

The Acceptability of a Vaginal Microbicide Among South African Men

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Context: *With the explosive nature of the South African AIDS epidemic, there is an urgent need for HIV prevention methods controlled by women. Because several microbicide trials are going on in South Africa and elsewhere, there also is an urgent need to determine South African men's perceptions of and preferences for a potential vaginal microbicide.*

Methods: *Two hundred and forty-three men were recruited from three sites in South Africa: sexually transmitted disease (STD) clinics (N=95), the general population (N=98) and universities (N=50). A brief demonstration of a potential vaginal gel microbicide was followed by a private interview, which included questions about men's demographic characteristics, sexual activities, condom use and willingness to support their partner's use of a vaginal product.*

Results: *The mean ages of men from STD clinics, the general population and universities were 30, 28 and 23 years, respectively. Forty-five percent of men from STD clinics, 69% from the general population and 65% of the university students reported a dislike for male condoms. More than 80% of the entire sample wanted their partner to be protected against HIV and other STDs. The majority of the men in the three groups (77–87%) would like their partner to use a microbicide and 66–82% said they would like to be involved in the decision to use a microbicide. Men were more likely to express a preference for microbicides than for condoms. In addition, they were more likely to prefer a vaginal product that prevents HIV and STD transmission and does not act as a contraceptive than one that acts only as a contraceptive. The majority (58–67%) of men reported that excess lubrication was not a desired product characteristic.*

Conclusions: *Vaginal microbicides may be acceptable to South African men. The amount of lubrication provided by the product and noninterference with sexual pleasure may be keys to product acceptability. Preference for an effective noncontraceptive microbicide was greater than for a contraceptive product.*

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As the HIV epidemic enters its third decade, women bear the burden of infection. Globally, as of the end of 1999, the Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated that 15.7 million women were infected with HIV.¹ In Sub-Saharan Africa, where heterosexual HIV transmission is the predominant mode of infection, the numbers of women infected are startling, with women's peak infection rates occur-

ring at earlier ages than those of men. It is further estimated that there are 12 women infected for every 10 men.²

The escalation of HIV infection among women is largely because women's position in society is inferior to men's and they often are unable to make informed choices about their sexual health. In a large number of developing countries, women are unable to negotiate the use of condoms during sexual encounters.³ Although condoms are highly effective for the prevention of HIV transmission, their effectiveness demands consistent and proper use, which requires partner negotiation and participation.

UNAIDS has made an urgent call for the development of female-controlled methods of protection against male-to-female

HIV transmission.⁴ Such methods include vaginal microbicides and female condoms. Although women can initiate female condom use, consistent use of the product requires the involvement and consent of the male partner. Conversely, a woman is in complete control of vaginal microbicide use. Vaginal microbicides are compounds that are formulated as gels, suppositories, foams, tablets, sponges or creams and can prevent infection in a variety of ways. To date, products under development act by killing the pathogen, preventing attachment of the pathogen to the vaginal mucosa or preventing replication of the pathogen once it has entered the host cell.

A key concept in the development of a vaginal microbicide or any new product for human use is the assessment of the product's acceptability. Acceptability is determined not only by product characteristics, but also by the way in which the product is provided to the potential user, by whether the potential user fully understands the product's benefits, by ease of use, by potential harmful effects and by whether it requires dual method use (that is, use of a microbicide in combination with another barrier method).⁵

The acceptability of actual and hypothetical vaginal microbicides among men and women has been established among a wide variety of populations.⁶ Acceptability studies involving the use of vaginal products have been incorporated in microbicide Phase I trials,* thus providing key information on acceptable vol-

*A Phase I trial is an in-depth study in which a small number of volunteers are used to test dosage, effect, duration of effect and side effects of a drug or device. A Phase II trial uses a larger number of volunteers to test the efficacy of the dose selected as the result of the Phase I trial. In a Phase III trial, there are hundreds or more volunteers in several sites to test the safety and effectiveness of the drug or device.

