HIV/AIDS and Prevention Options for Women

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Women's Risk, Women's Choices

In global terms, HIV/AIDS is a women's epidemic. Women living with HIV now outnumber men in sub-Saharan Africa; in some regions, teenage girls are five times more likely than their male peers to become infected and 4,700 women and girls are infected with HIV daily. In India, an epidemic previously believed to affect only "at-risk" groups is making inroads into the general population, with up to 2% of women attending pre-natal clinics testing positive for the virus. Other sexually transmitted diseases (STDs) contribute to the spread of HIV as well as representing a tremendous disease burden for women around the world.

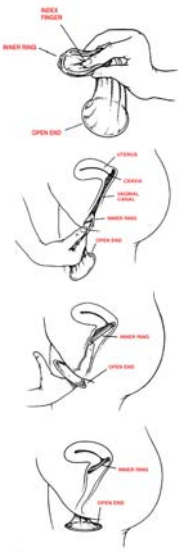
The disproportionate impact of HIV and STDs on women is due, in part, to biology: women are more likely than men to contract HIV during a single exposure. Younger women are at even greater risk—their cervices are physiologically less mature and are therefore more vulnerable to infection. Without treatment, STDs can have serious long-term consequences, such as infertility, pelvic inflammatory disease, ectopic pregnancy, infant mortality, and cervical cancer.

Social and economic inequities also contribute to women's risk of HIV. Violence, coercion, and economic dependency in relationships make it difficult to "negotiate" condom use or to leave a partnership that puts them at risk. Many societies discourage women and girls from learning about their bodies or about sex, and sexual decision-making is left to men. Gender-based social norms can lead men to seek multiple partners, while women bear the burden of the shame and stigma associated with disease. Increasing economic inequality and eroding social support networks have driven many women into commercial sex work to support their families. However, for many women, the most common "risk factor" for getting HIV is simply being married.

Given the challenges that women face in protecting themselves from HIV, it is astonishing that feasible prevention strategies are still unavailable to the millions of women for whom abstinence, mutual monogamy, and male condom use are simply not possible. Education, economic and social empowerment, and the transformation of gender roles and norms that limit women's autonomy and decision-making are crucial, but are long-term goals. Prevention methods for women are needed immediately.

The Female Condom

The only female condom currently on the market is manufactured by the Female Health Company, and is known in different countries as Reality, Femidom, Femy, and Care. This polyurethane sheath is used intra-vaginally during intercourse. A woman squeezes and inserts the inner ring of the sheath into the vagina, where it rests behind the pubic bone. An outer ring remains outside the vagina, keeping the female condom in place and providing some protection for the vulva and external genitalia.



For those who have difficulty using male condoms consistently and correctly, the female condom offers certain advantages. It is a woman-initiated method, and can be inserted well before intercourse. Because it is not constricting and the material conducts warmth, some users report that it provides greater sensitivity than a male condom. The female condom can be used with both water- and oil-based lubricants, and polyurethane is sturdier than latex and does not cause allergic reactions. As a contraceptive, the female condom is 95% effective when used consistently and correctly. Although clinical studies have not been done, data does show that the female condom is at least as effective as the male condom.

Over 70 countries have introduced the female condom in interventions ranging from pilot projects to national programs including in Brazil, Eritrea, Ghana, Haiti, Lesotho, Namibia, Tanzania, Togo, Venezuela, Zambia, and Zimbabwe. While the level of initial acceptance diminishes as the novelty of the device wears off, in nearly all settings a significant number of women and men report positive responses to the female condom and continue to use it over time. In several cases, availability of the female condom increased the overall proportion of protected sex acts. Achieving sustained use depends largely on the program and strategy used to introduce

the female condom as a new method. The breadth of experience of different countries has generated many lessons learned.

Positioning the female condom as a contraceptive, a dual-protection method, or as an HIV-prevention method can affect whether people are likely to use it with regular or casual partners.

Counseling and support are crucial in helping women learn how to use the female condom successfully; problems most commonly reported by users tend to resolve with practice.

Men as well as women need to be considered a "target audience" to encourage partner support in choosing and using the method and to help remove the "novelty."

