

# HIV Trends and Women's Sexual Health

December 2006



**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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**December 1 is World AIDS Day,  
the International day of action on HIV and AIDS.  
What are your plans?**



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## Prevention Issues and Challenges

### Smoking Might Increase Risk of Contracting HIV, Study Says

Smoking might increase the risk of contracting HIV, according to a study published in the Aug. 21 online edition of the journal *Sexually Transmitted Infections*, the *New York Times* reports (Nagourney, *New York Times*, 9/26).

Andrew Furber, a public health consultant at the South East Sheffield Primary Care Trust in the United Kingdom, and colleagues conducted a systematic review of studies examining tobacco smoking as a risk factor for either HIV infection or progression of the virus to AIDS. Of the six studies the researchers examined, five suggest that smoking tobacco is an independent risk factor for HIV seroconversion after adjusting for confounding factors (Furber et al., *Sexually Transmitted Infections*, 8/21). According to the study, smokers are between 60% and 300% more likely to contract HIV than nonsmokers (BBC News, 9/23). The researchers said they are not sure why the link exists, but they note the increasing evidence that smoking raises the risk of contracting all types of infections, possibly because it might alter the structure of the lungs or weaken the immune system. According to the researchers, tobacco use is often higher among groups at higher risk for HIV transmission, including commercial sex workers (*New York Times*, 9/26). Nine of 10 other studies the researchers looked at showed no evidence that tobacco smoking increased the progression of HIV to AIDS, according to the researchers (Reuters, 9/20).

### Conclusions, Reaction

The researchers concluded that smoking tobacco might be an "independent risk factor for HIV infection although residual confounding is another possible explanation." They also write that smoking does not "appear to be related to progression to AIDS, although this finding may not be true in developing countries or with the longer life expectancies seen with highly active antiretroviral therapy" (*Sexually Transmitted Infections*, 8/21). "More research clearly needs to be done in this area," Furber said. He added, "As the tobacco market is squeezed in the developed world, the tobacco industry increasingly looks to Asia, Eastern Europe and Africa." Keith Alcorn, a senior editor at National AIDS Map, said, "The weakness of this analysis, as the authors themselves acknowledge, is that most of the studies reviewed were carried out before the widespread use of antiretroviral therapy in developed countries." According to Alcorn, a large study in 2006 of HIV-positive women in the U.S. receiving antiretroviral therapy finds that smokers had a 36% greater risk of developing an AIDS-related illness over five years of follow-up care. "Anyone living with HIV would be strongly advised by their doctor to stop smoking because of the increased risk of cardiovascular disease and the much greater risk of various smoking-related cancers for HIV-positive people, whether on treatment or not," Alcorn said (BBC News, 9/23).

Source: Kaiser Daily HIV/AIDS Report - Tuesday, September 26, 2006



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## Prevention Issues and Challenges

### Canada's Homegrown Epidemic

Public Health Agency of Canada figures released this month show the HIV infection rate among natives is three times that of the overall population. Last year, aboriginals represented 9 percent of new HIV infections, though natives are only 3.3 percent of Canada's population. Needle sharing was the infection route for 53 percent of new native HIV cases, compared with an intravenous drug use (IDU)-related infection rate of 14 percent for the general population. Women comprise 45.1 percent of native HIV cases, compared with one-fifth among non-natives, and aboriginals under age 30 were at greater risk than under-30 non-aboriginals.

Crystal methamphetamine has helped fuel IDU among native communities, said Kevin Barlow, executive director of the Canadian Aboriginal AIDS Network.

A recent B.C. Center for Excellence in HIV/AIDS study found hepatitis C virus (HCV) infection rates among native IDUs in Vancouver and Prince George at 57.1 percent and 62.4 percent, respectively. In Prince George, 7.9 percent of native IDUs had HIV, compared with Vancouver's 17 percent rate. HCV spreads more easily than HIV through IDU.

Experts speculated Prince George IDUs, who favored cocaine, morphine, and Dilaudid, are also at increased HIV risk since IDUs often inject them more frequently than heroin, the longer-lasting opiate favored in Vancouver. A 2003 study found about 25 percent of IDUs in Vancouver's downtown East Side were aboriginals, and their HIV incidence was twice that of other IDUs.

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Many native leaders warn the situation in Prince George is also occurring in Kamloops, Kelowna, and Prince Rupert, and in the downtowns of Winnipeg, Edmonton, Calgary, and Regina. A 2004 Health Canada study of 794 IDUs in Toronto, Sudbury, Regina, and Victoria revealed 40 percent were aboriginals.

In British Columbia, many adult natives were traumatized by experiences in residential schools and foster care, eroding the family structure and causing pain, leading many to IDU, said Splats'in First Nation Chief Wayne Christian of Kelowna.

