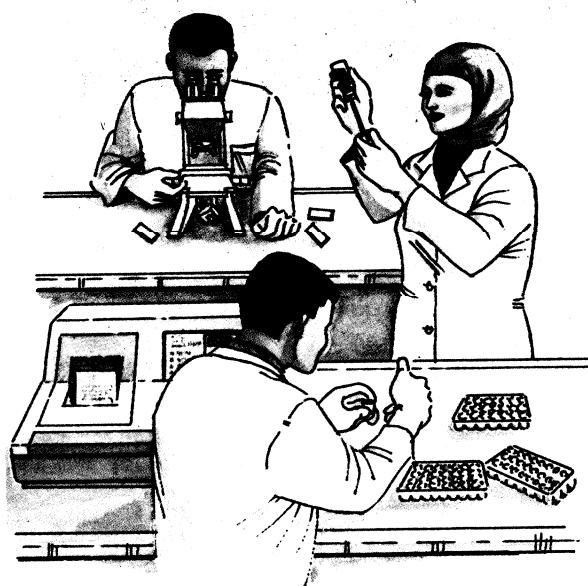


**AIDS INFORMATION
EXCHANGE CENTRE
GLOBAL PROGRAMME ON AIDS**

**A MESSAGE
ON AIDS FOR**

STAFF OF LABORATORIES AND BLOOD BANKS



WORLD HEALTH ORGANIZATION
Regional Office for the
Eastern Mediterranean, 1992

**AIDS INFORMATION
EXCHANGE CENTRE**



**INFORMATION ON AIDS
FOR
HEALTH CARE WORKERS**

Dear Colleagues,

Since the appearance of the early cases in 1981, we have been following development of the disease AIDS day by day with increasing fear and anticipation. In spite of the studies and research being conducted throughout the world on the human immunodeficiency virus (HIV) which causes AIDS, the availability of an effective vaccine or treatment against the disease remains a distant prospect.

Nevertheless, we do know very well how this disease occurs, how it spreads, which people are most at risk of infection, and how the infection progresses, to the point where it destroys the immune system of the body, making it an easy prey for a number of fatal diseases and tumours.

The aim of this pamphlet is to provide you with some basic information on HIV/AIDS which you need to know in order not only to protect yourself from infection but also to educate people in your care or with whom you collaborate.

WHAT IS AIDS ?

AIDS is a disease caused by the human immunodeficiency virus (HIV). The words AIDS and SIDA are acronyms, respectively, of the English term Acquired Immunodeficiency Syndrome, and the French term Syndrome d'Immunodéficience Acquise.

The term **syndrome** refers to the group of symptoms which accompany a certain disease. **Immunodeficiency** refers to the inability of the body's defence system to function. **Acquired** means that the condition is not inherited but the result of an infection that was not present before.

HIV leads to the destruction of the immune system of the body. It thus becomes unable to resist many infections which the healthy body would cope with in normal circumstances. The body also becomes vulnerable to attack from certain malignant tumours.

HOW IS THE HUMAN IMMUNODEFICIENCY VIRUS TRANSMITTED?

HIV has been isolated from a variety of infected body fluids and tissues, including blood, semen, cervicovaginal secretions, breast milk, tears and saliva. However, detailed epidemiological studies throughout the world have implicated mainly blood, semen and cervicovaginal secretions.

HIV infection is transmitted by three main routes:

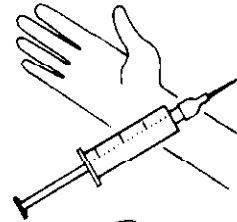
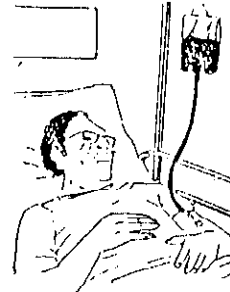
- **Sexual intercourse**

Sexual intercourse with an infected partner, whether he or she is symptomatic or asymptomatic, is the cause of more than 90% of HIV infections. Infection rates are very high among prostitutes and homosexuals, and therefore they represent the most dangerous source of transmission.



