



ALLIANCE FOR MICROBICIDE DEVELOPMENT

21 March 2008, Volume 9, Number 12

The Alliance for Microbicide Development *News Digest* is an **unedited** compilation of:

- Media coverage of microbicides;
- Abstracts of articles on microbicides and relevant science in peer-reviewed journals;
- Material on other reproductive health and HIV prevention technologies, including HIV vaccines; and
- Matters of policy and politics with importance for microbicide research, development, and advocacy.

Its purpose is to:

- Raise awareness around the range of opinions and information about microbicides disseminated in the press and scientific journals; and
- Provide a neutral, objective basis for decision-making and evidence-based advocacy.

The *News Digest* is produced in a web-based format. Readers can view complete issues of the Digest or search by keyword for individual articles at <http://www.microbicide.org/publications/>. If you would like to be removed from the *Digest* distribution list, please send an email to digest@microbicide.org. We welcome comments, questions, and ideas about other microbicide-relevant topics we might cover, services we might provide, and better ways of providing them!

Areas covered in this News Digest:

1. MEDIA COVERAGE OF MICROBICIDES

- [Another disappointing result on HIV prevention front](#)
- [Women's use of microbicides studied](#)
- [PrEP - Can monkeys lead the way with tenofovir?](#)
- [New frontiers in microbicide research: an interview with Dr. Robin Shattock](#)

2. PUBLISHED RESEARCH: MICROBICIDE-SPECIFIC

- [Adolescents' reasons for using a microbicide-like product over time](#)
- [Inhibition of macrophages and dendritic cells infection with primary R5-tropic HIV-1 by natural polyreactive antibodies to CCR5 purified from cervicovaginal secretions](#)

3. PUBLISHED RESEARCH: RELEVANT BASIC AND TRANSLATIONAL SCIENCE

- Hormonal contraceptive discontinuation patterns according to formulation: investigation of associations in an administrative claims database
- Self-described impact of noncompliance among users of a combined hormonal contraceptive method

4. EPIDEMIOLOGY

- Rural SA women bear brunt of AIDS burden - Amnesty
- Tuberculosis in Africa - Combating an HIV-driven crisis

5. OTHER PREVENTION APPROACHES

- AIDS campaign launched
- Ghana: Ten radio stations to participate in HIV/AIDS behavioural change programme

6. POLITICS AND POLICY

- Uganda: Museveni criticises condom promotion
- No way to run health research
- Rwanda: 14 million condoms imported annually

1. MEDIA COVERAGE OF MICROBICIDES

"Another disappointing result on HIV prevention front"

Date: 18 March 2008

Source: *Health-e*

Author(s): Mabutho Ngcobo

http://www.health-e.org.za/news/article_audio.php?uid=20031913

In just less than a month after the disappointing Carraguard **microbicide** results, a study using a genital herpes drug, Acyclovir, has proved that it does not reduce the risk of HIV infection among people with Herpes Simplex Virus-2.

"We're surprised because the epidemiologic and biologic data were so compelling. And we are definitely very disappointed. This is an important result for HIV prevention and tells us that this dose of Acyclovir is not going to prevent HIV acquisition," said Professor Connie Celum of the University of Washington when announcing the outcome of the study.

The study, which was conducted in nine countries, involved 3172 HIV-negative participants. But all had to have Herpes Simplex Virus-2 (HSV-2), a sexually transmitted infection commonly known as herpes. Half of the participants were heterosexual women from African countries such as Zambia, South Africa and Zimbabwe and the other half were homosexual men from the United States and Peru.

Although the final findings of the study show that Acyclovir does not prevent HIV infection in people with genital herpes, it did show that Acyclovir is effective in suppressing genital herpes. But despite the disappointing result that Acyclovir does not prevent HIV infection, Cynthia Kubheka, one of the women who participated in the study says she will "continue taking part in clinical trials" in the future because she "learnt a lot of things."

"It was a disappointment to researchers that Acyclovir does not prevent HIV... but to me it was not a disappointment because since I started using Acyclovir I do not have many outbreaks. Number two, since this study was initiated I now know more about HIV and my HSV-2 status. Now I know that I have herpes and I know how to behave sexually," said Cynthia Kubheka.

Dr Nomonde Xundu, a Chief Director in the TB and HIV/AIDS unit in the national Department of Health says the failure of Acyclovir to prove effective in preventing HIV means the quest for a solution to the HIV problem needs to be intensified.

"We have to continue with research because now we know that suppressive therapy for herpes is not going to work to assist us with reducing acquisition of HIV, which we did not know previously. There was a theory that it might work, but this outcome is saying 'it actually does not work, look for other things,'" she said.

The Acyclovir trial is the third HIV prevention attempt conducted in the country, which has failed to prove effective in HIV prevention in less than seven months. In September last year, the clinical trial of the widely publicized HVTN 503 vaccine dubbed "Phambili" were stopped with immediate effect after its sister trials in the United States and Australia proved that it does not prevent HIV infection. Few weeks ago the results of Carraguard **microbicide**, a gel that is applied to a woman's vagina also failed to prove effective.