Source: CDC HIV/STD/TB Prevention News Update 08/31/2006  
Original Source: Ottawa Citizen (08.14.06): Andrew Duffy



## Prevention Issues and Challenges

### Almost One in 10 Straight Men on the 'Down-Low,' Study Finds

A 2003 random telephone survey sample of 4,193 male New York City residents found a high proportion of men self-identifying as heterosexual nevertheless also reporting sex with men. The study is a wake-up call for doctors not to make assumptions about their patients' sexual behavior, or rely upon self-reported identities, but rather to focus on behavior, said researchers.

The annual New York City Department of Health and Mental Hygiene (MHH) survey found the majority of heterosexual-identifying men who have sex with men (MSM) did not use condoms, and 70 percent were married. Most heterosexual-identifying MSM were racial and ethnic minorities or foreign-born persons.

"We found that those who identified as straight but had sex with men were also less likely to be HIV tested within the last year and less likely to use a condom" than men who identified as gay, said Preeti Pathela, an MHH research scientist.

Among straight respondents, 9.4 percent had sex with a man in the previous year. Many reported having only one male sex partner, but the survey did not ask whether the relation was one of long duration. The survey also did not ask whether the men revealed their sexual behavior to female partners.

Researchers said the strong stigma associated with homosexuality in minority communities, as well as culturally different ways of defining "heterosexual," might be among reasons why more heterosexual-identifying MSM were minorities. In addition, African-American MSM may fear being targeted as the main source of HIV spreading in their communities, said Dorena Kearney, executive director of

COLOURS, a Philadelphia-based HIV prevention group targeting African-American men.

Only 22 percent of "down-low" men used condoms compared with 55 percent of gay men, the survey found. "It may sound simple to just use a condom, but if men are having sex on the sly, they may not want to carry condoms with them because their partners may find them," said Thomas Coates, a University of California-Los Angeles psychologist specializing in sexual behavior. "It's probably above [9.4 percent], because it's hard to get people to admit to this kind of behavior."

The full report, "Discordance Between Sexual Behavior and Self-Reported Sexual Identity: A Population-Based Survey of New York City Men," was published in *Annals of Internal Medicine* (2006;145(6):416-425).

Source: CDC HIV/STD/TB Prevention News Update 09/20/2006  
Original Source: Philadelphia Inquirer (09.19.06): Dawn Fallik

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## Women's Health Spectrum

### New HPV Vaccine Receives Approval from Health Canada

**HPV infection is the main risk factor for developing cervical cancer, and more than 100 strains of HPV have been identified. The vaccine is effective against HPV strains 16 and 18, which cause 70% of cases of cervical cancer, and against HPV strains 6 and 11.**

In July, Health Canada approved a new vaccine against four strains of the human papillomavirus (HPV). Marketed by Merck Frosst Canada under the name Gardasil (tm), the new HPV vaccine has been shown to be effective against four strains of HPV responsible for the majority of cases of cervical cancer and genital warts.

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When Gardasil was approved in the US a month earlier, the CDC Advisory Committee on Immunization Practices recommended that the vaccine be administered to girls ages 11 and 12. An editorial in the journal *Obstetrics & Gynecology* last month recommended that the vaccine also be given to boys.

Gardasil (TM) has been approved for girls and women aged nine to 26, but the cost of the vaccine and guidelines on who will receive it are forthcoming from Health Canada and the Public Health Agency of Canada's National Advisory Committee on Immunization. The vaccine needs to be given in three doses over a six-month period; each dose is expected to cost about \$135.

Gardasil is not yet currently covered by any provincial health plans.

References: Canadian Cancer Society press release, 18/07/2006; Kaiser Daily Women's Health Policy Report, 19/06/2006; Kaiser Daily Women's Health Policy Report, 31/07/2006)

Source: InfoSexNet E-mail Bulletin (Summer 2006)



## Women's Health Spectrum

### Virginal Women May Pick Up 'Bad' Vaginal Bacteria

Dr. Sepehr N. Tabrizi and colleagues at the Royal Women's Hospital in Victoria found that women can acquire bacteria linked to a dangerous vaginal infection through oral sex or petting even if they have not had sexual intercourse.

The investigators asked the 44 participants to collect vaginal specimens, then tested those specimens for the bacteria. The women also filled out questionnaires on their sexual practices. Of 44 women who were virgins, the researchers found 20 carried *Gardnerella vaginalis* in their vaginas, while three tested positive for *Atopobium vaginae*. Both types of bacteria can cause bacterial vaginosis (BV), in which normal oxygen-requiring healthy bacteria of the vagina are replaced by non-oxygen-requiring (anaerobic) organisms. Those reporting oral sex were 22 times more likely to carry *G. vaginalis*, while hand-genital contact also increased the likelihood of testing positive for the bacterium, the study said.

