

Women and the Need for Microbicides

Current HIV prevention options are not doing enough to slow the epidemic. The spread of HIV/AIDS continues to outpace the world's response to it: for every 3 people starting treatment in 2010, 5 people became newly infected.ⁱ Women and girls continue to bear the burden of the epidemic, especially in sub-Saharan Africa where approximately 6 in 10 HIV-infected adults are women. In some countries, HIV prevalence is three to eight times higher among women ages 15-24 than it is among men in the same age group.ⁱⁱ Current prevention strategies are therefore not enough to stop the spread of HIV — particularly among women. Many women are unable to negotiate successfully with their male partners to use condoms or to be faithful. Abstinence is not realistic for women who are married, who want children or who are at risk of violence.

New female-initiated prevention options like microbicides are urgently needed. Vaginal microbicides are antiretroviral (ARV)-based products being developed to reduce the transmission of HIV to women during sex with an HIV-positive male partner. The active ingredients in the products are based on the same types of ARV drugs used successfully to prolong the lives of HIV-positive individuals and to prevent mother-to-child transmission of the virus. Microbicides would give women a new way to prevent HIV — one that would empower them to protect their own health.

Microbicides are being developed in several forms, including gels that would be used around the time of sex and products that could be used independently of sex by gradually releasing the active ingredient over time — such as once-daily gels, films and tablets, as well as vaginal rings that could be used for a month at a time or even longer.

Microbicide development has entered a new and promising chapter. Decades of research into microbicides have resulted in proof-of-concept that ARV-based microbicides can offer women protection against HIV infection and potentially save millions of lives. In July 2010, the results announced from CAPRISA 004, a clinical trial in South Africa, showed that a vaginal gel containing the ARV *tenofovir* used around the time of sex offered women 39 percent protection against HIV. Confirmatory trials are ongoing, and if the results are confirmed, tenofovir gel could become the first microbicide approved for use around 2015. Longer-acting microbicides, such as monthly vaginal rings containing the ARV *dapivirine*, are also in advanced clinical development, while combination products, such as those combining two or more ARVs or an ARV with a contraceptive, are in earlier stages of development.

Microbicides would be a vital part of a comprehensive HIV prevention strategy. Stopping HIV will require a broad toolkit of products that address individual needs and preferences, including long-acting microbicides that could improve consistent use and adherence, and ultimately enhance effectiveness, while reducing the possibility of resistance. Microbicides would complement other prevention methods such as behavior change, abstinence, male and female condoms, male circumcision, oral pre-exposure prophylaxis (PrEP) and hopefully, one day, an HIV vaccine.

Capturing the promise of microbicides requires continued support. While 2010 experienced a 5 percent increase in total global investment in microbicide research over 2009, the \$247 million funding levels in 2010 are still well below the annual \$300 million amount recommended by experts to ensure an optimal research effort.ⁱⁱⁱ As a result, promising microbicide research avenues are at risk of moving at a much slower pace than is warranted by the seriousness of the epidemic. Lessons learned through years of scientific inquiry have brought the world in 2010 to a milestone in HIV/AIDS research: proof that a topical microbicide can prevent heterosexual transmission of HIV. Continued, even stronger support will be required to capitalize on the promise of safe and effective microbicides to empower women to protect themselves from HIV/AIDS.

ⁱ UNAIDS, "AIDS at 30: Nations at the Crossroads", 2011

ⁱⁱ UNAIDS/WHO, "Report on the Global AIDS Epidemic," 2010

ⁱⁱⁱ HIV Vaccines and Microbicides Resource Tracking Working Group, "Capitalizing on Scientific Progress: Investment in HIV Prevention R&D in 2010", 2011