

HIV Trends and Women's Sexual Health

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**Positive Women's
Network**

Action and Leadership on Women and HIV/AIDS

*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.
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Prevention Issues and Challenges

AIDS May Orphan 18 Million African Children by 2010

At the Global Partners Forum in London on Thursday, officials warned that AIDS will orphan 18 million children in sub-Saharan Africa in the coming four years.

"Children are the missing face in the AIDS epidemic," said UNICEF Executive Director Ann Veneman. UNICEF, UNAIDS, and Britain's Department for International Development are sponsoring the two-day conference, which has attracted more than 150 health and government officials from around the world.

"Every minute of every day, a child under the age of 15 years old dies of HIV and AIDS. There are also 15 million children who have lost one or both parents to AIDS. This is creating a tremendous problem in the highest prevalence countries, particularly those in southern Africa," Veneman said.

Gareth Thomas, Britain's undersecretary for international development, said the conference highlights the need for cheaper drugs to fight HIV in children. "We are very concerned about the high cost of children's antiretroviral drugs in comparison to adult antiretroviral drugs," he said. "Prices tend to be about six times greater by way of comparison."

The AIDS epidemic's impact on societies compares to that of global warming, said UNAIDS chief Peter Piot. "It is not enough to have the technology; it is not enough to have the medical approach," he said, advocating an integrated approach to the complex issues that make AIDS "totally unique from any other disease."

Source: CDC HIV/STD/TB Prevention News Update 02/10/2006
Original Source: Voice of America News (02.09.06): Michael Drudge

Babes Benefit When HIV+ Moms Take a Multivitamin

HIV-positive pregnant women in Tanzania who took multivitamins reduced the chances that their infants would have developmental delays, according to new research. The findings support current recommendations to give multivitamin supplements and antiretroviral therapy to HIV-1-infected pregnant women in developing countries, said Dr. Nuala McGrath of the Harvard School of Public Health and colleagues.

Supplementation has already been associated with delays in HIV progression as well as decreased complications such as low birth weight, preterm birth and death. In the current study, re-

searchers assessed the relation between maternal multivitamin use and mental and motor development in 327 children born to HIV-positive mothers.

In the study, the pregnant women received either a vitamin A supplement; a multivitamin containing B1, B2, B6, niacin, B12, C, E and folic acid; both supplements; or a placebo. Treatment lasted through the pregnancy and for 18 months after delivery.

The team found that the multivitamin regimen excluding vitamin A was associated with positive motor scores, as assessed by a validated index. According to the authors, the average 2.6-point

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Multivitamin benefits continued

increase in motor index scores would translate to a 35 percent decrease in the number of babies who would need greater educational resources, medical care and other social services.

While the multivitamin regimen was also associated with a decreased risk of motor developmental delays (relative risk 0.4), its association with mental scores was insignificant. Vitamin A was neither associated with changes in mental/motor function nor did its inclusion with a multivitamin improve development scores.

The full report, "Effect of Maternal Multivitamin Supplementation on the Mental and Psychomotor Development of Children Who Are Born to HIV-1-Infected Mothers in Tanzania," was published in the journal *Pediatrics* (2006;117(2):e216-e225).

Source: CDC HIV/STD/TB Prevention News Update 02/15/2006
Original Source: Reuters Health (02.14.06)

Tenofovir Safe for Use as Microbicide, Study Says

Tenofovir, when administered as a gel, is safe for intravaginal use as a microbicide to prevent HIV transmission, according to a study published in the Feb. 28 on-line edition of the journal *AIDS*, Reuters Health reports (Reuters Health, 2/22). Microbicides include a range of products — such as gels, films, sponges and other products — that could help prevent the sexual transmission of HIV and other sexually transmitted diseases (Kaiser Daily HIV/AIDS Report, 1/26).