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BV has been linked to miscarriage and a greater susceptibility to STDs such as HIV. Fifty percent of the time, women with BV have no symptoms. The authors noted the findings should be confirmed by other investigations, since the sample was small. Nevertheless, they wrote, "Our results suggest that transmission of these organisms may occur before the onset of penetrative vaginal sex."

The report, "Prevalence of *Gardnerella vaginalis* and *Atopobium vaginae* in Virginal Women," was published in *Sexually Transmitted Diseases* (2006;33(11):663-665).

Source: CDC HIV/STD/TB Prevention News Update 11/17/2006  
Original Source: Reuters (11.09.06)



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## Women's Health Spectrum

### Most Women in the Dark About HPV

The 2005 Health Information National Trends Survey revealed just 40 percent of US women had ever heard of human papillomavirus and, of those, less than 20 percent knew that HPV infection can sometimes lead to cervical cancer. The survey of 3,076 women ages 18-75 showed 64 percent of those familiar with HPV knew it is an STD, and 79 percent knew it can cause abnormal Pap smears.

"Therefore, one of our main findings is that being aware of HPV does not guarantee accurate knowledge," Dr. Jasmin A. Tiro of the Bethesda, Md.-based National Cancer Institute told attendees of the American Association for Cancer Research's Frontiers in Cancer Prevention Research meeting in Boston.

The survey found that younger women, those with higher education levels, and women exposed to more health information were more likely to have heard of HPV. "But the only factors associated with having accurate knowledge, knowing that it could lead to cervical cancer, was an abnormal Pap test or testing positive on an HPV test," said Tiro.

The Food and Drug Administration in June approved Gardasil, the first vaccine to block the HPV types linked to most cases of cervical cancer and genital warts, for females ages 9-26. Tiro noted the survey was performed prior to Gardasil's FDA approval, so it provides good comparison data to measure future levels of HPV knowledge among the US population.

A similar survey on HPV awareness is scheduled for 2007.

"We need to increase women's knowledge of HPV and cervical cancer before chances of them becoming infected so that they can protect themselves, because cervical cancer is one of our greatest success stories from a screening perspective in that women do have options to prevent and detect cervical cancer early," said Tiro.

Source: CDC HIV/STD/TB Prevention News Update 11/21/2006  
Original Source: Reuters (11.14.06)

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## Testing, Treatment and Care

### Anal HPV more prevalent than cervical HPV in HIV-positive women

Research in human papilloma virus (HPV) in women has mostly focused on cervical HPV; not much is known about anal HPV infection in women. A team of American researchers therefore investigated the prevalence (frequency of occurrence) and diversity (number of different viral strains) of HPV in HIV-positive women, finding that the virus is actually more prevalent and more diverse anally than cervically. The research was presented to the recent meeting of the Infectious Diseases Society of America in Toronto.

HPV is the name for a family of sexually transmitted viruses which includes dozens of different subtypes. Some of these subtypes cause genital and anal warts; others can lead to cervical cancer in women, or anal cancer in people of either sex. People with damaged immune systems are at increased risk of HPV-related cancers.

The SUN Study (Study to Understand the Natural History of HIV/AIDS in the Era of Effective Therapy) is a five-year, prospective observational study that aims to enroll 1000 HIV-positive participants through seven U.S. centres. As part of the SUN study, 122 women provided information about sexual risk factors, and had cervical and anal swabs analysed for human papilloma virus. The women ranged between 21 and 64 years of age (average 40), were racially diverse, and had median CD4 cell counts of 419 cells/mm<sup>3</sup> and viral load of 1.7 log<sub>10</sub>.

In all, 112 (92%) of the women were found to have HPV. All strains of HPV were more commonly found by anal than by cervical swab (92% vs. 86%; high-risk types for cancer 84% vs. 64%;

low-risk types 74% vs. 59%). A larger number of different HPV subtypes were also found in the anus, as compared to the cervix: this was true at all CD4 count levels, and for high-risk and low-risk subtypes for cancer. The actual subtypes themselves varied: of the types considered high-risk for cancer, types 16, 35, 53, 58 and 59 were most prevalent in the cervix; types 16, 18, 31, 45, 53 and 58 were most prevalent in the anus. (Viral subtypes 16 and 18 are considered the most 'oncogenic', or likely to cause cancer: currently available 'quadrivalent' HPV vaccines are active against viral subtypes 6, 11, 16 and 18.)

Since the group did not include many women with very low CD4 cell counts, the researchers could not really gauge CD4 count as a risk factor. They did, however, find that having had anal sex did not appear to be a risk factor for anal HPV. They concluded that "there is a need to further investigate the clinical significance of anal HPV infection in women." Also, since currently available HPV vaccines are based on a few specific high-risk subtypes, they state that "HPV vaccine efficacy needs to be evaluated in HIV-positive women."

