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In 1985, only 7% of AIDS cases occurred among female adults and adolescents older than 13 years, but by 2005, they represented 27% of US AIDS cases. Younger women and girls are particularly vulnerable; those aged 25 years or younger accounted for 38% of HIV/AIDS diagnoses among women from 2001 to 2004. Even among prisoners, HIV disproportionally affects women. For example, in the Rhode Island correctional system, 9.3% of female inmates are HIV-positive compared with 2.1% of men.

Disparities by race and ethnicity are also stark. In 2005, the prevalence of AIDS in female adults and adolescents was 2.0 per 100,000 population for non-Hispanic whites, but 11.2 per 100,000 for Hispanics and 45.5 for blacks. In terms of overall US demographics, while 72% of the population in 33 states surveyed was white, they accounted for only 17% of AIDS cases, compared with a black population of 13%, among which 66% of AIDS cases occurred.

Risk factors for acquisition of HIV among women overwhelmingly relate to high-risk heterosexual intercourse. Of the 11,710 AIDS cases recorded in 2005 for this group, 71% involved heterosexual sex: 12% with a known injection drug user, and 59% with a bisexual man or an HIV-positive man with unidentified risk factors. Part of this susceptibility stems from changes in sexual practices and behaviors. Data from patients attending 3 urban US sexually transmitted disease (STD) clinics participating in 2 randomized controlled trials-RESPECT (1993-1995) and RESPECT-2 (1999-2000)-analyzing counseling efficacy for the prevention of STDs showed that a larger percentage of women reported a new sex partner in the latter survey (61% vs 43%) and prevalence of unprotected anal sex almost trebled, from 7% to 18%. There are now an estimated 300,000 women in the United States living with HIV/AIDS.

Some things are improving. Within the first few years after the introduction of highly active antiretroviral therapy in the United States and Canada, drug therapy did diffuse more slowly to HIV-positive women, in large part because of their lower income and education levels. These health disparities, however, have been substantially mitigated; women now appear to do particularly well with HIV infection, at least in the resource-rich world.

For example, data from a multicenter, longitudinal observational study through 2005 of 2460 HIV-positive persons receiving antiretroviral therapy for a median of 43 months show that there were no gender differences in achieving viral suppression or in the rate of viral rebound or clinical progression. In fact, among persons with intermediate viral loads, women had a substantially lower rate of clinical progression than did men. But gender disparities in response to antiretroviral therapy persist in the resource-poor world despite equal access to care in some countries and even entry into initial care at earlier stages of their HIV disease.

Pregnant HIV-positive women have additional concerns. Each year more than 6000 HIV-positive women in the United States give birth. Incidence rates of preeclampsia and fetal death have soared among HIV-positive pregnant women following initiation of antiretroviral therapy. In a study from Spain, rates of preeclampsia per 1000 deliveries rose from 0.0 during 1985 to 2000 to 109.8 during 2001 to 2003, and rates of fetal death rose from 7.7 to 61.0, respectively. Use of antiretroviral therapy before pregnancy was associated with a relative risk of 5.6 for these complications, compared with 0.18 for the well-recognized risk of smoking.

In the resource-poor world, where monotherapy is most often used to block mother-to-child transmission (MTCT), women receiving single-dose nevirapine have higher rates of virological failure
if subsequent nevirapine-based combination antiretroviral therapy is instituted within 6 months than do women without previous exposure to the drug (18.4% vs 5.0%; \( P = .002 \)). \(^\text{11}\) In women treated with single-dose nevirapine, there is a 2.6-fold higher incidence of HIV transmission to their second child following another course of drug to prevent MTCT (11.1% vs 4.2%; \( P = .02 \)). \(^\text{12}\) Apart from the infectious complications of HIV infection, there are many additional concerns that hold particular significance for women, given their primary roles as family caregivers and their unequal economic, social, and political status in many countries. A study of HIV-infected women in New York City confirmed the substantial, antiretroviral treatment-based improvement in the physical health of those living with HIV/AIDS. \(^\text{13}\) However, the study found no parallel improvement in psychological health.

Along with pregnancy and childbirth, health problems linked to sexual activity in general disproportionately affect women. A CDC study of adverse health events, deaths, and disability adjusted life-years (DALY) attributable to sexual behavior in the United States in 1998 (which was the last year evaluated) showed 20 million such events. \(^\text{14}\) They included 29,782 deaths, or 1.3% of all deaths that year. People in the United States are 3 times as likely as those in other resource-rich countries to experience premature death or other adverse events as the result of sexual activity.

The majority of adverse health events (62%) and DALYs (57%) related to sexual behavior occurred in females; curable infections contributed to over half of the events. \(^\text{14}\) Viral infections and their sequelae accounted for 96.8% of deaths in women. This included 4234 HIV-linked deaths and 4921 related to cervical cancer, the majority of the latter being a consequence of human papillomavirus infection.

So what might be done about all this?

First, we must confront two key issues: some 25% of infected individuals in the United States are unaware of their serostatus, \(^\text{15}\) and of those who are aware, only 57% are receiving care. \(^\text{16}\) Expanding HIV testing and providing access to general, not only HIV-related, health care will be essential to identifying those with unsuspected HIV infection early in the course of their disease and offering appropriate treatments and health care.

Second, prevention must be emphasized. In a plenary presentation at last year’s International AIDS Conference in Toronto, Gita Ramjee of South Africa suggested extending the "ABCs" of HIV prevention-A, abstain; B, be faithful; and C, use condoms-to the real world, where adherence and acceptability of such programs present formidable challenges. \(^\text{17}\) She sought delivery of C, circumcision; D, diaphragm; E, exposure prophylaxis; F, female-controlled methods, such as microbicides; G, genital tract factor treatments; and H, herpes simplex virus type 2, prevention and treatment; while awaiting development of vaccines for I, immunity. Unfortunately, many of the biomedical prevention methods Dr Ramjee lists are only in early developmental stages, including microbicides, antiretroviral agents for preexposure prophylaxis, and vaginal diaphragms. The role of outreach interventions to engage socially marginalized people in primary and HIV-associated health care, and to retain them, \(^\text{18}\) is more crucial than ever.

**References:**


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