"Women's use of microbicides studied"

Date: 18 March 2008

Source: *United Press International*

http://www.upi.com/NewsTrack/Science/2008/03/18/womens_use_of_microbicides_studied/4490/

A study has identified which U.S. women are most likely to use a **microbicide** to prevent sexual transmission of the human immunodeficiency virus.

Researchers at Miriam Hospital and Brown University in Providence, R.I., found women who have used protective methods in the past, and those with casual sexual partners, were more willing to use a **microbicide** compared with their peers.

"The results may seem to be an obvious finding but they are important because science has very little direct evidence of what characteristics and situations in women's lives would make them more likely to want to use a **microbicide** to prevent HIV infection," said psychologist Kathleen Morrow, the study's lead author and an assistant professor at Brown.

Morrow and her team designed the "Willingness to Use **Microbicides**" scale. The scale consists of a series of questions about particular situations, such as, "Would you have wanted to use a **microbicide** the last time you had sex with your partner?" The scale also includes product-related questions, such as, "If a **microbicide** costs about as much as a male condom, would you have used it?"

The research was detailed in the November issue of the journal *Healthy Psychology*.

EDITOR'S NOTE: The abstract of the study mentioned in this article was featured in the 20 November 2007 issue of the Digest and is available at http://www.microbicide.org/publications/show_story.html?NewsID=2573

"PrEP - Can monkeys lead the way with tenofovir?"

Date: 12 March 2008

Source: *Canadian Press/Canada.com News*

Author(s): Sean R Hosein

<http://www.catie.ca/catieneews.nsf/00a48c8905294f0b8525717f00661eb8/51913e061644f4088525740a004feec6%21OpenDocument>

In the high-income regions of North America and Western Europe, HIV infection continues to spread, particularly among men who have sex with men (MSM) and injection drug users.

In the United States, one projection suggests that about 40% of MSM will become HIV positive by the time they are 40 years old. In other high-income countries, such as Australia, the projections are not dire but still deeply concerning. There, estimates are that 30% of MSM will become HIV positive by the age of 40 years.

Given these trends, and that there will not likely be an effective vaccine for at least the next 10 years, research on ways of reducing the risk of certain populations to HIV needs to be intensified.

In high-income countries, a portfolio of HIV prevention activities needs to be explored, enhanced and field-tested in different populations, including the following issues:

- safer-sex messages
- addiction prevention and treatment
- increased public recognition, acceptance and treatment of mental health conditions
- harm reduction
- more widespread HIV testing
- post-exposure prophylaxis
- **microbicide** development and testing
- education on the prevention of sexually transmitted infections
- community engagement and capacity building

Another possibility to help prevent HIV transmission may be PrEP - pre-exposure prophylaxis. This involves taking doses of anti-HIV medications before having unprotected sex in the hope that it can prevent HIV infection.

Support for the idea of PrEP comes from several areas:

- Pregnant women are given highly active antiretroviral therapy (HAART) to help protect their fetus from infection. After birth, babies born to HIV-positive women are given short courses of anti-HIV drugs just in case they were exposed to the virus during delivery. Together, both interventions greatly reduce the risk of

transmitting HIV to the baby.

- Experiments in monkeys exposed to SIV (simian immunodeficiency virus) or related viruses.

Researchers with the American Centers for Disease Control and Prevention (CDC) have been conducting studies to find out if pre-treating monkeys with different regimens of anti-HIV drugs could protect them from infection with an AIDS-causing virus called SHIV - simian human immunodeficiency virus. Preliminary results from the CDC experiments are promising and point the way for more studies in people.

Study details

Researchers used different drugs and combinations of anti-HIV drugs, such as the following:

- tenofovir (Viread)
- FTC (emtricitabine, Emtriva)

Before exposing the monkeys to SHIV, researchers divided them into four groups of six monkeys each and gave them different drugs, as follows:

Group 1: FTC given as subcutaneous (just under the skin) injections daily

Group 2: FTC and tenofovir given orally daily

Group 3: FTC given as subcutaneous injections along with high-dose oral tenofovir, both drugs taken daily

Group 4: FTC and high-dose tenofovir given orally 2 hours before and 24 hours after weekly exposure to SHIV

The study team kept a group of nine monkeys for comparison. These monkeys were later infected with SHIV but not pre-treated with antiviral drugs.

In cases where medications were taken orally, technicians mixed the drugs with fruit, such as apples, bananas or oranges. Importantly, they also observed the monkeys to ensure that the animals took the drugs.

Technical notes

Researchers squirted SHIV into the rectums of the animals to mimic the effect of anal sex in humans. The dose of SHIV used was within the range HIV can reach in human semen. Monkeys were exposed to SHIV once weekly for up to 14 weeks.

The doses of drugs used were generally equivalent to those used in people, except in cases where high-doses of tenofovir were used.

Technicians tested the monkeys for SHIV viral load (RNA) and DNA (infected cells) in the blood. Those animals that had negative results on both tests were considered to be uninfected.

Results - daily PrEP

Untreated monkeys were infected after an average of two rectal exposures to SHIV.

Overall, according to the study team, "all PrEP regimens offered some degree of protection from SHIV infection."