#### Reference

Kojic EM et al. Human Papilloma Virus (HPV) infection of the anus is more prevalent and diverse than cervical HPV infection among HIV-infected women in the SUN study. 44th Annual Meeting of the Infectious Diseases Society of America, Toronto, abstract 693, 2006.

Source: Derek Thaczuk, AIDS Map News ([www.aidsmap.com](http://www.aidsmap.com)), Thursday, October 19, 2006

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## Testing, Treatment and Care

### Exposure to ARVs in womb does not affect child's mental development, Canadians report

A prospective, controlled study reported in the October edition of the journal *Pediatrics* shows that exposure to antiretrovirals in the womb did not affect the neurological development of children born to HIV-positive mothers, and that maternal use of substances such as cocaine and methadone may have a greater influence on neurological development.

Concerns have been raised about the possible harmful effects to infants of exposure to antiretroviral drugs during gestation or around the time of delivery. In particular, there are worries that antiretroviral drugs might affect neurological development, since brain development continues throughout pregnancy, and there have been reports of neural tube defects in a small number of children exposed to nucleoside analogues in the womb.

Researchers in Canada compared 39 children exposed to triple antiretroviral therapy in the womb with 24 children born to HIV-negative mothers with similar levels of substance abuse and hepatitis C infection as the HIV-positive mothers.

Children in the exposed group were identified through the British Columbia provincial care programme for HIV-positive women, and were followed for 18 to 36 months after birth. All children had been exposed to a combination of three antiretroviral drugs for at least one week in the womb and to AZT during delivery and the neonatal period, and were HIV-negative.

Children in the control group were born to a cohort of mothers identified through a British Columbia hepatitis C vertical transmission study, in order to match the background risk factors for impaired

neurodevelopment that might be present in mothers with HIV in the province. Half of the HIV-negative mothers had a history of injecting drug use.

The majority of HIV-positive mothers took a nevirapine-based triple combination during pregnancy; 13 took a protease inhibitor-based combination. The median duration of ART exposure during pregnancy was 17 weeks.

An increased risk of premature delivery has been associated with exposure to antiretroviral therapy during pregnancy in some studies, and antiretroviral-exposed infants had a significantly lower birth weight and gestational age in this study.

Children in the exposed group had a mean gestational age of 37.7 weeks at birth compared to 39 weeks in the control group, and 25% were born between 34 and 37 weeks of pregnancy, but only one case of delivery prior to 34 weeks was reported in the exposed group. The mean birth weight was 3028 g versus 3410 g in the control group.

The researchers used a widely accepted neurodevelopment measure (BSID-II) to measure children's mental development index and psychomotor development index. Communication and socialisation were measured using the Vineland Adaptive Behaviour scales.

A significant difference was found in the mental development index, which was found to be significantly lower in the exposed group (94 vs 85,  $p=0.041$ ). A greater proportion of exposed children scored at least one standard deviation below average (54% vs 25%).



Exposed children also had a lower score on the Vineland daily living index, which measures the ability of the child to carry out tasks associated with normal daily life, such as feeding.

However, when the researchers controlled for maternal substance use, no differences between the exposed and control groups remained, leading the researchers to suggest that any analysis of developmental problems in children exposed to antiretrovirals during pregnancy needs to take more account of the mother's drug and alcohol use during pregnancy.

One-third of children in the exposed group had narcotic withdrawal syndrome at birth, compared to none of the control group, and perinatal complications such as foetal distress and required resuscitation were reported in 25% of exposed infants, compared to only one of the control group.

The mean scores of exposed children without maternal substance use were substantially closer to those of the control group than to those of exposed children of substance-using mothers, the researchers reported. In addition, children of exposed mothers who were also exposed to methadone had significantly lower mental development scores when compared to exposed children without methadone exposure ( $p=0.039$ ).

"Overall we found that maternal substance use was a stronger predictor of a poor neurodevelopmental outcome than HAART exposure," the researchers conclude. Also, they note: "One-third of the children in this study experienced a change in the family's status (such as placement in foster care or separation from the father) in the preceding year. Home environment during the first years of life plays an important role in a child's

neurodevelopment."

The researchers conclude that with antiretrovirals being made available to much larger numbers of pregnant women in developing countries, studies of potential toxicities are essential, but these need to take into account substance exposure and social factors as well as treatment history.

#### References

Alimenti A et al. A prospective controlled study of neurodevelopment in HIV-uninfected children exposed to combination antiretroviral drugs in pregnancy. *Pediatrics* 118 (4): 1139-45, 2006.

Source: Keith Alcorn What's New at The Body, November 1, 2006  
Original Source: AIDS Map News, October 31, 2006

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Funding for Version 1.3 of the Pocket Guide provided through an unrestricted grant from Boehringer Ingelheim (Canada) Ltd.



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