



# **The Advent of Female-Controlled HIV Prevention Methods and Women's Willingness to Try Vaginal Microbicides**

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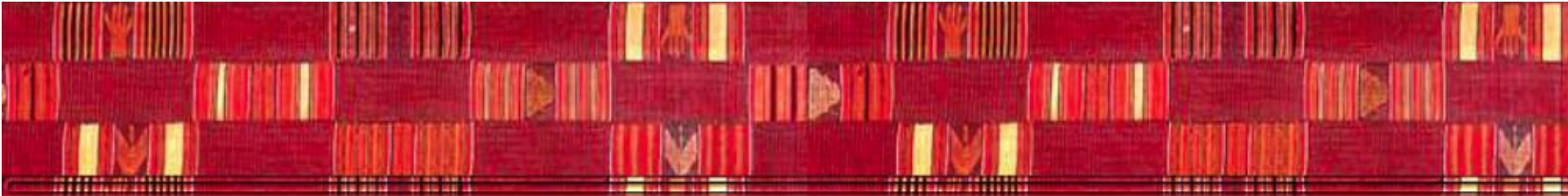
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# The HIV/AIDS Epidemic is Increasing Among Women

- Internationally 55% of new HIV infections in Sub-Saharan Africa, which accounts for 70% of HIV infection in the world, are among women.
- In the U.S. 25% of reported AIDS cases between June 1999 and 2000 were among women, compared to 17% in prior years combined.
- In Connecticut 41% of reported AIDS cases in 2000 were among women, compared to 31% in 1999.



# Factors Affecting HIV Prevention Method Usage

- Existing prevention methods depend on partner cooperation.
- Violence, coercion, economic dependency and addiction make it difficult to negotiate condom use.
- The desire to have children makes barrier methods impractical.



# What is a Microbicide?

- Microbicides are substances currently in development that would substantially reduce transmission of sexually transmitted infections (STIs).
- Microbicides are being tested in many forms, including gel, cream, foam, or suppository. They can be applied vaginally or rectally.
- The development of this technology that allows women the choice to protect themselves has important implications in the prevention of HIV.



# **Microbicide Acceptability to Prevent HIV in High-Risk Women (2000-2003)**


## **Project Aims:**

1. To explore concepts and experiences of HIV and pregnancy prevention (using ethnographic data);
2. To examine the acceptability of different microbicide prevention methods (using quantitative survey data);  
and
3. To conduct a simulation trial of microbicidal use by using an over-the-counter product similar to microbicides (using sex diary self-report data).



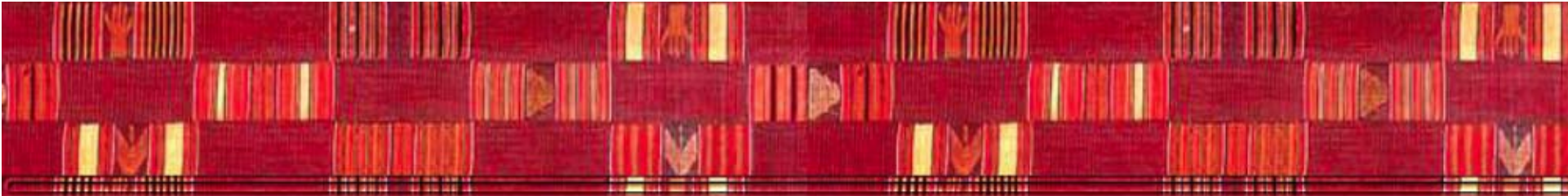
# Eligibility Requirements for Project Participation

- High risk, sexually active women with male partners
- 18 years or older
- Hartford, Connecticut resident



# Microbicide Readiness Survey Methods

- 377 Participants completed a 1½ hour survey; 7 participants who reported not having any current male sexual partners were excluded from analyses
- Questions addressed attitudes, experiences, and behaviors related to HIV prevention and risk
- Data were used to address the relationship between demographic, relational, and behavioral factors and microbicide acceptability