Kenneth Mayer, director of the Brown University AIDS Program, and colleagues looked at 84 women ages 18 to 45. The participants, 60 of whom were HIV-negative and 24 of whom were HIV-positive, were given tenofovir to use intravaginally for 14 consecutive days, according to a release from the Rhode Island-based Lifespan Health System (Lifespan release, 2/10). Most participants reported at least one mild adverse event, but the study does not find an association between ad-

verse events and gel concentration, sexual activity or HIV status, Reuters Health reports. About 94% of the women said they would definitely or probably use the tenofovir gel to prevent HIV transmission if it were available (Reuters Health, 2/22).

Researchers did not detect any new resistance mutations in the 24 HIV-positive women after 14 days of use (Mayer et al., *AIDS*, 2/28). Mayer called use of tenofovir as a microbicide "an innovative approach that shows great promise," adding, "The results of this study may change the way the research community looks at developing safe and effective microbicides" (Lifespan release, 2/10). Researchers said further studies are underway in New York and India to examine tenofovir's efficacy as a microbicide (Reuters Health, 2/22).

Source: Kaiser Daily HIV/AIDS Report Thursday, February 23, 2006

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Chemical 'Blocks HIV Infection

Lab tests of a compound that disables HIV are generating cautious optimism for a potential HIV treatment. "We have some preliminary but very exciting results," said Dr. Derya Unutmaz, who conducted the tests. "But we would like to formally show this before making any claims that would cause unwarranted hype," said the associate professor of microbiology and immunology at Vanderbilt University School of Medicine.

The tests found that CSA-54, derived from ceragenins - a family of synthetically produced compounds - targets the membrane of HIV to stop it from infecting cells. CSA-54 is electrostatically attracted to the negatively charged cell membranes of certain viruses, fungi, and bacteria, said researchers. In lab tests, the compound blocked HIV's ability to target CD4+ cells for infection. Developed by researchers at Brigham Young University, the

compounds are licensed to Ceragenix Pharmaceuticals, which sponsored the research.

"This is particularly important, as a compound that targets the viral membrane is likely to be effective against all strains of the virus, regardless of mutations as the viral membrane remains unchanged," said Unutmaz.

"This is a novel approach to stopping the virus from infecting other cells," said Roger Peabody, a treatment advisor for the charity Terrence Higgins Trust. "However, it is very early test tube research and is many years away from clinical trials. We will need to see tests on humans before we can know its true value."

Source: CDC HIV/STD/TB Prevention News Update 02/09/2006
Original Source: BBC News (02.09.06)

Disclosure of HIV Serostatus to Sex Partners: A New Approach to Measurement

To propose a refined measure of HIV disclosure, the authors conducted a cross-sectional study to assess measurement of full HIV serostatus disclosure (before sex), delayed disclosure (after sex), and no disclosure to both current and recent past (in the last year) sex partners.

Sixty-three persons with HIV/AIDS who reported on 145 sex partnerships were interviewed. Full disclosure occurred in 54 percent of all sex partners reported in the past year, delayed disclosure in 22 percent, and no disclosure occurred in 24 percent. "Delayed/no disclosure among all partners in the past year was substantially higher than standard measures of no disclosure among current partners only, 46 percent (95 percent confidence interval [CI], 38-54 percent) versus 12 percent (95

percent CI, 5-19 percent). No disclosure was more common in past partnerships than current partnerships (40 percent vs. 12 percent, $P < 0.01$)," the authors found. Having an HIV-positive partner and being in a primary, heterosexual relationship were partnership characteristics predictive of disclosure.

"Standard measures may underestimate nondisclosure," the researchers concluded. "Counseling and interventions that promote disclosure should include strategies for disclosure in ongoing relationships, assistance in notifying past partners, and a focus on partnership characteristics and dynamics."

Source: CDC HIV/STD/TB Prevention News Update 02/14/2006
Original Source: Sexually Transmitted Diseases (02.06) Vol. 33; No. 2: P. 102-105 (02.06.06); Linda M. Niccolai, et al.

