

HIV Trends and Women's Sexual Health

June 2007



**Positive Women's
Network**

A summary of articles with a women-centred focus on HIV, sexually transmitted infections, prevention issues and more. Please contact the source cited or Positive Women's Network if you'd like more information.

Edited by Janet Madsen, Communications Coordinator (janetm@pwn.bc.ca)

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Positive Women's Network: Action and Leadership on women and HIV/AIDS

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Prevention Issues and Challenges

The Role of Herpes Simplex Virus Type 2 and Other Genital Infections in the Acquisition of HIV-1 Among High-Risk Women in Northern Tanzania

In the current study, investigators examined the role of herpes simplex virus type 2 (HSV-2) and other genital infections on HIV-1 incidence in a cohort study of female hotel/bar workers in Moshi, Tanzania, from 2002 to 2005.

Among 845 HIV-negative participants at the study's start, researchers interviewed and collected blood and genital samples from 689 (81.5 percent) at baseline and at every three months for a total of 698.6 person-years at risk (PYARs). Predictors of HIV-1 incidence were evaluated using a Cox proportional hazards regression model.

The overall HIV-1 incidence was 4.6 per 100 PYARs (95 percent confidence interval [CI], 3.0-6.2/100 PYARs), and use of condoms was very low. Adjusting for other risk factors, HIV infection risk was increased among women with HSV-2 infection at baseline (hazard

ratio [HR], 4.3 [95 percent CI, 1.5-12.4]) and in those who acquired HSV-2 during the study (HR, 5.5 [95 percent CI, 1.2-25.4]). In addition, independent predictors of HIV-1 infection were baseline chlamydial infection (HR, 5.2), bacterial vaginosis (HR, 2.1), and occurrence of genital ulcers (HR, 2.7).

"HSV-2 and other genital infections were the most important risk factors for HIV-1," the authors concluded. "Control of these infections could help to reduce HIV-1 incidence in this population."

Source: CDC HIV/Hepatitis/STD/TB Prevention News Update 05/18/2007
Original Source: Journal of Infectious Diseases Vol. 195; No. 9: P. 1260-1269 (05.01.07): Saidi H. Kapiga; Noel E. Sam; Heejung Bang; Quanhong Ni; Trong T.H. Ao; Ireen Kiwelu; Sarah Chiduo; Uzodinma Ndibe; George Seage III; Paul Coplan; John Shao; Zeda F. Rosenberg; Max Essex

Georgia to Add HIV Tests to Its Prenatal Exams

On Thursday, Georgia Gov. Sonny Perdue signed into a law a measure that will require health care providers to include HIV testing as part of standard prenatal exams. A pregnant woman's refusal to take the test would be noted in her medical record.

Currently, patients must request HIV testing separately as part of their prenatal lab work. Physicians, however, automatically test for measles, syphilis, and hepatitis, said Augusta-based physician Greg Cook. "The whole purpose of this is we really want more women to get tested for HIV and if they're pregnant, not only can we refer the mother to infectious disease [care]

and treatment, but it's very important for the baby," the OB-GYN said.

The bill's sponsor, Rep. Sharon Cooper (R-Marietta), said more widespread testing could diagnose women who did not consider themselves to be at risk for HIV.

Under the new law, pregnant women testing positive for HIV will be referred to the state Department of Human Resources for counseling on medical care.

Source: CDC HIV/Hepatitis/STD/TB Prevention News Update 05/22/2007
Original Source: Florida Times-Union (05.18.07): Vicky Eckenrode



Prevention Issues and Challenges

HIV Chief Wary as UN Endorses Circumcision

Dr. Nomonde Xundu, chief of the HIV/AIDS division of South Africa's health department, is responding cautiously to the recent World Health Organization/UNAIDS endorsement of male circumcision to prevent HIV infection in heterosexual men.

Xundu said that as at least 40 percent of South African men are already circumcised, the effects of such a campaign would be limited.