Providers' attitudes greatly influence clients' acceptance and long-term use. Providers need to be specifically trained in using and demonstrating the female condom.

Fortunately, many resources are available to assist in making these decisions and in laying out a plan to introduce female condoms, either as part of HIV prevention programs, family planning programs, or both (see "Resources.")

Because the female condom is made of polyurethane rather than latex, it is both sturdier and more expensive to manufacture than the male condom. The Female Health Company and UNAIDS have negotiated a public sector price of US$0.58 per condom. Though less than the commercial price of $2 to $3, this is still dramatically higher than the cost of male condoms, and in most LDC settings the female condom must be subsidized. Though cost is a large concern when policy makers are allocating limited budgets, modeling has shown that well-designed female condom programs are highly cost effective, and even cost-saving, in terms of disease averted.

Cervical Barrier Methods

Women's greater biological vulnerability to heterosexual transmission of HIV is likely due to the nature of the cervix. Unlike the vaginal epithelium, which consists of several layers of flat, sturdy squamous cells, parts of the surface of the cervix are made up of a single layer of fragile columnar cells (like the rectum), which are more easily damaged. Some bacterial STDs, such as Neisseria gonorrhoeae and Chlamydia, particularly target the cervical epithelium and are incapable of replicating in the squamous epithelium of the vagina. In addition, evidence shows that several target cells for HIV, including CD-4 cells, are found much more frequently on the cervix than throughout the rest of the vagina. Another factor in female HIV acquisition may be the passage of infectious fluids into the upper genital tract (also highly susceptible) via the cervix. All of these factors suggest that a cervical barrier could significantly reduce a woman's risk of HIV or STD infection. A cervical barrier used with a microbicide may provide even more protection.

Barrier methods that protect the cervix include the diaphragm, cervical cap, and, to a lesser extent, the contraceptive sponge. Some cervical barriers are currently on the market and others are being developed or redesigned. Interest in and acceptability of an intra-vaginal barrier such as a diaphragm for HIV prevention has been demonstrated in Zimbabwe. Diaphragms are well accepted in sexually active Zimbabwean women. However, research to demonstrate the efficacy of cervical barrier methods (either alone or with a chemical protectant) in preventing HIV in the absence of a condom is only just beginning.

Female Condom Reuse

Several studies have attempted to determine the safety and acceptability of reusing the female condom in an effort to make it more economical and accessible. WHO convened two expert consultations to review the various studies and form recommendations. Their statement was released at the XIV International AIDS Conference in Barcelona in July 2002. While WHO continues to recommend the use of a new male or female condom for every act of intercourse, the statement acknowledges that, for some, the alternative to reuse could be unprotected intercourse. For these cases, WHO has developed a protocol for cleaning and re-lubricating the female condom, involving soaking in a bleach solution and patting dry. This creates a hierarchical public health message: use of a new male or female condom is the primary recommendation; cleaning and reuse is the second recommendation. Currently, the decision to educate and train clients to reuse the female condom rests with program leaders and providers.

For more information see:
www.who.int/reproductive-health/rtis/reuse.en.html

Microbicides

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 STDs when applied topically in the vagina. Candidates for a "first generation" microbicide are also evaluated for safety for rectal use; efficacy for rectal use is important but will most likely have to be established separately from efficacy as a vaginal product. Microbicides can be produced in many forms,

including gels, creams, suppositories, films, or as a sponge or ring that releases an active ingredient over time. Microbicides could prevent HIV and STDs by:

- killing or otherwise immobilizing pathogens
- enhancing the vagina's natural defenses
- blocking infection by creating a barrier between the pathogen and target cells;
- preventing infection from spreading to other cells

Ideally, a microbicide would combine some of these mechanisms for extra effectiveness. Eventually, a single microbicide could be effective against a broad range of sexually transmitted pathogens, including HIV. Some microbicides would be contraceptives and some would not, providing a much-needed option for women and couples that wish to conceive children without compromising their health.

"The Prevention Equation"

The level of protection conferred (the number of infections averted) depends on three factors:

- efficacy of the method
- consistency of use within a partnership
- extent of use within a sub-population

A microbicide—a low-efficacy method—used with high levels of consistency would offer the same protection as a high-efficacy method—the condom—used less consistently. A 90% efficacious method used 20% of the time prevents fewer infections than:

- 70% efficacious method used 30% of the time, or
- 50% efficacious method used 40% of the time, or
- 30% efficacious method used 60% of the time.

