

HIV Trends and Women's Sexual Health

March 2007



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)

Prevention Issues and Challenges

Gene Mapping Finds Surprises in Itchy Genital Bug.....	2
Young Women 'Complacent Over HIV'.....	3
Studies Halted after Gel Fails to Prevent HIV.....	4
Scientists Discover Vulnerable Area on HIV that could lead to development of HIV vaccine.....	5
Brazil to Install Condom Machines in Schools.....	6
Young Lesbians Targetted for HPV Vaccine.....	6

Womens' Health Spectrum

Risk of getting HIV Not Raised by Birth Control Pills.....	7
Throwing the Book at AIDS.....	8

Testing, Treatment and Care

Dietary Supplement Selenium Reduces HIV Viral Load.....	9
---	---

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



614-1033 Davie Street. Vancouver, BC. V6E1M7
Phone: 604.692.3000 Toll free in BC: 1.866.692.3001 Fax: 604.684.3126 E-mail: pwn@pwn.bc.ca
Web: www.pwn.bc.ca and www.pwn-wave.ca

Distribution is encouraged.

Prevention Issues and Challenges

Gene Mapping Finds Surprises in Itchy Genital Bug

Researchers conducting a National Institutes of Health-funded study have mapped the genome of *Trichomonas vaginalis*, the cause of the often asymptomatic STD that infects at least 170 million people globally. The one-celled parasite *Trichomonas* is especially dangerous to women, making them more vulnerable to HIV, gonorrhea, and syphilis.

Dr. Jane Carlton of New York University's School of Medicine and a team of 66 researchers in 10 countries found the protozoan contains nearly 26,000 confirmed genes - almost as many as the human genome. "It was a huge shock," said Carlton, who led the study while at Maryland's Institute for Genomic Research. The scientists speculate it may have something to do with aiding the pear-shaped organism in infecting the urogenital tract.

Another surprise is that *Trichomonas* contains genes that appear to originate from bacteria. Some of these genes allow *Trichomonas* to synthesize the amino acid cysteine, thus letting it manipulate the vagina's environment. "The pH shifts toward more alkaline and that makes the vaginal environment not as healthy," said Carlton. An alkaline environment allows HIV and other STDs to take hold more easily.

The study revealed *Trichomonas* looks and acts in complex ways. "The organism is really funky to look at," Carlton noted. It has four flagella streaming from its apex, a tail, and an "undulating membrane, which looks like a frilly nightgown," she said. The microbe invades by flattening itself and inserting its tendrils into the wall of the vagina or urethra, she said. "It starts to secrete a lot of nasty proteases and pore-

forming proteins to degrade vaginal tissue." "It produces hydrogen. That is probably what produces the gray-green frothy discharge from women," she said, adding that other gases it produces are the likely culprit of the microbe's characteristic fishy odor.

Just two drugs, both from the same class, are approved for treating Trichomoniasis infection. However, the microbe is already resistant to one of the drugs, the researchers said.

Unlike many other STDs, *Trichomonas* can in rare instances be transmitted by toilet seats or wet towels.

The examination of the gene map did indicate some weaknesses, as well as some good ways to possibly identify the infection more easily and earlier in patients, the researchers pointed out. "We found a few chinks in the armor," said Carlton.

The study, "Draft Genome Sequence of the Sexually Transmitted Pathogen *Trichomonas vaginalis*," was published in *Science* (2007;315(5809):207-212).

Source: CDC HIV/STD/TB Prevention News Update 01/18/2007
Original Source: Reuters (01.11.07): Maggie Fox



Prevention Issues and Challenges

Young Women 'Complacent over HIV'

In a recently released survey of 1,064 UK women ages 16-30, seven in 10 reported they were at no HIV risk. Ninety-two percent said they did not think it was important to carry a condom when heading out for a night on the town. Carrying a condom is a man's responsibility, 14 percent of respondents said.

The poll was commissioned by MTV UK and The Body Shop to support "Spray to Change Attitudes," their joint advertising campaign aimed at preventing HIV infections among youths. It is also a fundraising campaign for the Staying Alive Foundation, a multimedia global youth HIV prevention coalition of private, nonprofit, national, and international health agencies.

In the survey, two-thirds of respondents believed carrying a condom would ruin their chances of having sex. One in 10 believed carrying a condom signaled they were "easy" and promiscuous. When talking about their sex life with friends, 47 percent would not broach the topic of condoms. Only 32 percent believed asking about their partner's sexual history was a priority. And seven in 10 women would be embarrassed if a condom fell out of their handbag in the women's restroom.