However, she said the government is considering impaneling a team, including scientists, public health experts, and traditional healers, to investigate implementing efforts to promote circumcision. Xundu said the procedure clearly has benefits; however, she said its protective effects would likely be greater in AIDS-affected nations where circumcision is not already common.

After examining three studies indicating that circumcision reduces the risk of HIV infection by 60 percent, the two international bodies declared the evidence of the procedure's benefit "compelling." WHO and UNAIDS said nations with high rates of HIV and low rates of circumcision should make arrangements to offer men the operation.

Xundu said particular challenges would confront such programs, including how to ensure the operation was performed hygienically and how to educate men that the procedure does not convey 100 percent protection from HIV infection.

Dr. Francois Venter, President of the South African HIV Clinicians Society, said the new guidance represents "a great opportunity to access a group [men] that is difficult to reach."

Source: CDC HIV/STD/TB Prevention News Update April 2, 2007
Original Source: Business Day (Johannesburg) (03.30.07):: Tamar Kahn

Risky Sex with Many Partners Predicted Young: Study

New research shows that risky sexual behavior in teens can be predicted when children are as young as age nine. Study authors tracked 167 US teens for the first 16 years of life and found an association between aggressive and delinquent behavior as children and risky, unprotected sex as teens.

By age 16, 60 percent of the group reported having had sex. Half of sexually experienced teens were considered at "low risk" because they had few partners and reported consistent contraception use. Sexually active teens were very similar to those who abstained from sex, except they looked more physically mature, had closer bonds with their friends, and were more likely to drink alcohol, said Dr. Melanie Zimmer-Gembeck, a Queensland-based Griffith University researcher who was part of the study team.

The other half of sexually experienced teens, 25 percent, reported five or more sexual partners and said they rarely used protection. The researchers found these high-risk teens had a long and clear history of family and behavioral problems.

"Kids with risky sexual behavior at 16 were already showing signs of aggression and delinquency problems at age nine," said Zimmer-Gembeck. "That means there's a much longer pathway to sexual risk-taking than we thought."

The study, "Sexual Partners and Contraceptive Use: A 16-Year Prospective Study Predicting Abstinence and Risk Behavior," was published in the *Journal of Research on Adolescence* (2007;17(1):179-206).

Source: CDC HIV/STD/TB Prevention News Update 03/29/2007
Original Source: Australian Associated Press (03.21.07): Tamara McLean

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Women's Health Spectrum

CANADA: Fewer Teens Are Getting Pregnant

A new study in the Canadian Journal of Human Sexuality shows that the rate of teen pregnancies in Canada is at an all-time low. However, there has not been a drop in the number of sexually active teens. Since the early 1990s, young people have been losing their virginity - on average - at age 16, and more than 80 percent have had sex before they turn 20. It appears that teens have become better at practicing "some form" of safe sex, said study author Alex McKay, who analyzed three decades of Statistics Canada data for the report. But unfortunately, young people have not reduced the rate at which they acquire STDs. McKay said this is

easily explained: When teens become sexually active they tend to be good at using condoms. As they get older, they rely on the birth control pill. They go from one stable relationship to another, said McKay, and practice birth control rather than focusing on preventing STDs. "They end up having unprotected sex with multiple partners," he said, adding that promoting condom use may help this scenario.

Source: CDC HIV/Hepatitis/STD/TB Prevention News Update 05/21/2007
Original Source: Toronto Star (05.18.07):: Michele Henry

CANADA: New Cervical Cancer Vaccine Awaits Health Canada Approval

Health Canada is reviewing whether to approve the human papillomavirus (HPV) vaccine Cervarix, according to a scientist who helped do research on the immunization.

A study of Cervarix found it continued to provide the same amount of protection after 5.5 years as it did four years after the immunization, said Dr. Barbara Romanowski, principal Cervarix investigator and an infectious-diseases professor at University of Alberta. The vaccine protects against four HPV strains related to 80 percent of cervical cancer cases. Unlike the HPV vaccine Gardasil, Cervarix does not protect against HPV strains that cause genital warts.

