Frequent Use of Lubricants for Anal Sex Among Men Who Have Sex With Men: The HIV Prevention Potential of a Microbicidal Gel

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ABSTRACT

Objectives. This study assessed frequency of rectal lubricant use, opinions about rectal microbicidal gels, and willingness to participate in acceptability trials of rectal microbicides among Latino men who have sex with men (MSM).

Methods. Latino MSM (N = 307) living in New York City were surveyed from October 1995 through November 1996. Eleven Latino MSM participated in a focus group.

Results. Among those having anal sex during the prior year, 93% used lubricants (59% always and 74% in at least 80% of sexual encounters) regardless of condom use. Of the 29 men who practiced anal sex but did not use condoms, 90% used lubricants with similar frequency. Of those using lubricants, 94% used at least 1 teaspoon per occasion. A transparent product, free of smell and taste, was favored. Of the MSM in the sample, 92% said that they would use a lubricant with an anti-HIV microbicidal agent, and 87% expressed interest in participating in an acceptability trial. Product and dispenser preferences also were discussed.

Conclusions. A rectal lubricant with microbicidal properties appears acceptable and desirable to Latino men who have anal sex with other men. (*Am J Public Health.* 2000;90:1117–1121)

Despite almost 2 decades of heavy promotion of condoms to reduce the sexual transmission of HIV, consistent condom use remains an elusive goal in most populations. Reasons for the lack of condom use include physical discomfort, decreased sexual pleasure, and power imbalances that result in the inability of the receptive partner to negotiate condom use.[1] Microbicidal agents incorporated into gels, creams, foams, and suppositories that could be applied to the genital and rectal mucosa before intercourse have been proposed as an alternative and more acceptable prevention tool. As of July 1999, 60 products were in various phases of development, 29 of them undergoing human trials.[2]

The acceptability of microbicidal agents for vaginal use has been explored nationally and internationally.[2–8] Unfortunately, their acceptability for rectal use has been much less studied. Gross et al.[9] assessed 3093 homosexual men, mostly European Americans, who had had anal intercourse in the prior 6 months and found that more than three fourths of the men used lubricants more than 80% of the time. Among them, 41% actively sought products containing nonoxynol-9, a detergent that kills HIV in vitro; two thirds of the respondents expressed interest in participating in clinical trials of rectal microbicides. In a separate report,[10] this team communicated that low-dose nonoxynol-9 gel was not associated with macroscopic rectal or penile epithelial disruption or inflammation.

Marks et al.[11] studied 385 men who have sex with men (MSM) in West Hollywood, Calif. They found that although 37% of the men who always used a condom during anal sex would be likely to switch to a microbicidal gel if one became available, 85% would want the gel to offer protection comparable to that of condoms before they would consider using it alone. The authors concluded that an effective rectal microbicide may have a sizable public health benefit.

Finally, Taylor[12] interviewed professional sexologists and sexually active women and men. He concluded that formulas that are safe, effective, and appealing for vaginal sex may be harmful, useless, and obnoxious in the rectum; yet he warned that "when a product is eventually approved for vaginal use, it will be adopted by many for anal sex . . . regardless of instructions or label warnings."

We assessed the use of lubricants for anal sex and the acceptability of a hypothetical microbicide among Latino MSM, a population at high risk for sexual transmission of HIV. Compared with non-Latino Whites, African Americans, and men from other minority groups, Latino MSM have the highest rates of unprotected anal intercourse.[13–16] In New York City, where we conducted the study, serosurveys showed that between 1990 and 1996, Latinos seeking treatment at sexually transmitted disease clinics had a higher percentage of seropositivity (9.3%) than did European Americans (8.1%) or African Americans (8.3%).[17] Prior studies conducted with Latino MSM in New York City[18] showed that approximately half of them do not use condoms consistently for anal sex, mainly because of dislike of condoms.

Methods

We present data from a structured survey and a focus group.