"It's worrying that so many young women don't think they are at risk from HIV and think it is somebody else's problem - such as those in developing countries, homosexuals or drug users,"

Two-thirds of respondents believed carrying a condom would ruin their chances of having sex.

said Chris Davis, global campaigns manager for The Body Shop. "In fact, figures show that HIV infections are spreading fast among girls and women in major cities of the developed world too."

"It is vital that sexually active women carry condoms and take responsibility for protecting themselves, especially as they are at a greater risk of getting HIV than men through heterosexual sex," said Lisa Power of the HIV charity Terrence Higgins Trust.

Source: CDC HIV/STD/TB Prevention News Update 01/29/2007
Original Source: BBC News (01.24.07)



Prevention Issues and Challenges

Studies halted after Toronto-developed gel fails to prevent HIV

Researchers have halted studies in Africa and India of a vaginal microbicide developed in Canada that doctors had hoped would prevent HIV infection after results suggested the gel might raise rather than lower that risk.

The results are "a disappointing and unexpected setback" to efforts to get a simple tool for women to help lower their risk of getting the AIDS virus from sex, the World Health Organization said in a statement Wednesday.

The large, final-stage experiments were in parts of Africa and India. More than half of all new infections with the AIDS virus in Africa involve women and girls, and scientists have long sought a method they could use, even without their partners' knowledge, to reduce risk because many men refuse to use condoms.

The studies were testing Ushercell, a gel containing cellulose sulfate, a cotton-based compound developed by Polydex Pharmaceuticals, based in Toronto.

One study involving 1,500 women in South Africa, Benin, Uganda, and India was stopped this week after an independent safety monitoring board saw more HIV infections among women using the gel than those given a dummy medication.

The study was led by CONRAD, a Virginia-based health research group, and paid for by USAID and the Bill & Melinda Gates Foundation. The second study of Ushercell, by Family Health International, involving 1,700 women in Nigeria, was

stopped as a precaution, although no increased risk of infection has been seen. Microbicides are considered one of the best hopes for HIV prevention.

Polydex's microbicide is one of a handful of potential products being tested on women in developing countries.

Source: CBC website, January 31, 2007 (The Canadian Press, 2007 The Associated Press)

The word "microbicides" refers to a range of different products that share one common characteristic: the ability to prevent the sexual transmission of HIV and other sexually transmitted infections (STIs) when applied topically. A microbicide could be produced in many forms, including gels, creams, suppositories, films, or as a sponge or ring that releases the active ingredient over time.

Source: Global Campaign for Microbicides: www.global-campaign.org



Scientists Discover Vulnerable Area on HIV That Could Lead to Development of HIV/AIDS Vaccine

Scientists on Wednesday announced they had identified a vulnerable area on HIV that might be susceptible to antibodies and could prevent the virus from infecting human cells, Reuters Health reports. The findings are published in the Feb. 15 issue of the journal *Nature*. A team of researchers at NIH's National Institute of Allergy and Infectious Diseases, led by Peter Kwong, identified a protein called gp 120 on the surface of the virus that appears susceptible to attack by an antibody called b12. HIV enters CD4+ T cells through gp 120, but b12 could block the entry process and neutralize the virus, according to Reuters Health (Dunham, Reuters Health, 2/14). According to the San Francisco Chronicle, HIV continuously changes shape, making it difficult for an antibody to attach to the virus' surface (Russell, San Francisco Chronicle, 2/15). However, the gp 120 protein does not mutate (AFP/Globe and Mail, 2/15). Certain antibodies called "broadly neutralizing" antibodies — which include b12 and for five years have been the focus of vaccine research — have been shown to attack HIV regardless of the virus' mutations. Kwong and his team took X-rays of b12 as it attached to the virus and developed a three-dimensional map of the target site. Scientist might be able to clone the target site and create a vaccine that will allow the immune system to create HIV antibodies, the Chronicle reports. According to study co-author Dennis Burton — an immunologist at the Scripps Howard Researcher Institute — the b12 antibody in 1992 was isolated in the blood of an HIV-positive person who was identified as a long-term

nonprogressor. Similar antibodies have since been discovered that target the same site on the virus, the Chronicle reports.