"To the individuals who are questioning the vaccine, what are we waiting for?" asked Romanowski. "We know the vaccine is safe. We know the vaccine is effective."

There has been some criticism that the approval of Gardasil was rushed without determining its efficacy after five to six years. More than 90 percent of cervical HPV infections resolve on their own, and only rarely does HPV progress to cervical cancer or death. However, 1,400 Canadian women are diagnosed with cervical cancer annually, and 400 die from it each year.

"One woman a day dies of cervical cancer," Romanowski said. "Is that not enough? I think one woman a month is too much. If this was a vaccine against breast cancer, would we be having this conversation? I think people are hung up because it's the cervix, because it's sexually transmitted and because it has to do with sexuality."

Source: CDC HIV/Hepatitis/STD/TB Prevention News Update 04/23/2007
Original Source: Edmonton Journal (04.18.07): Jodie Sinnema

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Women's Health Spectrum

California Senate Committee Approves Bill That Would Allow HIV-Positive Men To Have Sperm Washed, Used for Fertility Treatments

The California Senate Health Committee on Wednesday voted unanimously to approve a bill (SB 443) that would allow HIV-positive men to have their sperm washed and used for fertility treatments, including artificial insemination and in vitro fertilization, under certain guidelines, the San Francisco Chronicle reports (Lucas, San Francisco Chronicle, 3/29). The state in 1989 began prohibiting HIV-positive people from donating sperm, blood or tissue in an attempt to curb the spread of the virus. The law has prevented HIV-positive men from using reproductive technologies that lower the risk of transmitting HIV to their partners.

The bill, sponsored by state Sen. Carole Migden (D), would allow couples that include HIV-positive men to use reproductive technology under the following guidelines: the HIV-positive donor's sperm is processed to minimize the risk of HIV transmission; informed mutual consent has occurred; and the American Society of Reproductive Medicine recognizes the sperm processing procedures. California is one of two states where couples with an HIV-positive man cannot undergo fertility treatments with his donated sperm, Deborah Cohan, medical director of the Bay Area Perinatal AIDS Center, said. She added that many of those couples try to conceive through intercourse, which increases the risk of HIV transmission to the woman and, potentially, to the infant. Of the 3,800 reported cases outside California in which couples with an HIV-positive man have used reproductive technology, not one case of HIV transmission has been reported, according to Cohan.

A survey conducted by Cohan among 67 fertility centers in the state found that 80% of the centers would provide services to couples with an HIV-positive man if

the law were changed. Migden said, "It's in society's interest to give these couples a safe method of reproduction," adding, "A clean procedure is available. Making it available in California is a positive step the government can take to produce healthy children" (Kaiser Daily HIV/AIDS Report, 3/28).

Source: Kaiser Daily HIV/AIDS Report, Mar 30, 2007



Argentinean Activist Advocates for Women with HIV

Argentinean Patricia Perez was among 25 activists and leaders from several Latin American countries who gathered in Mexico City May 8-11 to discuss the feminization of HIV/AIDS in the region. According to the UN Population Fund, three years ago there were seven or eight men with HIV/AIDS in Latin America for every infected woman; today that ratio is three to one.

Perez, a regional coordinator for the International Community of Women Living with HIV/AIDS in Latin America and a 2007 Nobel Peace Prize nominee, and colleagues discussed strategies for next year's 17th International AIDS Conference. Around 25,000 researchers, health care professionals, government officials and civil society advocates are expected to attend the conference, which will be held in August in Mexico City.

According to Perez, the conference must move beyond science to address the social and cultural context in which the global epidemic is occurring, particularly for women. "As women living with HIV, we know what we need, so we should be sitting down at the

tables where governments are making the decisions," she said.

The vast majority of Latinas living with HIV suffer from stigma and discrimination, the activists said. "Invisibility, silence, and indifference will only end when women living with HIV raise our voices and make ourselves heard," noted Hilda Esquivel, leader of the group Mexicanas Postivas Frente a la Vida.