Source: Watts, et al.

It is unlikely that microbicides will ever be 100% effective, or even as effective as male or female condoms on a per-intercourse basis. However, the contribution of any given method to preventing infection within a population depends not only on its efficacy but also the coverage within a population and consistency of use within relationships.

Mathematical modeling that shows that if even a small proportion of women in lower income countries used a 60% efficacious microbicide in half the sexual encounters where condoms are not used, 2.5 million HIV infections could be averted over three years.

Though no microbicide has yet been proven safe and effective, scientists are pursuing nearly 60 leads, including fourteen products that are currently in clinical human trials. With sufficient investment of resources and political will, one of these products could be available as early as 2007. Microbicides will likely be available before an HIV vaccine, and will continue to complement vaccines in an overall HIV/STD prevention strategy once they do exist.

A Call to Action

Women worldwide are asking for prevention options that better meet their needs. A grassroots movement in Zimbabwe convinced the government to add the female condom to national family planning programs. Women elsewhere have articulated the need for prevention methods over which they have control—without ever having heard specifically of microbicides or intravaginal barriers. In spite of these efforts, prevention options for women has been a marginalized issue among policy makers, programmers, and donors. This may be to due to long-standing provider bias against barrier methods in family planning programs, or to general discomfort with interventions that specifically focus on sexuality. There is a general perception that women living in conservative societies will not use vaginal methods, though this assumption has been disputed by research. A lack of information about these methods has led to an excuse for inaction.

> "The female condom needs more financial and program support from donors, NGOs, and the international community, to ensure that women who would benefit most have access to it."
>
> *-Peter Piot, executive director of UNAIDS*

In addition to 'idelogical' barriers, prevention options for women face real financial constraints. They are classic public health goods, which offer a tremendous benefit to society but for which there is little incentive for private investment. The fastest way to reduce the unit price of the existing female condom is to increase global volume through bulk purchases. An investment of $10 million today in female condom activities would reduce the cost of the female condom by over 25%; provide program, financial, and technical support to dozens of national, regional, and community programs; and offer women a way to protect themselves right now. Such an investment would also help build a solid foundation of programs and networks of providers, programmers, policy makers, users, and partners for the introduction of future prevention methods such as microbicides.

Additional resources are needed to research whether cervical barrier methods reduce HIV risk and for research and development of microbicides. Research and development is largely dependent on public or donor funding, and probably will be until products are proven successful. Funding must come from the research institutions and donor agencies of industrialized countries, as well as from private foundations.

Research and product development must be accompanied by program development and advocacy to ensure that women at risk will have access to safe, affordable, and effective HIV prevention methods without delay. Programmers and policy makers can contribute to this effort by conducting the social science research necessary to understanding user needs and dynamics. They can work to ensure meaningful community participation in testing new products, to maximize the scientific and ethical rigor of clinical trials. They can develop strategies and infrastructure for introducing new methods and educating providers, programmers, and clients in their sustained use. These efforts will build on each other: introducing an existing method such as the female condom will contribute to a solid foundation of programs, providers, and users who are prepared for future methods such as cervical barriers and microbicides as they become available.

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Web Sites

www.who.int/reproductive-health/rtis/reuse.en.html

www.microbicide.org

www.fhi.org/en/gen/archives/newsarch41.html

www.gmp.org

www.global-campaign.org

www.who.int/inf-fs/en/fact246.html

ICAD's aim is to lessen the impact of HIV/AIDS in resource-poor communities and countries. We are a coalition of Canadian international development organizations, AIDS service organizations and other interested organizations and individuals. ICAD wishes to thank the Global Campaign for Microbicides for its assistance in preparing this fact sheet. Funding for this publication was provided by Health Canada. The views expressed herein are solely those of the authors and do not necessarily reflect the official policy of the Minister of Health. Additional copies are available on the ICAD Web site at www.icad-cisd.com. Le feuillet « Le VIH/sida et les moyens de prévention pour les femmes » est disponible en français.