# Description of Survey Participants (N=370)

## Age

- Range 18-66
- Mean 36.6

## Ethnicity

- 42.7% African American (non-Hispanic)
- 37.0% Puerto Rican/Latina
- 14.9% European American (non-Hispanic)
- 5.4% Other/Mixed

## Income

- 87.8% earn less than 1000/month

## Drug Involvement

- 86.7 % of the sample used at least 1 type of drug (range=0-6)
- 24.9% injected drugs
- 51.9% smoked crack
- 16.5% of the sample were IDU *and* crack smokers



# Marital Status and Partner Type

## Marital Status

- 51.4% Single
- 29.7% Married or partnered
- 17.3% Separated or divorced
- 1.4% Widowed

## Partner Types

- 78.9% have primary partner
- 25.4% have casual partner(s)
- 25.4% have paying partner(s)  
(Refers to male partners only)

# Sexually Transmitted Infections

71.6% have ever had an STI (mean = 1.79; range= 0-9)

| STI Type        | Percentages |
|-----------------|-------------|
| Gonorrhea       | 33.5        |
| Chlamydia       | 27.8        |
| Crabs           | 26.8        |
| Hepatitis C     | 25.0        |
| Trichomoniasis  | 20.8        |
| <b>HIV/AIDS</b> | <b>12.0</b> |
| Hepatitis B     | 12.0        |
| Syphilis        | 11.4        |
| Genital Warts   | 7.0         |
| Genital Herpes  | 4.0         |



# Quantitative Hypotheses

1. There will be ethnic differences with regard to the variables of interest
2. After controlling for the effects of age, ethnicity, education, and pregnancy; higher sexual risk-taking behaviors, having more than one (non-primary) partner, the number of STIs, an HIV diagnosis, riskier drug involvement, and those with previous experience with vaginal products similar to those in development of microbicides will be more likely to find microbicultural characteristics acceptable



## Outcome Indicator: Microbicide Acceptability

- Microbicide Acceptability (author-derived) was measured by 20 items related to the relative acceptability of certain characteristics.
- Participants responded to questions, which were neutral, such as, “What if microbicides were a gel?”, negative, “What if a small amount leaked out after sex?”, or positive, “What if the microbicide had a pleasant taste?”
- The Microbicide Acceptability Index had excellent internal reliability ( $\alpha = .90$ ). Participants found the characteristics either very acceptable or very unacceptable overall.
- Average microbicides score was 1.74 overall; 1.64, 1.76, and 2.01 for African Americans, Latinas and European Americans, respectively.



# Quantitative Methods

- Hierarchical regression analyses were used to determine the extent to which the relationship, drug use, and sexual health variables explained a significant portion of the variance after the main effects of age, ethnicity, pregnancy and education were controlled.
- Tests of the moderating role of ethnicity were examined after the main effects were included in the model. Two-way interactions between ethnicity and each of the predictor variables were calculated.

# Correlations between Microbicide Acceptability and Predictor Variables

| Variables                           | Correlations |
|-------------------------------------|--------------|
| Age                                 | .01          |
| Ethnicity                           | .11*         |
| Pregnancy Status                    | .04          |
| Education                           | .10*         |
| IDU                                 | .16**        |
| Crack Smoker                        | .10          |
| Vaginal Product Experience          | .10          |
| Has <i>only</i> a primary partner   | -.13         |
| Percentage of protected sexual acts | -.04         |
| Number of STIs                      | .08          |
| HIV Status                          | -.15**       |



# Results

- After controlling for ethnicity, age, education, and pregnancy status, there was a main effect of HIV status on microbicide acceptability. However, this effect was moderated by an interaction between ethnicity and HIV status. HIV-positive African American women had the *lowest* microbicide acceptability ratings.
- A significant interaction between only having a primary partner and ethnicity on product acceptability was also found; Latinas with only a primary partner reported the *highest* acceptability ratings
- A significant interaction between the percentage of protected sex acts and ethnicity on product acceptability was found; Latinas who reported more protected sex had the *lowest* acceptability ratings