PrEP reduced the risk of becoming infected with SHIV as follows:

Group 1: FTC only, about a 4-fold reduction in risk of infection

Group 2: FTC and tenofovir, about an 8-fold reduction in risk of infection

In Groups 3 and 4, no monkeys were infected.

Continued PrEP despite infection

In the real world, some people might become infected with HIV, not be aware of it and continue to take PrEP. In this situation, continued PrEP would not be the ideal treatment and could lead to the development of drug-resistant virus. To try to mimic this situation, researchers continued to give PrEP to six monkeys who became infected during the study. In all six cases, initial infection with SHIV was not linked to resistance to FTC or tenofovir. However, with extended exposure to PrEP among the infected monkeys, resistance to FTC but not tenofovir was detected.

Proceed with caution

In the current experiment, researchers found that high doses of tenofovir combined with FTC given daily or intermittently two hours before exposure to SHIV resulted in complete protection from infection. It is important to keep a degree of caution in mind when interpreting the results from these animal experiments and trying to assess their relation to experiments in people. Here are some key points to consider:

- The doses of tenofovir used in the monkey experiments were high.
- Protection from SHIV infection only occurred in monkeys who received high-dose tenofovir together with FTC. If this dose of tenofovir were taken by people, it is likely that side effects would occur.
- The distribution of FTC and tenofovir in the monkeys is somewhat different than would occur in people. For instance, the research team stated that monkeys received "human-equivalent" doses of drugs. Yet, in some monkeys, the amount of FTC and tenofovir in the blood was about 30-40% greater than would be seen in people taking normal doses of these drugs.
- Because complete protection from infection only occurred in monkeys taking high doses of tenofovir together with FTC, different, perhaps more robust, regimens may need to be tested in the future. Such future studies might use PrEP consisting of three anti-HIV drugs in monkeys to assess its efficacy.
- SHIV is a hybrid virus, a mixture of SIV and HIV; it exists only in the lab. SHIV does not have identical effects that SIV would have on monkeys (or HIV in people), but sometimes it can be a useful virus to study.
- It is noteworthy that some cases of SHIV infection occurred despite the use of medications. This result underscores the risks of PrEP.
- A relatively small number of monkeys was used in these experiments.

Overall, the results of the monkey experiments suggest that PrEP may be able to protect monkeys from SHIV infection. In theory, the results of these experiments may mean that PrEP could possibly protect some people from HIV infection when they are exposed to HIV in the rectum. Further studies will need to be conducted with PrEP on female monkeys exposed to SHIV in the vagina.

PrEP studies

Several studies are proposed or underway that will test PrEP in people. Most of these studies are in low- or middle-income countries. Here is a list of studies planned or underway in the United States, a country with an HIV epidemic

similar to that in Canada:

- CDC Trial 4323 - This is a trial to assess the safety of tenofovir compared with placebo taken orally once daily. The study should be complete in 2009.
- National Institutes of Allergy and Infectious Diseases (NIAID) iPrEX - This study will assess the effectiveness of the co-formulation of tenofovir and FTC in one pill, Truvada, against that of another pill with fake Truvada (placebo) in preventing HIV infection. The study should be completed in 2011.

While these and other studies highlight the possibilities of PrEP, readers should bear in mind that PrEP will not prevent sexually transmitted infections (STIs). Other STIs can cause sores or lesions as well as weaken the immune system in the mucosa - anus, penis and vagina. As a result, it is possible that STIs could facilitate HIV infection even in the presence of PrEP.

*Tenofovir in **microbicides***

Microbicides are gels or creams put in the vagina or anus that contain anti-HIV compounds. They should therefore help prevent the transmission of HIV. A gel formulation containing tenofovir has been developed and was recently tested for safety in the United States (New York City and Birmingham) and India (Pune) in 200 women. The gel has proven to be safe for daily use. The positive findings from this six-month study will hopefully encourage further research to assess the effectiveness of this product in preventing HIV infection. The **microbicide** is being developed by the **Microbicide** Trial Network.

"New frontiers in microbicide research: an interview with Dr. Robin Shattock"

Source: *amfAR, The Foundation for AIDS Research*

<http://www.amfar.org/cgi-bin/iowa/programs/resrch/record.html?record=59>

*Robin Shattock, Ph.D., is a professor in the Department of Cellular and Molecular Medicine at St. George's Hospital Medical School, University of London. His research team is working on developing **microbicides** to prevent the transmission of HIV and is also exploring new vaccine strategies. He is also a member of several international networks that focus on **microbicides** and vaccines. In this wide-ranging interview, Dr. Shattock discussed the state of AIDS research and described recent developments in the field of **microbicides**, including the amfAR-supported studies being conducted in his lab.*

amfAR: How did you first become interested in HIV research?

Dr. Robin Shattock: I started working in a diagnostic laboratory when the first cases of HIV were being recognized in the U.K. in the mid to late 1980s. It was an exciting time because so little was known about this new infection, so I got involved in research. Studying HIV is not only important to global health, but it has also changed our understanding of immunology and virology in a way that no other infection has.

amfAR: When was the notion of a **microbicide** first floated?