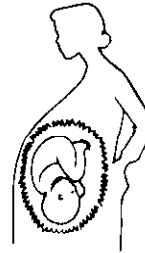
- **Blood and blood products**

Transmission may occur through transfusion of infected blood or blood products, transplantation involving infected organs or tissues and the use of contaminated needles or other skin-piercing instruments. Drug addicts who often share syringes and needles for intravenous injection of drugs are at particular risk of infection and the use of inadequately sterilized instruments also poses a risk.



- **Mother to child**

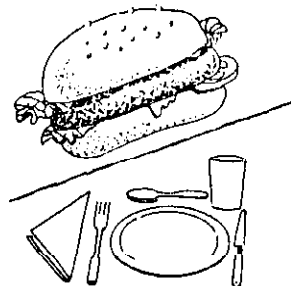
Perinatal transmission from infected mothers to their children may occur before, during or shortly after birth.



Infection is **NOT** transm



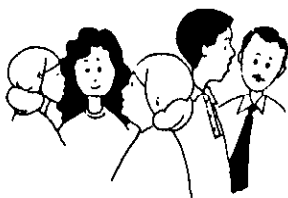
shaking hands
or embracing



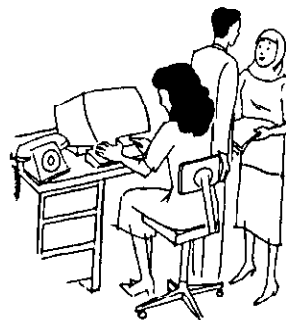
eating, drinking, and using cutlery and
crockery in restaurants



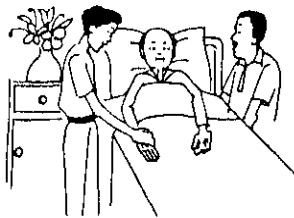
sitting next to
someone in class



casual contact in public and crowded places, such as within the
family, at work or on public transport



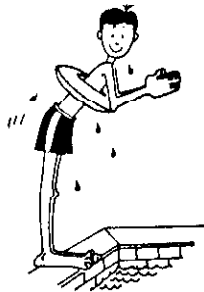
itted by actions such as...



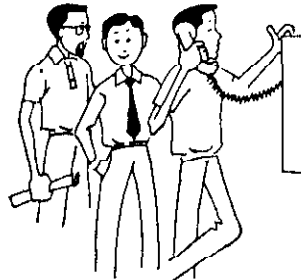
visiting patients
in hospital



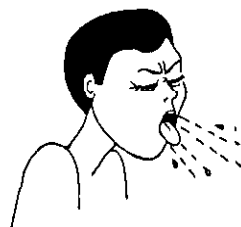
using public showers
and toilets



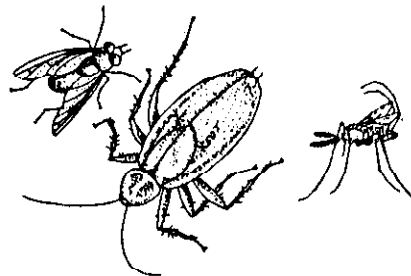
using public
swimming pools



using public telephones



sneezing or coughing



from insects or
insect bites

CLINICAL MANIFESTATIONS OF HIV INFECTION AND AIDS

The clinical expression of infection with HIV appears increasingly complex. It includes manifestations due to opportunistic diseases, as well as illness directly caused by HIV itself.

Once infection has taken place (after the virus has entered the body), the course of the infection passes through several stages before reaching its final stage: acute stage; latency period; persistent generalized lymphadenopathy; AIDS-related complex; and AIDS disease.

Not all these stages will necessarily occur in all infected persons. The period between infection with HIV and the appearance of the clinical manifestations of AIDS varies from six months to more than 10 years. During this long asymptomatic period, the infected person is a source of infection to others, a fact which complicates the tasks of prevention and control.

Acute stage

A few days after infection, the infected person may exhibit general manifestations, such as fever, malaise and depression, fatigue, lymphadenopathy (cervical, axillary and inguinal), muscular pains, lassitude, headache, night sweats and cough. These manifestations disappear after 1–2 weeks, when the general condition returns to normal.

Laboratory examination for antibodies is usually negative at this stage as seroconversion occurs 6–12 weeks after infection. If exposure to infection is suspected, the patient should be advised to repeat the test after three months.