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umes and doses, delivery mechanisms, formulation preferences and aesthetic appeal.⁷ Hypothetical studies have provided further insight into varied cultural and sexual behavior practices around the globe.⁸

In South Africa, vaginal microbicide acceptability studies have been conducted among sex workers.⁹ In one of these studies, women suggested that they needed to inform their steady male partners (a partner who does not pay for sex) of the product they were using.¹⁰ These findings are in keeping with another study suggesting that men's inability to control their female partner's disease prevention method choices may influence women's use of the method.¹¹

Although data on HIV prevalence in the general population in South Africa are limited, prevalence data collected nationally from women attending public antenatal clinics in 2000 showed that 25% of the women were infected with HIV. Provincial HIV prevalence data in 2000 suggested that Kwazulu Natal had the highest prevalence at 36%, followed by Mpumalanga at 30%. The province of Gauteng had a prevalence of 29% and Western Cape had a prevalence of 9%.¹² Additional data from a study conducted in 1999 on the prevalence of HIV among a large South African working population indicate that 23%, 5% and 1% of the working population in Kwazulu Natal, Gauteng and Western Cape, respectively, tested positive for HIV.¹³ The study also found that 14% of black workers, 4% of Indian workers, 2% of white workers and 2% of workers of other ethnic groups were infected with HIV.

The explosive nature of the South African AIDS epidemic and the dire need for HIV prevention methods controlled by women were the impetus for our research. As several microbicide trials are going on in South Africa and elsewhere, it is imperative to determine South African men's perceptions of and preferences for a potential female-controlled HIV prevention method, such as a vaginal microbicide. The specific aims of this article are to assess the acceptability of a vaginal microbicide to men, and the degree to which men might prefer microbicide use to condom use.

Methods

Sample and Questionnaire

We recruited 243 men from three different populations in three South African cities. From June to August 1999, 95 men were recruited from sexually transmitted disease (STD) clinics in Durban (in the province of Kwazulu Natal); 98 men were

recruited from the general population in Cape Town (in the province of Western Cape) and Durban; and 50 male university students were recruited from Pretoria (in the province of Gauteng). We chose the three different settings to ascertain whether sexual preferences varied among different groups of South Africans. Trained field workers approached the men to participate in the study and conducted interviews with them that day. The University of Natal Ethics Board approved the study.

Prior to being interviewed, men received a brief demonstration of a vaginal gel. Because we were participating in a Phase III trial of the vaginal microbicide Col 1492 (Advantage 24), we used that product for demonstration. The product is a white bioadhesive gel packaged in a disposable applicator. Each applicator contained 1.5 ml of the gel. The consistency and amount of the gel likely to be inserted into a woman's vagina were demonstrated by squeezing the gel out of the applicator. Men who wanted to feel the texture of the gel were allowed to do so. Previous experience with sex workers suggested that men who visited them had a preference for dry sex,* hence the importance of demonstrating the volume of the product to be inserted into the vagina.¹⁴ We hypothesized that the volume of the product may affect its acceptability.

The interview took 20 minutes to complete and included questions on men's demographic characteristics, sexual activities, condom use, knowledge of HIV and STDs, willingness to support the female partner's use of vaginal microbicides and perceived acceptance of the product.[†] The men also were asked whether they had casual or steady partners. Casual partners were defined as women who did not have an ongoing relationship with the men. Steady partners were defined as partners with whom the men may have an ongoing stable or monogamous relationship.

The interview questions were translated

Table 1. Percentage distribution of men, by demographic characteristics, according to group, South Africa, 1999

Characteristics	Clinic patients (N=95)	General population (N=98)	University students (N=50)
Age			
<20	7.4	8.2	14.0
20-24	22.1	31.6	60.0
25-19	27.4	25.5	20.0
30-34	15.8	18.4	6.0
35-39	12.6	6.1	0.0
≥40	14.7	10.2	0.0
Education			
≤5 years	19.2	5.2	0.0
6-8 years	24.5	17.7	0.0
9-10 years	37.2	43.7	90.0
Tertiary schooling	19.2	33.3	na
Employment			
Full-time	39.4	36.1	11.8
Part-time	22.3	34.0	9.8
Unemployed	19.2	15.5	7.8
Student	19.2	14.4	70.6
Ethnicity			
Black	91.5	47.9	89.7
Indian	5.3	0.0	7.7
White	3.2	13.3	0.0
Other	0.0	38.8	2.6
Marital/relationship status			
Married, no girlfriend	19.8	14.7	15.2
Married, girlfriend	20.9	8.4	0.0
Single, regular partner	20.9	27.4	17.4
Single, casual partner	34.1	31.6	52.2
Single, no partner	4.4	17.9	15.2
Total	100.0	100.0	100.0

Notes: The three study groups were statistically compared using chi-square tests. All p-values were statistically significant at p=.001. na=not applicable.

ed into the preferred language of the participants. In Durban, both English and Zulu versions were used. In Cape Town, only the English version was used, and in Pretoria, the questionnaire was translated into Sesotho, the local language of preference. All of the questionnaires were back-translated for accuracy prior to administration.