Dr. Shattock: It's got to be about 17 years ago now. I think the first product was dextrin sulfate - a sulfated polyanion. But it really was very slow to get going because at the time everybody was predicting we'd have a vaccine, so why did we need this low tech approach, which wasn't really seen as mainstream science?

amfAR: How has **microbicide** research changed since you began working in the field?

Dr. Shattock: I think the field is going through a major change in approach in that it's moving away from the first generation ideas that really came out of academic roots and that required a lot of developmental time. Now there are plenty of new-generation drugs that are relatively easy to manufacture - highly developed drugs from the pharmaceutical industry that we already have a significant amount of information about. So it's completely changed from an academic-only approach to a partnership between the funders, the investigators, and major pharmaceutical companies.

amfAR: Are the pharmaceutical companies putting much money into **microbicides**?

Dr. Shattock: Not directly, although they are allowing their drugs to be used by licensing them to public-private partnerships. Perhaps the best recognized of those is the International Partnership for **Microbicides**. While the drug companies are not actually donating money, the investment in developing those drugs is enormous. So, in fact, in-kind contribution will run into the hundreds of millions.

amfAR: Your work spans **microbicide** and vaccine research. Can you speak a little bit about how they intersect and how you came to be involved in both areas?

Dr. Shattock: The reason that I became involved in both approaches is my interest in studying the earliest events in HIV transmission. To do that, one needs to understand at what point the virus can be blocked from establishing infection and also how the immune system is involved both in terms of its response to a potential **microbicide** and its response to the virus. In many ways it takes a similar mindset to think about that and then relate it to either chemical strategies - **microbicides** to block infection, or immunological strategies to block infection. Or even their potential combination.

amfAR: You have said that there might be some chance that protease inhibitors could be used as a **microbicide**. But protease inhibitors act after the virus is integrated into the DNA, so isn't there some chance that there will still be infected cells that might seed infection later?

Dr. Shattock: The field is really only starting to understand how an infection is disseminated, and current hypotheses suggest that you may get a small first sign of infected cells in the mucosal environment. If you're able to hit infected cells in small numbers hard enough with the drug, it may lead to the eradication of that infection as the cells die out either naturally or through immune response. Clearly, we need to test that concept. We have laboratory data at least showing that protease inhibitors can block infection of mucosal tissue. And we hope to directly look at that in animal challenge studies.

amfAR: Can you talk about the difficulties that young scientists face in terms of establishing themselves in the field of AIDS research?

Dr. Shattock: For me, that is of vital importance. Science does not have a clear or easy career development path. While it takes a lot of effort to get a Ph.D. and become a post-doc, the highest level of attrition of scientists from the field is at the post-doc level. And that is because it is very hard to transition from being an investigator in the laboratory to actually being able to get your own peer-reviewed, funded work established. So the amfAR fellowships play a vital role because they allow individuals to take that transitional step, to have some funding that they can call their own. They can prove themselves with that, and use it as leverage to get more grant funding and to get on the tenure-track career level. Without that kind of approach, we lose the best scientists.

amfAR: What has been your experience with mentoring young researchers?

Dr. Shattock: I find it very rewarding. It's just wonderful to see people develop new skills, start to be able to generate ideas. Well, generating ideas is not hard, but generating an idea and converting it into something that people will then fund is very hard. And to see someone go from having no understanding of how to do that to being able to get their first grant and then get more funding - to see someone's excitement in the field grow along with their confidence - is a great thing.

amfAR: There seems to be some pessimism about the future of vaccines, especially after the recent failure of the Merck vaccine trial, which was halted because of data showing that the potential vaccine was not only ineffective in preventing HIV, but that more new infections occurred among volunteers taking the drug. Are you more optimistic about the prospects for developing a **microbicide** than you are about vaccine research?

Dr. Shattock: I think the first point is that when you're trying something, failure is part of it. In terms of **microbicides**, I think they will be easier to develop and test in a timely fashion than vaccines. I think in the next five years we may see a product that definitely reduces transmission by a measurable amount, and by that I would say there has to be upwards of a 60 percent reduction in risk. But that won't be the end; that will just give us clues to develop better **microbicides**.

Microbicides will prevent infections that are ongoing, but probably they will not be sufficient to reverse the epidemic. That will ultimately require either treatment that leads to a cure or a protective vaccine.

In terms of vaccines, there have been some major setbacks that have been quite disappointing. But they're still improving our understanding of what it will require to make a vaccine. So it's been a wakeup call; it's been a moment of perhaps greater realization that we really need to come up with novel concepts. But you never know what somebody will discover tomorrow.

amfAR: So what about a cure?

Dr. Shattock: Well, it would be a fantastic thing to have. I think it's something worth shooting for. Do I have high expectations that something could be realized in the near future? No. Do I think it's impossible? No, I think it is possible. Not with current technology, perhaps, but as with vaccines and **microbicides**, the goal of developing a cure is worth pursuing with a concerted research effort.

2. PUBLISHED RESEARCH: MICROBICIDE-SPECIFIC

"Adolescents' reasons for using a microbicide-like product over time"

Author(s): Short MB, Succop PA, Rupp R, et al

Reference: N/A 19(2):115-17.

