International Partnership for Microbicides

New Delivery of Microbicides: Lessons from IPM

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Why is Product Choice Important?



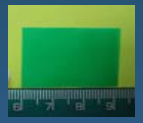


- Different women, different preferences
- More product choices, more options for protection
- Product won’t help if women don’t use it
- Male partners’ opinions and preferences important

Potential IPM Microbicide Formulations

- Once-daily gels (independent of sex)

- Once-monthly rings (sustained release)



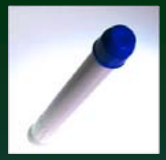
- Once-daily films & tablets (ease/comfort)

- Acceptability studies to assess consumer preferences
- Goal: Longer protection, more convenience, more choices
- Rationale: Acceptability will determine future use of product

Product Acceptability Studies

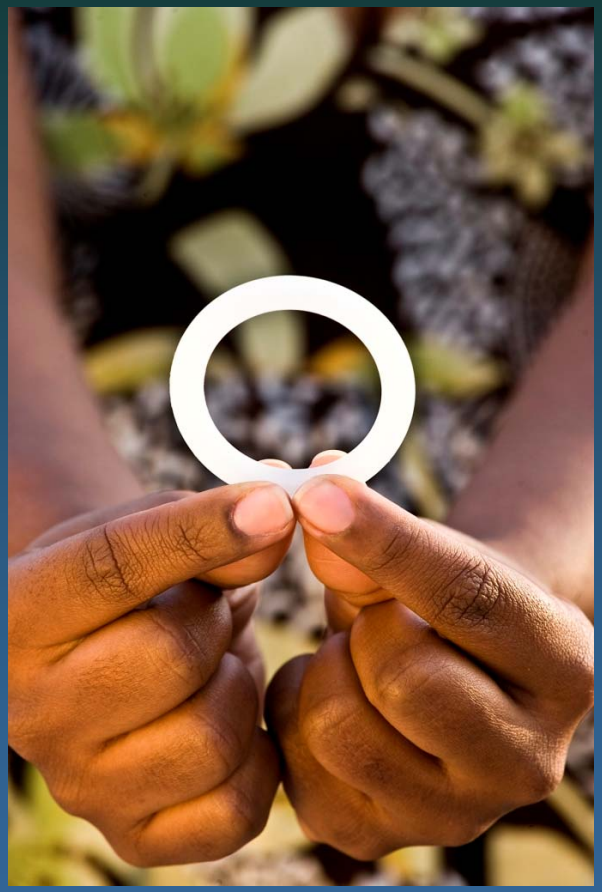
- Placebo vaginal gels (PAS I)
  - Kenya, South Africa, Zambia
  - 543 women, ages 18-30
  - Completed 2006
- Placebo vaginal ring (IPM 011)
  - South Africa, Tanzania, Kenya
  - 220 women, ages 18-35
  - Final results available Q2/Q3 2010
- Placebo vaginal tablet, film and soft-gel capsule (PAS II)
  - Burkina Faso, Zambia, Tanzania
  - 572 women, ages 18-30
  - Final results available Q2/Q3 2010

Gel Acceptability: PAS I



- Market research study, 7 urban settings in Africa
  - 3 placebo gels of different viscosities (KY, HEC, 002p)
  - Randomized product placement, each gel used for 1 week
  - In depth interviews/focus groups with women and partners
- Results supported acceptability of daily gel use
  - Best rated: medium viscosity (women), low viscosity (men)
  - Among women, too thick was better than too thin
  - 95.7% liked ‘clear’ gels, but vast differences for ‘odor’
  - Gels increased, or had no impact, on sexual pleasure
- Likelihood to use
  - Like using a lot: HEC (51%), KY (41%), 002p (40%)
  - Definitely use: HEC (67%), KY (59%), 002p (61%)
  - Potential for protection against HIV increased acceptability

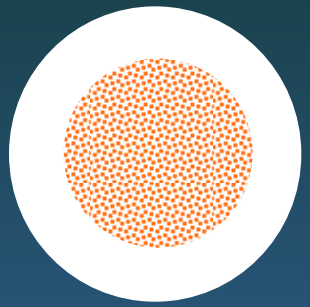
Vaginal Rings: An Attractive Technology



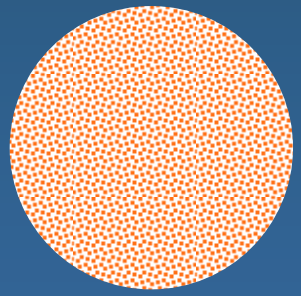
- Long acting
  - 28+ days of drug delivery
  - Could increase adherence
- Easy to use
  - Flexible ring, can be self-inserted
- Suitable for developing world
  - Stable and robust, non-sterile
- Combination potential
  - Can deliver multiple drugs
- Used safely for other purposes
  - Contraceptive & hormonal rings
- Potential cost savings