Latency period

Following the acute stage, there is usually a period of latency which lasts for a period ranging from several months to several years. During this stage, the infected person appears quite normal and healthy, while the virus multiplies and infects more and more lymphocytes.

Persistent generalized lymphadenopathy

Following the latency period, symptoms may appear in some cases in the form of persistent generalized enlargement of lymph nodes involving two or more extra-inguinal sites. This lymphadenopathy persists for several months and may then subside before recurrence. It should be suspected as being secondary to HIV infection in the absence of any other illness or use of a drug known to cause it. These patients look generally healthy.

AIDS-related complex (ARC)

There is no agreed upon definition for this stage. However, the persistence of the following signs and symptoms without any known cause can be considered characteristic of this condition: chronic diarrhoea, weight loss, malaise, fatigue and lethargy, amnesia, abdominal discomfort, fever, night sweats, headache, lymphadenopathy and splenomegaly. Furthermore, some neurological disturbances may lead to weakness of memory and peripheral neuropathy. These signs and symptoms are frequently intermittent. Weight loss is found in all patients and is generally progressive.

Many ARC patients present mucocutaneous lesions including mainly zoster, seborrheic dermatitis, recurrent and persistent oro-labial and genital infections caused by herpes virus, and oral hairy leukoplakia.

AIDS

AIDS represents the last and most severe stage of the clinical spectrum of HIV infection. The same signs and symptoms as described for ARC patients occur in patients with AIDS, but the manifestations become more pronounced. In addition, the clinical picture is characterized by the presence of opportunistic infections and tumours as a result of profound cellular immunodeficiency. The types of opportunistic infection depend largely on the past and actual exposure of the host to microbial agents. This may explain the differences in frequency of certain opportunistic infections in different countries. *Pneumocystis carinii* pneumonia is by far the commonest opportunistic infection in Americans and Europeans while the gastro-intestinal system is the main site of infection in Africans.

SAFETY PRECAUTIONS FOR STAFF IN LABORATORIES AND BLOOD BANKS

- ☐ Wear gloves of good quality before handling infective materials, or when exposure to blood or body fluids mixed with blood is possible.
- ☐ Gloves must be removed as soon as contamination is suspected; the hands should be washed and new gloves put on.
- ☐ Take care not to touch, with your gloved hands, your eyes, nose, or any exposed part of your skin or mucous membranes.
- ☐ Do not leave your workplace or move around in the laboratory with your gloves on.
- ☐ Wash your hands with soap and water at the end of work and whenever they are exposed to infection, even if you have been wearing gloves.
- ☐ Wear a laboratory coat or an apron that wraps around the entire body while working in the laboratory. Take it off and leave it in the laboratory before you leave.
- ☐ While dealing with materials which could be infected with the AIDS virus, close the door of the laboratory and fix on it the following warning: Biological Danger – No Entry.
- ☐ Always keep the laboratory clean, tidy and clear of unnecessary materials.

- ☐ Disinfect all the working surfaces at the end of each procedure and at the end of each day. An effective disinfectant for all purposes is sodium hypochlorite solution with 0.1% of available chlorine (1g/litre – 1000 ppm).
- ☐ Use disposable syringes and needles for injections or drawing samples of blood or other body fluids. If disposables are not available, the syringes and needles should be thoroughly sterilized.
- ☐ Avoid, as much as possible, the use of syringes, needles and other sharp instruments. When necessary, keep them in an impermeable container. Do not recap used needles or detach them from the syringes or bend them after use.
- ☐ Never use mouth suction.
- ☐ Apply all technical procedures in a way that minimizes spray, droplets and spills.
- ☐ Do not eat, drink or smoke in the laboratory, and avoid keeping personal belongings or food in the laboratory. Women should not put on make-up in the laboratory.
- ☐ Make sure that the laboratory is always protected against insects and rodents.

