

Commentary

Mode of transmission of HIV

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ABOUT THE STUDY

Human Immunodeficiency Virus infection and Acquired Immunodeficiency Syndrome (HIV/AIDS) are a group of illnesses caused by HIV infection. Following the first infection, an individual may suffer no symptoms or a brief period of influenza-like sickness. This is usually followed by a long period of incubation with no symptoms. As the infection advances, it wreaks havoc on the immune system, increasing the likelihood of getting common illnesses like TB, as well as other opportunistic infections and malignancies that are typically uncommon in persons with normal immune function. Acquired immunodeficiency syndrome refers to these late signs of infection. This period is frequently accompanied with unintentional weight reduction.

Transmission

HIV spreads primarily through three routes: sexual contact, considerable exposure to infected bodily fluids or tissues, and transmission from mother to child during pregnancy, delivery, or nursing (known as vertical transmission). Unless contaminated with blood, there is no danger of contracting HIV *via* faeces, nasal secretions, saliva, sputum, perspiration, tears, urine, or vomit. It is also possible to be infected with many strains of HIV at the same time, a situation known as HIV super infection.

Sexual: The most common way for HIV to be transmitted is through sexual contact with an infected individual. An HIV-positive individual who has an undetectable viral load as a consequence of long-term therapy, on the other hand, has almost minimal risk of spreading HIV sexually. The existence of functionally noncontagious HIV-positive patients on antiretroviral medication was controversially reported in the 2008 Swiss Statement, but has now become medically recognized. Many sexually transmitted infections and genital

sores enhance the risk of transmission. Genital ulcers appear to raise the risk by a factor of five. Other sexually transmitted illnesses, such as gonorrhoea, chlamydia, trichomoniasis, and bacterial vaginitis, are linked with slightly lower increases in transmission risk.

Body fluids: Blood and blood products are the second most common method of HIV transmission. Blood-borne transmission can occur as a result of needle-sharing during intravenous drug use, needle-stick injury, transfusion of contaminated blood or blood products, or medicinal injections using unsterile equipment. The risk of sharing a needle while injecting drugs ranges from 0.63 per cent to 2.4 per cent per act, with an average of 0.8 per cent. The risk of obtaining HIV *via* a needle stick from an HIV-infected individual is estimated to be 0.3 per cent (approximately 1 in 333) every act, while the risk of acquiring HIV through mucous membrane exposure to infected blood is estimated to be 0.09 per cent (about 1 in 1000) per act. However, if the introduced blood came from a person with a high viral load and the cut was deep, the risk may be as high as 5%. In the United States, intravenous drug users accounted for 12% of all new HIV diagnoses in 2009, while in certain places, more than 80% of persons who inject drugs are HIV-positive. In theory, those who provide or get tattoos, piercings, or scarification are at risk of infection; however no proven cases have been reported. Mosquitoes and other insects are not capable of transmitting HIV.

Mother-to-child: HIV can be passed from mother to child during pregnancy, birth, or through breast milk, resulting in the infant catching the virus as well. Vertical transmission accounted for almost 90% of HIV diagnoses in children in 2008. In the absence of therapy, the chance of transmission before or during delivery is around 20%, and in those who additionally breastfeed, the risk is approximately 35%. Treatment reduces this risk to less than 5%. When used by either the mother or

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the infant, antiretroviral reduce the risk of transmission in individuals who do breastfeed. There is a danger of transmission if blood contaminates food during pre-chewing. If a mother is untreated, two years of nursing resulted in a 17 per cent chance of HIV/AIDS in her infant. Due to the higher risk of death in

many poor countries without breastfeeding, the World Health Organization recommends either exclusive breastfeeding or the provision of safe formula. All HIV-positive women should be on antiretroviral medication for the rest of their lives.