Reaction

Warner Greene, director of the San Francisco-based Gladstone Institute of Virology and Immunology, said the finding is "potentially ... very, very important." Greene added that the finding "provides a clear blueprint for future vaccine development efforts" (San Francisco Chronicle, 2/15). Kwong said, "Having that site and knowing that you can make antibodies against it means that a vaccine is possible." He added that the finding has taken the possibility of an HIV vaccine "from an impossible dream ... to something that is a (mere) technical barrier." Anthony Fauci, director of NIAID, said that although the findings are important, more studies in animals and humans are needed and that a vaccine will take several years to be developed. Fauci added, "I don't think we could really make substantial, fundamentally scientifically based progress until we got this very important information" (Reuters Health, 2/14). Wayne Koff — a scientist at the International AIDS Vaccine Initiative, which co-sponsored the research — said the findings are "evidence that an effective, preventive AIDS vaccine is possible" (AFP/Globe and Mail, 2/15).

Source: Kaiser Daily HIV/AIDS Report - Friday, February 16, 2007

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



614-1033 Davie Street. Vancouver, BC. V6E1M7
Phone: 604.692.3000 Toll free in BC: 1.866.692.3001 Fax: 604.684.3126 E-mail: pwn@pwn.bc.ca
Web: www.pwn.bc.ca and www.pwn-wave.ca

Distribution is encouraged.

Women's Health Spectrum

Brazil To Install Condom Vending Machines in Schools as Part of HIV Prevention Campaign

Brazil's Ministry of Health on Tuesday pledged to continue plans to install condom vending machines in schools nationwide as part of the country's HIV prevention efforts, Reuters/Washington Post reports. The health ministry recently launched a contest for technical schools to design an improved condom vending machine and will award the winning team with \$25,000. Trial vending machines might be installed in schools as early as 2008, and the health ministry aims to install the machines in bars, clubs and 24-hour gas stations. In addition, a survey recently released by UNESCO found two-thirds of parents responded that they approve of the government offering teenagers increased access to no-cost condoms and sex education.

The survey was conducted among 135 schools that participate in the condom distribution efforts, as well as a smaller number of nonparticipating schools, in about half of Brazil's states. It found that 45% of students ages 13 to 19 responded that they had active sex lives and that 60% to 70% reported using condoms to prevent sexually transmitted infections. About 10% of students said that they have had sex without a condom because they could not afford one, and 42% of students responded that they did not have a condom available (Reuters/Washington Post, 2/7).

Source: Kaiser Daily HIV/AIDS Report - Friday, February 9, 2007

Young Lesbians Targeted for HPV Vaccine

In February, the Atlanta Lesbian Health Initiative (ALHI) and YouthPride (YP) will launch a human papillomavirus (HPV) awareness campaign targeting young lesbians.

"The idea that women who are having sex with other women can't transmit sexually transmitted infections to each other has been a misunderstanding that we are trying to clear up," said Sarah Stanton, ALHI's health programming specialist.

ALHI organizers regard the HPV vaccine, Gardasil, as a significant development for young lesbians. Gardasil protects against HPV types 6, 11, 16, and 18 - responsible for up to 70 percent of cervical cancer cases and 90 percent of genital warts. With Gardasil's nearly 100 percent efficacy, it "could have huge ramifications for girls," said Stanton.

Since HPV causes not just most cases of cervical cancer but also anal cancer, gay men should also receive the vaccine, said one Atlanta physician. "HPV is the number one most common STD out there," said Dr. Scott Parry, an internist and HIV specialist with Intown Primary Care. And because HPV infection only requires skin-to-skin contact, "you can be having a lot of foreplay, and not actually having sex, and still contract HPV," he said. Gay and bisexual men have a risk of penile and anal cancer that is 17 times higher than for heterosexual men, according to CDC.

The Food and Drug Administration has not yet approved Gardasil for men, but efficacy trials are ongoing among men and boys.

Source: CDC HIV/STD/TB Prevention News Update 02/01/2007
Original Source: Southern Voice (Atlanta), 01.19.07: Zack Hudson

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



614-1033 Davie Street. Vancouver, BC. V6E1M7
Phone: 604.692.3000 Toll free in BC: 1.866.692.3001 Fax: 604.684.3126 E-mail: pwn@pwn.bc.ca
Web: www.pwn.bc.ca and www.pwn-wave.ca

Distribution is encouraged.