<http://highwire.stanford.edu/cgi/medline/pmid;18334065>

Published Abstract: This study examined the reasons that adolescent girls used a product over time. Adolescent girls (n = 208; 14-21 years) participated in a six-month study in which they completed three face-to-face interviews and 24-weekly phone call interviews. Participants were given **microbicide**-like products (vaginal lubricants) and encouraged to use them with condoms when they had intercourse. Most of the reasons for use were endorsed by most of the adolescent girls, at some time during the study. Over time, the adolescents were significantly more likely to report the following reasons for use: did not think the product would leak out (z = 2.49; P (less than) 0.01), the product felt comfortable (z = 2.41; P (less than) 0.02) and the product was not messy to use (z = 3.11; P (less than) 0.01). Although it appears that adolescents are interested in **microbicides**, they may worry about certain characteristics of the product. It will be important to develop anticipatory guidance that focuses on the experience of using the product, making sure adolescent girls continue to use over time.

"Inhibition of macrophages and dendritic cells infection with primary R5-tropic HIV-1 by natural polyreactive antibodies to CCR5 purified from cervicovaginal secretions"

Author(s): Eslahpazir J, Jenabian M, Bouhlal H, et al

Reference: N/A Epub ahead of print.

<http://cvi.asm.org/cgi/content/abstract/CVI.00463-07v1?maxtoshow=&HITS=1&hits=1&RESULTFORMAT=&andorexacttitle=and&andorexacttitleabs=and&fulltext=microbicide%2C+microbicides&andorexactfulltext=or&searchid=1&usestrictdates=yes&resource-type=HWCIT&ct>

Published Abstract: Heterosexual contact is the primary mode of human immunodeficiency virus type 1 (HIV-1) transmission worldwide. The chemokine receptor CCR5 is the major co-receptor that is associated with mucosal transmission of R5-HIV-1 during sexual intercourse. The CCR5 molecule is thus a target for antibody-based therapeutic strategies aimed at blocking HIV-1 entry into cells. We have previously demonstrated that natural polyreactive antibodies (NAbs) from therapeutic preparations of Immunoglobulin G and from human breast milk contain natural antibodies directed against CCR5. Such antibodies inhibit infection of human macrophages and T lymphocytes by R5-tropic isolates of HIV in vitro. In the present study, we demonstrate that human immunoglobulins from cervicovaginal secretion of HIV-seronegative or HIV-seropositive women contain natural antibodies directed against HIV-1 co-receptor CCR5. Natural affinity-purified anti-CCR5 antibodies bound to CCR5 expressed on macrophages and dendritic cells and further inhibited infection of macrophages and dendritic cells with primary and laboratory-adapted R5-HIV, but not with X4-HIV. Natural anti-CCR5 antibodies moderately inhibited R5-HIV transfer

from monocyte-derived dendritic cells to autologous T cells. Our results suggest that mucosal anti-CCR5 antibodies from healthy immunocompetent donors may hamper the penetration of HIV may be suitable for development of novel passive immunotherapy regimens in specific clinical settings in HIV infection.

[Return to Table of Contents](#)

3. PUBLISHED RESEARCH: RELEVANT BASIC AND TRANSLATIONAL SCIENCE

"Hormonal contraceptive discontinuation patterns according to formulation: investigation of associations in an administrative claims database"

Author(s): Murphy PA, Brixner D

Reference: N/A 77(4):257-63.

[http://www.contraceptionjournal.org/article/S0010-7824\(08\)00008-5/abstract](http://www.contraceptionjournal.org/article/S0010-7824(08)00008-5/abstract)

Published Abstract: *Background* Hormonal contraceptive use is generally characterized by poor adherence and relatively high discontinuation. This study investigated whether specific hormonal contraceptive formulations and/or delivery systems might be correlated with discontinuation of contraception. *Study Design* This was a retrospective descriptive analysis within a large administrative claims database. The sample included women aged 15-40 years with a pharmacy benefit and at least one new hormonal contraception prescription during the study period and no prescription in the previous 6 months. Filled contraceptive prescriptions were grouped into several categories of delivery system, dosage, progestin type and monophasic vs. triphasic formulations. In each, a baseline number of women was established who filled a first prescription for a contraceptive formulation in the specified category. Then, the percentage of these women who filled a prescription for a contraceptive in the same category within 3 months' time was determined. Continuation or change rates were compared within each group. *Results* Oral contraceptives (OCs) were the least likely to be discontinued at 3 months; injectables were the most likely. OC formulations associated with increased risk of discontinuation (odds ratios above 1.3 representing a 5% or higher increased discontinuation) included very-low-dose (20-25 mcg ethinyl estradiol) pills containing norethindrone acetate or norgestimate, as compared to a preparation with the same progestin type but with a higher dose of estrogen. Desogestrel and norethindrone-containing triphasics were more likely to be discontinued than other triphasic progestins. OC formulations with desogestrel and norethindrone/norethindrone acetate were more likely than formulations with other progestins to be discontinued overall. *Conclusions* This investigation in a sample of nearly 250,000 women suggests possible associations between discontinuation of hormonal contraception and factors such as estrogen dosing, progestin type and changes in dosage during the cycle. Identification of factors correlated with contraceptive discontinuation may inform management and improve adherence.

