

AIDS-THE SINISTER THREAT TO MANKIND*

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All newspaper readers are well aware of AIDS, the dangerous disease now fast turning into a threat for all mankind. In this context, it is quite essential for us to have some understanding of the nature of this dreaded disease and also why it is named AIDS.

Human beings are susceptible to many illnesses. Even a commonplace illness, usually considered a minor ailment, can prove itself fatal if it develops into a chronic stage.

However, normal human beings do not contract each and every disease that is there around them. Nor do they succumb to any illness easily. This is because human beings (and animals) have an inherent ability to resist many diseases. This ability is termed immunity. If by some means or the other, this immunity is destroyed, any minor illness can prove fatal to such immunity deficient persons.

There is a particular virus capable of destroying this inherent immunity in man. Once the virus enters the body of a victim and multiplies itself to a dangerous level, a certain disease condition becomes manifested. The chief characteristic of this condition is the inability of the patient to resist any disease or the weakening (or loss) of immunity. This condition is denoted by the scientific term "Acquired Immuno Deficiency Syndrome". The two important aspects to be noted are that it is acquired and that it is a syndrome (and not a positive disease by itself). AIDS is an acronym of the scientific term and in common usage, AIDS is referred to as a disease.

The first indication of the existence of AIDS came from Uganda when in the 1950's, several young males of that country died of a mysterious disease (or of several diseases).

Scientists were puzzled, but the level of scientific knowledge at that time did not permit a satisfactory diagnosis. Recorded evidence seems to indicate the recurrence of a similar attack in 1978.

It was only in 1981 that AIDS and the virus that was causing the disease were definitely identified. Once the positive identification was made in the U.S.A., doctors were very keen to assess the extent to which AIDS had spread worldwide. Their investigations showed that AIDS had spread throughout Central Africa and the Caribbean and revealed the presence of a large number of AIDS victims worldwide.

The disease had spread with such speed that by February 1990, WHO was in possession of 223,000 recorded cases of AIDS victims in 153 countries. The actual number might have been much more, as it is highly probable that many cases could have escaped detection and that many AIDS victims would also have deliberately avoided diagnosis.

As stated earlier, the first cases of AIDS were reported from Africa and it has spread very fast in that continent. Recorded instances of AIDS from Asia are comparatively new. Although the speed of infection in both continents may be similar, we may derive some consolation from the probability that the number of AIDS victims in Asia is much less than that of Africa.

The AIDS virus does not turn its victim into a diseased person overnight. It takes some time for the infected person to become a positive case of AIDS. However, throughout that period, the infected person acts as a carrier. This stage is obviously much more dangerous than the advanced stages because, the infected person would be playing the role of an AIDS carrier without his

* *Translation of a Sinhala Article*

being aware of it at all. It is suspected that there are about 0.5 to 1.0 million such carriers moving freely throughout the world.

The AIDS virus takes about four years to produce the first minor ailments and AIDS proper manifests itself after another four years.

Thus, it will be obvious that by the time a single positive AIDS victim is identified, he would have already infected several hundred others and each one of them is capable of spreading the disease to many more. This is the deadliest feature of AIDS.

In Sri Lanka, 12 AIDS sufferers and 20 carriers have been reported to date. However, an examination of the case histories of infected persons seems to suggest the existence of over 1000 undetected AIDS carriers in the country. AIDS appears to be spreading in Sri Lanka tragically fast.

Mode of infection

The AIDS causing virus destroys the internal immunity mechanism of its victim and thereby exposes him to serious illnesses.

The mode of transmission is usually through body fluids. The virus can exist only in living cells and it is found in high concentrations in secretions and liquids such as cerebral spinal fluid, amniotic fluid, sperms and vaginal fluid.

There are several ways in which AIDS can be transmitted to a healthy person.

1. Sexual Intercourse

The chances of contracting AIDS by a healthy person through sexual intercourse with an AIDS carrier are considered to be as high as 100%.

2. Blood Transfusion

AIDS virus can be transmitted from an infected to a healthy person when blood or blood products from an AIDS infected person is transfused to a healthy person. Use of infected instruments also could have the same effect. (Even a very small quantity of blood such as 1.4

micro litres is considered sufficient for the transmission of the virus). Although there is only a very low chance (of 10%) for the transmission of AIDS via this method, once contracted, the victim advances towards the terminal stages rather quickly.

3. There is a 50% chance that a baby born to an AIDS mother would also be an AIDS victim. In the majority of cases, the pregnancy of an AIDS infected woman ends in a miscarriage. It has also been found that pregnancy has a tendency to accelerate the development of the disease in an AIDS infected woman. However, feeding the milk of an infected mother poses only a mild threat due to very low concentrations of the AIDS virus in human milk. The incidence of AIDS among infants was first detected in U.S.A in 1983 and according to available data, 75% of such infants had contracted the disease at the foetus stage or at birth. Blood transmission accounts for the balance 25%.

4. Organ Transplant

It has been established that a 50% chance for AIDS transmission exists when an organ from a diseased person is transplanted in a healthy person.

No Reason to Panic

Although AIDS is mainly transmitted through bodily contact, activities related to ordinary social and human relationships (for example, parents and children; intimate friends; persons who stay together share many things in common and very often, come into close physical contact) do not constitute a serious threat. However, activities, a few examples of which are given below do not bring about transmission of AIDS from one person to another.