Reservoir vs. Matrix Type Vaginal Rings

Cross-sectional profiles

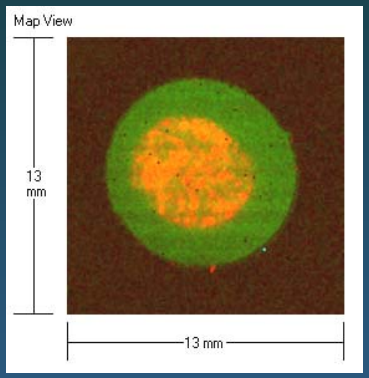


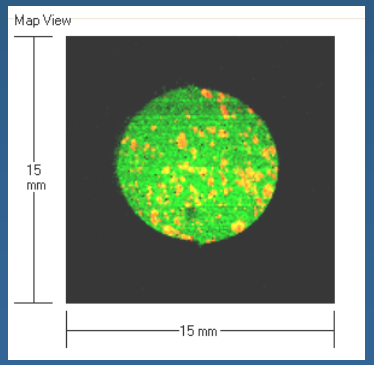
Core-type



Matrix-type

Dapivirine Raman maps





Ring Acceptability: IPM 011

- Clinical trial in final stages, 5 locations in Africa
  - Limited data on ring safety & acceptability in Africa
  - IPM 011: open label, randomized, cross-over design
  - 220 women: use placebo rings for 12 weeks, then go on observational safety for 12 weeks (or vice-versa)
- Acceptability and adherence measurements
  - Assessing product experiences, likes and dislikes, adherence, vaginal practices, HIV prevention practices, willingness to use ring, male partner preferences
  - Questionnaires, focus groups, interviews with women & men
- Interim analysis indicates ring is acceptable & safe

Alternative Polymer Vaginal Rings

- EVA (Ethylene Vinyl Acetate)
  - Potential advantages from large-scale manufacturing perspective
  - EVA rings currently in commercial use (NuvaRing®)
- Polyurethane
  - Potentially more biodegradable than other polymers
  - No polyurethane rings in commercial use
  - Lack of acceptability and tolerability data

Microbicide-Contraceptive Ring

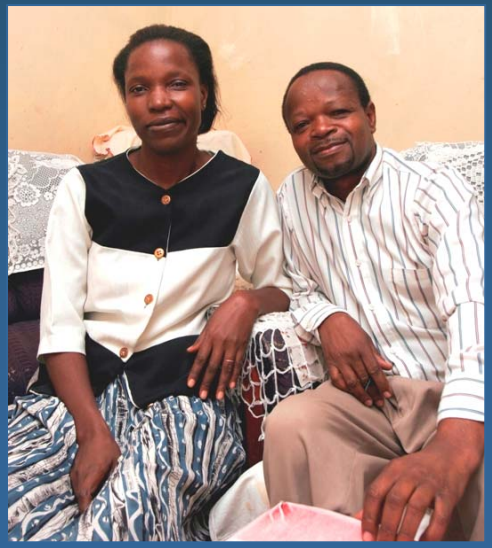
- Meets demand for dual protection against HIV and unwanted pregnancies
- One-year co-development effort with Population Council
- Vaginal ring prototype will contain dapivirine and levonorgestrel and use Population Council's ring technology
- Project initiated November 2009

Acceptability of Films, Tablets, Soft-Gel Capsules: PAS II

- Market research study, in data analysis
  - Comparing 3 novel placebo formulations (once-daily use)
  - 6 diverse settings in West, East, Southern Africa (urban/rural)
  - Randomized product placement, each used for 1 week
  - In depth interviews/focus groups with women and partners
- Objectives
  - Assess acceptability of new methods among women & men
  - Compare products to see which is best liked
  - Gain insight into how acceptability of different products varies across countries and communities
- Interim analysis from one country suggests film is preferred, but women liked all the products

Challenges & Lessons Learned

- Challenges
  - Logistics & daily operations in resource-limited settings
  - Ethics & regulatory approval delays, even for market research
  - Identifying qualified interviewers in rural communities
  - Cultural beliefs and misconceptions around HIV, microbicides
  - Obtaining male participation / women not telling partners



- Lessons learned
  - Understanding product preferences critical for product development and future use
  - Men's preferences influence women's
  - Cultural variations impact product choice
  - A product's ability to protect from HIV enhances its acceptability and likelihood of use
  - Community engagement for clinical trials is key

Way Forward: IPM Product Prioritization

HIGH PRIORITY

- dapivirine ring
- dapivirine gel
- dapivirine–maraviroc ring
- dapivirine–maraviroc gel

MEDIUM PRIORITY

- maraviroc–tenofovir film

LOW PRIORITY

- dapivirine–DS003 vaginal tablet

Access Principles: Planning for Success

Availability

Accessibility

ACCEPTABILITY

Affordability