Teresa Rodriguez, head of the UN Development Fund for Women for Mexico, Central American, Cuba, and the Dominican Republic, commended the activists for their efforts and for taking a leading role in preparing for the conference next year.

Source: CDC HIV/Hepatitis/STD/TB Prevention News Update 05/16/2007
Original Source: Inter Press Service (05.11.07); Diego Cevallos



International Community Should Address Conditions That Make Women Vulnerable to HIV/AIDS

Although “women face inequality with men” in “all too many places,” they are “fast approaching equality” in terms of the HIV/AIDS pandemic, UNAIDS Executive Director Peter Piot writes in a Bangkok Post opinion piece. According to Piot, 59% of adults and 75% of young people living with HIV in highly affected African countries are women, and 30% of HIV-positive people in Asia are women. One reason women are “catching up with men in terms of” HIV cases is the “difference in physical make-up between men and women, which makes women almost twice as likely to become infected with HIV from men as men are from women,” Piot writes. He adds that “apart from the biological inequality, there are many deeply rooted social patterns” that “explain why women are increasingly” affected by HIV.

Several “social norms and patterns across the world can influence the adoption of behavior that increases the risk of HIV infection,” Piot writes, adding, “In many areas of the world, suspicion of immorality and infidelity threaten women’s fragile status and scared them away from carrying or insisting on using a condom. For the same reasons, women will also avoid routine reproductive health services where they could be informed about HIV, be tested and, if needed, receive treatment.”

In addition, some social norms “encourage men to engage in risky behavior” that puts them and their female partners at an increased risk of HIV, Piot adds. In order to stop the “feminization” of the HIV/AIDS pandemic, as well as the pandemic itself, the international community should “initiate legal but also social, cultural and economic changes to challenge some of the most pervasive social patterns and gender norms that continue to fuel” the spread of HIV, Piot writes. “We must start

judging our responses to HIV by two questions: do they promote the human rights of women and girls, and do they promote the responsibilities of men and boys,” Piot writes, adding, “Above all, men and women have to agree to change together the society they live in for one respectful of the individual and of human rights.” He concludes, “This paradigm shift is necessary to beat HIV,” and it “has become a compulsory requirement to get ahead of this epidemic” (Piot, Bangkok Post, 3/9).

Source: Kaiser Daily HIV/AIDS Report - Monday, March 12, 2007



Testing, Treatment and Care

Half of Montreal HIV Transmissions by People Who Don't Know They're Infected

At a recent AIDS forum held in Montreal, a presentation showed HIV transmission during early infection is one of the epidemic's prime drivers in the city. Half of new HIV transmissions occur at a time when the transmitting patient is so recently infected he or she has not yet produced the antibodies for which standard diagnostic tests search, the study suggests.

"People are most likely to transmit the AIDS virus when they are first infected than in the chronic stages of the illness," said Michel Roger, a co-researcher at the University of Montreal. The study, led by McGill AIDS Center Director Dr. Mark Wainberg, followed 2,500 Montreal HIV patients for eight years. It used genetic tests to determine length of time since infection and to track the virus' path.

Its findings indicate that each newly infected person transmitted HIV to eight other people on average, said Bluma Brenner, a McGill AIDS researcher at Jewish General Hospital. One trial participant was

determined to have transmitted HIV to 17 other people.

During early infection, HIV multiplies quickly, and viral loads are higher. People newly infected may or may not feel ill. Some people experience flu-like symptoms and others do not. Because 30 percent of HIV-infected people do not know it, identifying them is difficult but crucially important, said Wainberg. Quick treatment with HIV drugs may reduce the spread of infection.

However, mass screening is expensive and may not detect people recently infected, symposium participants heard. It may take up to six months for the body to produce the antibodies that trigger a positive result on standard tests.

The full report, "High Rates of Forward Transmission Events after Acute/Early HIV-1 Infection," was published in the *Journal of Infectious Diseases* (2007;195:951-959).

