence, rape and drug trafficking. Where drug injecting occurred before the emergency, it is likely to continue in the camps where the sharing of injecting equipment increases the risk of HIV infection.

Military personnel

People in the military (mostly men) are separated from their homes, communities and social support networks and are often placed in positions where they can exert considerable control over others. This situation often leads to violence and abuse (physical and sexual) of the people they are charged with protecting. In such circumstances, HIV transmission is common.

Ethnic minorities

Like women, youth and children, people who are part of a visible minority are particularly at risk of HIV infection. These people often have limited social support, live on the margins of society, are poor, less educated, with little or no political representation. Such people have limited power or control, and are vulnerable to abuse, violence, and sexual exploitation. In addition, injecting drug use is common, often involving the use of unsterile, shared equipment.

Poverty

Poverty is the single common factor related to the transmission of HIV. People who are economically deprived usually have little access to education, social and health care services, and

other forms of social and financial support. As a result, these people are often forced into becoming sex workers or in exchanging sex for food and supplies. Drug trafficking and injecting drugs with shared, unsterile equipment is also common. Also, poverty often leads people to sell their blood for transfusion, blood which can be infected with HIV.

• Principles and strategies for prevention

Prevention programs have to take into account strategies that must be addressed at the macro (national/regional) level, and those requiring change at the micro (community) level. At the macro level, public health policies and law enforcement must focus on harm reduction. National and local policies must be developed and enforced that promote the reduction in HIV transmission. Where there is potential for law enforcement and public health policy to conflict (for example, prevention programs for IDUs), then partnerships must be forged to overcome these difficulties. At the micro level, the behavioural, social and cultural context within which people live must be taken into account. Strategies to promote the prevention of HIV transmission include:

Peer support and education

It has been widely documented that behavioural change is most likely to occur if peers educate and support each other (see Fact Sheet 9). Youth programs that are run by youth, women's collectives, groups involving street children, refugees, and IDUs, are all effective in promoting practices and behaviours that lead to reduction in HIV transmission. Frank discussions about sexual practices, drug taking, and other at risk behaviours are more likely to be explored and understood within these safe environments. It is important to note that these groups should be run by and for their particular populations. There are many powerful examples throughout the world of peer involvement in prevention strategies. Nurses and midwives can play an important role in facilitating the formation of these groups and providing expert knowledge where necessary. See fact sheet 9 for effective educational strategies.

Involving PLHA

People living with HIV/AIDS (PLHA) are often the best advocates and activists for social and behavioural change. The personal story of someone living with HIV presents a powerful message. These messages can mobilize people and resources, and thus initiate successful prevention programmes. In addition, involving PLHAs in various prevention programs helps to ensure that they are relevant and meaningful to the different population groups.

Combining resources

The combination of counselling, education, support, care services, and resources is necessary to provide a holistic continuum of prevention and care (Fact Sheet 3). For example, STD, antenatal, family planning, home care, hospital care, and community care, as well as other resources and services, can be combined to provide a comprehensive programme. In this way, programmes and services can be combined that address the various modes of HIV transmission without the stigma and discrimination often associated with HIV specific programs.

Forging partnerships

Governments, policy makers, law enforcement agencies, health and social service agency personnel, non-governmental organizations (NGOs), religious leaders and religious groups should join together in preventing HIV transmission. Nurses and midwives can play a central role in advocating for, and creating and participating in, such partnerships.

Cultural/religious/social sensitivity

There is no one programme that will be relevant, meaningful, and effective for all people. Prevention programmes must be sensitive to the local customs, cultural practices, religious beliefs and values, as well as to other traditional norms and practices. However, where such beliefs, values and practices conflict with the prevention of HIV (eg. circumcision, scarification, sexual abuse of children), then these must be challenged. Nurses/midwives can play an important role in supporting local practices and traditions while also challenging those practices that cause HIV transmission.

Facilitating empowerment

Involving individuals, groups, and communities in addressing their own health concerns and finding solutions to their problems promotes empowerment. People who are empowered are more likely to implement effective HIV prevention programs.

Challenging denial

HIV is surrounded by a conspiracy of silence and denial. People are afraid to be tested for HIV or admit their HIV status because they fear discrimination, violence, stigma and isolation (Fact Sheet 6). Nurses and midwives can help support and counsel people to be HIV tested (Fact Sheet 7) and to be open about their HIV status. Only when HIV becomes a public concern can prevention strategies that address the complex and diverse issues related to HIV transmission be addressed.

Combating stigma, isolation and marginalization

Nurses and midwives have a responsibility to care for all people, regardless of their health or social status (Fact Sheet 6). They can act as role models to others in helping combat stigma, discrimination and isolation of PLHA. Prevention strategies will be more successful if HIV is treated like any other chronic illness.

Ensuring the use of Universal Precautions

Nurses and midwives should play a central role in monitoring and ensuring that universal precautions are practiced in their workplace (Fact Sheet 11). Maintaining quality assurance programs and ensuring the availability of adequate supplies and human resources help promote a safe work environment. In addition, adequate care for the care provider is an important consideration.

Building on success

Many groups, communities and individuals have been successful in improving their quality of life. The strategies they developed for this improvement can also be applied to prevention programs. For example, if communities have been successful in lobbying for improved housing, these same lobbying tactics can be applied to HIV prevention programs. In addition, people can learn from one another. Stories of successful HIV prevention programs throughout the world should be shared with others so that they too may initiate similar programs.

Respect for human rights

Nurses/midwives should advocate for vulnerable populations to ensure that their human rights are respected and not violated (Fact Sheet 6). Prevention programs will only succeed where human rights are respected and maintained.

Questions for reflection and discussion

What are the most common ways that HIV is transmitted?

Which populations are most at risk for HIV transmission? Why is this the case?

What role could you play in HIV prevention within your local community?

What role might you play in promoting larger societal change?

What strategies and policies do you consider to be essential before effective HIV prevention programs could be implemented?

What role might you play in ensuring these strategies and policies are considered?

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