"Self-described impact of noncompliance among users of a combined hormonal contraceptive method"

Author(s): Letea I, Dovalb JL, Perez-Campos E, et al

Reference: N/A 77(4):276-82.

http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6T5P-4RPVJ63-2&_user=10&_coverDate=04%2F30%2F2008&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_acct=C00050221&_version=1&_urlVersion=0&_userid=10&md5=37698db04a74209faa709532a32b51d4

Published Abstract: *Background* A number of factors related to the user and the method affect contraceptive compliance. *Study Design* This cross-sectional multicenter study was designed to assess self-described impact of noncompliant behavior among 26,250 typical users of a combined hormonal contraceptive method who consulted their physicians for control visits. A self-administered questionnaire was completed. *Results* Sixty-five percent of women used the pill, 23% the vaginal ring and 12% the transdermal patch. Noncompliant behavior (missing/delays in taking/application, insertion or removal of the pill/skin patch/vaginal ring) was recorded in 71% of pill users, 32% of patch users and 21.6% of vaginal ring users (p (less than) .0001). Emergency contraception was requested by 14% of pill users, 11% of patch users and 6.3% of ring users. About 40% of women in all groups called or visited a physician. Seventy percent of women continued to have active sex life, and 60% used an additional contraceptive method. Noncompliant behavior negatively affected work activities and/or couple relationships in 10-20% of cases. More than 50% of women reported they were worried and about 20% were scared due to inconsistent use of the contraceptive method. After filling out the questionnaire, 64.7% of pill users continued to prefer the pill, 61.7% of patch users preferred the patch and 96.6% of women using the vaginal ring preferred the ring. *Conclusions* Noncompliant behavior had noticeable effects on emotional well-being, prompted request for physicians' advice, and use of emergency contraception. Despite recognition of problems associated with inconsistent use, women tended to prefer the currently used contraceptive method.

[Return to Table of Contents](#)

4. EPIDEMIOLOGY

"Rural SA women bear brunt of AIDS burden - Amnesty"

Date: 18 March 2008

Source: *Agence France Presse*

<http://www.iolhivaids.co.za/index.php?fArticleId=4309787>

Poor, rural women bear the brunt of South Africa's HIV epidemic as they face sexual abuse and discrimination, the rights body Amnesty International said on Tuesday, urging government action.

A new report said rural women were disproportionately affected by poverty and unemployment and continued to suffer subjugation at the hands of men - increasing their risk of contracting HIV.

With 5.5 million out of 48 million South Africans believed to be HIV-positive, the victim profile has changed from gay, white males to poor women living in rural settings, said the report.

Women younger than 25 were up to four times more likely to be infected with HIV than men of the same age, 12 years after the country adopted a constitution guaranteeing equal rights to all its citizens.

While the overall infection rate was levelling off in South Africa, it continued to grow among women.

"Rural South African women's lives are scarred by persistent violence in their families, homes and in under-policed, unsafe communities," Michelle Kagari, Deputy Director of AI's Africa Programme, said in a statement.

"The co-existence of the epidemics of both HIV and violence against women has raised the costs of violence for South African women and girls - both physically and psychologically," she added.

Many women interviewed for the AI study said they did not want to get tested for HIV for fear of a backlash from their partners or communities, and that they risked abuse when trying to access treatment.

Long distances and high travel costs often prevented women from visiting hospitals and clinics, and few were able to follow a healthy diet recommended for those on HIV medication.

"Lack of physical access to treatment centres is tantamount to a denial of access to health care services, and the government must take more responsibility in ensuring this access," said Kagari.

The report recommended that the government increase its efforts to address the "wider social and economic inequalities which act as barriers to effective prevention, treatment and care for HIV and Aids."

It also suggested a chronic illness grant to improve HIV-infected women's access to health services and treatment.

The body said men should become more aware and respectful of women's rights to equality and sexual autonomy, with government and political leaders leading by example.

The report found that women were often subject to abuse when disclosing their status to male partners, while men avoided getting tested.

"In the context of far greater numbers of women testing than men, the department of health and other relevant departments should pay particular and urgent attention to the capacity of HIV testing services to anticipate and address possible adverse consequences for women when they disclose their test result to male partners and families," it said.

"Tuberculosis in Africa - Combating an HIV-driven crisis"

Source: *N Engl J Med.* 2008 Mar 13;358(11):1089-92. *Perspective.*

Author(s): Richard E Chaisson, Neil A Martinson

<http://content.nejm.org/cgi/content/full/358/11/1089>

Africa is facing the worst tuberculosis epidemic since the advent of the antibiotic era. Driven by a generalized human immunodeficiency virus (HIV) epidemic and compounded by weak health care systems, inadequate laboratories, and conditions that promote transmission of infection, this devastating situation has steadily worsened, exacerbated by the

emergence of drug-resistant strains of tuberculosis.