1. Touching or shaking hands with an infected person.
2. Sharing common accommodations.
3. Bathing in a pool used by an AIDS victim or washing cloths in the same place.
4. Embracing an AIDS patient.
5. Common use of crockery, cutlery and other utensils as well as household linen.
6. Common use of toilets.

Human parasites such as head lice, mosquitoes and bugs do not transmit AIDS. This is because the AIDS virus can survive only in the living cells of mammals. Of

course, it is quite possible for the virus to enter the body of a parasite such as a mosquito when it sucks blood from an AIDS victim. It is equally possible for a certain amount of this infected blood to enter the body of a healthy person on a subsequent attack by the parasite. However, the chances are that the AIDS virus would have died in the meantime and what may enter the second victim's body is only the dead virus.

In blood transfusion, it is absolutely essential that the donor should be a perfectly healthy person. If the donor's blood is tested for AIDS, it will go a long way in arresting the spread of this disease. It is also equally essential that all equipment used in blood transfusions are thoroughly sterilised (before use).

Persons who receive vaccinations and inoculations as well as those from whom blood samples are taken should ensure that the syringes used for the purpose are absolutely clean and sterilised.

Persons Most Likely to Become Victims

1. Homosexuals and those indulging in extra marital sex
2. Drug addicts using intra vascular infections
3. Patients who need frequent blood transfusions
4. Male and female prostitutes

This types of persons run a very high risk of contracting AIDS and also act as carriers of the disease, threatening the entire society.

Symptoms

AIDS symptoms takes some time to manifest after the infection. In most cases, the time space may be as long as ten years. However, the disease related anti-bodies are present in the blood after about 6-12 weeks. Sometimes, the time lag may be longer, about 6-8 months. After this period, the patient may suffer minor ailments such as fever, headache, sore throat, sweating in the night and inflammation of lymph glands. Very often, these symptoms disappear on their own after about two weeks. While this stage of AIDS is known as Sezoconversion Disease, only about 10-15 per cent of the infected persons appear to display the related symptoms. For the

next 8-10 years, the infected persons could have a perfectly healthy life without any symptoms whatsoever. This only indicates that the disease has entered its latent stage. After the expiry of the latent stage, patients' lymph glands begin to swell. The extent of swelling may be more than two centimetres and it lasts for about three months. By this time, the patient would be susceptible to a host of other ailments.

In the terminal stage of AIDS, the infected person develops unmistakable symptoms. These may include chronic infections, nervous disorders and rare types of cancer, all of which are necessarily fatal. Some of the complications that can arise in the terminal stage are:-

1. Thaposisacoma

This is an ailment mainly characterised by dark blue or dark violet patches slightly protruding from the skin. They first appear profusely on the torso and arms. Later they will be visible on the ears and around the navel. These patches are not painful, nor do they cause itching. After the patches make their appearance, the disease spreads to internal organs.

2. Tuberculosis

Normally, tuberculosis attacks the lungs, but in AIDS patients, it can also infect other parts of the body.

3. Herpes Simplex

Herpes Simplex is a viral disease. Infection leads to the appearance of wounds inside the mouth, on the penis or around the anus. AIDS victims are highly susceptible to this disease and it can infect healthy persons as well.

4. Candidiasis

Caused by a fungal infection, it takes two forms in AIDS victims.

i. Oral Candidiasis

Symptoms are the occurrence of wounds, whitish in appearance, inside the mouth. However, the wounds are not painful.

- ii. Oesophageal Candidiasis
Causes difficulty or pain in swallowing.

The above diseases can be treated, but no cure has yet been found for their root cause - AIDS.

Ways and means of destroying the AIDS virus

AIDS causing virus belongs to a class of viruses named 'retrovirus'. In common with all viruses, it can reproduce only within live cells. Its chief feature is the ability to transform its genetic structure within a very short period of time. Therefore, it has been found impossible to develop an "antivirus".

However, AIDS viruses that exist outside the living cells can be destroyed very easily, because a living cell is essential for their reproduction. Proper sterilisation is an effective method of destroying AIDS viruses.

1. Immersion in boiling water for about 20 minutes. This is sufficient for instruments such as needles and syringes used in vaccinations and inoculations.
2. Application of Dry Heat
Appropriate instruments can be sterilised by subjecting them to a very high temperature of 340°F (170°C) within an electric furnace.

3. Application of Steam

A pressure cooker or a modernised cooling pot can be used for sterilising syringes etc.

4. Use of Chemical Agents

Certain types of virus de-activating chemicals are employed in this method. (e.g. Hydrogen Peroxide 6%, Ethanol 7%, Glutarol 2%). To be 100% effective, the chemicals used should be absolutely fresh.

Treatment

A complete cure for AIDS has not yet been discovered. However, treatment should be given for the control of other ailments arising out of the reduced immunity of the AIDS victim. Without such treatment, the AIDS victim is liable to die within a short time. Azidothiamidine is a widely used drug in the treatment of AIDS. This drug has been found to have beneficial effects on the condition of the patient and his lifespan. However, certain adverse side effects of AZT have recently come to light. These include complications such as contraction of bone marrow.

(This article is based on the data presented at the Seminar on AIDS, sponsored by the Health Education Division for the benefit of creative writers.

I wish to thank Mr. Thusitha Malalasekera for the encouragement he has given me in compiling this article.)