Prevention Issues and Challenges

HIV Prevention Hope: Yogurt Bugs That Make Antiviral Drugs

A research team led by Bharat Ramratnam, a Brown Medical School professor, has genetically modified bacteria found in yogurt so that the bugs produce a protein proven to block HIV infection in monkeys. The results offer hope for a microbicide that can prevent the spread of HIV, which now affects about 40 million people.

Researchers have come up with a novel delivery system for anti-AIDS drugs: milk-curdling bacteria used to make yogurt and cheese. "We've found that you can engineer these bugs to secrete drugs - in this case, a viricide that disables HIV," said Bharat Ramratnam, assistant professor of medicine at Brown Medical School and attending physician at Rhode Island Hospital and The Miriam Hospital. "The hope is to use the bacteria as the basis for a microbicide which can prevent sexual transmission of HIV."

Ramratnam oversaw the bug-to-drug experiments conducted by an international team of scientists who recently published their results in the *Journal of Acquired Immune Deficiency Syndromes*.

Ramratnam hatched the idea a few years ago after reading about an intriguing discovery: A protein called cynovirin binds to HIV and prevents it from entering cells in the mucous membranes - a feat confirmed in both laboratory and animal studies. Ramratnam was already familiar with lactic acid bacteria, or LAB. They help make fermented foods such as yogurt and cheese by turning carbohydrates into lactic acid. LAB are also known for their "promiscuity," or the ability to accept foreign DNA, then produce proteins called for in these new genetic recipes.

So why not introduce cynovirin DNA into these bacterial protein factories?

That's what the research team tried. Using blasts of electric current, the team made tiny holes in LAB membranes and inserted circular bits of DNA that carry the recipe for cynovirin. The team succeeded: The genetically modified LAB began cranking out the HIV-blocking protein.

The hope is to use these bioengineered bacteria as the active ingredient in a microbicide - a foam, cream or suppository that can be applied to, or inserted into, the vagina or anus before sex to prevent HIV transmission. Scientists around the world are trying to develop these topical drugs as weapons in the battle against HIV/AIDS.

Ramratnam, an internist who received his medical training before the advent of life-extending antiretrovirals, hopes to have a treatment to test in humans in three years. A microbicide using modified LAB will be tested in monkeys beginning this summer.

"Before we can move into human trials, we need to meet a few challenges in animal trials," he said. "We need to be sure that LAB make enough cynovirin and make sure that the cynovirin is effective. If that happens, we may have a terrific treatment on our hands."

Ramratnam also plans to genetically modify LAB to crank out proteins that disable salmonella, shigella, cholera and other pathogens that enter the body through the mucous membranes. Ramratnam is a scientist with the Lifespan/Tufts/Brown Center for AIDS Research.

Source: What's New at The Body, February 1, 2006
Original Source: Brown University News, January 23, 2006

Womens' Health Spectrum

Vancouver: Massive death rate found for women with addiction issues

Sharing unsterilized needles, syringes, filters and other equipment for injecting street drugs helps to transmit such infections as HIV and hepatitis B and C. Injection drug users (IDUs) are therefore at heightened risk for developing AIDS and complications of liver disease.

The arrival of highly active antiretroviral therapy (HAART) in the mid-to-late 1990s greatly reduced AIDS-related infections and deaths, at least in high-income countries. But access to medications is only one aspect related to optimal care and treatment that helps people survive AIDS. Other issues likely to play a role in ensuring survival in some people with HIV/AIDS (PHAs) include the following:

- the ability to take HAART exactly as directed and prescribed
- diagnosis and treatment of mental health conditions
- the presence of co-infections
- access to regular medical care
- stable housing
- regular nutritious meals
- addiction counseling and treatment

A research team at the B.C. Centre for Excellence in HIV/AIDS has been studying the health of IDUs in Vancouver. They have found that female IDUs have a death rate that is about 50 times greater than that of the average woman in British Columbia. Further details about this study and possible solutions suggested by the research team appear below.