Africa, home to 11% of the world's population, carries 29% of the global burden of tuberculosis cases and 34% of related deaths, and the challenges of controlling the disease in the region have never been greater. The World Health Organization (WHO) estimates that the average incidence of tuberculosis in African countries more than doubled between 1990 and 2005, from 149 to 343 per 100,000 population (see maps)¹ - a stark contrast to the stable or declining rates in all other regions during this period. In 1990, two African countries, Mali and Togo, had an incidence greater than 300 per 100,000; by 2005, 25 countries had reached that level, and 8 of them had an incidence at least twice that high.

The unprecedented growth of the tuberculosis epidemic in Africa is attributable to several factors, the most important being the HIV epidemic. Although HIV is Africa's leading cause of death, tuberculosis is the most common coexisting condition in people who die from AIDS (see radiograph). Autopsy studies show that 30 to 40% of HIV-infected adults die from tuberculosis.² Among HIV-infected children, tuberculosis accounts for up to one in five of all deaths.³

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EDITOR'S NOTE: The full text of this article is available for public access at the above website.

[Return to Table of Contents](#)

5. OTHER PREVENTION APPROACHES

"AIDS campaign launched"

Date: 14 March 2008

Source: *China Daily*

Author(s): Shan Juan

http://www.chinadaily.com.cn/china/2008-03/14/content_6535496.htm

A nationwide initiative to enlist college students in an anti-HIV/AIDS campaign was launched in Beijing on Thursday.

The year-long initiative by the China Woman/Child Care Committee under the All China Women's Federation will reach 1 million students at 50 colleges and universities across the country to raise awareness and teach them about prevention.

The education program will be rolled out in various forms including general information brochures, lectures on prevention, and organizing AIDS patient care activities, said Liu Xiaoping, director of the committee.

"The project is very meaningful and timely," said Mao Yu, director of the Beijing Ditan Hospital specialist unit in treating infectious diseases.

College students who are usually sexually active are under great risk of contracting the virus, for which there is no cure, he said.

Of the 700,000 people with HIV in China, 70 percent are between 20 to 39 years old, official statistic showed. And sexual transmission has become the major source of its spread.

"Ghana: Ten radio stations to participate in HIV/AIDS behavioural change programme"

Date: 12 March 2008

Source: *Accra Mail*

<http://allafrica.com/stories/200803120631.html>

As part of efforts to combat HIV/AIDS in Ghana, 10 radio stations in the country, one from each region, have been selected to undertake behaviour change communication on HIV/AIDS prevention, using radio soap opera.

The Ghana Aids Commission under the National Innovation Programme is funding the project, being implemented by the Centre for Development Communication (CEDCOM), a development communication consortium with its headquarters in Tamale.

Speaking to GNA in Tamale, Mr Gariba Ibrahim, Team Leader of CEDCOM, said the project would involve the broadcasting of a soap opera dubbed 'Dudu' in six local dialects, Twi, Ewe, Dagbani, Gruni, Dagaari and Ga-Dangbe.

He said the drama was developed based on a research CEDCOM and the 10 partner radio stations undertook to identify the high-risk behaviours of their audience.

Mr Gariba said some of the high-risked behaviours that the drama would seek to address would be frequent change of partners, unfaithfulness of partners and low condom usage.

The rest are high incidence of unprotected sex, love being a major motivation of the rampant change of partners, high incidence of alcohol intake before sex and familiarity of a person as safe enough for sexual encounter.

Mr Gariba said under the project, personnel of the radio stations had been trained on how to use radio to promote behavioural change of their audience.

He said since the project was the first of its kind in the country, it would be on pilot basis with limited number of episodes but would be intensified after a successful evaluation.

Mr Gariba said HIV/AIDS was still a very big issue because statistics showed an increase of the prevalence rate from 2.9 per cent in 2001 to 3.6 per cent in 2003, then declined to 2.7 per cent in 2005 but rose to 3.2 in 2006.

He therefore called for concerted efforts by stakeholders, including the media to extend their campaign from awareness creation to behaviour change to ensure that people changed their high-risk behaviours.

Mr Gariba appealed to the media to consider programmes on HIV/AIDS as more of social responsibility than a commercial venture.

6. POLITICS AND POLICY

"Uganda: Museveni criticises condom promotion"

Date: 18 March 2008

Source: *The Monitor*

Author(s): Agness Nandutu

<http://allafrica.com/stories/200803180825.html>

President Yoweri Museveni has criticised the promotion of condom use saying it is pushing many young people into sex.

Mr Museveni was on Friday speaking as chief guest, when Parliament was commemorating 25 years of HIV/Aids in Kasensero, Rakai District where the first HIV case was identified last Friday.

The theme of the function was, "25 years of HIV/Aids on the rise again. What are you doing?" "I don't fight the use of condoms but it pushes our children to have sex with people they do not trust," he said. "We are telling them that have sex as long as you have gloves".

He equated the use of condoms to people who protect themselves to get honey from the beehive. "People are now like bees. You are looking for honey but the bees want to sting you. Condom education is not good. I would not advise children to use them. Those were meant for prostitutes."

The first case of HIV/Aids was identified in Rakai district, Kasensero landing site in 1982. The chairperson of the Parliamentary committee on HIV/Aids Mr Elioda Tumwesigye said out of over one million people are living with HIV, less than half of them have access to ARVs.

