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Introduction

Q. What is HIV? Human Immuno-deficiency Virus

Q. What is AIDS? Acquired Immune Deficiency Syndrome

The two have a causal relationship. HIV is virus that attacks your body. AIDS is the result, as one's body becomes unable to protect itself from secondary diseases (most often called 'secondary opportunistic infections' as they take the opportunity to enter the body when its defence has been weakened by the virus). A person can have HIV but not have AIDS, in this case doctors will usually say a person is "HIV positive." All people who have AIDS carry the virus (HIV), a person who has a very weak immune system or carries a secondary infection is said to have AIDS, such a person also carries HIV (is HIV+)

HIV attacks the body's immune system; this is the system of the body that has the ability to fight disease and sickness. For example, when one becomes sick the body works to stop the disease/sickness so that it can be healthy. The virus, HIV, makes the immune system weak so that the body cannot stop disease/sickness. When someone has HIV the virus is slowly attacking the immune system, when the immune system becomes too weak to stop other diseases/sicknesses and the other disease/sickness takes the opportunity to enter the body it is said that one has AIDS. There is also a medical definition for AIDS, that is when ones CD4 cell count is below 400. When a person dies from AIDS they do not die from the virus (HIV) alone. Instead, HIV weakens the body so and the secondary opportunistic infections are the cause of death. In such cases, the person may not have become sick at all, but because the virus has weakened the immune system such diseases/sicknesses can cause death. A person living with HIV cannot properly stop disease/sickness and they often die from such secondary infections (such as malaria, tuberculosis (TB), or pneumonia). This occurs because when a person carries HIV their body is weakened and cannot properly defend itself. In most cases, HIV and a second disease/sickness are the cause of an AIDS death.

Review

What is HIV?

What is AIDS?

How are HIV and AIDS related?

What does HIV do to the body?

How does one die from AIDS?

Transmission

1. Unprotected sexual contact between someone carrying the virus and another person who does not carry the virus. This means any sexual contact (anal, oral, vaginal) without the use of protection (condoms, for example). Condoms are the only birth control method that can prevent an HIV transmission. But, condoms are effective only if used properly, are kept properly, and are not expired. Still condoms are not 100%

effective, some studies say condoms are about 93% effective. If two people have unprotected sex and neither carries the virus than no one will become infected – this shows us the importance of knowing ones status and of HIV testing. The virus is passed only from a person who carries the virus to a person who does not carry the virus. One can reduce probabilities with coming into contact with the virus by having fewer partners in sexual relations. As mentioned above, knowing each other's HIV status is important. If one does not come into contact with the virus they will not become HIV+, thus many approaches (religious, family, traditional, etc.) focus upon abstinence and the delayed onset of sexual contact for youth. It is very important to keep in mind that about 85% of HIV infections are due to sexual transmission. The below two transmission types are important but this one is crucial.

2. Blood to blood contact. This means that the blood of one person who carries HIV mixes with (comes into contact with) the blood of another person who does not carry the virus. The person who did not carry the virus will become HIV+ because of this contact. This can occur in many ways. For example in needle use/sharing the blood of one person can be injected in to another; even if it is a very small amount. Thus, all needles need proper sterilization (if the tools to do so are not available one can bleach/Clorox or boil the item for thirty minutes). We can imagine other such circumstances when such a transfer may take place: shaving razor, tattooing instruments, piercing items, tick removal tool, etc. One of the main factors related to this type of transmission is blood transfusion. If blood is not screened, blood carrying the virus can put inside the body of a person. Today this mode of transfer is less common due to testing/screening practices but was a major problem twenty years ago in America.
3. Mother-to-child transmission (MTCT or PMTCT). Women who are living HIV positive can pass the virus onto their infants. This can occur during pregnancy, the birthing process and during breastfeeding. The use of some treatments can decrease this possibility very much, in many place such treatment is free. For this precaution to be taken the mother must know her HIV status. A woman who does not carry HIV will not pass the virus to her infant. A woman who does carry the virus has about a 35% chance of passing the virus to their infant (this is a probability).

Recall that 85% of transmissions occur via sexual contact. The other modes of transfer need our attention, however the focus needs to be upon the first way due to its vast impact.

Review

- What is the most common way to become infected with HIV?
- What are some ways to reduce/prevent this type of transmission?
- What is blood-to-blood contact?
- What are some ways to reduce/prevent this type of transmission?
- What is MTCT?
- What are some ways to reduce/prevent this type of transmission?
- What is key to the prevention of all three?
- Why focus on sexual transmission?

Health and nutrition play a key role in our bodies ability to defend and repair itself, in particular from disease/sickness. A person may or may not become HIV+ from one contact with HIV. Some have become HIV+ with one sexual contact while others have been exposed

and do not become HIV+. Some believe this is related to health. If one is healthy the body has a greater opportunity to stop disease/sickness. It is thought, a healthy person has a better chance (probability) of stopping an HIV infection than an unhealthy person. This is also a factor with other diseases/sicknesses like TB and malaria.

Our bodies need four key food parts: First, proteins (found in meat, milk, eggs, lentils, or beans) help to build/make muscles and aid our immune system. It is not the case that only eating proteins makes the immune system the best, all four components are required to be healthy. Second, fats (found in oils, meats, vegetables, and many others) help store energy and protect our body. Third, carbohydrates provide energy for the body (found in cereals, breads, sugar, fruits, etc.). Last, our body needs clean water.

Also related to health is one's hygiene and sanitation. It is very important to keep oneself clean, including regular washing and properly treating injuries. As mentioned above, HIV/AIDS weakens the body and allows other diseases/sicknesses to damage the body. Since HIV weakens the body's ability to defend and repair it is very important to seek medical treatment for all diseases/sicknesses.