Women's Health Spectrum

Study Finds Risk of Getting HIV Not Raised by Birth Control Pills

Results from a large international study of more than 6,000 women from Africa and Asia show birth control pills and other types of hormonal contraception do not increase the risk of contracting HIV. More than 100 million women across the globe rely on varying forms of hormonal contraception to prevent pregnancy.

Still, however, scientists do not know whether certain forms of birth control, such as the pill, speed the progression of HIV. It is also uncertain why study participants who were free of herpes simplex virus 2 had an elevated HIV risk when they used oral or injectable birth control. Worldwide, around 18 million women are HIV-infected; most acquired the virus through heterosexual transmission.

The National Institutes of Health-funded study was led by Dr. Charles Morrison at Family Health International, a private organization that focuses on reproductive health issues. Morrison and researchers from Case Western Reserve University, the University of California-San Francisco and the University of Washington collaborated with colleagues in Thailand, Uganda, and Zimbabwe to design a study examining the link between HIV and birth control.

Clinics in Uganda and Zimbabwe, two countries with high rates of HIV and birth control use, tracked thousands of poor women in urban and rural areas. Of those, 208 eventually contracted HIV. In Thailand, the number of study participants who went on to contract HIV remained so low that

the data were eventually excluded.

Dr. Robert Salata, head of infectious diseases at Case University Medical Center and a study author, said, "Look at sub-Saharan Africa, where the latest data suggests up to 60 percent of people living with HIV are women." "It is reassuring that these major forms of birth control are not adding to the burden of disease."

The study, "Hormonal Contraception and the Risk of HIV Acquisition," was published in *AIDS* (2007;21(1):85-95).

Source: CDC HIV/STD/TB Prevention News Update 12/20/2006
Original Source: Plain Dealer (Cleveland) (12.09.06): Regina McEnery



Women's Health Spectrum

Throwing the book at AIDS

What AIDS prevention method lasts a lifetime and is particularly effective among young women? Education, delegates attending the World Social Forum [<http://wsf2007.org>] in the Kenyan capital, Nairobi, heard this week.

In parts of sub-Saharan Africa and the Caribbean, young women are up to six times more likely to be infected with HIV than their male counterparts. That has a lot to do with the imbalance of power between the sexes, according to Charles Abani, regional operations manager for Africa with the anti-poverty NGO, ActionAid.

Women and girls are generally more vulnerable because lower levels of education and financial autonomy make them more dependent on men.

"There is great potential in HIV control through education; mainly girls' education," he said. "Education delays sexual debut, meaning that girls are able to make more informed choices."

According to a 2006 ActionAid report, 'Girl Power', HIV prevalence declines among people with higher education levels. In Tanzania, girls with upper secondary education were seven times less likely to be HIV infected; in Uganda, those with primary education were three times less likely to be infected, and in South Africa, which has one of the highest HIV prevalence rates in Africa, tertiary education reduced the risk of infection sevenfold.

However, Abani said the connection between HIV and education was not always made, and there were serious challenges still confronting access to schooling for girls.

Child labour was one hindrance, South African teacher Grace Maputu told delegates. "Sometimes the girls come to school very tired ... they can

barely concentrate in the class after performing numerous chores," she said.

Early marriage - common in many African cultures - also halts girls' education, forcing them into often-polygamous unions with much older men.

The impact of AIDS is a double blow. In affected households, girls often drop out of school to care for sick family members; others are compelled to engage in risky transactional sex to survive, perpetuating the cycle of ignorance and HIV.

Unsurprisingly, access to education is much more difficult in remote, pastoralist areas such as northern Kenya, where girls travel long distances with their families in search of pasture for their animals.

"There is a need to have more boarding institutions for girls [in these areas], so that they can continue their education even when their families move in search of water and pasture," said Martin Simotwa, a teacher from the region.

Where girls do have access to schools, lack of teacher training in AIDS education remains an impediment. "This is due to the relationship between HIV and sexuality, and issues touching on morality ... it make this a difficult subject," said Sabine Detzel, an education specialist with the United Nations Education, Scientific and Cultural Organisation.

"If we fail to provide education, we fail to give people the means to protect themselves," Detzel said. "We believe that the school is the best place to fight HIV."