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Survey

A community sample of Latino MSM participating in a separate cross-sectional study was asked questions on rectal and vaginal lubricant use. All participants (N = 307) answered questions that were part of the original survey. A subset of participants (n = 273; 89%) answered additional questions on lubricant use. By eligibility criteria, all men were 18 years or older; had had sex with a man or men at least 10 times in their lifetimes and at least once in the prior year; and were Colombian, Dominican, Mexican, or Puerto Rican. (See Carballo-Diéguez et al.[19] for a full description of the methods of the parent study.) Men were recruited from both gay and non-gay identified locations in New York City from October 1995 through November 1996.

Bilingual and bicultural interviewers administered a 3-hour assessment that included questions on demographics, HIV status, sexual behavior, and lubricant use. In the original survey, we used the Sexual Practices Assessment Schedule [LMSM Version (*SPAS-MSM*)] (A.C.-D. et al., unpublished data, 1995; available from the first author), which explores a number of occasions of different sexual practices (insertive/receptive; protected/unprotected) with 3 different types of male and female partners (lover/one-night stand/other) over the year prior to the interview. (*Lover* is defined as a person with whom the respondent is involved in a relationship of mutual commitment and with whom he has sex; *one-night stand* is someone with whom the respondent had sex only once; *other* is any other partner.) The reliability of the Sexual Practices Assessment Schedule was established through test–retest of participants and comparison of main partners' responses.[20] For each partner type, those respondents who acknowledged engaging in insertive anal sex were asked, "Did you put your penis in his [her] rectum using a lubricant other than saliva or the one that comes with the condom?" Similar questions were posed for receptive anal sex and insertive vaginal sex.

The additional section on lubricant use included the following types of questions: (1) structured/dichotomous (e.g., "Have you ever used any lubricant for anal sex—such as Vaseline, K-Y, butter, or anything other than saliva or the lubricant that comes on the condoms?" yes/no); (2) open-ended (e.g., "Which lubricants have you ever used?" with responses checked by the interviewer on a list of 17 products plus 1 "other" category); on the issue of nonoxynol-9, after asking the respondents whether they had ever heard of it (yes/no), we asked those who responded affirmatively, "What have you heard?" and coded the responses); and (3) multiple choice (e.g., after showing the respondent photographs of 17 lubricants available in our region, we asked, "Do you recognize any of these?"; we also asked, "Did [name of product used during past 12 months] give you: 1. burning, 2. itching, 3. bleeding, 4. allergic reactions, 5. irritation, 6. other discomfort?"). Participants were paid $30.

The survey data summarized below are primarily descriptive. Responses to the questions asked separately about the 17 different lubricant brands (plus 1 "other" category) were rank ordered to determine each product's relative popularity and familiarity. The proportion of anal sex occasions involving lubricants was calculated for each participant from his answers to the Sexual Practices Assessment Schedule. For men who were having sex with both male and female partners, we used a paired *t* test to compare the relative rates of lubricant use.

Focus Group

To explore opinions about a hypothetical rectal microbicidal gel, we ran a focus group with 11 Latino MSM randomly recruited from a list of participants in a study different from the one described above. The men came from the same socioeconomic strata targeted by the survey. The discussion lasted 90 minutes, and participants were paid $25 for their time. We opened the meeting with a description of rectal and vaginal anatomy and its implications for microbicide use, and we then discussed the differences between lubricants and microbicides, available delivery options, and still unanswered questions about the dose and volume of microbicidal gel required for infection protection during anal intercourse. Subsequently, we asked open-ended questions following a preestablished discussion guideline. The discussion was audiotaped. For its analysis, 2 coders listened to the tape recording separately, identified the main themes, compared their lists of themes to develop a single list, and then selected the paragraphs that best illustrated each topic.

Both the survey and the focus group had been approved by the New York State Psychiatric Institute Institutional Review Board.