SPILLS AND ACCIDENTS

- ☐ If an infected or suspect substance is spilt, it must be covered with paper towel or any other absorbent material, and a solution of hypochlorite with 1% of available chlorine (10 g/litre, 10 000 ppm) poured around and over the area of spillage. The disinfecting solution should be left for 10 minutes. It is preferable in laboratories handling cultures and other HIV preparations to use a more concentrated solution (1%) than the standard 0.5% solution recommended in WHO's guidelines on methods of effective sterilization and disinfection against HIV.
- ☐ The area of spillage should be wiped with absorbent material, which should be disposed of in a waste bin for contaminated materials. The area should finally be wiped again with the disinfectant. The hands should be protected throughout by gloves and care should be taken not to touch the spilled materials directly with the gloves.
- ☐ Broken glass and plastic should be swept directly into the waste bin for contaminated materials.
- ☐ Needle pricks, wounds and skin soiled with spilled material

should be washed well with soap and water. The wound should be left to bleed before it is treated.

- ☐ Any spillage or accident should be reported at once to the supervisor. It should also be recorded in a special register. The incident or case should be evaluated, followed up and dealt with as appropriate.

HANDLING CONTAMINATED MATERIALS AND WASTES

- ☐ Non-disposable instruments such as pipettes, syringes, needles and test tubes should all be kept in metallic or plastic non-piercable boxes. These instruments should be boiled, autoclaved or chemically sterilized before reuse. Gloves should be worn during cleaning and sterilization processes.
- ☐ Gowns, aprons and other protective clothing suspected of being contaminated should be kept in a special container inside the laboratory. These clothes should be autoclaved or otherwise disinfected and then washed before reuse. Uncontaminated clothing used in the laboratory can be washed directly.

- ☐ Disposable contaminated materials, such as needles, syringes or other sharp instruments, should be put in a non-piercable metallic or plastic container. These materials are better autoclaved, boiled or disinfected on the spot. If this is not feasible, such materials should be transported in sealed impermeable containers to be autoclaved or burnt in a central place. The containers should be well cleaned and sterilized before being reused.
- ☐ Burning is the best method of getting rid of contaminated materials and wastes if the incinerator is on the laboratory premises and under the supervision of those responsible for the laboratory. However, if such materials are to be transported, they should be autoclaved or otherwise sterilized beforehand. Permission from the local authorities concerned should be obtained before burning, under supervision, is carried out.
- ☐ If burning is not feasible or not permitted, the only acceptable alternative is to disinfect the materials and to dump them in a supervised dumping area. It is essential to ensure that all materials handled in this way are first sterilized or disinfected and that all syringes and needles are crushed before burial.
- ☐ Radioactive materials should not be burnt. They should be disposed of according to the rules and regulations in force.

DOCUMENTS FOR FURTHER READING

- ☐ Guidelines for the Appropriate Use of Blood.
Geneva, 2 – 5 May 1989.
WHO/GPA/INF/89.18, WHO/LAB/89.10
- ☐ Use of Plasma Substitutes and Plasma in Developing Countries.
Geneva, 20 – 22 March 1989.
WHO/GPA/INF/89.17, WHO/LAB/89.9
- ☐ Consensus Statement on Accelerated Strategies to Reduce the Risk of Transmission of HIV by Transfusion.
Geneva, 20 – 22 March 1989.
WHO/GPA/INF/89.13, WHO/LAB/89.6
- ☐ Guidelines on Sterilization and Disinfection Methods Effective Against Human Immunodeficiency Virus (HIV) Second Edition, 1989.
WHO/AIDS Series No. 2.
- ☐ Essential Blood components, Plasma Derivatives and Substitutes.
Geneva, 20 – 22 March, 1989.
WHO/GPA/INF/89.16, WHO/LAB/89.7

- ☐ Essential Consumables and Equipment for a Blood Transfusion Service.
Geneva, 20 – 22 March 1989.
WHO/GPA/INF/89.15, WHO/LAB/89.8
- ☐ Minimum Targets for Blood Transfusion Services.
Geneva, 20 – 22 March 1989.
WHO/GPA/INF/89.14, WHO/LAB/89.5
- ☐ Guidelines for Treatment of Acute Blood Loss.
WHO/GPA/INF/88.5
- ☐ Blood Transfusion Guidelines for International Travellers.
WHO/GPA/INF/88.4

Copies of these documents can be obtained on request from:

AIDS Information Exchange Centre
Global Programme on AIDS
WHO Regional Office for the Eastern Mediterranean
P.O. Box 1517, Alexandria 21511
EGYPT



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FOR
HEALTH CARE WORKERS**

WHO—EM/AIDS/AIC/004/E/G/05.92/7000