PLUSNEWS 25 January 2007

Online at: <http://www.plusnews.org/aidsreport.asp?reportid=6658>

A posting from AF-AIDS (af-aids@forums.healthdev.org), February 1, 2007

[Mods note: The ActionAid report, 'Girl Power' is available online at: http://www.actionaid.org.uk/doc_lib/girl_power_2006.pdf]

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

614-1033 Davie Street. Vancouver, BC. V6E1M7



Phone: 604.692.3000 Toll free in BC: 1.866.692.3001 Fax: 604.684.3126 E-mail: pwn@pwn.bc.ca

Web: www.pwn.bc.ca and www.pwn-wave.ca

Distribution is encouraged.

Testing, Treatment and Care

Dietary Supplement Selenium Reduces HIV Viral Load, Increases CD4+ T Cell Count, Study Says

The dietary supplement selenium can reduce HIV viral loads and increase CD4+ T cell counts in HIV-positive people, according to a study published in the Jan. 22 issue of the Archives of Internal Medicine, the Los Angeles Times reports (Chong, Los Angeles Times, 1/23).

Selenium is a mineral found in many foods and sold as a supplement for less than \$10 per one-month supply. It helps regulate the thyroid and the immune system and creates antioxidants that protect the body from molecules that can damage cells, the Miami Herald reports. Previous studies have found that HIV-positive people with low selenium levels are at an increased risk of a wide range of health conditions (Goldstein, Miami Herald, 1/23).

For the study, Barry Hurwitz, a professor of psychology and medicine at the University of Miami, and colleagues randomly assigned 262 HIV-positive adults with normal selenium levels to take either a placebo pill or a 200 microgram capsule of high-selenium yeast for nine months, Reuters Health reports (Gale, Reuters Health, 1/22). Only 174 of the participants completed the nine-month follow-up period (Hurwitz et al., Archives of Internal Medicine, 1/22). According to the Times, about two-thirds of the participants were taking antiretroviral drugs and about one-third of the participants were not. The study, which was funded by NIH, found that for the 50 participants who regularly took the selenium pills, HIV viral loads decreased an average of 10,000

Previous studies have found that HIV-positive people with low selenium levels are at an increased risk of a wide range of health conditions

viral particles per milliliter of blood, or by 12%, after nine months. The researchers also found an average CD4 increase of 30 cells per microliter of blood among the participants who regularly took selenium. According to Hurwitz, selenium had a positive effect among participants on antiretrovirals regardless of which drugs the participants were taking. Among the 83 participants in the placebo group, viral loads increased by 10,000 to 20,000 viral particles per milliliter of blood and CD4 cells decreased by about 30 cells per microliter in the same time period, the study found. Forty-one participants were classified as "nonresponders" because they did not adhere to their selenium schedule or because of gastrointestinal problems that prevented them from absorbing the mineral, the Times reports. This group had the same results as the placebo group, the study found.

Continued



Dietary Supplement Selenium Reduces HIV Viral Load, Increases CD4+ T Cell Count, Study Says

Reaction, Next Steps

"What [selenium] appears to do is make [HIV] more docile, less virulent and less likely to replicate," Hurwitz said (Los Angeles Times, 1/23). He added that selenium is "a simple, inexpensive and safe adjunct therapy" (Miami Herald, 1/23). Jeffrey Blumberg, a nutrition professor at Tufts University, said that because selenium appears to be beneficial and to have no negative side effects, it can be used in conjunction with traditional therapies. Jeffrey Lennox, principle investigator for Emory University's HIV Clinical Trials Unit, said selenium's effect appears to be smaller than a variation that can be seen in some people living with HIV/AIDS from week to week.

The supplement likely does not have wide scale implications in the U.S. because of the availability of therapies that are aimed at reducing viral loads to undetectable levels, according to Lennox. He added, "The conclusions are intriguing, but they don't change current medical practice. In people not receiving optimum therapy, selenium might be a benefit." According to the Times, the researchers are analyzing data on selenium's effects beyond nine months, and Hurwitz said the effects likely are long lasting (Los Angeles Times, 1/23).

Source: Kaiser Daily HIV/AIDS Report January 23, 2007

Positive Women's Network gratefully acknowledges the contributions of our supporters.



Exclusive pharmaceutical Sponsor of SpringBoard, our annual mini-conference.



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

614-1033 Davie Street. Vancouver, BC. V6E1M7

Phone: 604.692.3000 Toll free in BC: 1.866.692.3001 Fax: 604.684.3126 E-mail: pwn@pwn.bc.ca

Web: www.pwn.bc.ca and www.pwn-wave.ca

Distribution is encouraged.