AIDS was first recognized as a distinct disease entity among homosexual men in the United States in 1981. As a result, it was initially thought of as a disease which would be essentially restricted to men. Now it is becoming increasingly clear that HIV, the etiologic agent of AIDS, is a human retrovirus which in adults is primarily transmitted by sexual intercourse (vaginal or anal) or by transfusions or injections of HIV-infected blood, such as may occur in intravenous (IV) drug use.

Up to this year, the majority (about 75 per cent or more) of HIV infections throughout the world have been acquired via sexual intercourse, mostly heterosexual. Epidemiological and virological studies from throughout the world have clearly documented the transmission of HIV via vaginal intercourse from an infected male to a female and from an infected female to a male. The risk of HIV transmission from a single episode of vaginal intercourse is not known, but has been estimated to be very low (1 per 500 or 0.2 per cent), compared to other sexually transmitted disease agents such as gonorrhoea (about 30 per cent). Nevertheless, a single heterosexual encounter is, in some instances, sufficient for transmission of HIV infection. There is increasing evidence too that the presence of other sexually transmitted diseases (STDs), especially those associated with genital lesions such as syphilis and chancroid, may increase the risk of a single exposure by 10 to 20 times.

Another key factor involved in heterosexual transmission of HIV is the likelihood of exposure to an infected partner. In areas where HIV infections are low to absent, there would be virtually no risk of acquiring an HIV infection via sexual intercourse (or by any other type of exposure). But, the prevalence of these infections is steadily increasing in most areas of the world and so is the risk of exposure to an infected sexual partner. Where HIV infections are known to be prevalent, selection of sexual partners who are not at increased risk is of paramount importance for avoiding acquiring an HIV infection. There is obviously an increased risk with increased numbers of different sexual partners.

There are also gradients of risk of HIV transmission associated with different types of sexual contact. The highest risk is from being the receptive sexual partner, whether this is heterosexual or homosexual intercourse. So, women, who are the receptive partners in sexual intercourse, are thought to run a higher risk of acquiring an infection from the infected male partner than men do from an infected female partner.

The natural history of HIV infection has essentially been studied in homosexual men and persons with haemophilia (also all males), and is known to cause progressive damage to the body's immune system. When sufficient damage to the immune system occurs, the infected person is then susceptible to a vast array of opportunistic infections and rare cancers, which are the clinical indicators of the underlying immune deficiency due to HIV. The average period from infection to the late clinical stage (that is, AIDS) is about ten years.

Whether the natural history of HIV infection in women differs to any significant degree from that outlined for men is not known, and the detailed studies needed to answer this question are very difficult to plan and put into effect. In the absence of such specific data, it is reasonable to assume that no major differences exist between men and women. Although some early reports suggested that pregnancy might accelerate the clinical progression of HIV infection, subsequent studies suggest that pregnancy per se is not a major factor.

WHO has described several broad yet distinct epidemiological patterns of HIV infections and AIDS cases. The factors responsible for these patterns include the probable date of HIV entry and/or the period when HIV began to spread extensively in the population; and the relative frequency of the three modes of HIV transmission - sexual, parenteral (by injection) and perinatal.

In Pattern I, the primary population groups affected have been homosexual men and IV-drug users; the extensive spread of HIV began between the late 1970s and the early 1980s. Heterosexual spread of HIV also occurs and has been increasing, but still accounts for only a minority of new infections. This is the pattern currently seen in the countries of North America, Western Europe, and Oceania.

In Pattern II, HIV/AIDS is found predominantly among sexually active heterosexuals; extensive spread of HIV probably began in the mid-to-late 1970s. This is the current pattern in sub-Saharan Africa and some parts of the Caribbean.