*Researchers in 11 countries in Sub-Saharan Africa have documented traditional practices of inserting drying substances into the vagina. One of the main reasons women cite for these practices is to enhance sexual experience through sensations of vaginal dryness, tightness or warmth. Source: Brown JE and Brown RC, Traditional intravaginal practices and the heterosexual transmission of disease, *Sexually Transmitted Diseases*, 2000, 27(4): 183-187.

†These questions included the following: Would you like your partner to use some kind of protection to prevent herself or himself from getting an infection? Do you think that a woman has the right to protect herself if her partner does not want to use a condom? Would you like your partner to use a vaginal microbicide if such a product was available? Would you like to be informed if your partner chooses to use a microbicide? Would you like to be involved in the decision to use a microbicide? Would you be willing to pay for a microbicide should one become available? Would you like for such a product to lubricate the vagina? Would you use a condom, microbicide or both?

Table 2. Percentage of South African men responding positively to questions about their knowledge of and attitudes toward a vaginal microbicide, by question, according to group

Knowledge/attitude	Clinic patients (N=95)	General population (N=98)	University students (N=50)
Knows HIV researchers are looking for product women can use to prevent HIV and other STDs*	33.3	33.6	62.2
Would like partner to use some kind of protection to prevent infection	83.0	87.5	89.6
Woman has the right to protect herself	88.3	94.7	93.8
Would like partner to use a microbicide if one should become available	77.4	79.3	86.7
Have concerns about a product that would be used in a woman's vagina	52.7	44.7	47.8
Would like to be informed if partner chooses to use a microbicide	79.6	86.3	90.0
Would like to be involved in the decision to use a microbicide	65.6	70.8	82.0
Would pay for such a product*	54.3	68.8	74.5

*Difference between men who responded to the questions is statistically significant at $p < .05$.
 †Note: Responses of the three study groups were statistically compared using chi-square tests.

Statistical Analysis

Descriptive statistics were calculated for each of the three groups. Where percentages were calculated, groups were compared using a chi-square test. Demographic parameters were cross-tabulated with questions relating to the acceptability of the product, and the significance of these associations was assessed using chi-square tests.

Results

Demographic Characteristics

The mean ages of men attending STD clinics, of men in the general population and of university students were 30 (standard deviation, 8.8), 28 (standard deviation, 7.6) and 23 (standard deviation, 3.6) years, respectively. Nineteen percent of men from STD clinics and 5% of men from the general population had completed a primary education only (Table 1, page 165). Nineteen percent of men from STD clinics and 33% of the general population had a university education. Only 39% of clinic patients and 36% of men from the general population were employed full-time. The majority of the men (72%) from the three sites were black, 7% were white, 3% were Indian and 17% were of other ethnic groups (not shown). Marital status and type of partner differed significantly between the three groups ($p = .001$): Twenty percent of

men from STD clinics, 15% from the general population and 15% of students were married with no casual partners. Twenty-one percent of men from STD clinics and 8% of men from the general population were married but also reported having casual sexual partners outside their marriage. Twenty-one percent, 27% and 17% of men from STD clinics, the general population and universities, respectively, were single and had a steady girlfriend, while 34%, 32% and 52% of men, respectively, were single and had a casual partner. Only 4%, 18% and 15% reported being single and in no current relationship.

Knowledge of HIV and HIV Risks

Twenty-eight percent of the men from STD clinics had engaged in anal sex with their female partners, compared with 4% of men from the general population and 11% of students ($p = .001$) (data not shown). With respect to knowledge of the HIV risk associated with anal sex, 41% were aware of the risk—77% of students, but only 41% of men from STD clinics and 54% of men from the general population ($p = .001$).

Results from questions related to HIV knowledge and attitudes revealed that 88% of students and 85% of men from the general population, compared with 50% of men from STD clinics, thought that the HIV epidemic in South Africa was very serious ($p = .001$). Eight percent of men from STD clinics reported that the HIV epidemic in South Africa was not a problem and 22% said it was not of serious concern. By contrast, 14% of men in the general population and 10% of students said it was not a serious problem.