Study details

Between 1996 and 2002, researchers in Vancouver recruited 1,478 IDUs (35% women, 65% men) for their study. The volunteers came from a neighbourhood called the Downtown Eastside-an area with a high concentration of substance use, low income, HIV and other health issues. A brief profile of the women when they entered the study is as follows:

- average age - 32 years
- 40% were of Aboriginal ethnicity
- on average, the women had been injecting street drugs for nine years

Results

Over the course of the study, 68 women died-roughly 13% of the group. The researchers adjusted their calculations, comparing "age-specific death rates" between people in the study and people in general between 18 and 64 years who live in British Columbia. They found the following:

- Women in the study were 47 times more likely to die than the average woman in B.C.
- Men in the study were 22 times more likely to die than the average man in B.C.

Factors linked to poor survival

The researchers found that three factors were statistically linked to poorer survival among the women in the study:

- unstable housing
- HIV infection
- trading sex for money, drugs, food or shelter.

So, to begin to find ways to improve the survival of women IDUs in Vancouver, the study team had a number of solutions, as outlined.

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Massive death rate found for women continued

Unstable housing

The researchers noted that the elevated risk of death for the Vancouver women suggests an "extreme vulnerability." They found that many of the women in the study were either homeless or living in shelters. Previous studies have found that these living conditions were associated with "high rates of violence, rape, recruitment into the sex trade and injection drug use among women." There is no simple solution to the crisis faced by women IDUs in Vancouver. To begin to help resolve the situation, the study team suggested that low-income housing and other interventions to help prevent these deaths should be expanded.

Harm reduction

Addiction counseling and recovery services that are easily accessible and available to these women need to be developed. Several studies have noted that women are at higher risk than men for HIV infection or dying from drug overdoses. Addiction recovery programs need to incorporate gender-related issues so that more women can be helped. This study was done before the establishment of the supervised injection site in Vancouver and the researchers hope that this will help reduce deaths due to drug overdoses.

Accessing health care

Sex workers may have limited opportunities to access health care, particularly if they work at night or in remote parts of the city. Possible solutions to this may be to provide health care that can come to the women, particularly those who work on the street.

Escaping violence

An obvious measure to escape sexual violence and predation would be to help women find other means of employment than sex work. But the research team suggests that laws concerning prostitution may need to be changed.

Culturally appropriate interventions

This and other study teams have found that women and Aboriginal people in Vancouver "continue to die from AIDS-related illnesses without ever accessing the benefits of HIV treatment and care"- despite the free availability of care and HIV medications in British Columbia. The researchers noted that more progress has to be made in addressing barriers to care faced by women with HIV/AIDS. Also, culturally appropriate training programs for HIV clinicians that incorporate the challenging issues faced by women and Aboriginal people need to be established.

If this and similar studies are taken seriously, then perhaps the alarmingly high death rates among women IDUs in Vancouver can be reduced.

-Sean R. Hosein

REFERENCE:

Spittal PM, Hogg RS, Li K, et al. Drastic elevations in mortality among female injection drug users in a Canadian setting. *AIDS Care* 2006;18(2):101-108.

From Canadian AIDS Treatment Information Exchange (CATIE) February 14, 2006. For more information visit CATIE's Information Network at <http://www.catie.ca>

Womens' Health Spectrum

HIV Rates Soaring for Young Women

The increasing number of women newly diagnosed with HIV in Canada makes them a key population for awareness efforts, say health officials.

Of the 2,529 new HIV reports in 2004, 26.6 percent of cases were women, according to the Public Health Agency of Canada. In 1996, women comprised just 10.5 percent of HIV cases. Among the 524 new cases under age 29, women accounted for 42.4 percent compared to 13.2 percent 10 years ago.

Of the new HIV diagnoses in 2004 among women, 19.6 percent were immigrants from HIV-endemic countries (mostly Africa and the Caribbean). Thirty-two percent of newly diagnosed women were injection drug users, though their numbers are declining. Twenty-six percent of the women believe they were infected heterosexually, and another 17 percent did not know how they acquired HIV.

