



National Institutes of Health
Bethesda, Maryland 20892
Building : 31
Room : 7A32
(301) 496- 5717

November 12, 1986

Attention Writers and Editors:

The enclosed item describes an epidemiological review of AIDS in Africa that will appear in the November 21 issue of Science.

The authors are Drs. Thomas C. Quinn, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD; Jonathan M. Mann, World Health Organization, Geneva, Switzerland; James W. Curran, Centers for Disease Control, Atlanta, GA; and Peter Piot, Institute of Tropical Medicine, Antwerp, Belgium.

Please note that Science has embargoed release of information from this issue until Friday, November 14, at 8:00 AM, EST.

If you need additional information, please call me or Elaine Baldwin, 301-496-5717.

Sincerely,

Patricia Randall

Patricia Randall
Chief, Office of Research Reporting
and Public Response
National Institute of Allergy
and Infectious Diseases

UPDATE



NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES

For release
November 14, 1986

Elaine Baldwin
(301) 496-5717

AIDS in Africa: An Epidemiological Paradigm

A team of scientists has called for a concerted international effort to prevent the further spread of AIDS in Africa. The investigators report that several million Africans are now infected with the virus that causes AIDS, and predict that the infection will continue to spread rapidly unless prevention and control are made a major public health priority.

Initial studies in Central Africa suggest an annual incidence of 550 to 1000 AIDS cases per million adults, according to an extensive review of the epidemiological and clinical features of AIDS in Africa, published in the November 21 issue of Science.

"To illustrate the magnitude of the problem," said senior author Dr. Thomas C. Quinn, National Institute of Allergy and Infectious Diseases (NIAID), "if the United States had such an incidence rate, we would see more than 100,000 new AIDS cases each year. Americans are rightfully very concerned about an expected 12,000 new cases in the United States in 1986, and the situation in Africa is potentially far more devastating. If the spread of AIDS in Africa is to be halted, massive education programs and screening of blood for transfusions must be undertaken immediately."

(more)



Presently, nearly 25 percent of adult medical inpatients and 10 percent of pediatric inpatients in several hospitals in Central Africa are seropositive (have antibody to the AIDS virus). The authors express concern that the presence of other infectious diseases, which are highly prevalent in Africa, may trigger or potentiate replication of the AIDS virus in infected persons. They also state that immunosuppression induced by the AIDS virus is likely to increase illness and death from other infectious agents.

By reviewing retrospective studies on the frequency of certain diseases that are recognized as sentinel markers for AIDS, such as a wasting syndrome known as "slim disease," Kaposi's sarcoma, esophageal candidiasis, and cryptococcal meningitis, the authors concluded that AIDS was probably rare in Africa until the 1970's and early 1980's, a pattern similar to that in the United States and Haiti.

In Africa, Dr. Quinn and his co-authors report, AIDS is spread primarily through heterosexual activity, by transfusion of contaminated blood that has not been screened for the presence of the virus, by injections with contaminated and unsterilized needles, and from mothers to newborn babies during pregnancy or childbirth. Studies indicate that homosexual contact and intravenous drug use do not play a significant role in transmission in Africa. As in the United States, there is no evidence of transmission by casual contact or by insect bites.

AIDS in Africa is equally distributed among males and females, and as in developed countries, the disease primarily affects very young children, young adults and middle-aged persons. Case-control studies have shown that AIDS patients have a significantly higher number of

heterosexual partners than do controls, and more male AIDS patients report contact with prostitutes. Other studies show a high rate and rapid increase of AIDS infection among prostitutes.

The investigators report a greater incidence of AIDS in younger women and older men, a transmission pattern observed generally in other sexually transmitted diseases such as gonorrhea, syphilis and chlamydia. A survey of AIDS patients in Kinshasa, Zaire, revealed that one-third reported having had at least one sexually transmitted disease during the three years preceding their illness. Occurrence of genital ulcers in men correlated with presence of antibody to the AIDS virus, suggesting that virus in vaginal secretions might be transmitted to a male sexual partner through breaks in the skin.

In Africa, medication for the treatment of many diseases is frequently given by needle rather than by mouth, the authors point out. Because of financial and other constraints, disposable needles are often reused, and facilities for sterilization of needles are often nonexistent. "The potential for spread of AIDS by unsterilized needles should not be underestimated," Dr. Quinn said, adding that there is also potential for spread of the virus through rituals using instruments that pierce the skin.

"In addition," he said, "there is a high risk of transmission of AIDS through blood transfusions, given the widespread use of blood transfusions in Africa and the lack of facilities and economic resources for screening blood for seropositivity."

In Africa, clinical manifestations of infection with the AIDS virus differ markedly from those seen in the United States and Europe.

(more)

Gastrointestinal and dermatologic symptoms are common in tropical areas, while swollen lymph glands and pulmonary symptoms are more frequently seen in the United States.

Because sophisticated diagnostic procedures are limited or unavailable in many parts of Africa, the World Health Organization has developed a provisional clinical case definition for AIDS in Africa that has been shown to have a high degree of predictive value. In one study, 75 percent of patients whose major clinical signs were chronic diarrhea, weight loss, oral candidiasis, and moderate to severe asthenia, or weakness, were found to have antibody to the AIDS virus. The authors point out, however, that among children in Africa, it is difficult to distinguish AIDS associated disease, because malnutrition, failure to thrive and pulmonary disease are common pediatric problems.

In addition to Dr. Quinn, the authors of the study include Drs. James W. Curran, Centers for Disease Control, Atlanta, GA; Jonathan M. Mann, World Health Organization, Geneva, Switzerland; and Peter Piot, Institute of Tropical Medicine, Antwerp, Belgium.

In their article, titled "AIDS In Africa: An Epidemiological Paradigm," the scientists include an historical perspective, data on the extent of infection with the AIDS virus in various groups, and observations of how transmission and symptoms in Africa differ from the experience of North America and Europe. They also describe the differences in African isolates of the virus and discuss the implications of recent discoveries of other human and animal retroviruses that have some similarities to the AIDS virus.

(more)

They enumerate a number of specific research needs, particularly as they relate to special features of the disease in Africa and complications related to the various economic, social and political situations within and between various African countries.

The authors call for improved case definitions, monitoring spread of the disease within each country, identification of risk factors, assessment of the role of malnutrition and diseases endemic to Africa in the development of AIDS, development of sex education programs based on socioanthropologic studies of sexual practices, assessment of risks related to pregnancy and childbirth, and the examination of the safety and efficacy of immunization in children infected with the AIDS virus.

They stress the need for studies on the structure of the virus and other related human and primate retroviruses that are found in Africa and other areas, both for development of vaccines and improved diagnosis. Of critical importance, they feel, is the development of rapid, inexpensive diagnostic assays and the institution of blood screening programs.

"Unless there is an international commitment of will and financial resources, AIDS will continue to spread throughout Africa and the world," Dr. Quinn said. "Scientists and public health officials of all countries must come together in this effort."

Earlier this week, representatives of 45 African countries met in Brazzaville, Congo, with a number of international AIDS experts, including Dr. Quinn to address these needs and discuss a variety of strategies for combating AIDS in Africa.