Condom Use

Sixty-two percent of the men (55% of those from STD clinics, 67% of men from the general population and 66% of students) were aware that using a condom could prevent HIV infection ($p = .252$) (data not shown). However, 58% disliked using condoms. Compared with men from STD clinics (45%), men from the general population (69%) and students (65%) were significantly more likely to report a dis-

like for condoms ($p = .003$). Only 7% of men from the general population reported having used a condom the last time they had sex with their wives.* Fifty-three percent and 41% of the men from STD clinics and the general population, respectively, reported using condoms during the last sexual encounter with their steady partner.† There were no statistically significant differences in the proportion of men who reported condom use during the last sexual encounter with their casual partner (48%, 52% and 51% among men from STD clinics, general population and university students, respectively). Reasons given for lack of condom use included “don’t like them” (STD clinic attendees, 23%; general population, 28%; students, 21%) and “loss of trust” from their partner (STD clinic attendees, 40%; general population, 36%; students, 5%). Twenty-eight percent of men from STD clinics, 34% of men from the general population and 68% of students cited condoms as being unnatural and uncomfortable.

With respect to who should take responsibility for condom use, 52% of the men from STD clinics, compared with 41% from the general population and 29% of students, indicated that it was the man’s responsibility to initiate condom use ($p = .001$). Conversely, 54% of the students, compared with 50% of men from the general population and 17% of men from STD clinics, suggested that condom negotiation should be the responsibility of both sexual partners.

Acceptability of Microbicides

Almost two-thirds of students and one-third of men in both STD clinics and the general population were aware that vaginal microbicides are being developed ($p = .002$) (Table 2). More than four-fifths of the men in all groups reported wanting their partner to use some form of protection against STDs, and 88–95% of all men believed that women have a right to protect themselves from infection with HIV and other STDs. The large majority of the men in each group (77–87%) would like their partners to use a vaginal microbicide if one became available. There were no statistically significant differences between the groups with respect to their responses to these three questions.

At least 80% of the men reported that they would like to be informed of their partner’s choice to use a vaginal microbicide. There were no statistically significant differences in the group’s responses to this question. In addition, most of the men indicated that they would like to participate

*Only men in the general population responded to this question.

†Students did not respond to this question.

in the decision to use a microbicide and were willing to pay for such a product. Significantly more university students (75%) reported that they would be willing to pay for such a product than were men in the STD group (54%) or the general population (69%) ($p=.019$).

Preferences

In general, men in all three groups appeared to prefer a vaginal microbicide to a condom (82% vs. 18%, $p=.001$). There were no significant differences between the groups with respect to protection preference in light of the availability of a vaginal microbicide ($p=.062$) (Table 3). Nearly all (95%) of the men from STD clinics and the majority of men in the general population (61%) and of students (84%) reported that they would like a product that prevents STD infection only ($p=.001$), rather than one that only acts as a contraceptive.

Regarding the timing of their partner's insertion of a microbicide—just before intercourse, several hours before intercourse, after washing or anytime—significantly more men from STD clinics (30%) said they would prefer their partner to use the product just before having sex than did men from the general population (16%) or students (22%) ($p=.001$) (Table 3). Conversely, 55% of students reported that they did not have a preference for when their partner used the product, compared with 19% and 36% of men from STD clinics and the general population, respectively. Men in the general population (56%) were significantly more likely than men from either STD clinics (44%) or university students (34%) to report preferring that foreplay not be interrupted ($p=.030$).

Approximately two-thirds of men said that they would not like a vaginal product to increase lubrication in their partner's vagina. There were no statistically significant differences in the three groups' responses to this question.

Men's Characteristics and Acceptability

According to our bivariate analysis, young men were significantly more likely than men older than 35 ($p=.001$), single men were more likely than married men ($p=.001$) and students and unemployed men were more likely than employed men ($p=.02$) to say that they would like their sexual partner to protect herself from STDs (Table 4, page 168). Although most men said that women have a right to protect themselves if negotiating condom use is not possible, men with a higher education were significantly more likely to say this than those with less education ($p=.033$).

Compared with men older than 30, men employed full-time and married men, respectively, significantly more young men ($p=.001$), students, unemployed men and men employed part-time ($p=.008$), and single men ($p=.001$) said they would like their partner to use a microbicide if one became available. The majority of men said that they would like their partner to inform them if she chooses to use a microbicide. This response was significantly more likely among men with higher education than those with less education ($p=.041$).