TABLE 1—Sexual Behavior of Latino Men Who Have Sex With Men, During the Year Before the Interview (N = 307): New York City, 1995–1996

Behavior	n	%
Had sex with men	307	100
Had anal sex	284	93
Used condoms inconsistently or not at all during anal sex	132	43
Ejaculated or received ejaculate in rectum during unprotected anal sex	79	26
Had sex with women	54	18
Had vaginal sex	53	17
Used condoms inconsistently or not at all during vaginal sex	31	10
Had anal sex	16	5
Used condoms inconsistently or not at all during anal sex	9	3

Results

Survey Results

The sample consisted of 307 Latino MSM (80 Colombians, 80 Dominicans, 80 Puerto Ricans, and 67 Mexicans) residing in New York City at the time of the assessment. Their mean age was 31 years (range 18–55); mean education was 14 years of school (range 3–20)—that is, 2 years of college; and median yearly income was $14 000 (range $0–$95 000). Fifty-two percent considered themselves Catholics. Eighty percent self-identified as gay, 8.5% as bisexual, 7.5% as straight, and 4% as transgender. Ninety-one participants were HIV positive, and 3 untested men reported that they assumed that they were HIV positive.

Sexual risk behavior. During the year before the interview, the participants had a median of 5 partners (range 1–2161; upper limit due to commercial sex work) and a median of 49 sexual encounters (range 1–2448). Table 1 shows that anal sex between men was a very common practice in this population, that almost half of those individuals engaging in anal sex did not use condoms consistently, and that 60% of these men reported intrarectal ejaculation at least once. In summary, sexual risk behavior was high. Comparing seroconcordant couples (both men with the same serostatus, n = 94) and serodiscordant couples (n = 27), we observed that two fifths of the couples in each group had had unprotected anal sex during the previous year.

Unprotected vaginal sex was reported by the majority of the behaviorally bisexual men (Table 1). Among those reporting anal

TABLE 2—Lubricant Use for Anal Sex Among Latino Men Who Have Sex With Men: New York City, 1995–1996

Behavior	n	%
Lifetime, among total sample (N = 307)		
At least once	288	94
Prior year, among those who engaged in anal sex with a male partner (n = 284)		
At least once	263	93
At least 80% of anal sex occasions	209	74
100% of anal sex occasions	167	59
Prior year, among those who engaged in anal sex with a male partner and never used condoms (n = 29)		
At least once	26	90
At least 80% of anal sex occasions	21	72
100% of anal sex occasions	16	55

sex with women, the majority did not use condoms consistently.

Lubricant use. Table 2 shows that the vast majority of the men had used lubricants in their lifetimes and during the prior year. Lubricant use was equally high among those who did not use condoms for anal sex (n = 29).

The main reasons for the lack of lubricant use were "unavailability" or "used saliva or lubricated condoms" and, less frequently, "wished to experiment with unlubricated sex," "used other products" (e.g., soap, toothpaste) not considered as lubricants by the respondents, judged that the "small size of the penis or the relaxation of the anus made lubricant use unnecessary," or generated sufficient "natural lubrication" (preseminal fluid). No one mentioned being unable to afford lubricants as a reason for not using them.

Table 3 shows where the lubricant was obtained, where it was applied, what approximate volume was used, and what respondents knew about the qualities associated with nonoxynol-9. Most of the associations with nonoxynol-9 were positive. Only 20 individuals (7%) reported ever stopping its use because of an adverse reaction.

Most participants thought that lubricant flavor, color, or smell did not matter or else preferred a lubricant that had no flavor, color, or smell (Table 4).

Of 273 MSM asked about dispenser preference, 47% favored a toothpastelike tube, 22% a pump, 17% a container with pop-up cover, and 3% a can or jar.

Johnson and Johnson's K-Y, a transparent, smell- and taste-free water-based lubricant, was the product most men had ever used and also the one most frequently recognized in a photograph of several lubricants. Wet, a lubricant similar to K-Y, was ranked second as ever used. K-Y and Wet were the top-ranking products used in the prior year and also those identified as "favorite" by 143 and 60 men, respectively. Other lubricants in decreasing order of preference were Aqua Lube (32), Forplay (29), Vaseline (21), baby oil (15), and Astroglide (6).

If scientists developed a lubricant that, applied on the penis or in the rectum, could protect against HIV transmission (regardless of condom use), 92% of the men in the sample said that they would use it. These men reported that they would feel more freedom, pleasure, and security, as well as less anxiety, while having anal sex. Provided there was no risk of HIV transmission, 87% of the respondents would be willing to participate in a study of such a product.