# Simulation Trial Methods

- 67 women participated in the trial; 787 sexual encounters documented
- Replens was used as a simulated microbicide; participants were asked to use Replens and a condom for every sexual encounter
- Participants recorded information, including partner type, place, and experiences using Replens for each sexual encounter



# Trial Participants

## Ethnicity

54.7% African American

23.8% Latina

18.9% European American

## Age

Range: 18-53; mean = 35.74 (sd = 8.73)



# Primary Contraceptive Methods\*

| <u>Method</u>                | <u>Percent</u> |
|------------------------------|----------------|
| Male Condom                  | 55.9           |
| Female Condom                | 10.3           |
| Oral Contraceptives (Pill)   | 2.7            |
| Depo-provera (last 3 months) | 2.7            |

\*Used in Last 30 Days



# Sexual Encounters involving Barrier Method of Protection\*

| <u>Partner Type</u>   | <u>Percent</u> |
|-----------------------|----------------|
| Primary Partners      | 45.1%          |
| Casual Partners       | 67.2%          |
| Paying Partners       | 72.5%          |
| All sexual encounters | 50.5%          |

\*Last 30 days/vaginal and anal sex only



## Ethnicity and Sex Work

- Latina participants were significantly more likely to engage in sex work than either African American or European American women  $F(2, 43) = 7.83$  ( $p < .05$ ).
- Still, they were more likely to report higher levels of protected sex.

# Replens Usage Data

N = 787

|  | <b>Home</b><br>N=579<br>(73.6%)‡ | <b>Hotel/Motel</b><br>N=76<br>(9.7%)‡ | <b>Car</b><br>N=67<br>(8.5%)‡ | <b>Public Area</b><br>N=45<br>(5.7%)‡ | <b>Other</b><br>N=17<br>(2.2%)‡ |
|--|----------------------------------|---------------------------------------|-------------------------------|---------------------------------------|---------------------------------|
| <b>Partner/Boyfriend</b><br>N=548 (69.6%)† | 89.4%                            | 4.4%                                  | 1.6%                          | 3.1%                                  | 1.3%                            |
| <b>Casual Partner</b><br>N=53 (6.7%)†      | 58.5%                            | 20.8%                                 | 5.7%                          | 11.3%                                 | 1.9%                            |
| <b>Paying Partner</b><br>N=186 (23.6%)†    | 31.2%                            | 22.0%                                 | 29.6%                         | 11.8%                                 | 4.8%                            |

†Percentage of partner type for sexual encounters reported

‡Percentage of places in which sexual encounters occurred for each partner type

\*Included library, garage, rooftop



# Product Experiences

- All women who documented their encounters used Replens in at least one of their encounters
- In 84.2% of the encounters, Replens was used
- 67.2% of partners knew participant was using Replens
- In 27.7% of encounters, no condom was used
- 93.2% indicated that Replens did *not* interfere with sex



# Reasons for Failure to Use Replens

(N=101 sexual encounters)

- 23.8% forgot to use it
- 17.8% didn't want to interrupt sex
- 6.9% were too high or drunk to apply it
- Others reported that the product made them feel itchy or too wet



# Implications of Findings on Fight Against HIV

## Promising Findings

- Overall, women found microbicides to be more acceptable than not and indicated a desire to participate in clinical trials
- Despite significant risk factors (poverty, drug use, sex work) a large majority of participants were able to use Replens during sex.

## Concerns

- African Americans provided lower ratings on microbicide acceptability; they are also experiencing higher rates of HIV infection
- Many of the documented sexual encounters did not involve the use of a condom, the most effective means of preventing STI's/HIV during sex.



# Implications of Findings on Fight Against HIV

## In the end...

- There are factors that are putting women at disparate degrees of risk for HIV infection; issues of culture and structural racism need to be addressed
- Microbicides can be useful for women who are not currently protected; however, microbicides must appeal to those individuals and groups at highest risk and least likely to find microbicides acceptable