The majority of men said they would like to be involved in the decision to use a microbicide. Significantly more young men than men who were older than 35 ($p=.009$) and significantly more single men with a regular partner than men in other types of relationships ($p=.020$) were willing to pay for a microbicide if one became available. Most of the men responded that they would not like it if the microbicide lubricated the vagina extensively. Men's responses on any of these issues did not vary significantly according to ethnic group.

Regarding their preference for a vaginal product, condoms or use of both methods, men said they would prefer a vaginal microbicide to condoms (Table 5, page 169). Significantly more men in their early 30s than those in younger or older age groups ($p=.007$) and significantly more married or single men with casual partners ($p=.001$) than men in other relationships said they preferred a microbicide to condoms. While some black men reported a preference for condoms only, no white or Indian men said they preferred condom use to microbicide use. More than two-thirds of white, black and Indian men reported a preference for a vaginal product to either condoms only or dual method use.

Discussion

Our descriptive study of a cross-section of South African men provides substantial insight into their perceptions and whether they are likely to accept female-controlled

Table 3. Percentage distribution of South African men, by their preferences for a vaginal microbicide, according to group

Preference	Clinic patients (N=95)	General population (N=98)	University students (N=50)
Would prefer which product if a microbicide should become available			
Condom	21.6	6.0	13.0
Vaginal product	54.5	68.7	60.9
Both	23.9	25.3	26.0
Would like a vaginal product that becomes available to:**			
Prevent STD only	95.0	61.2	84.0
Prevent pregnancy only	5.4	39.4	8.2
Would like partner to use a product:**			
Just before sex	30.4	15.6	22.4
Hours before sex	29.3	23.3	16.3
After daily wash	21.7	25.6	6.1
Does not matter	18.5	35.6	55.1
Would mind interruption during foreplay to apply product*			
Yes	43.5	56.4	34.0
No	56.1	43.7	66.0
Would like the product to lubricate the vagina			
Yes	37.0	33.0	42.1
No	63.0	67.0	57.9

*Difference between men who responded to the question is statistically significant at $p<.05$.
 **Difference between men who responded to the question is statistically significant at $p<.001$.
 Notes: Percentages do not always add to 100 because of rounding errors, because some people responded to more than one question or because some people did not respond at all. Responses of the three groups were statistically compared using chi-square tests.

HIV and STD prophylactics such as vaginal microbicides. Some of the limitations of the study are that acceptability is assessed on hypothetical use of a hypothetical product and that actual acceptability after men use such a product may differ. Further, we did not assess men's willingness to participate in clinical trials that may lead to the availability of an effective product or ask questions about men's concerns regarding product safety.

Given the extent of the HIV epidemic in South Africa, it is encouraging to note that a large proportion of men from all groups were aware of the heterosexual risk of HIV transmission. Despite this knowledge, a small but notable proportion of men recruited from STD clinics (29%) reported that the HIV epidemic in South Africa was not of serious concern. These findings are disturbing, as men attending STD clinics are those most likely to engage in unsafe sex. Furthermore, only two-thirds of men were aware that condoms could be used to prevent HIV infection, and less than half of the men liked using condoms. Our findings on condom use are consistent with studies conducted on hypothetical acceptability of products in Uganda and Zimbabwe.¹⁵ These studies found that although male condoms were available, men said their use decreased sexual pleasure and implied distrust of their partner.

Table 4. Percentage of South African men who responded positively to selected questions on attitudes toward microbicide use, by demographic characteristics