During the year before the interview, 54 participants had had sex with both men and women. Lubricant use was much less frequent for vaginal sex (23% of the men always used it, whereas 64% never did) than for anal sex (60% always, 33% never) with women. The 14 men who had had anal sex with both men and women had used lubricants on an equal number of occasions (69%) with each.

Comparing those individuals who used a lubricant frequently (80% or more of their anal sex occasions) with those who used it less frequently, we found that Mexicans were less likely to be frequent users than the other 3 ethnic groups ($P = .006$). We found no frequency use differences related to income, age, education, or sexual self-identity.

Focus Group Results

Eleven men (including 1 preoperative male-to-female transsexual) of Latin American descent participated in a focus group centered on lubricants and microbicides. Six had been born in the United States, 2 in Colombia, 2 in the Dominican Republic, and 1 in Puerto Rico. Ages ranged from 23 to 49 years (mean 31). Most had some college education; 2 had not finished high school. Four were unemployed.

The participants raised many questions about a hypothetical product: Would it get ab-

TABLE 3—Lubricant Sources and Use and Information on Nonoxynol-9 Among Latino Men Who Have Sex With Men (N = 273): New York City, 1995–1996

	n	%
Where was the lubricant obtained?		
Pharmacies or cosmetic stores	168	62
Sex shops	56	21
AIDS agencies	29	11
Bars, discos, sex clubs	26	10
Where was the lubricant applied?		
Outside of the condom	233	85
Around the partner's anus	216	79
On own penis	200	73
Around own anus	195	71
On partner's penis	182	67
Inside partner's rectum	127	47
Inside own rectum	122	45
Inside the condom	89	33
How many teaspoons (approximately) of lubricant were used per sexual occasion?		
≥1	256	94
≥2	177	65
≥3	109	40
≥4	67	25
≥5	32	12
What had respondent heard about nonoxynol-9?		
That it killed HIV in a test tube	77	28
That it prevented HIV transmission	63	23
That it prevented some sexually transmitted diseases	58	21
That it could produce a rash or irritation	6	2

TABLE 4—Lubricant Preferences Among Latino Men Who Have Sex With Men (N = 288): New York City, 1995–1996

Preferences	n	%
Flavor		
It doesn't matter	187	65
No flavor	72	25
Some flavor	29	10
Color		
It doesn't matter	145	50
No color	134	47
Some color	9	3
Smell		
It doesn't matter	122	42
No smell	137	48
Some smell	29	10

sorbed by one's body? Would cumulative exposure through repeated use result in negative side effects? Would it affect the intestinal flora, be safe if one has internal hemorrhoids, damage condoms, produce diarrhea?

The participants expressed concern about the volume required to offer protection. Would the gel make the anus too loose (and therefore less pleasurable for the partner)? Would the penetrating partner notice the gel in the rectum? Would the user be able to pass gas without the product leaking in the underwear? In terms of its use, participants wondered how many hours before intercourse the gel should be applied. Would reapplication be needed if more than the advisable time passed before intercourse, if one had more than 1 partner, or after defecation? Some participants used anal douches before anal sex: Would this have any effect on gel use?

Similar to survey respondents, focus group participants favored a product with no taste, color, or smell; they also wanted a product that would not dry out, that would be harmless if it came into contact with the mouth, and that could be effective against other sexually transmitted diseases besides HIV. In terms of product applicator, a film that dissolved after insertion was favored for the delivery of a microbicide. A rubber tip like the one that comes with the Fleet enema appeared acceptable, although concerns were raised about the length needed to reach far enough into the rectum.

Participants liked the idea of being able to apply the product before leaving their homes, thus feeling "prepared." Yet, because there was a concern about the number of hours for which the product would be effective, they thought they would have to carry the gel with them when they planned on staying out all night. This was seen as problematic, especially in the summer when people wear light clothing and do not carry backpacks. Someone suggested building a belt to carry bottles of lubricant; others said that this would bring stigma to the bearer. No one inquired about the effect of heat on the gel.