Source: CDC HIV/STD/TB Prevention News Update 03/23/2007
Original Source: Canadian Press (03.16.07)



Testing, Treatment and Care

Resistant HIV Quickly Hides in Infants' Cells

New evidence shows that drug-resistant virus passed from mother-to-child can quickly establish itself in infants' CD4+ T cells where it can hide for years, likely limiting their options for future treatment. The study is published in the May 15 issue of *The Journal of Infectious Diseases*, now available online.

Mother-to-child transmission of HIV is an important factor in the AIDS pandemic, although important strides have been made in limiting transmission with antiviral drug therapies before, during, and following birth. In the last few decades the rate of mother-to-child transmission of HIV in the United States has been reduced from 25 percent to its current rate of less than 2 percent. However, the transmission of drug-resistant strains of HIV from mother to child is still a problem, and much is unknown concerning how such transmission affects the responses of infants to various drug treatments.

The study, conducted by Deborah Persaud, MD, of Johns Hopkins University School of Medicine and colleagues working throughout the United States, analyzed HIV-infected infants less than six months of age enrolled in a large, multi-center clinical trial covering 10 states.

Their results showed that five of 21 HIV-positive infants were infected with drug-resistant HIV transmitted from their mothers — a surprisingly high figure. Of those five, four were resistant to non-nucleoside reverse transcriptase inhibitors (NNRTIs), a common class of antiretroviral drug used to treat HIV infection and to prevent mother-to-child transmission. All had uncommon drug-resistance mutations that some resistance tests would miss.

Earlier studies looking at infants treated with antiretrovirals in an unsuccessful attempt to prevent mother-to-child transmission found the virus quickly developed resistance, but levels of resistant virus de-

clined over time to undetectable levels. In the current study, however, researchers found these resistant viruses quickly took up residence in inactive T cells, from where they could later launch an attack that NNRTIs could not stop. The news was not all bad: a different class of antiretroviral drugs, protease inhibitors (PIs), was effective in controlling HIV viral load and NNRTI-resistant virus strains for all infants studied.

These findings have important implications when it comes to choosing among available treatments. As Persaud summarized, "The initial transmitted drug-resistant virus will likely never be cleared from that infant with currently available treatments. However, it is important to point out that because PIs are the first-line drugs used to treat HIV infection in infants in the United States, PI-containing treatment was still effective in controlling the NNRTI-resistant virus in the infants in this study. As long as you do not use NNRTI-based treatment in these infants, you avoid applying pressure that allows drug-resistant HIV to flourish."

The study concluded that it is important to consider drug-resistance testing as a part of the initial evaluation of newly HIV-infected infants so that appropriate choices can be made when considering possible treatments, especially since PIs are not used worldwide as first-line therapy. Such testing must be paired with further studies on available and new therapies. As Persaud remarked, "It is important to fully understand the extent to which the persistent drug-resistant virus affects whether those drugs can be reused within the child's lifetime. ... This is a critical question and an area of intense investigation, especially in light of the high rates of antiretroviral drug resistance occurring in infants in low-income countries who received a single dose of an NNRTI for prevention of mother-to-child transmission, and for whom treatment options are few."

continued



Women have significantly better response to HIV therapy than men

Women have a significantly better response to HIV treatment than men say the Spanish authors of the latest big study into gender bias in HIV outcomes published in the April 23rd edition of AIDS.

The first suggestions that men and women differ in their responses to HIV infection were made over 15 years ago. A number of studies since have reported conflicting findings. The researchers behind the new study have attempted to clarify the issue by concentrating on a large group of patients from 69 Spanish hospitals who all started on similar treatments. They collected data on 2,620 HIV-infected people - 72% of them men - for twelve months after they started taking similar nelfinavir-based antiretroviral regimens.