Why do HIV infections continue to increase: Social Factors (briefly)

Denial: "It won't happen to me," types of thoughts among others are related to the denial that HIV/AIDS is really a problem.

Gender: Sexual abuse, subordination of women, social and economic inequality, and biological factors.

Education: Scarce resources, misconceptions, teaching restrictions, and stigma.

Media: Globalization of sex and sexually centered media, no attention to protection.

Medical Services: Expensive, lacking, inaccessible, stigma, hourly barriers, lacking access to protection, lack of STD treatments (cost and stigma).

Culture: inability to talk about sex or negotiate safer sex due to inequalities.

Socio-economics: malnutrition, health costs, lifestyle, treatment/care cost.

Sexually Transmitted Diseases (STD's): Such infections are a co-factor (they increase transmission probability) in HIV infection.

War: Sexual abuse, mass movements of peoples (rebels, military, refugees).

HIV/AIDS in a Global Perspective

UNAIDS (Dec. 2005 Report) estimates that 40 million people are living with HIV/AIDS. Thus far, an estimated 25 million have already died. Of those who are living with HIV, it is estimated that 90% do not know it and the vast majority live in developing countries. Youth and young adults are the most at risk (but all ages can be affected). In 2005, over 50% of those newly infected were between the ages of 15 and 24. Everyday over 8000 die from

HIV/AIDS and 14,000 become newly infected (also everyday). Of those newly infected some studies suggest 250 (others suggest much higher numbers, as high as 2000) are infants infected via birthing or breastfeeding. In addition to the immediate life and death results HIV/AIDS affects many other people and aspects of society. An estimated 14,000,000 million children have already been orphaned due to AIDS death. So far, of those who've already died, 7,000,000 have been farmers – with that number expected to rise to 16,000,000 by 2020. AIDS death has affected teachers (85% of deaths in South Africa were due to AIDS) and medical systems as they are under-prepared, under-funded, and overwhelmed (on average 50-80% of hospital beds are occupied by people living with HIV/AIDS).

Review

What role does nutrition play in prevention?
Why is treatment important?
Why does HIV/AIDS continue to increase?
What are more reasons you can add?
What are the most important factors locally?
How do the global factors relate here?
What are the immediate effects of HIV/AIDS?
What are more long-term effects?

Prevention

People living with HIV/AIDS can be helped in a few ways: (1) anti-retroviral treatment, however there is no cure for HIV, (2) restoration of the immune system and, (3) treatment of secondary infections/diseases?

Antiretroviral treatments are not a cure, there is no cure for HIV/AIDS. These treatments help the immune system and slow the progression of HIV/AIDS. This can extend the life of people living with HIV/AIDS. The drugs are known to produce miracles as major health gains are made within only two months of treatment.

Antiretroviral treatments do have some negative aspects. They are costly. They are hard to access in developing nations, and they have side effects (20-30% of people living with HIV/AIDS in America can not take the antiretroviral drugs). Antiretroviral treatments also become less effective as the virus becomes resistant to the drugs.

Antiretroviral treatment can help a very sick person become healthy but they are not a cure. The immune system can also be helped with good health and proper nutrition.

Recall, HIV/AIDS death is associated with the damage of a second disease/sickness upon the HIV weakened immune system. Because of this, the treatment of secondary opportunistic infections is very important to the health and life of people living with HIV/AIDS. Seeking medical treatment for these diseases/sicknesses can extend life of people living with HIV/AIDS.

Prevention of MTCT

Women who carry HIV and become pregnant have a 35% chance (probability) of passing the virus onto their infant. As mentioned, some treatments can be taken to prevent this from

occurring. One drug, Nevirapine, can be give to mothers before and after birthing to reduce the probability of transmission for a relatively low cost (about \$4 USD). This treatment is often used because it is cheap and also because it is easy to administer. Some drug companies even offer the treatment for free. What is key for both mother and child is the knowledge of HIV status so that treatment preparations can be made.

Review

What are three options for people living with HIV?

What are antiretroviral treatments?

What do they do?

Is there a cure?

What are their negative sides?

What are additional problems?

What is MTCT?

What is Nevirapine?

What is key for, others and all people in helping to prevent HIV transmissions?

Gender

HIV/AIDS began disproportionately affecting men, however recently females have been increasingly more affected. In 2005 over 50% of newly infected people were female. This is related to women's physical biology, socio-economics, rights, and status. Just as within the case for men, the vast majority of transmissions occur via heterosexual contact. In recent years the numbers of women who are HIV-positive has doubled every year. On average, every 20 seconds a woman in the developing world becomes HIV-positive. Women's rights and their role in caring for the family, particularly if one becomes HIV-positive in the family, reduce their access to care/support. The increasing risk of women becoming HIV+ is related to:

1. **Biology:** Women are the receptive partners in heterosexual contact and their bodies have more receptive areas than males do. The actions of sexual contact in association with their physical make-up put women at additional risk. In addition, the process of birthing can pass HIV onto infants through MTCT.
2. **Society/Culture:** Women face a sexual subordination because of their lower social status in society; often related to cultural values. This subordination can occur through sexual coercion as well as domination/abuse/violence – this can all occur via force or also through commercial sex work (CSW), many times called prostitution. Some women feel they do not have the permission or right to talk about sexuality nor do they have the ability to negotiate safer sex practices.
3. **Economic:** Women are often forced into the sex industry (prostitution) because either they are not permitted into the workforce, are economically dependant upon men who may leave the family (death or divorce), or they may just be no opportunity for work (access food or money) in society. Young girls meet with 'Sugar Daddies' as their money/status/goods attract them. All of these factors add to and relate to the subordination of women in society/culture.
4. **Epidemiological:** Some women need blood transfusions while giving birth and thus are exposed to an additional transmission route more often than men.