

## African Studies Give Women Hope in H.I.V. Fight



Volunteers who participated in a study on reducing the risk of HIV infection in women listened as the test results were announced during a meeting in Vulindlela, Kwazulu-Natal, South Africa. Credit...Joao Silva for The New York Times  
By [Celia W. Dugger](#) July 19, 2010

VULINDLELA, South Africa with an AIDS vaccine still out of reach, two rigorous new studies have found different ways to sharply cut H.I.V. infections among women and schoolgirls, who make up a majority of the newly infected in sub-Saharan Africa. After two decades in which researchers searched fruitlessly for an effective vaginal microbicide to block H.I.V., South African scientists working in two AIDS-devastated communities of [South Africa](#), one rural and one urban, say they have finally found something that shows real promise.

Women who used a vaginal microbical gel containing an antiretroviral medication widely used to treat AIDS, [tenofovir](#), were 39 percent less likely over all to contract H.I.V. than those who used a placebo. Those who used the gel most regularly reduced their chances of infection 54 percent, according to a two-and-a-half year study of 889 women by [Caprisa](#), a Durban-based AIDS research center.

Broader trials are needed to confirm the results, and it will most likely be years before the product is publicly available, but if produced on a large scale the gel would cost less than 25 cents per application, the lead investigators estimated.

Because the trial was relatively small and the gel was nowhere close to 100 percent effective, AIDS scientists and public health officials wanted to see another trial get similar results before they undertook the large fund-raising and public education efforts that would be needed to make billions of doses of the gel, as well as the applicators, which are more expensive, and then to persuade women to use them and governments of poor countries to adopt them.



The results of the H.I.V. study were announced in Vulindlela, South Africa. Credit...Joao Silva for The New York Times

Dr. Bruce Walker, a Harvard Medical School professor who was not involved in the study, said a cheer erupted when researchers unveiled their findings to a small group of scientists last month in Durban.

“This is the first time that there’s been a tool that women can use to protect themselves from becoming infected,” he said. “It’s a game changer.”

In Vienna, where the meeting of the International AIDS Society just opened, leaders of the global fight against AIDS said they found the results of the microbicide trial very impressive. The [study](#) was published online on Monday by Science magazine.

“This is very encouraging,” said Michel Sidibé, executive director of Unaid, the United Nations AIDS agency. “It can be controlled by women, and put in 12 hours earlier, and that is empowering. They do not have to ask the man for permission to use it. And the cost of the gel is not high.”

In another piece of progress against AIDS, a separate, large study in Malawi [sponsored by the World Bank](#), and made public on Sunday, found that if poor schoolgirls and their families received small monthly cash payments, the girls had sex later, less often and with fewer partners.



A year and a half after the program started, the girls were less than half as likely to be infected with the AIDS or herpes viruses than were girls whose families got no payments. The likelihood that the girls would agree to sex in return for gifts and cash declined as the size of the payments from the program rose, suggesting the central role of extreme poverty in sexual choices.

“Maybe we can combine these behavioral and biomedical interventions,” said Dr. Tim Farley, a scientist with the World Health Organization involved in H.I.V. prevention research. “We need to pursue both avenues.”

At a time of intensifying competition for global health dollars, when the number of people who contract H.I.V. is outstripping those put on treatment each year, pressure is mounting on African countries and donors to focus more heavily on prevention. [Male circumcision](#) is one method proven to at least halve a man’s chances of H.I.V. infection.

Scientists say the success of the \$18 million microbicide trial, largely paid for by the United States Agency for International Development, and the study on cash payments offer hope to girls and women in Africa, who have higher rates of H.I.V. infection than their male counterparts and often less power in relationships to protect themselves.

There have been other signs of progress. A new Unaid study found that H.I.V. prevalence among young people had declined by more than 25 percent in 15 of the 21 countries most affected by AIDS. In eight countries, the agency found evidence of positive changes in sexual behavior among young people, for example delaying having sex, having fewer partners and the increasing use of condoms.



Participants in a study to test a microbicidal gel against H.I.V. met Monday at a Caprisa site in Vulindlela. Credit Joao Silva for The New York Times

In the \$400,000 trial in Malawi, 3,800 teenage girls and young women, ages 13 to 22, were randomly assigned to two groups. Half the girls received no cash payments. The parents of the other half were paid \$4 to \$10 a month while the girls themselves received \$1 to \$5 a month if they attended school regularly.

After 18 months, the H.I.V. prevalence among the girls who got the cash was 1.2 percent, compared with 3 percent for the others. “The program empowered these girls to make better choices,” said Berk Ozler, a senior economist with the World Bank’s Development Research Group.

While [cash programs](#) are already spreading in Africa, the antiretroviral gel will take longer, according to the husband-and-wife team of epidemiologists who led the study. They are Dr. Salim S. Abdool Karim, Caprisa’s director, and Dr. Quarraisha Abdool Karim, associate scientific director.

“I would be very sad if we had to sit around a table three years from now and we don’t have the confirmation and regulations in place,” Dr. Salim Karim said.

Dr. Quarraisha Karim noted that, “For women, it certainly is a turning point.”

In South Africa, where 5.7 million people are H.I.V.-positive, more than in any other nation, the government is eager to move forward. “As soon as we’re confident it’s a safe and effective product, we should do our best to get it out,” said Derek Hanekom, the country’s deputy minister of science and technology.



Women who used a vaginal microbicide gel containing an antiretroviral medication were 39 percent less likely over all to contract H.I.V. than those who used a placebo. Credit Joao Silva for The New York Times

The women who participated in the study □ in the city of Durban and in the rural community of Vulindlela, in the rolling hills of KwaZulu-Natal □ used the gel up to 12 hours before and after sex. Usually their partners were not aware of it. Tissue biopsies found levels of tenofovir that were 1,000 times what they would have been in the blood if the drug had been taken by pill, the team said.

The success follows years of disappointing results in trials of other microbicides that were found to be ineffective, or even to raise a woman's risk of H.I.V. infection. There are currently other trials under way that use tenofovir in gel and pill forms.

[Gilead Sciences](#), the California-based biopharmaceutical company that developed tenofovir, donated 65 pounds of the active ingredient for the study. It has also relinquished any claim to royalties on the gel if it is distributed in Africa and poor countries in other parts of the world.

Dr. Howard Jaffe, president of the Gilead Foundation, the company's charitable arm, said that Dr. Salim Karim nicknamed Slim pitched the microbicide idea to company scientists in 2004, to initial reluctance.

"Slim is nothing if not charismatic, passionate and intelligent, and we thought it needs to be studied, it will be studied and this may be the best time to do it," Dr. Jaffe said.

In Vulindlela, women have a desperate need for a way to protect themselves. H.I.V. testing of pregnant women in the area has found that one in 10 is already H.I.V.-positive by 16; half are infected by 24.

Before antiretroviral treatment became available here, the graveyards were crowded every weekend with funeralgoers. Fewer people are dying now, but many young women are still getting infected.

Xoliswa Mthethwa, 26, who was part of the study, said she told her boyfriend about the gel and he was very supportive. If it worked, she said, "I'd be the first person to go buy it."

Donald G. McNeil Jr. contributed reporting from Vienna.

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