Mr Museveni also called for a legislation that would see people who infect others with HIV/Aids intentionally hanged.

"Somebody is aware that he/she has Aids but they go ahead and infect others. I will strongly support such a law," he said.

But the chairperson of the Foundation for Human Rights Initiative, Mr Livingston Ssewanyana, said hanging is a violation of human rights and cannot stop the crimes. He instead suggested life imprisonment.

"No way to run health research"

Date: 16 March 2008

Source: *The New York Times (Op-Ed)*

http://www.nytimes.com/2008/03/16/opinion/16sun3.html?_r=2&scp=1&sq=no+way+to+run+health+research&st=nyt&oref=slogin&oref=slogin

The National Institutes of Health, the main supporter of biomedical research at universities and medical schools, has an annual budget of more than \$29 billion. That is far above what any other nation spends on such research, and far higher than the budgets of other agencies that support work in other scientific fields.

Yet academic institutions are complaining that the N.I.H. cannot support all of the worthy research being proposed. They warn that young scientists with the potential for breakthrough work are being frozen out.

The academic leaders are likely right. The percentage of grant proposals that get financed has dropped from one in three early in the decade to one in four. The average age of investigators when they get their first N.I.H. grant has risen to 43, especially old for fields in which younger people often do the best work.

Between 1998 and 2003, with bipartisan support, the N.I.H.'s budget doubled. Universities and medical schools built new laboratories and expanded their cadres of researchers, who flooded the N.I.H. with applications. The increased spending helped spur completion of the human genome project and led to new diagnostic tests and therapies for a variety of diseases.

Then the spigot was turned down. For the past five years, the N.I.H. budget has been essentially flat. Adjusted for the rising costs of equipment, supplies and personnel, the agency has lost 13 percent in purchasing power.

There is no easy way out. Neither the government nor academia gave much thought to what might happen when the flush times came to an end, hastened by the huge costs of the Iraq war and tax cuts. Yet it seems foolish to waste the talent and laboratories that have been built up over the last decade. Biology may be the most rapidly progressing of the sciences, and an aging population and a too-costly health care system would benefit from better and cheaper treatments.

Congress needs to provide the N.I.H. with enough money to keep up with biomedical inflation and preferably somewhat more. Then the government and research institutions need to do better with what they get.

"Rwanda: 14 million condoms imported annually"

Date: 12 March 2008

Source: *The New Times (Kigali)*

Author(s): Edwin Musoni

<http://allafrica.com/stories/200803120114.html>

Current statistics from the Population Survey International (PSI) indicates that Rwanda imports about 14 million condoms annually. Speaking at a press conference after the launch of last phase of Witegereza campaign, the National Coordinator PSI Rwanda, Staci Leischner, said that out of the 14 million condoms, eleven million condoms are supplied to the private sector while three million condoms go to the public sector. She also said that the number of imported condoms increase as their availability also increases. She however said that Rwanda has the lowest rate of condom use in the region mostly because of stigma and its unavailability in remote areas.

The Deputy Executive Secretary of National Aids Control Commission (CNLS), Antoine Semukanya, said that condoms are mostly consumed in villages. "People in villages are complaining that the condoms we supply are not enough; that is why we continue increasing our imports to meet the demand," Semukanya said.

The Minister of Health Dr. Jean Damascene Ntawukuriryayo, who retained his cabinet portfolio in last Friday's reshuffle, said that every Rwandan should be educated on condom use so as to have a society free from HIV/Aids. "Buying a condom shouldn't be a shame to anyone. I personally supply condoms to whoever comes in my office; I have them and I give them out for free," he said. He added that condoms reduce the spread of HIV/Aids and premature pregnancy.

"The statistics I have indicate that about 100 students at the National University of Rwanda (UNR) get unprepared for pregnancies each year and 20 percent of patients in Kigali hospitals are suffering from sexually transmitted diseases," he said.

Witegereza campaign is targeting at increasing awareness among the youth about condom use and reproductive health issues in general. The launch of the campaign's last phase at Hotel Novotel Umubano took place on Monday.

According to a statement, the last phase will run under the theme: 'Teach Me How to Use a Condom' - the fourth theme since the campaign started last year. The campaign targets mainly radio stations and has erected about 200 billboards around the country which will run for six months.

Previous themes included one calling on parents to educate their children about HIV infection before they become sexually active which was launched last October, then followed by 'Talk to Me About Sex' and 'No Means No'. These two emphasized on youth abstinence from sex, and were launched in November, 2007, and February, 2008, respectively.

Ntawukuriryayo said that the campaign is all about saving lives and preventing the youths from acquiring the Aids virus. "Though we are launching this campaign of teaching our children about condom use, there are also some parents out there who equally need more knowledge on how a condom is used," the minister said. He defended the campaign saying: "This campaign doesn't mean that we are putting abstinence off; abstinence is the first priority but when one cannot abstain, the condom is the next option." Without giving details, the minister said that research indicated that teaching young people about condom use as a component of prevention might increase abstinence.

CNLS Executive Secretary Dr Agnes Binagwaho said that the previous messages made a great impact in the society and that her institution is looking at how to carry on with such campaigns even after Witegereza project.

[Return to Table of Contents](#)