Among those who were taking potent HIV therapy for the first time, the women's average CD4 cell count was higher than the men's ($p = 0.01$). Although the women were more likely to achieve undetectable viral loads the difference was not statistically significant ($p =$

0.6). The gender difference was more marked in the treatment-experienced group where again women's average CD4 cell counts were higher than men's, but the difference was of only borderline statistical significance ($p = 0.06$). At twelve months 49% of the treatment-experienced women had undetectable viral loads compared to 40% of the men ($p = 0.01$).

At every time-point studied throughout the twelve months women had consistently better virological and immunological responses than men despite the fact they were significantly more likely to experience side-effects to the regimen. HIV disease also progressed more slowly in women.

None of these differences could be explained by women being more adherent to the drug therapies, the researchers concluded (Collazos 2007).

In general the women tended to have lower viral loads and higher CD4 cell counts when they began therapy but the differences seen in this study are also due to stronger immunological responses to therapy, they add.

Previous studies into a possible gender bias in HIV outcomes have produced varying conclusions. Some have found higher CD4 counts in men and others in women while others have found no difference.

The authors of this study say it has several advantages over others, including its size. Ethnic or racial factors are less likely to have an influence as 90% of the individual studied were white Spanish. And the fact that 69 hospitals across Spain were used minimises the risk of treatment bias from one centre.

Reference

Collazos J et al. Sex differences in the clinical, immunological and virological parameters of HIV-infected patients treated with HAART. AIDS 21: 835-843, 2007.

Source: www.aidsmap.com, Adam Legge, Thursday May 3, 2007

Resistant HIV and Infants... continued

In an accompanying editorial, Paul A. Krogstad, MD, of the David Geffen School of Medicine at UCLA, noted that global elimination of pediatric AIDS will require not only prevention of mother-to-child transmission but also development of new antiretroviral agents for pediatric use, particularly against highly resistant infection. "There is also a need for new and widely accessible methods for detecting HIV infection in infants, whether resistant or not," he pointed out, "since transplacental transfer of maternal antibodies precludes the use of antibody detection methods." Affordable techniques also are necessary to reliably detect resistant HIV in less affluent areas of the world.

Source: What's New at The Body, May 2, 2007
Original Source: The Journal of Infectious Diseases.

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Testing, Treatment and Care

Substantial HIV Reduction Persists For 2-3 Weeks With Single Dose Of PRO-140 Antibody

A single dose of a monoclonal antibody that blocks the CCR5 receptor on human immune cells is enough to reduce HIV viral load by 90% (1 log₁₀) for two to three weeks, pharmaceutical company Progenics announced today in a press release.

The monoclonal antibody product, called PRO 140, was tested in a phase 1b dose-escalation study in 39 HIV-positive individuals. Participants in the multicentre study were randomised to placebo or to one of three escalating single doses of PRO-140, which was administered intravenously.

At the two higher doses tested (2mg/kg and 5mg/kg) viral load fell by an average of 1.2 and 1.8 log₁₀ respectively, with a maximum observed reduction of 2.5log₁₀ in one patient who received the highest dose. All ten participants who received the 5mg/kg dose experienced a viral load reduction of at least 1log₁₀.

Nine days after the antibody was administered participants in the two higher dose groups had sustained viral load reductions: a mean of 1.04 and 1.7 log₁₀ respectively.

Viral load remained suppressed at least 1log₁₀ below baseline for two to three weeks before returning to baseline approximately 30 days after treatment.

"As an HIV/AIDS researcher for more than two decades, I was particularly gratified to see these results from our proprietary PRO 140 antibody, as they represent the largest reported single-dose mean reduction in viral load for any antiretroviral drug," said Paul J. Maddon, Progenics' chief executive.

Other products that block HIV's use of the CCR5 receptor, such as maraviroc, are oral drugs that must be taken once or twice a day. PRO 140 represents the first antiretroviral drug that might permit weekly treatment, along with the nucleoside analogue elvicitabine. PRO 140 is also reported to be active against viruses that have evolved resistance to CCR5 antagonists such as maraviroc.

Source:<http://www.aidsmap.com>, Keith Alcorn, May 1, 2007

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