

A Multipurpose Prevention Ring for Women's Sexual and Reproductive Health



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HIV and complications due to unintended pregnancy are among the greatest obstacles to women's health and development. New products that simultaneously address both issues could help keep women healthy so they can reach their full potential.

Women's sexual and reproductive health needs do not exist in isolation, and meeting those needs is essential to supporting women's overall health.

■ **Women are disproportionately affected by HIV/AIDS due to biology, gender inequities and cultural norms.** In sub-Saharan Africa—where the epidemic's main driver is heterosexual sex—nearly 60% of all new HIV infections occur among women and girls. Young women in the region are more than twice as likely to acquire HIV as young men.ⁱ

■ **In developing countries, a lack of access to contraception is a major contributor to maternal and newborn deaths,** largely due to complications during pregnancy and childbirth.

Nearly half of all pregnancies in low- and middle-income countries are unintended. An estimated 218 million women of reproductive age—one-quarter living in sub-Saharan Africa—have an unmet need for contraceptives that would allow them to space their pregnancies, and lead to better health, educational and economic outcomes for women and their families.ⁱⁱ

■ **Women face dual risks.** Women in areas with high rates of HIV often have the greatest unmet need for modern contraception.ⁱⁱⁱ Research suggests that women may be two to four times as likely to acquire HIV during pregnancy and the postpartum period,^{iv} and that women living with HIV/AIDS may face a higher risk of maternal death than HIV-negative women.^v

Promise of Multipurpose Prevention

New multipurpose products are now being developed to offer women a single product that offers discreet protection against the risks associated with HIV and unintended pregnancy in a single product. Some products may also prevent other sexually transmitted infections. Although condoms are highly effective multipurpose prevention products, it is often difficult for women to negotiate condom use with their partners.

Because women's perceived risk of HIV is low compared to their perceived risk for pregnancy, combined technologies may be attractive to many women. Women in multiple studies have shown strong interest in and willingness to use multipurpose rings and other products if proven effective.^{vi-viii}

Three-month Dual Protection

Leveraging our experience developing the monthly dapivirine ring, which received a positive opinion for women's HIV risk reduction from the European Medicines Agency, IPM is also developing a vaginal ring to help women protect against both HIV and unintended pregnancy. The multipurpose ring is designed to slowly release the ARV drug dapivirine and the contraceptive hormone levonorgestrel over three months.



Integrated Solutions Make Sense

- Discreet, woman-controlled protection against HIV and unintended pregnancy can help reduce maternal and newborn deaths
- Long-acting options with dual or multipurpose protection may help encourage uptake and use
- Integrated sexual & reproductive health care may offer:
 - ✓ Expanded method mix
 - ✓ Fewer clinic visits and greater efficiency
 - ✓ Reduced stigma associated with seeking HIV care

Two safety studies of IPM's dapivirine-contraceptive ring, led by the Microbicide Trials Network, found the ring to have a favorable safety profile and saw encouraging drug levels for HIV prevention and contraception. IPM has reformulated the ring to increase its firmness due to some participant reports of slippage, and a Phase I trial of the reformulated ring, in collaboration with the Eunice Kennedy Shriver National Institute of Child Health and Human Development, is planned for 2021.

ⁱUNAIDS. "Fact sheet - World AIDS Day 2020". 2020.

ⁱⁱGuttmacher Institute. "Adding It Up: Investing in Sexual and Reproductive Health 2019". 2020.

ⁱⁱⁱCohen SA. Hiding in plain sight: The role of contraception in preventing HIV. *Guttmacher Policy Review* 2008; 11: 2-5.

^{iv}Thomson KA, J Hughes, JM Baeten, G John-Stewart, C Celum, CR Cohen, et al. Increased risk of HIV acquisition among women throughout pregnancy and during the postpartum period: A prospective per-coital-act analysis among women with HIV-infected partners. *J Infect Dis* 2018 Jun 5;218(1):16-25.

^vCalvert C, M Marston, E Slaymaker, AC Crampin, AJ Price, N Klein, et al. Direct maternal deaths attributable to HIV in the era of antiretroviral therapy: evidence from three population-based HIV cohorts with verbal autopsy. *AIDS*. 2020 Jul 15;34(9):1397-1405.

^{vi}Griffin JB, K Ridgeway, E Montgomery, K Torjesen, R Clark, J Peterson, et al. Vaginal ring acceptability and related preferences among women in low- and middle-income countries: A systematic review and narrative synthesis. *PLOS ONE* 2019 Nov 8; 14(11): e0224898

^{vii}Woodsong C and JDS Holt. Acceptability and preferences for vaginal dosage forms intended for prevention of HIV or HIV and pregnancy. *Adv Drug Deliv Rev* 2015; 146-154.

^{viii}Woodsong C, P Musara, A Chandipwisa, E Montgomery, P Alleman, M Chirenje, et al. Interest in multipurpose prevention of HIV and pregnancy: perspectives of women, men, health professionals and community stakeholders in two vaginal gel studies in southern Africa. *BJOG* 2014; 121 (Suppl 5): 45-52.