Areas currently classified as Pattern III include Asia, most Pacific countries (excluding Australia and New Zealand), Eastern Europe, North Africa, and the Middle East. In these areas, HIV was introduced in the early-to-mid 1980s. Although indigenous spread of HIV has been documented in most of these countries, the prevalence of both AIDS cases and HIV infections was low at the end of the 1980s, and no clearly
predominant mode of HIV transmission has been documented in most countries. This situation has changed markedly in some South-East Asian countries such as Thailand and India, and as of mid-1990 there are an estimated 200,000 HIV-infected women in Asia.

**Vulnerable groups**

In many Pattern I countries, HIV infection has, during the late 1980s, been increasing in the most socially and economically vulnerable segments of society. This is particularly true in the United States, where blacks and hispanics in the inner city areas have become increasingly and disproportionately affected, mainly due to the large numbers of intravenous drug users (IVDUs) in these populations. So we may expect an increase in the number of HIV-infected women as a result of sharing infected drug injection equipment and as a result of heterosexual transmission from HIV-infected male IVDUs to their sexual partners.

Many Latin American countries (Central and South America) were initially classified as belonging to Pattern I. But by the mid-to-late 1980s, sexual transmission among heterosexuals had increased to such an extent that Latin America has been reclassified as a separate pattern - Pattern I/II.

In Pattern II areas, transmission continues to remain predominantly heterosexual. The prevalence of HIV infection continues to rise in urban areas and, increasingly, its spread to rural areas (where the majority of the population lives) is being noted.

In a few Pattern III countries previously only slightly affected during most of the 1980s, extensive spread of HIV infection has been noted among IVDUs and prostitutes during the late 1980s. Thailand has documented extensive spread of HIV infection in Bangkok among IVDUs (mostly, but not all, males) since early 1988, and HIV prevalence estimates have risen from about one per cent in late 1987 to about 50 per cent up to early 1990. In addition, focal increases of HIV prevalence ranging from ten per cent up to 70 per cent have been found during the last couple of years among female prostitutes in several cities in Thailand and India.

WHO estimates that to date a total of eight to ten million adults have been

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Women researchers in Kenya are helping in the work of tracking down the HIV virus and seeking means to combat it.
**Challenge of the nineties**

**Taking a blood sample in a Mexican AIDS clinic. Latin America is classified as a Pattern I/II region.**

Infected with HIV. Based on the lower range of this estimate and on reported male-to-female ratios of AIDS cases or of HIV serological data, the numbers of HIV-infected females age 15 to 49 years were estimated for all global regions. Of the global total of eight million infections, over a third or three million are women, most of whom are of childbearing age. The majority of infected women (more than 2.5 million) are in sub-Saharan Africa. HIV prevalence ranges from a high of about one infection for every 40 women to a low of less than one infection for every 20,000 women in some Pattern III areas such as Eastern Europe.

Up to the present in most of the industrialised countries, the primary population groups affected by the HIV/AIDS pandemic continue to be homosexual or bisexual men and IV drug users (men and women). During the 1990s, transmission of HIV in homosexual and IVDU populations can be expected to continue but, in general, not at the very high rates documented during the 1980s. Heterosexual transmission of HIV is, up to 1990, the predominant mode of HIV transmission worldwide, mainly because of the large numbers of HIV-infected persons in sub-Saharan African countries.

**Heterosexual transmission**

Over the next several decades, heterosexual transmission will increasingly become the predominant mode of HIV transmission in most industrialised countries. However, the rate of increase of heterosexually transmitted HIV infections in these countries will be low compared to the very large increases observed among homosexual men and IVDUs during the first half of the 1980s. Nevertheless, since the pool of heterosexuals who may have multiple sexual partners is very large compared to homosexual men and IVDUs, the number of heterosexually acquired HIV infections expected during the 1990s will be greater than the total number of HIV infections acquired through all routes of transmission during the 1980s. Worldwide, by the year 2000 the annual number of AIDS cases in women will begin to equal the number in men. It follows that HIV/AIDS prevention and control programmes will need to develop appropriate education and other public health measures to respond specifically to the growing problem of this disease in women.