"A big part [of the increase] is women coming to Canada from endemic countries," said Dr. Rita Shahin, associate medical officer of health for Toronto and chief of communicable diseases

programs and STD infections. "Both men and women from endemic countries are more likely to be infected with HIV and they may not be diagnosed until after they're here in Canada."

Toronto's Public Health Department does a lot of work providing HIV prevention information in community groups and schools, said Shahin. Educators are especially targeting cultural barriers in Afro-Caribbean and Aboriginal communities, which are the most affected by HIV/AIDS in Canada.

"Young women still feel very much that they can't negotiate safer sex practices with their partners," said Louise Binder, vice-chairperson of Voices of Positive Women in Ontario.

"With women, it's mostly unprotected sex, and there are many reasons," said Waabnong Kwe, who educates Indian youths about the perils of risky sex and sharing needles. "Some of it is lack of education," she said, noting that "First Nations people don't see AIDS as a First Nations issue."

Source: CDC HIV/STD/TB Prevention News Update 01/13/2006
Original Source: Toronto Star (01.12.06): Peter Krivel

Testing, Treatment and Care

Nevirapine Reduces Risk of Mother-to-Child HIV Transmission in Repeat Pregnancies, Study Says

The antiretroviral drug nevirapine — a low-cost medication that is used as a standard method of reducing mother-to-child HIV transmission in the developing world — reduces the risk of vertical HIV transmission in repeat pregnancies, according to a study presented Wednesday at the 13th Conference on Retroviruses and Opportunistic Infections in Denver, the AP/Boston Herald reports.

Nevirapine is given in pill form to HIV-positive women during labor to avoid vertical transmission and in syrup form to infants within 72 hours of birth. Michael Thigpen, an epidemiologist at CDC, and colleagues looked at 198 women who were treated in 2004 and 2005 with nevirapine at a hospital in Kampala, Uganda. Researchers found an HIV prevalence of 14.6% among infants born to women who had been treated with nevirapine during a previous pregnancy, compared with 17.6% for infants born to women who had not received the drug during a previous pregnancy. Thigpen said the findings contrast with earlier studies that suggest HIV might develop resistance to nevirapine after its first use, making the drug less useful in preventing

vertical transmission in subsequent pregnancies. According to the AP/Herald, another study presented on Wednesday and conducted in South Africa and Cote d'Ivoire, finds results similar to the Ugandan study. Thigpen said, "Based on these findings, we believe nevirapine in repeat pregnancies remains an effective option in these resource-limited countries" (AP/Herald, 2/9).

Source: Kaiser Daily HIV/AIDS Report - Friday, February 10, 2006

Testing, Treatment and Care

HIV Viral Load During Initial 6-18 Months of HAART Can Determine Long-Term Survival, Study Says

A patient's HIV viral load during the initial six to 18 months of highly active antiretroviral therapy can determine the patient's long-term chances of survival, according to a study published in the Jan. 1 edition of the journal *Clinical Infectious Diseases*, Reuters Health reports (Douglas, Reuters Health, 1/12).

Nicolai Lohse of Odense University Hospital in Odense, Denmark, and colleagues looked at 2,046 HIV-positive patients from six to 18 months after HAART was initiated (Lohse et al., *Clinical Infectious Diseases*, 1/1). According to the study, 92% of patients who had no detectable viral load during the period were alive 72 months

after HAART initiation, 85.6% of patients with a detectable viral load 1%-99% of the time were alive and 76.1% of patients with a viral load 100% of the time were alive. Lohse said that because the study determined that an early increase in viral load during treatment is "associated with a bad long-term prognosis," doctors "prescribing antiretroviral therapy should continue to work with patients to keep viral load under tight control" (Reuters Health, 1/12).

Source: Kaiser Daily HIV/AIDS Report - Tuesday, January 17, 2006

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