Characteristic	N*	Would like partner to use protection	Woman has right to protect herself	Would like partner to use microbicide	Would like to be informed of microbicide use	Would like to be involved in decision	Willing to pay for microbicide	Would like microbicide to lubricate vagina
Age								
<20	22	95.5	90.5	80.9	85.7	66.7	66.7	50.0
20–24	80	96.3	96.2	89.9	88.9	76.5	73.8	28.2
25–29	60	90.0	91.7	87.5	80.3	73.3	65.6	35.6
30–34	34	82.4	94.4	73.5	91.7	72.2	69.4	40.0
35–39	18	50.0	83.3	41.2	82.4	61.1	44.4	37.5
≥40	23	65.2	80.9	63.6	66.7	54.6	34.8	40.9
p-value		.001	.186	.001	.129	.377	.009	.537
Education								
≤5 years	23	82.6	76.2	72.7	66.7	66.7	47.8	52.2
6–8 years	39	79.5	94.9	76.9	77.5	62.5	57.5	33.3
9–10 years	81	90.1	92.7	83.3	88.9	73.2	67.1	30.4
Tertiary	92	86.9	94.6	80.9	87.2	74.5	69.2	38.3
p-value		.416	.033	.671	.041	.506	.356	.262
Employment								
Full-time	75	76.0	92.1	66.2	81.3	70.1	63.4	37.1
Part-time	57	87.7	91.1	85.2	80.7	73.2	63.2	30.9
Unemployed	37	91.9	88.9	86.1	91.9	78.4	64.9	43.2
Student	67	92.5	93.9	86.6	86.6	67.2	67.2	35.0
p-value		.020	.835	.008	.402	.655	.964	.676
Ethnic group								
Black	164	85.4	91.4	84.1	85.9	71.3	63.3	30.6
Indian	8	87.5	87.5	62.5	87.5	100	62.5	42.9
White	16	75.0	93.8	71.4	80.0	50.0	81.3	61.5
Other	38	92.1	94.6	72.2	81.6	68.4	57.9	45.9
p-value		.420	.874	.153	.850	.082	.799	.059
Marital status								
Married, no girlfriend	39	48.6	89.2	38.2	88.9	72.9	47.4	34.3
Married, girlfriend	27	88.9	88.0	76.9	85.2	81.5	48.2	50.0
Single, regular partner	53	94.2	98.1	83.7	75.5	69.2	75.5	36.0
Single, casual partner	85	91.8	88.9	91.6	90.5	67.9	69.5	32.5
Single, no partner	28	92.9	92.9	96.2	77.8	71.4	60.7	47.6
p-value		.001	.353	.001	.131	.736	.020	.444

*Because not all men responded to all questions, Ns vary and may not add to 243. Note: A p-value of $p < .05$ is regarded as statistically significant.

Noninterference with sexual pleasure appears to be the key to the success of an HIV prevention technique.

Another of our findings that is of serious concern is that heterosexual anal sex practice appears to be prevalent among men. More than a quarter of the men from STD clinics engaged in anal sex, but only two in five of them were aware of the high risk associated with anal sex. In South Africa, there are no prevention messages directed at the risk of anal sex, and urgent measures need to be taken by HIV prevention organizations to recognize the high prevalence of anal sex practice. There is an immediate need for HIV prevention messages that include anal sex as a risk factor for HIV. Furthermore, the high prevalence of anal sex has implications for the development of microbicides. Our findings indicate a pressing need to develop microbicides that can be used for both vaginal and rectal application.

When compared with other men, more young men with a tertiary education reported that the responsibility of condom negotiations should rest with both the

male and female sexual partners, highlighting the evolving social norms and value systems among young people in South Africa.

Our findings suggest that should microbicides become available, men would be willing to use them as their primary method of protection from HIV and other STDs. Men also recognized a woman's right to protect herself from STDs. These findings are heartening, as ultimately acceptability of a microbicide will depend on both partners. However, similar to studies conducted in other countries, including Uganda and Zimbabwe,¹⁶ our findings suggest that men may not be completely happy with women's autonomy in choosing a microbicide. We found that as a whole, men indicated a need to be involved in the decision to use a microbicide. These ambiguities reflect some of the entrenched cultural attitudes prevalent in many developing countries. On the other hand, these findings also are indicative of a society in the midst of great change, and one in which social norms, including family structures and the roles of

men and women, are evolving. In contrast to our findings, men in the West do not have difficulties with women making their own decisions regarding microbicide use.¹⁷ These differences underscore the continued functioning of a patriarchal society in South Africa.

Several potential microbicides currently are being investigated for safety and effectiveness in human trials.¹⁸ Product characteristics, such as contraceptive or noncontraceptive properties, lubrication, timing of insertion of a microbicide in the vagina, mode of delivery, product formulation (for example, gel or suppository) and whether use requires interference of sexual foreplay, will play a pivotal role in microbicide acceptability among potential users.

Consistent with previous research, men in our study reported greater need for a noncontraceptive microbicide than for a contraceptive vaginal product; this is to be expected, as fertility is highly regarded in many African countries.¹⁹ Manufacturers of microbicides must be cognizant of the need for both contraceptive

and noncontraceptive microbicides in various settings worldwide.