We explored the possibility of men stopping condom use if a microbicide became available. Participants were willing to use the gel, but they said that they would use it with condoms and felt a greater trust in condoms than in a microbicidal gel. Although they acknowledged that some people might stop using condoms and rely exclusively on the gel, they thought that anybody who already felt comfortable using condoms was unlikely to choose a method of lesser proven efficacy.

Discussion

The results of this study should be viewed with caution. First, our sample was not randomly selected and may not be representative of the Latino MSM who live in New York City. A comparison with New York City's Latino men who participated in the random-digit-dialed Urban Men's Health Study[21] shows that our sample was significantly younger and less educated; however, the samples did not differ significantly in terms of number of male partners or percentage of individuals engaging in unprotected anal sex. Second, the expressed attitudes about hypothetical products and possible participation in trials may not be maintained when the actual product or trial is presented.

Within these limitations, this study points out the prevention potential that a topical microbicide would have for Latino MSM, many of whom have multiple partners, frequently engage in anal sex, and use condoms inconsistently. Our data show that, despite limited promotion, rectal lubricants are widely used among Latino MSM. Furthermore, because some of the men who reported inconsistent use of rectal lubricants did use lubricated condoms, the percentage of people actually using lubricants is likely to be higher than what we measured. Our finding that three fourths of Latino MSM use lubricants on at least 80% of encounters is consistent with that of Gross et al.[9] among mostly European American homosexual men; furthermore, this is also the case among men who *never* use condoms, thus offering an important HIV prevention alternative to condom use. Although some of our participants reported a wish to experiment with unlubricated sex, this seemed to be the exception and far from the preference for vaginal dry sex reported in some African countries.[6]

A product similar to K-Y or Wet—that is, semiliquid, transparent, and free of taste and smell—seems to have great acceptability. At present, most users rub the lubricant on the penis or on the rim of the anus to facilitate penetration. Although about 40% also apply lubricant inside the rectum, the current methods of application are probably insufficient to achieve the rectal mucosa coating necessary for HIV prevention. Participants, especially those in the focus group, appeared amenable to using intrarectal delivery methods for lubricants. Preferred methods for microbicide delivery included a film such as the one used for the Vaginal Contraceptive Film. An alternative could be a gel packaged in a tube that could be fitted with a nozzle of the kind used for the delivery of hemorrhoidal creams (such as Preparation H).

Almost all of our participants used at least 1 teaspoon of lubricant. Currently approved vaginal spermicides, such as Advantage 24, come in a dosage of less than 1 teaspoon per application.

None of our participants reported that cost was a barrier to obtaining lubricants, and most of them purchased lubricants in pharmacies. Therefore, we may assume that incorporating a microbicidal agent into a rectal lubricant without significantly raising its cost could make it widely accessible to potential users. The observed interethnic differences in lubricant use merit further exploration both to determine their causes and to explore marketing strategies to increase use.

Most participants who had heard of nonoxynol-9 had favorable information about it. Reports of negative side effects of studies of nonoxynol-9 in Africa[22] were either not known to our population or had not had a negative effect.

An overwhelming majority of participants indicated their willingness to participate in studies that explore acceptability and implementation of rectal microbicides. This replicates our prior findings with a group of 182 Puerto Rican MSM[23] and is consistent with those of Gross et al.[9] Of course, the percentage of men who would actually participate in such trials could be lower, and the specific conditions of the study may decrease interest, as Gross et al.[9] observed. Yet, the initial enthusiasm of our participants should not be dismissed for future prevention plans. Finally, the sophisticated questions raised by the participants in our focus group show that this population would most likely be very interested in educational material on any microbicidal product. Furthermore, the focus group discussion brought to light practical issues concerning the use of a microbicide that must be given serious attention in the devel-

opment stages to maximize its appeal for prospective users. □

Contributors

A. Carballo-Diéguez planned and designed the study and wrote the results. Z. Stein contributed to the design of both the study and the assessment instrument. H. Sáez assisted with the design of the assessment instrument and ran the focus group. C. Dolezal analyzed the data. L. Nieves-Rosa and F. Díaz managed the data and controlled their quality.

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