The amount of lubrication provided by the product will play an important role in its acceptance in South Africa and other countries where the practice of dry sex is prevalent. A randomized, controlled, double-blind acceptability study of Advantage 24, conducted among 20 sex workers in the Kwazulu Natal region of South Africa, found that the product was acceptable to women and did not compromise the traditional practice of dry sex. Preference for dry sex was high; women inserted herbs and patent medication to create a dry and tight vagina for their clients.²⁰ The preference for dry sex does not appear to be restricted to clients of sex workers, however. Our findings suggest that South African men in general may prefer little lubrication, indicating that the delivery volume of the product may be very important. Similar findings regarding a dislike for leaking and messiness of the product have been reported in Zimbabwe.²¹

Table 5. Percentage distribution of South African men, by response to question regarding their preference for condoms, a hypothetical microbicide or both, according to demographic characteristics

Characteristic	N	Condom	Microbicide	Both	Total
Age					
<20	22	28.6	57.1	14.3	100.0
20–24	80	13.9	50.6	35.4	100.0
25–29	60	7.1	67.9	25.0	100.0
30–34	34	6.1	87.9	6.1	100.0
35–39	18	23.1	53.8	23.1	100.0
≥40	23	25.0	50.0	25.0	100.0
p-value		.007			
Education					
≤5 years	23	21.1	63.2	15.8	100.0
6–8 years	39	11.4	65.7	22.9	100.0
9–10 years	81	15.6	66.2	18.2	100.0
Tertiary	92	10.5	54.7	34.9	100.0
p-value		.222			
Employment					
Full-time	75	10.3	66.2	23.5	100.0
Part-time	57	6.1	67.4	26.5	100.0
Unemployed	37	17.1	60.0	22.9	100.0
Student	67	20.0	52.3	27.7	100.0
p-value		.351			
Ethnic group					
Black	164	15.4	63.5	21.2	100.0
Indian	8	0	66.7	33.3	100.0
White	16	0	90.9	9.1	100.0
Other	38	11.8	47.1	41.2	100.0
p-value		.076			
Marital status					
Married, no girlfriend	39	14.8	66.7	18.5	100.0
Married, girlfriend	27	8.7	73.9	17.4	100.0
Single, regular partner	53	23.1	53.8	23.1	100.0
Single, casual partner	85	10.0	71.3	18.8	100.0
Single, no partner	28	4.0	32.0	64.0	100.0
p-value		.001			

Note: A p-value of p<.05 is regarded as statistically significant. The question read: "If a microbicide should become available, which product would you prefer?"

Significantly more men attending STD clinics preferred their partners to use the product prior to initiation of sex than did other men. The plausible explanation for this may be related to the fact that 32% of men in this group had extramarital sex and would like the casual partner to use the product in his presence prior to engaging in a sexual act. Conversely, men in the other groups had no specific preferences with relation to when the product should be applied.

Our findings suggest that young men with higher education may be a potential initial target population for microbicide introduction. They also suggest that a greater emphasis on education and advocacy of microbicide use among older men, who may be entrenched in cultural norms prevalent in the society and may also have difficulty in accepting new concepts.

Unfortunately, because of the limitation of the sampling procedure, we were not able to identify any significant differences between various ethnic groups. However, the differences in the response to women's autonomy are highlighted in the three ethnic groups. Compared with Indian and black men, white men were less likely to feel the need to be involved in a woman's decision to use a microbicide. These findings, like those of other research, highlight the differences in cultural norms within societies.²²

The urgent need for vaginal microbicides is evident from the responses received from this cross-section of South African men. Condoms, although an effective barrier to HIV and other STDs, are not acceptable to many men because men perceive them as interfering with sexual pleasure. clandestine use of the product may not be possible in some African settings, where men need to be involved in the decision-making process. It may be useful to involve men in clinical trials currently underway to test potential microbicides, not

only to ascertain safety of the product on the male genitalia, but also to determine both short-term and long-term acceptability of the product. This is most critical in dose escalation studies, as researchers try to identify amounts of the product that provide the necessary protection with minimal disruption of the sexual act. Efficacy of the product will depend on both consistent and correct use, a key component of which is acceptability of the product among the potential users.

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Resumen

Contexto: En vista del carácter explosivo de la epidemia del SIDA en Sudáfrica, hay una necesidad ingente de adoptar métodos de prevención del VIH que sean controlados por la mujer. Teniendo en cuenta que en Sudáfrica y en otros lugares se están realizando varias pruebas de microbicidas, también hay una ingente necesidad de conocer la percepción del hombre de Sudáfrica y sus preferencias respecto al uso potencial de un microbicida vaginal.

Métodos: Se reclutaron a 243 hombres de tres lugares de Sudáfrica: clínicas de enfermedades transmitidas sexualmente (ETS, N=95); la población general (N=98) y las universidades (N=50). Luego de realizarse una breve demostración de un microbicida potencial (un gel vaginal), se llevó a cabo una entrevista privada, la cual incluyó preguntas sobre las características demográficas de los hombres, sus actividades sexuales, su uso del condón y su disposición a apoyar a su pareja para que use

un producto vaginal.

Resultados: Los promedios de edad de los hombres de las clínicas ETS, los de la población general y los de las universidades fueron de 30, 28 y 23 años, respectivamente. El 45% de los pacientes de las clínicas ETS, el 69% de la población general y el 65% de los estudiantes universitarios indicaron que no les gustaba usar un condón. Más del 80% del total de la muestra deseaba que su pareja se protegiera contra el VIH y otras ETS. La mayoría de los hombres de los tres grupos (77–87%) desearían que su pareja usara un microbicida y el 66–82% indicó que preferiría participar en la decisión de adoptar el uso de un microbicida. Los hombres se mostraron más proclives a expresar una preferencia por el uso de microbicidas que por el uso de los condones. Además, se presentaron más proclives a preferir un producto vaginal que protege contra el VIH y las ETS y que no actúa como un anticonceptivo, que otro producto vaginal que solamente sirve como anticonceptivo. La mayoría (58–67%) de los hombres indicaron que el exceso de lubricación no es una característica atractiva de este producto.

Conclusiones: Los microbicidas vaginales pueden ser aceptables para el hombre de Sudáfrica. La cantidad de lubricación y la no interferencia de este producto con respecto al goce sexual pueden ser factores clave para que este producto sea aceptado. La preferencia por un microbicida eficaz no anticonceptivo fue mayor que la aceptación de este producto únicamente para fines anticonceptivos.

Résumé

Contexte: La nature explosive de l'épidémie du sida en Afrique du Sud présente un besoin urgent de méthodes de prévention du VIH contrôlées par les femmes. Plusieurs essais de microbicides sont en cours en Afrique du Sud et ailleurs. Il existe dès lors un besoin tout aussi urgent de déterminer les perceptions et les préférences des Sud-Africains à l'égard d'un

microbicide vaginal potentiel.

Méthodes: Deux cent quarante-trois hommes ont été recrutés en trois sites d'Afrique du Sud: cliniques de traitement des maladies sexuellement transmissibles (MST) (N=95), population générale (N=98) et universités (N=50). Une brève démonstration d'un gel vaginal microbicide à l'étude a été effectuée, suivie d'une interview privée sur les caractéristiques démographiques des hommes, leurs pratiques sexuelles, leur usage du préservatif et leur disposition à accepter l'usage d'un produit vaginal par leur partenaire.

Résultats: L'âge moyen des hommes recrutés dans les cliniques MST, la population générale et les universités était de 30, 28 et 23 ans, respectivement. Quarante-cinq pour cent des patients de clinique MST, 69% des membres de la population générale et 65% des étudiants universitaires ont déclaré une certaine aversion à l'égard du préservatif. Plus de 80% de l'ensemble de l'échantillon désiraient que leur partenaire soit protégée contre le VIH et les autres MST. La majorité, dans les trois groupes (77% à 87%) aimerait que leur partenaire utilise un microbicide et 66% à 82% ont déclaré qu'ils aimeraient participer à la décision d'en utiliser un. Les hommes se sont montrés plus susceptibles d'exprimer une préférence pour les microbicides que pour le préservatif. Ils étaient du reste plus susceptibles de préférer un produit vaginal anti-VIH et MST sans contraceptif qu'un simple contraceptif vaginal. La majorité (58% à 67%) a indiqué qu'une lubrification excessive ne serait pas désirable.

Conclusions: Les microbicides vaginaux semblent potentiellement acceptables aux hommes d'Afrique du Sud. La quantité de lubrification et la non-interférence avec le plaisir sexuel pourraient être les facteurs clés de leur acceptabilité. La préférence exprimée à l'égard d'un microbicide non contraceptif efficace est supérieure à celle exprimée pour un produit contraceptif.